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Science Abstracts Series A
January-June 1979

Subject Index (A - L)

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CONTENTS

Title page	i	Subject index	S1
Abbreviations and acronyms	iii		

SIX-MONTHLY INDEXES TO SCIENCE ABSTRACTS

Cumulative indexes to Science Abstracts are published twice a year covering the period January-June and July-December. They comprise author and subject indexes and some specialised or 'small' indexes. For Physics Abstracts and Electrical & Electronics Abstracts the Author Index and Subject Index are published as separate volumes. In this case the Small Indexes are included in the Author Index volume.

Subject Index

The Subject index provides an alphabetical subject key to the articles included in the abstracts journal. Some general guidance on its use is given below:

1. Look in the index for the name of the specific subject in which you are interested. In most cases this name will be a heading in the index and you will find relevant articles listed under it. The majority of the subject headings fall into the following categories: property, phenomena, substance or named objects, instrument, device, theory, method, process, application, event.
2. Occasionally you will be directed from the subject heading chosen to a different heading under which the relevant or additional articles are listed.
3. If you do not find the subject heading you first chose, try a more general heading.
4. Each entry under the heading relates to an article appearing in the abstracts journal and gives the serial number of that article in the journal preceded by the last digit of the current year, e.g. 9-12345; i.e. Abstract number 12345 in the abstracts journal for 1979.

The language of the article, if it is not in English, is also indicated. e.g. digital frequency meter jamming, distribution function determ. (Russian) 9-41575.

Each entry starts with a Keyword or Keyphrase considered to be most relevant to the heading. On sorting these Keywords, the qualifying prefixes are usually ignored. (e.g. α -brass, 5-sulphosalicylic, 31 Cygni, n-Ge are sorted under brass, sulphosalicylic, Cygni, Ge respectively).

There are three main Keyword lists; alphabetical A-Z, elementary particles, and chemical symbols (organic substances are written and not given as chemical formula). More than one Keyword list may be present under each subject heading.

For document on, say, 'photoemission of germanium' at least two access points 'photoemission' and 'Germanium' are provided. Under the heading 'photoemission' the Keyword will be 'Ge' and under 'germanium' the Keyword will be 'photoemission'.

In a case like this, it is advisable and quicker to use the heading 'photoemission' and go straight to the chemical symbol list for 'Ge'.

Intermetallic compounds are indexed under the appropriate alloy headings. The chemical formula is used as Keyword. However, it is important to realise in searching the chemical symbol list that, at present, alloys and intermetallic compounds are sorted separately. For example FeCo is sorted at the end of the Fe- list e.g. Fe-Al, ... Fe-Co, ... Fe-Si, ... Fe-Si-B, ... FeCo, ... FeSi and so on in this order.

Physics Abstracts

Science Abstracts Series A

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Subject Index (A - L)

Abbreviations and Acronyms

Abbreviations and acronyms are used in the modifiers in all INSPEC Cumulative Subject Indexes.

Individual terms should be readily understood in the context of the subject headings. However, for users' guidance, two lists of these abbreviations and acronyms together with their meanings are published below. The main list contains mixed terms, and the special list contains terms more appropriate to some specific subject areas.

Main List of Keyword Abbreviations

AC	alternating current	E1, E2	electric dipole, quadrupole
ACV	air cushion vehicle	EAS	extensive air shower
A/D	analogue-to-digital	ECG	electrocardiography (-gram)
ADP	administrative data processing	EDP	electronic data processing
AES	Auger electron spectra (-oscopy)	EEG	electroencephalography (-gram)
AF	audio frequency	EHD	electrohydrodynamics
AFC	automatic frequency control	EHF	extremely high frequency
AFL	abstract family of languages	EHV	extra high voltage
AGC	automatic gain control	ELDOR	electron electron double resonance
AM	amplitude modulation	ELF	extremely low frequency
ANS	Astronomical Netherlands Satellite	EM	electromagnetic
APR	acoustic paramagnetic resonance	EMC	electromagnetic compatibility
APS	appearance potential spectra (-oscopy)	EMF	electromotive force
APW	augmented plane wave	EMG	electromyography (-gram)
ATR	attenuated total reflection	ENDOR	electron nuclear double resonance
ATS	applications technology satellite	EOS	earth observatory satellite
AVC	automatic volume control	EPMA	electron probe microanalysis
		EPR	electron paramagnetic resonance
		ERPS	extramolecular relaxation polarisation shift
BARITT	barrier injection transit time	ERTS	earth resources technology satellite
BCC	body centred cubic	ESCA	electron spectroscopy for chemical analysis
BCD	binary-code decimal		
BFO	beat-frequency oscillator	ESFI	epitaxial silicon film on insulator
BP	boiling point	EUV	extreme ultraviolet
BWO	backward wave oscillator	EXAFS	extended X-ray absorption fine structure
BWT	backward wave tube		
CAD	computer aided design	FCC	face centred cubic
CAI	computer assisted instruction	FDM	frequency division multiplex(ing)
CATV	community antenna TV	FEM	field emission microscopy
CCD	charge-coupled device	FET	field effect transistor
CDI	collector diffusion isolation	FFT	fast Fourier transform
CDM	code division multiplexing	FIM	field ion microscopy
CDW	charge-density wave	FM	frequency modulation
CEM	channel electron multiplier	FP	freezing point
COM	computer output to microfilm	FSK	frequency-shift keying
CP	charge, parity		
CPT	charge, parity, time	GAMBIT	gate modulated bipolar transistor
CRO	cathode ray oscilloscope	GARP	global atmospheric research programme
CRT	cathode ray tube	GATE	GARP Atlantic tropical experiment
CVD	chemical vapour deposition		
CW	continuous wave		
D/A	digital-to-analogue	HCP	hexagonal close packed
DC	direct current	HEED	high energy electron diffraction
DDC	direct digital control	HF	high frequency or Hartree-Fock
DDL	diode-diode logic	HFB	Hartree-Fock-Bogoliubov
DFB	distributed feedback	HFS	hyperfine structure
DH	double heterostructure	HV	high voltage
DIL	dual-in-line		
DM	delta modulation	IC	integrated circuit
DMSS	Defence Meteorological Satellite System	IF	intermediate frequency
DOVETT	double velocity transit time	IGFET	insulated gate field effect transistor
DPCM	differential pulse code modulation	I ² L	integrated injection logic
DPSK	differential phase shift keying	I ³ L	isoplanar I ² L
DTA	differential thermal analysis	ILS	instrument landing system

IMPATT	impact avalanche transit time	PC	printed circuit
INDOR	internuclear double resonance	PCB	printed circuit board
INTELSAT	international telecommunications satellite consortium	PCAC	partially conserved axial currents
		PCB	printed circuit board
I/O	input/output	PF	power factor
IR	infrared	PFM	pulse frequency modulation
ISR	intersecting storage ring	PID (PI, PD)	proportional + integral + differential (derivative)
		PLA	phase locked arrays
LC	inductance-capacitance	PLC	programmable logic control
LEC	liquid encapsulated Czochralski	PLL	phase locked loops
LED	light emitting diode	PM	pulse modulation
LEED	low energy electron diffraction	PMR	proton magnetic resonance
LF	low frequency	POS	point of scale
LMC	Large Magellanic Cloud	PPI	plan position indicator
LPE	liquid phase epitaxy	PPM	pulse position or pulse phase modulation or parts per million
LSA	limited space charge accumulation	PRF	pulse recurrence (repetition) frequency
LSI	large-scale integration	PROM	programmable read-only memory
LTE	local thermodynamic equilibrium	PSK	phase shift keying
LV	low voltage	PTM	pulse time modulation
		PWM	pulse width modulation
M1, M2	magnetic dipole, quadrupole		
MBE	molecular beam epitaxy		
MBPF	many-body perturbation theory		
MCD	magnetic circular dichroism		
MESFET	metal semiconductor field effect transistor	QED	quantum electrodynamics
MF	medium frequency		
MFP	mean free path	RAM	random access memory
MHD	magnetohydrodynamics	RC	resistance-capacitance
MIC	microwave integrated circuit	R & D	research and development
MIM	metal-insulator-metal	RF	radio frequency
MIS	metal-insulator-semiconductor, management information system	RFI	radio frequency interference
MMF	magnetomotive force	RHEED	reflection high energy electron diffraction
MNOS	metal-nitride-oxide-semiconductor	RLC	resistance-inductance-capacitance
MOS	metal-oxide-semiconductor	RMS	root-mean-square
MOSFET	metal-oxide-semiconductor field effect transistor	ROM	read-only memory
		RPA	random phase approximation
MOST	metal-oxide-semiconductor transistor		
MP	melting point		
MSI	medium scale integration	SAS	small astronomy satellite
MTBF	mean-time between failures	SAW	surface acoustic waves
MTF	modulation transfer function	SCF	self consistent field
MUF	maximum usable function	SCL	space charge limited
		SCPT	self consistent perturbation theory
NAND	not-and (logic)	SCR	silicon controlled rectifier
NC	numerical control	SDM	space division multiplexing
NDT	nondestructive testing	SEM	scanning electron microscope
NEMO	non-empirical molecular orbitals	SFE	solar-flare effect
NMR	nuclear magnetic resonance	SHF	superhigh frequency
NOR	not-or (logic)	SHG	second harmonic generation
NQR	nuclear quadrupole resonance	SIMS	secondary ion mass spectrometer
NRM	nuclear remanent magnetisation	SISAM	spectrometer with interference selective amplitude modulation
			Small Magellanic Cloud
OAQ	orbiting astronomical observatory	SMC	
OCR	optical character recognition	SMS	synchronous meteorological satellite
ODMR	optical detection of magnetic resonance	S/N	signal-to-noise
OER	oxygen enhancement ratio	SOS	silicon on sapphire
OGO	orbiting geophysical observatory	SQUID	superconducting quantum interference device
OR	operations research		
OSO	orbiting solar observatory	SSB	single sideband
OTF	optical transfer function	SSC	sudden storm commencement
		SST	supersonic transport
PABX	private automatic branch exchange	STD	salinity-temperature-depth
PAC	perturbed angular correlation	STD	subscriber trunk dialling
PBX	private branch exchange	STEM	scanning transmission electron microscopy
		STOL	short take-off and landing
		SWR	standing wave ratio
		SXAPS	soft X-ray appearance potential spectrum

TCR	temperature coefficient of resistance	CPA	coherent potential approximation
TDM	time division multiplex(ing)	CS	coupled states
TDMA	time division multiple access		
TE	transverse electric	DECENT	distribution of exact classical energy transfer
TEA	transversely excited atmospheric		
TEM	transverse electromagnetic, transmission electron microscopy	DODS	different orbitals for different spins
TLD	thermoluminescent dosimeter(-ry)	DV-Xa	discrete variational Xa method
TM	transverse magnetic		
TRAPATT	trapped plasma avalanche triggered transit	EB	exponential Born
TRM	thermoremanent magnetisation	ECP	effective core potential
TSC	thermally stimulated currents	EFM	extended Flygare method
TSEE	thermally stimulated exo-electron emission	EHP	electron-hole potential method
TTL	transistor transistor logic	EHT	extended Huckel theory
TV	television	EPEN	empirical potential energy function based on interactions of electrons and nuclei
TW	travelling wave	ESE	essential structural elements
TWT	travelling wave tube		
		FPT	finite perturbation theory
UHF	ultra high frequency	FSGO	floating spherical Gaussian orbitals
UHV	ultra high voltage		
ULF	ultra low frequency	GCM	generator coordinate method
UMD	unitised microwave devices	GHF-NO-CI	generalised Hartree-Fock/natural orbital/configuration interactions
UPS	ultraviolet photoelectron spectra		
US	ultrasonic	GIAO	gauge-invariant atomic orbitals
UV	ultraviolet	GO	Gaussian orbitals
		GOO	generalised Overhauser orbitals
VDM	vector dominance model	GPM	ground potential model
VDU	visual display unit	GSO	general spin orbitals
VLBI	very long base line interferometry	GTO	Gaussian-type orbitals
VOR	VHF omnidirectional range	GVB	generalised valence bond
VPE	vapour phase epitaxy		
VRC	visual record computer	HAM	hydrogenic atoms in molecules
VSB	vestigial sideband	HFO	Hartree-Fock-Overhauser
VSWR	voltage standing wave ratio	HFSL	Hartree-Fock-Slater-Latter
VTOL	vertical take-off and landing	HMO	Huckel molecular orbitals
VTR	voltage transformation ratio	HOMO	highest occupied molecular orbitals
		HORM	hybrid orbital rehybridisation method
XPS	X-ray photoelectron spectra		

Special List

a. Liquid Crystals

BBEA	4-butoxybenzal-4' ethylaniline
COC	cholesteryl oleyl carbonate
HBAB	hexyloxybenzilidene-p' aminobenzonitrile
HOBHA	p-n-heptyloxy-benzilidene-p-n heptylaniline
MBBA	methoxy-benzylidene-butyl-aniline
PAA	paraazoxyanisole
PAP	paraazoxyphenetole
TBBA	terephthal-bis-butylaniline

b. Orbital Calculation

APSG	Antisymmetric product of separated geminals
CEPA	coupled electron pair approximation
CGTO	contracted Gaussian-type orbital
CHF	coupled Hartree-Fock
CI	configuration interaction
CIEH	charge iterated extended Huckel
CI-HY	configuration interaction Hylleras
CNDO	complete neglect of differential overlap

ICDF	intermediate coupling Dirac-Fock
IEPA	independent electron pair approximation
INDO	intermediate neglect of differential overlap
INO	iterative natural orbital
IOC- ω	inclusion of the overlap charges in the omega
IRDO	intermediate retention of differential overlap
IVO	improved virtual orbitals
KKR	Korringa-Kohn-Rostoker
LCAO	linear combination of atomic orbitals
LCBO	linear combinations of (semi-localised) band orbitals
LCGO	linear combination of Gaussian orbitals
LCRO	linear combination of Rydberg orbitals
LMTO	linear combination of muffin tin orbitals
LSD	local spin density
LUMO	lowest unoccupied molecular orbitals
MADO	Mulliken approximation for differential overlap
MC PE SCF	multiconfiguration paired excitation SCF
MCZDO	multi-centre zero differential overlap
MEDO	multipole expansion of diatomic overlap
MIEHM	modified iterative extended Huckel method
MO	molecular orbitals
MOCIC	molecular orbital constraint of interaction coordinates

Subject Index

1/f noise *see random noise*

A-centres

CaO, triplet state of F_A centres, ODMR obs. 9-28639
GaP:Cu, deep levels, photoluminesc. and optical cross sections 9-38653
Si, lifetime of free vacancies 9-10851
 Sr_2TiO_4 :Eu, synthesis, luminesc. of materials 9-11534

A/D conversion *see analogue-digital conversion*

ab initio calculations

AB₂, bent molecule, ab initio force fields, appl. of Simons-Parr-Finlan expansions 9-41218
acetylene, mol. geometry basis set depend., geometry optimisation ab initio method 9-31382
alkyl fluorides, geometries, props. and protonation, ab initio mol. orbital study 9-22588
all-trans-polyene, ground state props., ab initio studies 9-47002
allyl radical, ionisation potential, ab initio valence bond calcs. 9-31407
atom+diatom, ab initio pot. hypersurface anal. fit 9-13785
azomethane, steric strain relief accompanying isomerisation 9-10230
benzene, monosubstituted, ring protonation and C_{1s} binding energies, STO-3G calc. 9-29336
benzene radical anion, ab initio MO calcs., struct. 9-18113
trans-1,3-butadiene, valence electronic excited states, SCF ab initio GVB and CI calcs. 9-31423
butadienes, cis- and trans-, ionisation potential, ab initio valence bond calcs. 9-31407
chlorin, ab initio CI calcs. on ground, singlet and excited states, visible spectrum 9-16139
diamond, electron density, bulk and surface atoms, from ab initio model calcs. 9-4590
p-N,N-dimethylaminobenzonitrile, multiple fluoresc., mechanism 9-45742
ethenediol, σ conjugative interactions role in rot. isomerism 9-31443
ethenethiol, σ conjugative interactions role in rot. isomerism 9-31443
ethenol, σ conjugative interactions role in rot. isomerism 9-31443
ethylene, ionisation potential, ab initio valence bond calcs. 9-31407
ethylene, IR and Raman intensities calc., efficient ab initio computation method 9-45698
ethylene, lattice dynamics of cryst., ab initio interaction pot. 9-33043
ethylene, photoelectron spectrum, vibronic coupling effects 9-10090
ethylene+H=ethyl radical, pot. energy surface, analytic function 9-11779
ethylene oxide cation, existence of open isomer, ab initio calcs. 9-22593
ethynyl radical, emission spectra and pot. energy surface, ab initio MRD CI calc. 9-41099
excimer lasers, electronic structure, pot. energy curves, radiative transition probabilities, quantum mech. calcs. 9-10284
1-fluoro-2-propanol, conformational energies and rot. barrier, ab initio calc. 9-31390
fluorobenzene radical anion, ab initio MO calcs., struct. 9-18113
formaldehyde, X^1A_1 , a^3A'' and A^1A'' states, SCF and CI ab initio calcs. 9-36545
formaldehyde-d₀, -d₂, $1(\pi\pi^*)$ radiationless transition, ab initio CI calc. 9-767
formaldehyde-d₀, -d₂, $1(\pi\pi^*)$ transition, vibr. struct., ab initio CI calc. 9-766
formic acid, dimerisation energy, ab initio calcs., distortion energy effects 9-10022
formic acid, harmonic force consts., ab initio calcs. and uniqueness problem 9-6834
formyl-triglycyl amide-H₂O, analytical pot., ab initio calc. 9-48206
Gaussian 70 program, using 128K byte memory minicomputer 9-31375
glyoxal-alkali (alkaline earth metal) complex, ab initio MOSCF calc., chelate effect 9-31386
all-trans-1,3,5-hexatriene, excited electronic states calcs., spectra assignments 9-22606
trans,trans-1,3,5-hexatriene, valence electronic excited states, SCF ab initio GVB and CI calcs. 9-31423
inert gas dimer ions, electronic struct., chem. binding 9-31376
ion-atom collision, electron capture, at. expansion method 9-45833
linear triatomic hydrides, ab initio SCF CI electric dipole moments 9-31410
magnesium chlorin, ab initio CI calcs. on ground, singlet and excited states, visible spectrum 9-16139
MC-SCF theory, modified one-electron Hamiltonian, iteration convergence 9-6871
metallic glasses, stability, microscopic calcs. 9-32914
methane +H₂O, pairwise interaction pot. function, ab initio SCF MO calc. 9-22786
methanediol, bond length distortions and torsion pots., ab initio calcs. 9-836
N-methylacetamide, vertical excitation energies, ab initio SCF CI calcs. 9-45647
molecular cubic anharmonicity constants, normal coord. ab initio calcs. 9-36595
molecular ionisation potential, quark influence, ab initio SCF calcs., appl. to H₂O and SO₂ 9-10058
molecules, atomic potentials, transferable, new general methodology 9-45624
monothioformate anion, protonation site, ab initio SCF calc. 9-47894
naphthalene, LCAO SCF MO CI calcs., integral approx. scheme using semiorthogonalised orbitals 9-6873
nitromethane, ab initio SCF MO calcs. of geom. and bond energies 9-31381
nitromethyl anion, ab initio SCF ab initio MO calcs. of geom. and bond energies 9-31381
nucleation and molecular clustering about ions, energetics and structure 9-41260

ab initio calculations continued

organic compound, substituent π -conjugative effects, ab initio calcs. 9-45633
oscillator strength sum rule, hydrodynamic analogy to quantum mechanics 9-26873
oxalic acid, theoretical deformation density, ab initio Hartree-Fock calcs. 9-32982
photochemistry, sudden polarisation effect 9-34328
photoionisation cross-section, molecules, orthogonalised-plane-wave approx. 9-41202
PMDA, ab initio SCF MO wavefunctions for ground and excited states 9-10028
polyglycine, band struct., ab initio SCF LCAO calcs. 9-22874
polyglycine chain, electronic struct. and transport props., ab initio Hartree-Fock crystal orbital calc. 9-42448
simulated ab initio molecular orbital method, resolvent technique 9-41094
(Sn)₂ chain, energy band struct., Hartree-Fock and CDW solns. 9-23885
thiophene, single cryst., UV spectrum, ab initio CI calcs. 9-19898
transition metal nitrides, liquid interactions, ab initio LCAO MO SCF calcs. 9-18256
trioxolane, methyl substituted, stability, pseudorotation, electronic effects in final ozonide 9-45654
trioxolanes, pseudorotation surface, mol. struct. and conform. 9-45653
vinyl fluoride, geometries, props. and protonation, ab initio mol. orbital study 9-22588
VSEPR model and Pauli exclusion principle, mol. geom. determ. and validity 9-31380
water dimers, stability, CNDO/2 and STO-3G calcs. 9-760
[Co(CN)₆]³⁻, electronic struct., ab initio LCAO SCF MO calcs. 9-18112
Ag, 4d-subshell absorpt. spectra, ab initio Hartree-Fock calcs. 9-18139
Al-Ga(Sn), ab initio calcs. of partial enthalpy and result for enthalpy of mixing 9-43197
Ar, solid-liq. transition and mech. props., modified cell theory 9-23703
Ar₂⁺, electronic struct., pot. energy curves, spectroscopic consts. 9-18114
ArF₂, ab initio diatomics in mols. pot. surface, spin-orbit coupling 9-3519
Au, ground and excited states, pot. energy curves, relativistic effects calcs. 9-31416
Au₂, ground state, ab initio effective core pots., relativistic effects calcs. 9-31377
BH, ab initio spin-projected EHF method pot. curve calcs. 9-10054
B₂H₆, quadratic valence force field, rel. to ethene 9-3382
B₂H₄, struct., ab initio SCF calcs. (French) 9-22598
B₂H₂, struct., ab initio SCF calcs. (French) 9-22598
(BHNH)_n, band structure, ab initio calcs. 9-23895
(BH₂NH)_n, band structure, ab initio calcs. 9-23895
B(I) hydrides, ab initio calcs., proton and hydride affinities 9-10029
Be, polarisability and London coeff., ab initio variation perturbation calc. 9-13635
(BeH₂)_n, polymer, ab initio calcs., cryst. orbital method 9-37659
BeO₂, and anion, dimerisation energy and binding of electron, ab initio calc. 9-45628
BeO₂⁺, electron binding, ab initio calc. 9-45628
Be(ZP) + methane, reaction, ab initio MO calcs. 9-8431
BrF, He(I) photoelectron spectra, interpretation 9-13766
C-H-X H bonded systems, ab initio MO calcs. 9-6835
CH₂ and CH₂⁺, valence states, ab initio calcs. 9-6859
CO, ab initio calcs. of the derivative of the static polarisability 9-3597
CO+H₂, thermal energy collision, ab initio pot. energy surface 9-45788
CO₂, mol. quadrupole moments, mag. shielding and spin-rot. tensors 9-22609
CS₂, mol. quadrupole moments, mag. shielding and spin-rot. tensors 9-22609
Ca₂⁺, pot. energies in Ca⁺ and Rydberg Ca⁺⁺ collisions with Ca 9-27055
Cd, field gradients, temp. depend., electronic and lattice contribs., ab initio study 9-42501
(Cl₂)₂, config., ab initio calc. 9-41098
Co-porphine, ab initio LCAO SCF MO calcs. 9-6860
Cr II-VI, struct. and transition probabilities, ab initio calc. using Thomas-Fermi central pot. 9-3360
Cu (001) monolayer, electronic struct., self-consistent LCAO calc. 9-4606
CuCO, linear, ab initio RHF-MO calcs., rel. to adsorption 9-26883
CuCl, bonding, ab initio pseudopot. calcs. 9-6857
D₂O, cubic anharmonicity constants, normal coord. ab initio calcs. 9-36595
Eu, exchange integral, spiral spin configuration, ab initio calcs. 9-47275
F (²P_{1/2}) + H₂, quenching, classical path calcs. 9-22800
Fe complex, [Fe(CN)₆]³⁻, electronic struct., optical transitions, XPS, Mossbauer isomer shift, valence ionisation pot., SCF-MSX calc. 9-6864
Fe III-VI, struct. and transition probabilities, ab initio calc. using Thomas-Fermi central pot. 9-3360
GaKr, low-lying electronic states, PE curves, transition moments, emission coeffs. 9-6894
Ge₂, multiplet struct. and charge distrib. 9-26881
H atom, relativistic quantum mech. as weak-field limit of nonlinear theory 9-6878
H, chemisorbed on Be(0001) surface, mol. orbital cluster theory 9-15002
H-bonded systems, cyclic and bifurcated, ab initio MO calcs. 9-41100
H₂, electron scatt., vibr. and vibr.-rot. excitation 9-22853
HCN, IR and Raman vibr. intensity changes due to Li⁺ interaction 9-45712
H₃CO⁺ ion, unimolecular decay paths of electronically excited species 9-3359

ab initio calculations continued

- HCl⁺, effective Hamiltonian, ab initio calc. 9-45632
 HF, geometries, props. and protonation, ab initio mol. orbital study 9-22588
 HF oligomers, Gibbs free energies, gas. equil., ab initio calc. 9-20456
 HF⁺, ab initio valence band calcs. 9-6869
 HF + H⁺, reaction, ab initio pot. energy surface calcs. 9-39127
 (HF)₂, intermol. pot. function, ab initio 6-31G calc. 9-18254
 HNCN, barrier to linearity, ab initio SCF and CI calcs. 9-3363
 HNO⁺, ab initio pot. surface, and isomerisation barrier of lowest states 9-22622
 H₂O, and D₂O, Feshbach-reson. and dissociation electron attachment 9-41246
 H₂O, cubic anharmonicity constants, normal coord. ab initio calcs. 9-36595
 H₂O, mol. Compton profile, directional, polarisation functions 9-36706
 H₂O, rot-vibr. Schrödinger eqn. soln., bond lengths and angles, force consts. 9-41151
 H₂O, VSEPR model and Pauli exclusion principle 9-31380
 (HeLi)²⁺, ab initio PE curves, coupling matrix elements, for He²⁺ + Li 9-22822
 I₂, HFS and mag. parameters of B state, ab initio calc. 9-45865
 IF, He(I) photoelectron spectra, interpretation 9-13766
 KCl, Compton profile anisotropies, charge and momentum distrib., LCAO-SCF-MO calc. 9-3500
 Kr₂⁺, electronic struct., pot. energy curves, spectroscopic consts. 9-18114
 Kr₂Cl(F), ab initio diatomics in mols. pot. surface, spin-orbit coupling 9-3519
 Li linear chain, ab initio calcs., cryst. orbital method 9-37659
 Li₂⁺, X²Σ⁺, ²Σ⁺, A²Π_g, and ²Π_g states, electronic struct. vibr. spectra, ab initio calcs. 9-36507
 LiBH₄, struct., pot. surface, ab initio calcs. 9-41092
 LiBeH₃, ab initio calc. of pot. surfaces and geometry 9-10024
 LiCl, Compton profile anisotropies, charge and momentum distrib., LCAO-SCF-MO calc. 9-3500
 LiH, linear chain, ab initio calcs., cryst. orbital method 9-37659
 LiNO₃, mol. struct. ab initio calcs. 9-26884
 Mg I, extensions to the doubly excited spectra in the vacuum uv 9-6901
 Mg, polarisability and London coeff., ab initio variation perturbation calc. 9-13635
 MgH₂, X and B' ²Σ⁺ and A' ²Π ab initio CI calc. 9-31415
 Mg²⁺.nH₂O + PO₄H₂⁻, binding mechanisms, SCF ab initio calcs. 9-22586
 Mn III-VI, struct. and transition probabilities, ab initio calc. using Thomas-Fermi central pot. 9-3360
 N₂, ab initio calcs. of the derivative of the static polarisability 9-3597
 N₂ⁿ⁺, Coulomb explosion following heavy ion impact, ab initio SCF calc. 9-18277
 N₂⁻, low-lying excited states 9-31425
 NH₂⁺ + H₂ = NH₃ + H⁺, chem. equil., ab initio calcs. 9-34282
 NO₂⁻, optimisation of diffuse Gaussian exponents 9-3364
 NO₂⁺, optimisation of diffuse Gaussian exponents 9-3364
 NOH⁺, ab initio pot. surface, and isomerisation barrier of lowest states 9-22622
 Na⁺ + ether(thioether)(amide) interaction, pair pots., ab initio SCF LCAO MO calc. 9-36721
 NaBH₄, struct., pot. surface, ab initio calcs. 9-41092
 NaCl, Compton profile anisotropies, charge and momentum distrib., LCAO-SCF-MO calc. 9-3500
 Na⁺.nH₂O + PO₄H₂⁻, binding mechanisms, SCF ab initio calcs. 9-22586
 Ne, solid, lattice relax. model of n=1 exciton emission 9-47492
 Ne₂⁺, electronic struct., pot. energy curves, spectroscopic consts. 9-18114
 Ne₂F, ab initio diatomics in mols. pot. surface, spin-orbit coupling 9-3519
 NeHe₂⁺, extended valence bond diatomic calcs., applications to method of diatomics-in-molecules 9-45635
 Ni, (001) surface, local density of states, asphericity of pot. and charge transfer, ab initio self-consistent calcs. 9-15064
 Ni, FCC, H-Ni_n self-consistent electronic screening charge density 9-33255
 Ni III-VI, struct. and transition probabilities, ab initio calc. using Thomas-Fermi central pot. 9-3360
 NiCO, linear, ab initio RHF-MO calcs., rel. to adsorption 9-26883
 NiCO, liquid interactions, ab initio LCAO MO SCF calcs. 9-18256
 NiNaK, mol., intersection of pot. energy surfaces, ab initio calcs. 9-36537
 O₃, conformation, ab initio HFS method calc. 9-36526
 OCS, mol. quadrupole moments, mag. shielding and spin-rot. tensors 9-22609
 ONCN, IR spectra isotope shifts and ab initio calc. for harmonic force field 9-13715
 PH₂(PH₂⁺)(PH₂⁻), electronic structure, ab initio LCAO MO SCF calcs. 9-10027
 S₃, conformation, ab initio HFS method calc. 9-36526
 SH₃⁺, struct., ab initio HF calcs. 9-31371
 Si₂, multiplet struct. and charge distrib. 9-26881
 SiH₄⁺, struct., stability, ab initio calcs. 9-13632
 SiH₃NCO, geometric struct., ab initio MO calc. 9-13834
 Ti complex, bis cyclopentadienyl TiN₂, liquid interactions, ab initio LCAO MO SCF calcs. 9-18256
 Uⁿ⁺ (n=0 to 6), electronic struct., multiconfig. Dirac-Fock calcs. 9-45646
 W, single cryst., coated with ferromagnetic layer, Fermi vel. using band calcs. 9-11307
 Xe₂⁺, electronic struct., pot. energy curves, spectroscopic consts. 9-18114
 Zn, field gradients, temp. depend., electronic and lattice contribs., ab initio study 9-42501

abacs see **nomograms**

aberrations

- aberrations in optics and particle optics only**
 see also **lenses; optical instrument testing; particle optics**
 adaptive optics, atmospheric compensation, book contrib. 9-31972
 adaptive optics, book 9-31921
 adaptive optics in astronomy, rubber mirrors to compensate for atm. aberrations, book contrib. 9-35150
 adaptive optics in high energy laser systems, book contrib. 9-31971
 adaptive optics technology overview, book contrib. 9-32030
 anastigmatic electron deflection system between beam-shaping lens and probe target 9-27155
 apochromats from four types of glass, components for broad spectral region 9-32026

aberrations continued

- aspherical surface testing, interferometer optical system modification 9-7236
 astigmatism effects in electron microscope meas. of domain wall widths 9-19753
 Bragg diffraction imaging, aspect ratio restoration by holographic lenses 9-46122
 cathode lenses, with combined elec. and mag. fields, third order aberration theory 9-41317
 charged particle beam focusing, using aberrational quadrupole lens system 9-26180
 chromatically corrected objective lens, of electron microscope, test (*German*) 9-892
 chromatism transverse, effect on transfer characts. of optical systems 9-908
 concave diffr. grating, astigmatism compensation, comparative characts. 9-32067
 curved Fresnel surface, primary aberration contrbs. 9-13913
 cylindrical electrostatic mirror analyser, image line aberrational expansion, nonplanar trajectories 9-41327
 distortion elimination by eigenfunction method 9-7087
 electron lens doublet, crossed, six electrode, stigmatic operation 9-13888
 electron microscope, 3-dimens. imaging, curved axis electron optics (*German*) 9-13889
 electron microscope image interpretation, instrumental, environmental conditions (*Polish*) 9-30623
 electron microscope spiral scanning attachment for corrections of spherical aberration effects 9-2889
 electron microscopy, focused image production through visible-optics correction of defocusing and spherical aberration 9-6231
 electron microscopy, image correction methods, exptl. anal. 9-12889
 electron optics, algorithm computation using Chebyshev polynomials 9-27156
 electron optics, paraxial eqn. asymptotic solns., singular perturbation theory, chromatic aberrations of cathode electron optics 9-41320
 electron optics system, multielement with third-order aberration 9-41321
 electron spectrometer, electrostatic prism type 9-40647
 electrostatic prism, dihedral, for spectrometer aberration coeff. 9-26178
 energy analyzer, two-stage with cylindrical mirrors, aberration reduction 9-40640
 far-field diffraction, partial coherence, primary astigmatism 9-22899
 field emission gun, electron optical characteristics (*German*) 9-893
 four-colour thin apochromat design 9-27364
 Fresnel diffraction effects on high-resolution images, spherical aberration effect 9-27153
 Gaussian beam astigmatism, meas. by Ronchi grating interferometer 9-3635
 geodesic lenses, spherical aberration correction and fabrication tolerances 9-27435
 graded-index medium, non-parabolic, meas. of aberrations by Ronchi interferometer 9-36843
 graded-index optical waveguide characteristics meas. 9-14108
 gratings, concave, mounted in Seya-Namioka monochromator, polarisation characts. 9-18526
 holographic interferometry method, Francon's, meas. of MTF, wavefront aberration 9-3647
 holographic scanner, for CO₂ laser materials processing, aberration analysis 9-18367
 incoherent annulus object diffraction images in presence of primary astigmatism 9-22904
 IR scanning radiometer data interpretation 9-30541
 lens-hologram optical system, monochromatic aberrations 9-3760
 magnetic lens third-order field geometrical aberration of single slot lenses forming electron probe 9-3619
 magnetic lenses, single-pole, for field emission electron gun systems 9-31784
 micro-optics quality testing 9-27368
 microprobe instrument, spherical aberration correction, using zone plates 9-45899
 minicomputer optical design and analysis program 9-14075
 moving objective lens and Fraunhofer condition for predeflection 9-41316
 nonaligned systems, off-centre aberrations 9-10263
 objective for holographic recording devices 9-32028
 optical system with magnification chromatism, MTF 9-31818
 photogrammetry, distortion calibration, lateral chromatic aberration effects, operational data reduction 9-35881
 planar optical elements, dispersion props. 9-3811
 plane parallel lenses, prep., theory 9-3761
 point-source image energy centre of gravity, location accuracy, aberrations effect 9-27192
 radioastronomy, aperture synthesis meas. processing, tangent-plane aberration, new transform 9-8847
 ray tracing, generalised, caustic surfaces 9-23043
 secondary colour aberration limited system performance estimation 9-23041
 spectral line aberration in concave grating spectrometer, deconvolution appl. (*Japanese*) 9-26141
 telescope, AZT-24, design formulas for construction elements 9-35133
 TEM multilens imaging system design for minimum distortion at low magnifications 9-12897
 toroidal holographic gratings, design and performance (*Japanese*) 9-27412
 varifocal compensated lens for flow cells irradi. 9-27357
 visual instrument astigmatism, accommodation compensation 9-34563
 Wollaston prism as convergent light beam splitter 9-14092
 X-ray transmission gratings, aberrations, testing, astronomical appl. 9-25508
 zonal spherical aberrations in optical systems, correction, use of aplanatic lens 9-27360
 PbO glass, thermal focusing of elliptically shaped optical beams, astigmatism effect 9-18489

abrasion

- see also **hardness; wear**
 ceramic glaze, abrasion resistance 9-38984
 hard coating on metal surfaces, abrasive wear resist. meas. 9-20327
 metal, impact abrasive wear, anal. 9-43443
 metal surfaces, abrasion mechanism rel. to groove sizes, shapes 9-20216
 metals, abrasive wear and impact and arc erosion, exam. of comparative tendencies of metal loss 9-15811
 metals, abrasive wear testing under conditions of rolling friction 9-15894

abrasion continued

- optical material radiation strength, dissipative characteristic 9-27344
- polymer surfaces, abrasion mechanism rel. to groove sizes, shapes 9-20216
- rubber, rel. to growth of cracks, theory and expt. 9-38988
- sandpaper, standardised, for Taber abraser, influence of relative humidity an abrasive quality (*Japanese*) 9-8369
- sedimentary material in Atlantic Ocean, shore abrasion 9-2217
- steel, C, wear resistant, review of abrasive adhesive and rolling wear (*Korean*) 9-24624
- steel, high speed tool, diffusion wear model 9-29230
- steel, Mn, wear resistant, review of abrasive adhesive and rolling wear (*Korean*) 9-24624
- steel, tool, abrasive wear rate rel. to fracture toughness and microstructure (*German*) 9-29232
- steel, tool, maraging, based on N12M10, exam. of hardening, crack resistance and wear (*Russian*) 9-34047
- steel, wear due to paper and printer ribbon exam. 9-15812
- wear of soft surface against rough hard surface, model 9-33034
- Al anodised layer, exam. of factors affecting abrasion resistance 9-34207
- Al FCC single crystal, crystal rotation accompanying scratch deform. (*Japanese*) 9-15733
- Al, SiC paper, low speed abrasion, strain rate effects 9-20208
- Cu, FCC single crystal, crystal rotation accompanying scratch deform. (*Japanese*) 9-15733
- Cu, SiC paper, low speed abrasion, strain rate effects 9-20208
- Fe, cast, grey, abrasive wear rate rel. to fracture toughness and microstructure (*German*) 9-29232
- Fe, cast, grey, martensitic, lamellar, internal notch effect on abrasive wear (*German*) 9-29231
- Fe, SiC paper, low speed abrasion, strain rate effects 9-20208
- Ni-Cr-B-Si, hard faced with WC, exam. of abrasion and wear props. 9-34202
- Ni-SiC(WC), dispersion hardened coating, chemically deposited using electroless baths, exam. of protection props. 9-34208
- SiC, abrasive paper, variables affecting degradation 9-43444

abrasive wear *see abrasion***absolute gravity** *see gravity***absolute pressure measurement** *see pressure measurement***absolute temperature** *see temperature***absorbers (surge)** *see surge protection***absorption**

- for absorption of substances see sorption*
- see also acoustic wave absorption; electromagnetic wave absorption*
- No entries

absorption spectra *see spectra***abundance ratio** *see element relative abundance; isotope relative abundance***a.c. motors**

- two-phase servo master-slave manipulators, triac output control system 9-9213

a.c. network analysers *see network analysers***acceleration***see also acceleration measurement; accelerometers*

- α -particles, heating and acceleration 9-12376
- cosmic rays acceleration by moving magnetic mirrors, efficiency 9-44310
- cosmic rays in interplanetary space accel. to relativistic energies 9-21111
- flow downstream of gas injection, wall temp., heat transfer, accel. effect 9-1251
- galactic cosmic rays, accel. mechanism and transport, model 9-35077
- impact accelerations, short, features for reproduction 9-32351
- jerk: the time rate of change of acceleration 9-5928
- particle acceleration in solar flares by cyclotron damping of cascading turbulence 9-44433
- particle reflection by MHD shock waves, energy spectrum and pitch angle distrib. 9-35126
- primary cosmic rays origin, intergalactic suprathermal grains, accel. mechanisms 9-25412
- road vehicle stopping distance, weight transfer effect, for teaching 9-25800
- solar flare, particle acceleration in turbulent current sheet 9-35232
- superconducting dipole magnet models of combined type 9-31301

acceleration measurement

- accelerometers, performance characteristics and selection, review 9-177
- constant angular acceleration unit, USSR standard, metrological characts. 9-30430
- discreteness periods, selection 9-30433
- impact motion acceleration transducer system, piezoelectric, with mechanical waveguide, anal. of processes 9-30436
- motion parameter measurement by comparison with motion of standard 9-30434
- platforms, rotational and turning, kinematics 9-30220
- solid body motion parameters, determination reliability improvement using redundancy methods 9-30431
- tuned equipment-structure systems, response spectra design methods 9-3952

accelerators (particle) *see particle accelerators***accelerometers***see also acceleration measurement*

- atmospheric thermal balance meas. by radiation pressure on satellite microaccelerometer 9-2380
- microwave parametric accelerometers, prototype Nb gravitational radiation antenna 9-44841
- performance characteristics and selection, review 9-177
- piezoceramic cardiovascular acceleration transducer 9-39536
- piezoelectric ceramic sensors appl. 9-6100
- piezoelectric impact, effect of damping on dynamic error 9-30435
- polished metal sphere and microaccelerometer, for absolute meas. of Earth's radiation balance (*French*) 9-29900
- superconducting gravity gradiometers 9-29868
- wind-driven wave parameters determ. at automated buoy stations 9-21064

accidents*see also explosions; safety*

- alternative containment designs, value/impact comparison, containment failure and safety aspects 9-13464
- BWR passive containment system, LOCA safety features 9-13466
- conference on nuclear power and fuel cycle, Salzburg, Austria, (May 77) 9-26503

accidents continued

- Creys Malville station, Super Phenix project safety (*French*) 9-30948
- Creys-Malville station, safety arrangements (*French*) 9-30946
- dissociating N₂O₄ power plants, safety and accident response (*Russian*) 9-31066
- European in-pile investigations of fast breeder reactor safety (*French*) 9-26653
- fast reactor boiling detection by noise analysis 9-13449
- fission reactor LOCA, transient flow boiling anal. method 9-26549
- flash floods, American National Weather Service (NWS) warning and disaster preparedness program 9-25289
- fuel failure behaviour of unirradiated fuel rods under reactivity initiated accident conditions (*Japanese*) 9-30955
- heat transfer from round-bottom pool with internal heat generation, expt., LMFBFR appl. 9-13470
- HTGR, unlimited core heatup, fission product release, hypothetical accident anal. 9-6754
- HTGR fission product release following LOCA 9-13457
- in-core molten fuel pool expt., heat flux and struct. ablation 9-13407
- LMFBFR accidents, licensing decisions and safety research 9-26651
- LMFBFR debris bed simulation expt., in-reactor expt. 9-13404
- LMFBFR safety and fuel cycle, accident anal. 9-26650
- LMFBFRs evaluation of local accidents out-and-in-pile expts. 9-26652
- LOCA anal. in Federal Republic of Germany, computer models 9-26642
- LOCA mathematical models for PWR safety analysis (*Russian*) 9-30963
- LWR, LOCA separated air-water two-phase flow, mathematical anal. (*Japanese*) 9-36334
- LWR accidents, containment venting and filtration approaches 9-13465
- LWR blow down accident, French studies, assessment codes (*French*) 9-26641
- LWR fuel elements, behaviour under accident conditions 9-26545
- LWR fuel failure under reactivity initiated accident conditions, NSRR experiments (*Japanese*) 9-36340
- LWR fuel reprocessing and mixed oxide fuel fabrication plant safety 9-26710
- LWR hypothetical core meltdown, vapour explosion potentials at high interface temp. 9-13476
- LWR post-accident aerosol removal, steam condensation expt. 9-13456
- LWR power plants, radioactivity release in LOCA uncertainties 9-26639
- LWR pressure boundary failure and LOCA studies 9-26640
- LWR safety research in the Federal Republic of Germany 9-26638
- LWR with superheated steam isolation valve, blowdown expts. 9-625
- mobile He cooling loop system for post-accident heat removal expts. 9-13403
- molten core debris contact with Na, particulate debris bed formation expt. 9-13405
- NORHAV—a Nordic reactor safety evaluation project 9-26619
- nuclear accident dosimetry systems, Czechoslovak-Hungarian comparison 9-45437
- nuclear accidents, review, 9-618
- nuclear accidents, review 9-3207
- nuclear installation safety assessment criteria in UK 9-26615
- nuclear power reactor accidental release, isopleth method for population reaction 9-13533
- nuclear reactor accident, dosimetry calcs., comparison with expt. data 9-36422
- nuclear spent fuel shipping systems, full scale tests in extremely severe accident environments 9-26582
- oxide crust thermal stress effect in LMFBFR accident 9-13471
- PWR, meltdown accident risk-analysis 9-45375
- PWR LOCA, ROSA-II severe hot leg break for core cooling during blow-down (*Japanese*) 9-9769
- PWR reactor with reactivity perturbations, accident anal., methodical approach (*Czech*) 9-22402
- Rasmussen report on reactor safety, retrospective and prospective view 9-26632
- reactor accidents and the environment 9-30940
- reactor containment leakage from Na fire anal., response surface method, SPOOL-FIRE code 9-18004
- reactor large-bundle LOCA expts., fuel rod ballooning probabilistic analysis 9-13462
- SGHWR safety design and evaluation 9-26636
- thermal power reaction, 3-dimens. transient anal., finite difference and spacetime synthesis methods 9-17989
- THTR 300 MW(e) prototype reactor, safety anal. under extreme accident conditions 9-31087
- traffic accidents correl. with rainfall, St. Louis area 9-16604
- UMFBR molten core debris and core containment material interactions 9-13469
- US reactor safety principle evolution, accidents and safety systems 9-26613
- VVER-440 reactors, emergency operating conditions following main circulation pipe failure, computer aided anal. 9-9823
- WWR reactor safety problems, LOCA prevention (*Russian*) 9-26629
- Zircaloy clad fuel rod burst behaviour in simulated PWR LOCA 9-36337
- ^{115m}In specific activity determination, for nuclear accident dosimetry 9-3248
- N₂O₄ gas cooled fast reactor power stations, nuclear and chemical safety (*Russian*) 9-26655
- Na pool fuel vapour and aerosol transport in HCDA 9-13455
- UF₆ centrifuge cascade, power supply loss accidents anal. 9-13502
- UO₂ heat-generating, molten, interaction with MgO brick 9-13468

accommodation coefficient *see sorption***accumulation layers**

- MOS structures, quasi-2-dimens. system, review 9-33352
- n-GaAs MIS structs., native oxide, effect on interface props. and removal by sputter etching 9-11228

accumulators *see secondary cells***acidity** *see pH***acids, organic** *see organic compounds***acoustic analysis**

- acoustic resonance in vaneless radial diffusers with swirling flows 9-18882
- dolphins, importance of isolation and anal. of emotional signals (*Russian*) 9-43934
- modal analysis techniques, computer based, review 9-18651
- pipng systems, gas, time domain identification of standing wave parameters 9-18558

- acoustic analysis continued**
transfer function estimation, effect of reverberation, digital signal processing appl. 9-18616
US spectrometry, physical basis (*German*) 9-7265
Al alloy D16, supersaturated solid soln., decomp. process, electron microscope obs. and acoustic anal. (*Russian*) 9-15650
- acoustic applications**
see also ultrasonic applications
jet, free, aeroacoustic characterisation (*French*) 9-41727
LMFBR, acoustic anal. from Na boiling tests using THORS bundle 6A 9-31033
LMFBR boiling acoustic detection sensitivity, PFR commissioning expts. 9-13452
LMFBR hypothetical accident, use of sonic agglomerators for aerosol particle suppression 9-36370
LMFBR Na vapour bubble collapse detection 9-13451
LMFBR surveillance technique development 9-13448
materials testing methods, review 9-43504
metals, thermal props. at high temps. meas., acoustic method 9-14222
monitoring of industrial chem. waste at deep water dump site 9-34466
oceanography, remote acoustic monitoring of natural suspensates and slope/shelf water intrusions 9-2241
underwater acoustic communications, swept carrier method for multipath interference suppression 9-3835
underwater construction teams tracking, appl. of portable acoustic system 9-3874
underwater surveys by submersibles, acoustic navigation system 9-5683
US testing, time-domain deconvolution technique for signal identification 9-20306
velocimetry, corrected ray theory 9-41774
Na test loop boiling, acoustic detection expts. 9-13487
- acoustic arrays**
acousto-optic deflector, anal. and design of flat transducer array 9-18527
aliased arrays, processing, errors concerning calc. of max. likelihood estimator 9-41523
bidimensional array design for B- and C-scan US imaging system 9-47877
billboard array, high resolution cross-sensor beamforming 9-41520
broadband constant directivity transducer, array shading function 9-14188
broadside vertical line array gain in shallow water 9-41497
circular transducer array for ultrasonic inspection of plates and sheets 9-29293
compact planar array nearest-neighbour mutual interaction estimation 9-46160
conformal array beam patterns and directivity indices, comments 9-41524
directional response of arrays with side baffles, geometrical diffr. theory 9-23115
dynamically focused array imaging systems, induced Doppler distortions 9-46117
electroacoustic sound sources for non-directional sound radiation (*German*) 9-3876
etched arrays for medical imaging 9-25057
Fourier series method for detect. and localisation of acoustic signals in noise background 9-3861
high-speed stress detection and imaging, 100-element acoustic phased array 9-47876
large time-bandwidth acousto-optic signal processors 9-46118
microphones, cross-correlation analysis for noise source location in industry 9-18601
mutual radiation impedances between pistons 9-1016
nonlinear and thermal acoustic sources 9-23122
optimal array processing for case of strong localized interference using appl. of adaptive beamforming 9-41521
parametric excitation of ultrasonic beams in a dissipative medium 9-18570
phase decorrelation effects on array beam scanning 9-3860
phased array beam steering, phase error grating lobes 9-48313
phased array US imaging, real-time digital scan conversion and multi-dimensional processing 9-48363
reflective arrays, coupled mode vector anal. and flowchart 9-7241
space-time signal processing, optimal versus conventional detectors 9-27467
spatial aliasing of broadband signals, frequency wavenumber analysis 9-1031
statistical moments of the excitation distribution function in the array-synthesis problem 9-27460
steered surface acoustic arrays, optimal excitation 9-18564
two-dimensional monolithic mosaic transducer array 9-46156
underwater sound, measurement of freq. dependence of normal modes in shallow water 9-7262
US multiple freq. array for improved diagnostic imaging 9-14170
Si array/LiNbO₃ gap-coupled imaging devices 9-46057
- acoustic delay lines**
see also ultrasonic delay lines
dispersion characts. of tubular waveguides (*Russian*) 9-3866
SAW, for GHz SAW oscillators, fabrication and performance 9-14185
- acoustic detectors** *see acoustic transducers*
- acoustic devices**
see also acoustic delay lines; acoustic generators; acoustic microscopes; acoustic microwave devices; acoustic parametric devices; acoustic radiators; acoustic receivers; acoustic resonators; acoustic transducers; bells; surface acoustic wave devices; ultrasonic devices
amplifier, activity integrator, lab. studies of wood boring insect larvae appl. 9-16357
electronic signal processing devices, photoelastic materials, nonlinear elastic interactions (*French*) 9-41525
thermometers with W resonators 9-32153
- acoustic dispersion**
see also ultrasonic dispersion
ear-defenders, active noise reduction system, aircrew flying helmets appl. 9-18602
fluids, corrections to linear hydrodynamics eqns., low-freq. sound dispersion (*Russian*) 9-3990
liquid-gas system near critical point, sound attenuation and dispersion, renormalisation group calcs. 9-42149
noise attenuation over an absorbing terrain, theoretical models comparison, aircraft noise appl. 9-18572
- acoustic dispersion continued**
polyurethane foam plate, response to acoustic noise impulse (*French*) 9-1033
SAW, in anisotropic media, anal. of roots of dispersion eqns. 9-14997
sound absorption coefficient measurement in reverberation chambers 9-18653
surface layer structure estimation from Rayleigh wave dispersion, sparse data case 9-14995
waveguides, discretely-layered, Holmholtz eqns., radiation conditions for boundary value problems 9-14134
- acoustic echoes** *see echo*
- acoustic emission**
see also ultrasonic materials testing
Al alloy AK4-1, acoustic investigation of ageing 9-34083
asbestos cement, resistance to crack growth 9-29185
bone acoustic emission diagnosis, soft tissue effects 9-48362
bovine femur crack detection 9-48312
BWR power plant availability improvement by acoustic emission monitoring 9-9809
ceramic and glass ceramic, AE meas. under maintained load (*German*) 9-43315
composite grip design for extraneous noise elimination during AE testing 9-15915
crack growth and coordinate determ. by acoustic emission 9-5119
crack propagation, acoustic emission transients meas., appl. to low alloy steel 9-8407
dislocation pile-up formation, by Frank-Read source, emission of sound 9-37705
efficiency eval. of AE systems 9-39079
elastic plate, acoustic emission and transient waves 9-41506
fibre reinforced composites, AE monitoring review 9-11735
graphite fibre reinforced epoxy laminate, containing interlaminar paper inclusions, AE monitoring 9-34229
graphite fibre reinforced polyimide acoustic emission spectral anal. 9-47850
graphite materials, mech. characts. under stress using acoustic emission analysis (*German*) 9-15881
graphite reinforced epoxy laminates, imminent fracture detection using acoustic emission 9-20302
graphite/epoxy laminates, T300/5208, effect of curing stresses on first ply failure 9-43329
materials testing methods, review 9-43504
measurement transducers, comparison of piezoelec. and optical sensors 9-14192
near surface region of solid, H₂ effect on deform. and fracture, Rebinder-Westwood effect 9-39001
nuclear power plant availability improvement by acoustic emission surveillance 9-3213
nuclear reactor components inspection (*German*) 9-45373
Pyrex glass, near-surface H embrittlement, effect on deform. and fracture props. 9-29180
remote sensing technology developments and appl. (*Japanese*) 9-8701
sandstone, fracture toughness and acoustic emission characts. (*Japanese*) 9-34810
source location, using face centred transducer array 9-24708
spectral anal. 9-43496
steel, austenitic stainless, acoustic emission during cyclic deformation (*Japanese*) 9-43314
steel, low-alloy, study of deformation and fracture processes by acoustic emission transient anal., SEM and optical microscopy study 9-43311
steel parts, martensite form., hardening cracks, acoustic emission investig. possibility 9-29177
steels, eutectoid 9-15889
time-domain deconvolution technique for signal identification 9-20306
Al, plastic deform. of poly- and single-crystals, AE study 9-24579
C materials, mech. characts. under stress using acoustic emission analysis (*German*) 9-15881
Cu-Al (12 wt.%), acoustic emission related to props. 9-34032
Fe-Ni (29.58 wt.%), acoustic absorpt. and emission associated with martensitic transform. 9-34035
Mo single crystal, crystallographic feature of brittle fracture, AE study 9-43415
Na boiling acoustic emission burst detection in parasitic noise 9-3214
- acoustic equipment**
see also acoustic arrays; acoustic wave interferometers; ultrasonic equipment
amplitude and statistical distrib. analysers, basic characts., applications, selection criteria 9-1027
audio noise dosimeters, comparison of available equipment, ANSI standards, use in mines 9-1026
integrating real-time noise analyser for portable field operation 9-1037
muffler, low-pass filter, for small two-cycle engines 9-18585
navigation systems for submersibles, appl. to precise underwater surveys 9-5683
portable acoustic tracking system, for underwater construction teams tracking 9-3874
seafloor earthquake meas. system, acoustic telemetry 9-5689
sonoprobe survey, automatic recognition of submarine sediments (*Japanese*) 9-39985
sound insulation meas. for light struct. (*Chinese*) 9-10427
sound-level meters, instrum., meas., and environmental limitations 9-1039
source location techniques, comparison of acoustic telescope and polar correlation 9-37098
spectral analysers, amplitude accuracy limitations 9-1042
spectral analysers, survey of currently available models 9-1040
undersea acoustic transponders, locations optimal estimation 9-5684
underwater communications system for small submersible, design 9-5666
- acoustic field**
aerofoils, laminar wakes and noise pattern 9-37341
aerosols, highly dispersed, with elec., acoustic fields, collision rates 9-47986
allowance for temporal variability of random inhomogeneities of a medium in connection with the local method 9-32144
angle probes, influence of membrane dimensions on sound field 9-23168
baffled piston wideband acoustic near- and far-field transients 9-46154
barrier or pillar, many-sided, diffracted acoustic field (*Japanese*) 9-18559
beam reinforced plate, acoustic radiation 9-18580
circular ducts, multimodal far-field acoustic radiation pattern using mode cutoff ratio 9-32107

acoustic field continued
 compact planar array nearest-neighbour mutual interaction estimation 9-46160
 concave radiator in infinite baffle (*Japanese*) 9-18560
 cylindrical radiator with mixed boundary conditions 9-18563
 diffuse sound field around objects in a reverberant room (*Japanese*) 9-1030
 ducted noise source, numerical spatial marching techniques for prediction of press. distrib. 9-46098
 ducts, mode-matching analyses of coupled fields, boundary conditions 9-32108
 elastic shells, reciprocity theorem 9-32129
 enclosure, 2-dimens., stationary sound field, continuous obs. (*Japanese*) 9-32143
 equivalent elec. ccts. based on finite-element approach 9-7238
 focusing transducers, study of parametric radiation (*French*) 9-41486
 jet mixing noise, hot and cold, scaling laws based on geometric acoustic model 9-37306
 Lagrangian and Eulerian representations of linear acoustic fields (*French*) 9-41477
 moving sources, intensity of acoustic field 9-32106
 music fields, effects of early multiple reflections on subjective preference judgements 9-41517
 nonlinear interaction of fields with plates under harmonic excitations 9-23246
 Pekeris operator, resolvent in dispersive media (*French*) 9-41488
 phased array beam steering, phase error grating lobes 9-48313
 piezoelectric hydrophones US output assessment 9-23176
 rooms, field anal. by finite element method (*Japanese*) 9-27465
 secondary flow beside cylinder in complex sound field 9-14376
 short pulse US transducers, field phenomena 9-23170
 solid layer, field of elementary source of elastic strain waves 9-18561
 stochastic boundary-value problems, solns. using digital simulation of space-random fields 9-41510
 subsonic jet, acoustic far field, azimuthal struct. (*French*) 9-14150
 target recognition using theory based on Bojarski's identity (*French*) 9-41479
 three dimensional acoustic radiation, problems, boundary integral solns. 9-3818
 turbulent shear layer, sound and aircraft noise, spectral broadening 9-37076
 turbulent shear layer, sound transmission 9-37075
 US, visualisation using microphone matrix (*German*) 9-32151
 US focusing transducers, field pattern criteria 9-14196
 US tissue characterisation by backscattered field space-time processing 9-48305
 velocity monopole source, power radiated under reverberant and freefield conditions 9-46107

acoustic generators

see also earphones; loudspeakers; photoacoustic effect
 acoustic pressure generation by laser beams 9-18575
 axial dynamic, model of theoretical acoustic system 9-14181
 hydrodynamic sound generation mechanism 9-32172
 impulse source, continuous spectrum, appl. to polyurethane foam acoustic response meas. (*French*) 9-1033
 metal, EM generated ultrasound, position dependent amplitude 9-37763
 nonlinear and thermal, due to thermoviscous heating of fluid by modulated sound wave 9-23122
 radial US vibration generation by circular plate 9-18663
 resonance frequencies in T-tube 9-14136
 thyristor impulse generator 9-10441
 wideband general-purpose US generator for biological object handling 9-48381

acoustic holography

aperture synthesis with frequency sweeping 9-23146
 hologram matrix sonar 9-41526
 hologram matrix US imaging method 9-46120
 long-wave small-amplitude holograms, recording and reconstruction 9-18627
 medical and biological applications 9-8528
 steel, stainless, LWR appl., US and AE testing of welds 9-36330
 two-dimensional target imaging using hologram matrix, ultrasound experiment 9-23145
 underwater acoustic hologram correction for nonuniform relative motion 9-46119
 underwater acoustic holographic viewing experimental system 9-46121
 underwater synthetic aperture imaging using acoustical holography 9-3863
 US holographic visualisation (*Slovak*) 9-41527
 US holography for defect size meas. at inservice inspections of nuclear components 9-45372
 CdS, photocond. cryst. characterisation of electron-trap responsible for acoustic holographic echoes (*French*) 9-19544

acoustic imaging

see also acoustic holography
 analogue fast Fresnel transform methods 9-46116
 bidimensional array design for B- and C-scan US imaging system 9-47877
 Bragg diffraction imaging, aspect ratio restoration by holographic lenses 9-46122
 Bragg-diffraction imaging system with partially coherent light illumination 9-14175
 broadband focusing through converging lens, linear systems approach 9-3817
 contact B-scanners, calibration method 9-23161
 Doppler US system, for internal organs imaging 9-5332
 dynamically focused array imaging systems, induced Doppler distortions 9-46117
 electronic devices, nondestructive testing by acoustic microscopy 9-37094
 etched arrays for medical imaging 9-25057
 grating acoustic scanner for material defects 9-47878
 high-speed stress detection and imaging, 100-element acoustic phased array 9-47876
 improvement using statistical estimation theory 9-46115
 impulsive sound method 9-10431
 layer-by-layer endography of multiply scattering objects 9-48303
 nematic liquid crystals, appl. as image detectors 9-41537
 optical scanning, photo integration technique (*French*) 9-32147
 phased array beam steering, phase error grating lobes 9-48313

acoustic imaging continued

phased array US imaging, real-time digital scan conversion and multi-dimensional processing 9-48363
 real-time US imaging, dynamically variable electronic delays 9-46142
 reflection acoustic microscopy, acoustic material signatures 9-46139
 rotating M-sequence phase disc and correl. anal. 9-3870
 sea ice, sidescan sonar imagery, Arctic Ocean 9-25339
 super-resolution imaging system using waves with a limited frequency bandwidth 9-41519
 two-dimensional target imaging using hologram matrix, ultrasound experiment 9-23145
 ultrasonic symposium, Phoenix, AZ, USA (Oct. 1977) 9-46096
 US, computerized, digital data acquisition system 9-39454
 US, piezoelec. face plate response anal. 9-14169
 US A-scan pulse-echo scanner performance, transfer functions, biomedical appl. 9-25055
 US blood flow imaging model eqns. and implications 9-48308
 US computerised tomography scanner evaluation 9-48301
 US display system, using colour TV, tissue disease diagnosis appl. 9-29576
 US imaging cell for direct visualisation of defects in solids 9-20324
 US imaging sonar, design and construction 9-3831
 US multiple freq. array for improved diagnostic imaging 9-14170
 wedged piezoelectric transducer with improved signal-to-scattered-noise ratio 9-3880

acoustic impedance

see also acoustic wave velocity

compact planar array nearest-neighbour mutual interaction estimation 9-46160
 dog lungs, input impedance from Fourier anal. of response to transient pulse pressure excit. 9-5309
 inhomogeneous elastic slab impedance soln. 9-44745
 low-loss wide-band US transducer design for noninvasive medical appls. 9-44021
 measurement technique using sine sweep excitation and known vol. vel. method 9-3869
 mutual radiation impedances between pistons 9-1016
 perforated plate, nonlinear acoustic resistance (*Chinese*) 9-23119
 piezoelectric transducer with inhomogeneous acoustic load, equivalent circuit 9-32174
 porcine skin, acoustic impedance variations at burn-nonburn interfaces 9-2114
 pulsating gas flow, aeroacoustic charact. eval. method 9-46141
 stratified media, acoustic impedography (*French*) 9-3816
 stratified media with specific impedance profiles, investigation method (*French*) 9-41490
³He, normal, acoustic impedance, variational theory 9-42334

acoustic insulating materials *see noise abatement*

acoustic intensity

see also acoustic noise; loudness

acoustically coupled rooms, reverberation time extension, directional microphone appl. (*German*) 9-41518
 brainstem evoked response, relationship of latency and amplitude with sound intensity 9-20551
 dilatometric method for US intensity meas. 9-3865
 moving sources, intensity of acoustic field 9-32106
 velocity monopole source, power radiated under reverberant and freefield conditions 9-46107

acoustic intensity measurement

cross-spectral 2 microphone method, Fourier analysis technique 9-18649
 cross-spectral method of measuring acoustic intensity without error caused by instrument phase mismatch 9-14176
 household vacuum cleaners, effect of reduction in measurement locations below measurement standards 9-18647
 light column display of sound pressure levels 9-41536
 loudspeaker efficiency (*Spanish*) 9-3871
 low frequency, reverberation process 9-46110
 low frequency, sound power meas. 9-41514
 piston source, circular, meas. of fundamental and second harmonic pressures in acoustic field 9-46101
 pitch and influence of intensity, binaural diplacusis 9-34571
 reactive acoustic field, complex wattmeter meas. 9-41535
 resonator, cylindrical disc-type, acoustic performance 9-18657
 sound level meters, freq. response and directional characts. in presence of operator 9-23159
 tones, A.M, dependence of fluctuation strength on sound parameters (*German*) 9-34569
 traffic noise, meas. by L_{eq} and L_n (*Japanese*) 9-1024

acoustic magnetic resonance

see also acoustic nuclear magnetic resonance; acoustic paramagnetic resonance
 W, Doppler-shifted cyclotron reson. along nonprincipal cryst. directions (*Russian*) 9-4725

acoustic measurements *see acoustic variables measurement*

acoustic microscopes

NDT of electronic devices 9-37094
 photoacoustic microscope using Q-switched Nd:YAG laser 9-18637
 reflection acoustic microscopy, acoustic material signatures 9-46139
 reflector geometry for acoustic microscopy and NDT 9-47874
 rock section imagery 9-12292
 scanning, in refl. mode, angular-spectrum approach to contrast 9-10437
 scanning laser acoustic microscope, principles and analytical capabilities 9-18655
 scanning laser acoustic microscope 9-7263
 thick specimen visualisation and joint characterisation by scanning acoustic microscope 9-47875

acoustic microwave devices

see also acoustic transducers; surface acoustic wave devices
 No entries

acoustic mode of crystals *see lattice dynamics*

acoustic noise

acoustical enclosure, airtight, methods for predicting the insertion loss 9-18607
 aerodynamic noise, theoretical modelling 9-37077
 aerodynamic noise generated by high speed electric train 9-18591
 aerofoils, laminar wakes and noise pattern 9-37341
 airbase noise contours prediction 9-1025
 aircraft, anomalous attenuation, meteorological and ground effects 9-14138

acoustic noise continued

- aircraft, noise and vibration ride comfort criteria 9-41512
- aircraft, variation of community response with time of day 9-34462
- aircraft noise, effects on mental health 9-5316
- aircraft noise and premature birth 9-5324
- attenuation over an absorbing terrain, theoretical models comparison, aircraft noise appl. 9-18572
- automobiles, interior noise levels running in city streets 9-23127
- axial flow fans, aeroacoustic mechanism for rotor-vortex interactions 9-3849
- beam output noise due to shipping, statistical meas. 9-3836
- bias assessment in surveys of symptoms attributed to noise 9-3852
- biological effects other than hearing, review of animal expts. 9-5314
- centrifugal fans, geometrical parameter influence on sound power level 9-37084
- circular saw blades, aerodynamic noise generation 9-24929
- cold subsonic coaxial jets, emitted noise (French) 9-37308
- cylinders, aerodynamic noise vs. drag relationships 9-32550
- defensive activation toward noise 9-5318
- depth-mode cavity resonance in turbulent flow 9-1017
- digital recording of levels using programmable calculator 9-23130
- Downreay Fast Reactor surveillance, noise analysis development 9-3215
- ducted source, numerical spatial marching techniques for prediction of press. distrib. 9-46098
- duration effect on annoyance 9-14151
- environmental, health effects of noise exposure, review 9-5313
- environmental noise, conclusions and recommendations of conf. Gothenburg 1977 9-5325
- environmental noise, exposed population size determ. 9-3851
- environmental noise, medical effects, Conf., Gothenburg, Sweden, 1977 9-5311
- environmental noise, review of biological effects on humans 9-5315
- environmental noise exposure, medical effects, review of basic considerations 9-5312
- excited jets, aerodynamic characterisation of broadband noise amplification 9-32491
- exposure meas. of varying levels by noise records 9-23141
- fans, loudness rating programme 9-24930
- flame, laminar premixed gaseous, amplification of propagating acoustic signal 9-29357
- flexible cylinder, structural-acoustic response of mech. excitation, finite element anal. 9-3839
- flow over rectangular cavities, induced tones and press. oscills. meas. 9-32493
- flow-generated, acoustic power and head losses of silencers (Japanese) 9-23309
- fluctuating, effects of standard deviation and fluctuation freq. of sound level on annoyance (Japanese) 9-18583
- fluctuating noise, effective sound level prediction (Japanese) 9-27462
- fluctuating noise annoyance meas. using magnitude estimation method (Japanese) 9-27461
- gas stream in axisymmetric channels, acoustic disturbance propagation, gas-turbine noise appl. (Russian) 9-32131
- growth function for human response to large-amplitude impulse noise 9-16222
- household vacuum cleaners, effect of reduction in measurement locations below measurement standards 9-18647
- immunological effects of auditory stress 9-5323
- impact noise, review and bibliography 9-3848
- impact of sphere with slab, transient sound radiation 9-23128
- industrial noise, biological effects other than on hearing 9-5320
- industrial noise, effect on blood pressure in humans 9-5321
- intermittent truck noise effects on deep sleep 9-5310
- jet, cold, subsonic, acoustically active turbulent struct., conditional sampling anal. (French) 9-18881
- jet, edgetone oscillation analysis (Japanese) 9-10599
- jet, large-scale turbulent struct., noise prod. 9-7394
- jet, noise radiated from convecting quadrupoles, flight effects 9-32601
- jet, subsonic hot free, coherent structures in mixing zone, acoustic effects 9-4052
- jet, turbulent source coherence effect on noise 9-32599
- jet mixing noise, hot and cold, scaling laws based on geometric acoustics model 9-37306
- jet noise, current research 9-32602
- jets, hypersonic, high temp., noise rel. to gas parameters (Russian) 9-32132
- jets, two parallel flow, noise reduction, exptl. investig. 9-41723
- jets, two-point correlations, comments and reply 9-32492
- local spectrum of underwater ambient noise field 9-37078
- mechanical structures, noise and vibration conf. Repino, Leningrad, 1977 Oct. 9-18579
- mechanism of the development of noise in hydro-systems as the result of fluctuations in delivery flow (German) 9-7256
- minimized sonic boom waveforms, subjective loudness 9-16221
- monitoring and instrumentation 9-12301
- N-wave sonic booms, subjective loudness tests 9-16220
- noise-induced sleep disturbances and their effects on health 9-5317
- open plan offices, comparison of NIC' and dBA rating schemes for speech privacy 9-3854
- power transformer prediction and control 9-18648
- propagation over hard ground for distances under 200 ft, exp. study, community noise appl. 9-18600
- quarry blasting, sound propag. expts. 9-24928
- railway noise and estimation, for newly established line in Japan (Japanese) 9-10428
- random noise and vibratory system, multivariate state probability expression using unified statistical treatment (Japanese) 9-18584
- rigid shell, oscillatory flow through perforated surface, sound generation 9-18950
- road traffic noise control, systematic trial and eval. diagrams (Japanese) 9-23132
- sonic booms, simulated, and inner-ear bleeding of chinchillas 9-16247
- splitter plate acoustics, zones of silence in sound wave-jet flow interaction 9-3819
- statistical prediction of vibr. distrib. and random noise in higher level region (Japanese) 9-1023
- steam hammer, scale model and on-line computer investigation 9-23137
- structural noise and vibration problem solution by statistical methods 9-23126
- subjective analysis of acoustic noise (German) 9-46109
- subsonic jet, acoustic far field, azimuthal struct. (French) 9-14150

acoustic noise continued

- supersonic jet, imperfectly expanded, model describing sound generation 9-4053
 - suppression in speech using spectral subtraction 9-46124
 - thin cylindrical shell, effect of cavity resonances on sound transmission 9-3850
 - time delay bias errors in estimating frequency response and coherence functions 9-18614
 - traffic, acoustical correlates of aversiveness 9-41511
 - traffic noise, meas. by L_{eq} and L_{α} (Japanese) 9-1024
 - trailing edge noise, semi-infinite rigid plate, theoretical review 9-37307
 - turbulent flame, acoustic noise (Russian) 9-32708
 - turbulent jet, sound transmission expts. 9-32600
 - turbulent jet, trailing edge noise mechanism 9-41720
 - turbulent shear layer, sound and aircraft noise, spectral broadening 9-37076
 - turbulent shear layer, sound transmission 9-37075
 - underwater, determ. of spatial coherence using model (French) 9-41487
 - underwater ambient noise levels meas., Cochran backwaters 9-25256
 - urban noise, effect on cardiovascular function in rhesus monkey 9-5322
 - urban noise, field study, noise sources, effects on humans 9-5319
 - USSR basic state standard of noise control 9-23142
 - vortex noise emission in flow past vibrating rigid bodies 9-23310
 - water boiling in annuli under forced convection, boiling noise 9-1062
 - Na boiling acoustic emission burst detection in parasitic noise 9-3214
 - Te, acoustoelectric current flow, acoustic refraction effect 9-19637
- acoustic noise measurement**
- aircraft, meas. of noise signature using remotely-operated multiple array acoustic range 9-23134
 - aircraft and missiles, effect of intense noise on equipment 9-3853
 - amplitude and statistical distrib. analysers, basic characts., applications, selection criteria 9-1027
 - audio noise dosimeters, comparison of available equipment, ANSI standards, use in mines 9-1026
 - community, industrial noise control conf., Inter-Noise 78, San Francisco, USA, 1978, May 9-18594
 - exhaust system, procedures for evaluation of acoustical performance 9-18645
 - hearing protectors, effectiveness meas. 9-14180
 - housing, classes of acoustical comfort, measurement and control methods 9-23143
 - impact noise testing on floors, comparison of methods 9-46111
 - impulsive noise, accuracy of measurement, health hazard appl. 9-18652
 - industrial noise, random sampling techniques for in-plant use 9-27464
 - integrating real-time noise analyser for portable field operation 9-1037
 - jet position transducer, experimental investigation of noise characts. 9-37103
 - L_{α} evaluation level, estimation using sequential and non-sequential type algorithms (Japanese) 9-37099
 - LMFBR Na-cooled 7-rod bundle acoustic and temp. noise obs. 9-13391
 - locomotive, stationary, in-cab noise level measurements 9-14155
 - microprocessor based noise analysers 9-18654
 - non-Gaussian noise, detection of signals using optimum processing structures 9-7260
 - personal noise dosimeter response to impulsive noise, measurement errors 9-18646
 - Poznan district post and telecommunication premises, reduction problems (Polish) 9-37088
 - R20 computer centre, noise level meas. (Hungarian) 9-41513
 - railway noise and estimation, for newly established line in Japan (Japanese) 9-10428
 - road traffic noise, comment on survey method 9-37083
 - sound absorption coefficient, reverberation chamber appl. 9-18653
 - sound attenuation, air-to-ground propag., effects of temp., humidity gradients 9-1019
 - sound insulation meas. for light struct. (Chinese) 9-10427
 - sound reduction in small elec. appliances, investigation using time average holography (German) 9-37086
 - sound-level meters, instrum., meas., and environmental limitations 9-1039
 - tape recorders, portable, FM- and direct-recording types comparison 9-1028
 - traffic noise, effect on speech communication and annoyance, anechoic chamber meas. 9-18590
 - traffic noise at signalized intersection, influence of traffic structure (Japanese) 9-37082
- acoustic nuclear magnetic resonance**
- autodyne detector using FETs 9-17457
 - metal, cubic, dipole-nuclear acoustic resonance, electron band struct. influence 9-19787
 - metals, nucl. acoustic reson., quantum theoretical treatment 9-42846
 - Al, nuclear acoustic resonance, influence of longitudinal and transverse magnetoresistivity 9-24222
 - Al-Zn (0.14 at.%), signal amplitude and phase, temp. depend. 9-8058
- acoustic paramagnetic resonance**
- vibronically coupled systems, cluster model 9-19540
 - $\text{LiNbO}_3\text{:Fe}$, optical damage, Fe ion conc., EPR and optical spectra evaluation 9-42933
- acoustic parametric amplifiers**
- No entries
- acoustic parametric devices**
- see also *acoustic parametric amplifiers; acoustic parametric oscillators*
 - No entries
- acoustic parametric oscillators**
- No entries
- acoustic radiators**
- see also *acoustic generators; Doppler effect*
 - arbitrary elastic structure in infinite inviscid fluid, acoustic radiation and scatt. 9-7318
 - baffled piston wideband acoustic near- and far-field transients 9-46154
 - beam reinforced plate, acoustic radiation 9-18580
 - complex mechanical structures, sound radiation determ. using reciprocity principle 9-23124
 - concave radiator in infinite baffle, acoustic field (Japanese) 9-18560
 - cylindrical radiator with mixed boundary conditions, acoustic field 9-18563
 - elastically supported circular plate, sound radiation 9-41507
 - electroacoustic sound sources for non-directional sound radiation (German) 9-3876
 - finite element simulation of acoustic transmission system with radiation 9-3862

acoustic radiators continued

- free-jet, turbulent, experimental investigation of acoustic radiation 9-46102
- impact of sphere with slab, transient sound radiation 9-23128
- periodic line-supported plate, approx. theory for sound radiation 9-37080
- piezoceramic plates, tunable HF high-power radiator 9-18664
- pinger modification to transmit water temp. data 9-39895
- piston radiator, second harmonic generation 9-32123
- pulsed radiolysis acoustic wave generation in liquids 9-8446
- thin beam-reinforced plates and shells, wideband sound radiation 9-18581
- three dimensional acoustic radiation, problems, boundary integral solns. 9-3818
- underwater data communication US standing-wave radiator 9-46104
- velocity monopole source, power radiated under reverberant and freefield conditions 9-46107

acoustic reactance *see acoustic impedance*

acoustic receivers

- see also microphones*
- sonar, digital phase shift beamformer, design and implementation 9-1034
- underwater acoustic signals receiver, freq. shift arrival time determ. 9-3875
- US phase-insensitive receiver theory and CdS acoustoelectric convertor 9-47871

acoustic resistance *see acoustic impedance*

acoustic resonators

- ageing mechanisms 9-46161
- cavity, scalar Green's function, numerical calcs. using integral eqn. (French) 9-32110
- cavity normal modes and normal freqs., Green's function numerical study (French) 9-32111
- closed cavity, cylindrical, excitation of nonlinear acoustic resonances by unsteady heat input 9-41483
- cylindrical, disc-type, acoustic performance 9-18657
- elastic spherical shells, fluid-filled, isolation of resonant component in acoustic scattering 9-46106
- externally coupled resonator-filter (ECRF), loss minimizing 9-41542
- NMR detector, autodyne, using FETs 9-17457
- photoacoustic cell resonances from standard ultrahigh vacuum components 9-18262
- PVF₂ film composite resonator for concave focusing US transducer 9-46155
- SAW filter for radio receiver 9-7271
- SAW resonators on quartz, loss reduction and cavity maximizing 9-41543
- SAW X-ray topographical representation 9-47870
- spherical cavities in viscoelastic materials, fluid-filled, determination of shear absorption 9-7239
- violin cavity, reson. modified by He or CO₂, for teachers 9-35484

acoustic streaming

- Eckart flow in conducting liq. or gas, acoustoelectric current prod. 9-27707
- review, nature and modern developments 9-37079

acoustic superradiance

No entries

acoustic surface wave devices *see surface acoustic wave devices*

acoustic surface waves *see surface acoustic waves*

acoustic transducers

- see also acoustoelectric transducers; ultrasonic transducers*
- acousto-optic deflector, anal. and design of flat transducer array 9-18527
- electromechanical, constructed from MOS movable-gate-field-effect struct. 9-1043
- EM-acoustic transducer as elastic-wave ellipsometer for meas. of material property variations 9-46143
- flexensional, in LF wide-band high-power sound source 9-3883
- focusing, study of parametric radiation (French) 9-41486
- interdigital transducer for Lamb wave devices for AM, influence of electrical termination 9-41549
- jet position transducer, experimental investigation of noise characts. 9-37103
- ocean current sensors, performance assessment 9-25345
- pneumoacoustic, amplitude meas. for linear dimens. control 9-17387
- polyvinylidene fluoride transducers, underwater acoustic meas. 9-14184
- Ga and alloy high-temp. couplants 9-14195

acoustic variables measurement

- see also acoustic intensity measurement; acoustic noise measurement; acoustic wave velocity measurement; ultrasonic measurement*
- acoustic characteristics of flow through duct systems, transfer function technique 9-18650
- acoustic reflex adaptation in humans 9-2082
- amplitude variations in compact cassette tape recorders, measuring set with oscilloscope display (German) 9-32156
- earphones, reference equivalent threshold sound pressure levels, audiometric zero 9-3872
- enclosure, 2-dimens., stationary sound field, continuous obs. (Japanese) 9-32143
- HF SAW phase/amplitude meas. using phase sensitive laser probe 9-41471
- impedance, sine sweep excitation and known vol. vel. method 9-3869
- impulse response of acoustically absorbent materials (French) 9-1033
- lake surface reverberation, statistical props. 9-1020
- loudspeaker testing limitations (German) 9-37105
- pitch estimation algorithm for speech and music 9-14173
- pulsating gas flow, aeroacoustic charact. eval. method 9-46141
- reverberation time meter (Japanese) 9-37100
- RF vibr. crystals, inverse problem of Mossbauer spectroscopy 9-37081
- sound level, decibel unit, definition and eqns. (Italian) 9-9201
- source location techniques, comparison of acoustic telescope and polar correlation 9-37098
- target identification through parameter estimation and imagery by interferometric methods (French) 9-41539

acoustic velocity *see acoustic wave velocity*

acoustic wave absorption

- see also noise abatement; ultrasonic absorption*
- air-to-ground propag., effects of temp., humidity gradients 9-1019
- baffle, composite compliant, response to mech. and acoustical vibrs. 9-10421
- during brittle-plastic transition, theory 9-27595
- circular lined ducts, nonlinear attenuation 9-23118

acoustic wave absorption continued

- complex elasticity of crystals, small variations meas. by acousto-optical method 9-3867
- corrugated surface, effective absorption coeff. 9-32119
- crystals with Jahn-Teller centres, sound absorpt. 9-37765
- defect structure near phase transition pt., effect on solid props. (Russian) 9-37838
- geophysical acoustic logging, signals limited spectrum rel. to time interval and damping determ. accuracy (Russian) 9-39971
- heavily doped compensated piezoelectric semiconductor, sound absorpt. coeff. calc. (Russian) 9-15194
- LF acoustic reduction of rectangular panel 9-32142
- lined plenum chambers in ducts, attenuation 9-37071
- liquid-gas system near critical point, sound attenuation and dispersion, renormalisation group calcs. 9-42149
- metals, Fermi surface geometry, effect on sound absorpt. and vel. 9-7775
- metals and semimetals, two-phonon sound absorption in quantising mag. field 9-28382
- Pacific Ocean, geographic variation of LF sound absorption 9-44189
- phase transitions, caused by inhomogeneity of transition parameter (Russian) 9-23698
- polyurethane foam plate, response to acoustic noise impulse (French) 9-1033
- porous materials, flexible, sound absorption 9-32115
- rigid porous absorbing materials, finite element model 9-32114
- rock elastic wave absorption meas. and recording instrument (Russian) 9-29891
- sea-floor sub-bottom absorption profiles, acoustical effects 9-41500
- seawater, attenuation due to chem. relax-absorpt. 9-34851
- semiconductors, semimetals, electron heating by phonons, acoustic absorpt. and acoustoelectric current quantum oscills. (Russian) 9-19639
- single-layer wall with porous layer, acoustic reduction 9-27466
- sound insulation meas. for light struct. (Chinese) 9-10427
- superconductor, bulk, absorption of SAW in presence of supercurrent 9-28443
- superconductor longitudinal acoustic wave absorpt., nonlinear effects, hysteresis (Russian) 9-19691
- superconductors with mag. impurities, theory of longitudinal sound attenuation (Russian) 9-11268
- transmission loss prediction for building elements 9-32139
- tubes, sound distrib. control by auxiliary driving sources, air conditioning duct appls. 9-14133
- urethane foams for noise abatement, physical and acoustical props. 9-18592
- wall systems, design for desired STC ratings 9-18608
- Al alloy, strain response to acoustic excitation, statistical props., comparison with C fibre reinforced plastic 9-43502
- C fibre reinforced plastic, strain response to acoustic excitation, statistical props., comparison with Al alloy 9-43502
- CdS, heavily doped compensated piezoelectric semiconductor, sound absorpt. coeff. calc. (Russian) 9-15194
- CdSe, heavily doped compensated piezoelectric semiconductor, sound absorpt. coeff. calc. (Russian) 9-15194
- HD+He, relax. and kinetic cross-sections, DWBA calcs. 9-41782
- Se, amorphous, acoustic behaviour in terms of model involving stochastic reson. 9-23681
- Zn_xCd_{1-x}Te, resonant Brillouin scattering (Japanese) 9-15474

acoustic wave amplification

- see also acoustoelectric effects*
- flame, laminar premixed gaseous, amplification of propagating acoustic signal 9-29357
- halls, sound amplifying systems, model (French) 9-37090
- piezoelectric-semiconductor interface, periodically irregular, electron absorp. and acoustic wave amplification 9-42361
- piezosemiconductor film, surface-mode acoustic wave amplification 9-46907
- semiconductor film, piezoelec., quantum acoustoelec. interaction, thickness depend. (Russian) 9-47126
- shock wave amplification in nonequilibrium system of liq. and solvent gas bubbles 9-18936
- Stoney wave amplification at interface between piezoelectric semicond. and dielectric crystal 9-19441
- Stoney wave amplification between two piezoelects. separated by thin semicond. film 9-14998
- Te, acoustoelectric current flow, acoustic refraction effect 9-19637

acoustic wave attenuation *see acoustic dispersion; acoustic wave absorption; acoustic wave scattering; acoustic wave transmission; ultrasonic absorption*

acoustic wave diffraction

- see also ultrasonic diffraction*
- arrays with side baffles, directional response using geometrical diffr. theory 9-23115
- barrier or pillar, many-sided, diffracted acoustic field (Japanese) 9-18559
- discontinuity line in boundary surface curvature, acoustic wave diffraction (Russian) 9-37072
- elliptic cylinder, acoustic press. wave diffraction and radiation (Russian) 9-32113
- nonlinear effects, acoustic focusing systems 9-32126
- plane wave, by two staggered parallel soft or rigid strips 9-1015
- target identification, transfer functions and impulse responses (French) 9-41480
- two-dimens. waves, diffraction by cylindrical cavity in half-space 9-23110

acoustic wave diffusion *see acoustic wave scattering*

acoustic wave effects

- see also acoustic magnetic resonance; acousto-optical effects; acoustoelectric effects; biological effects of acoustic radiation; sonoluminescence; ultrasonic effects*
- acoustic vibration of a liquid filled distorted circular cylindrical shell 9-3840
- aerosols, highly dispersed, with elec., acoustic fields, collision rates 9-47986
- hydrocarbon drops levitated in water, acoustically forced shape oscill. 9-47987
- mass transfer from cylinders to air stream 9-32127
- mutual radiation impedances between pistons 9-1016
- nonpolar liquids, cavitation threshold under ionising acoustic radiation 9-37074
- polyurethane foam plate, response to acoustic noise impulse (French) 9-1033

- acoustic wave effects continued**
two-dimensional shear layer, instability wave excitation by sound 9-32541
vortices, acoustic destabilisation 9-32533
- acoustic wave interference**
see also acoustic wave interferometers; acoustic wave interferometry
atmospheric turbulence effects on interference of sound waves above finite impedance boundary 9-41493
optimal array processing for case of strong localized interference using appl. of adaptive beamforming 9-41521
SAW, velocity, attenuation and reflection meas., interf. acoustical method 9-18638
- acoustic wave interferometers**
see also acoustic wave interferometry
Fabry-Perot interferometer using α -quartz as acoustic mode converter 9-23152
- acoustic wave interferometry**
see also acoustic wave interferometers
Fabry-Perot interferometer for determ. of acoustic parameters of fused quartz 9-41532
target identification through parameter estimation and imagery by interferometric methods (French) 9-41539
SF₆ gas acoustic dispersion obs. by double-crystal US interferometry (Japanese) 9-4100
UF₆ gas acoustic dispersion obs. by double-crystal US interferometry (Japanese) 9-4100
WF₆ gas acoustic dispersion obs. by double-crystal US interferometry (Japanese) 9-4100
- acoustic wave propagation**
see also acoustic dispersion; atmospheric acoustics; Doppler effect; liquid helium sound propagation; seismic waves; shock waves; surface acoustic waves; ultrasonic propagation; underwater sound
above absorbing surfaces, model study, anechoic chamber exp. results 9-18568
acoustic interactions in media with weak periodic inhomogeneities 9-32124
acoustic sources, nonlinear and thermal, due to thermoviscous heating of fluid by modulated sound wave 9-23122
atmosphere, MHD wave propag. in presence of rot. and variable mag. field 9-40024
atmosphere, parabolic approx. 9-3824
barriers, tree-lined earth, effects on sound propag. 9-18588
Blasius boundary layer, sound and Tollmien-Schlichting waves 9-10578
channels constituted by moving and motionless targets, simulated varying, active identification (French) 9-41478
composite thin-plates, equivalent microwave network analysis 9-3820
conference, Marseille, France, 1978, May (French) 9-41484
cylindrical acoustic waveguide containing moving viscous fluid, modal pattern anal. 9-32105
cylindrical tubes containing slightly rarefied gas 9-23114
ducts, mode-matching analyses of coupled fields, boundary conditions 9-32108
ducts, modified Galerkin method 9-10423
ducts, nonhomogeneous, acoustic energy flux 9-7243
ducts, sound production and propagation 9-41473
exterior problems of acoustics, integral eqns. soln. 9-27455
finite amplitude sound beam propag. in dissipative medium, nonlinear eqn. 9-32122
finite element simulation of acoustic transmission system with radiation 9-3862
free-jet, turbulent, experimental investigation of acoustic radiation 9-46102
gas stream in axisymmetric channels, acoustic disturbance propagation, gas-turbine noise appl. (Russian) 9-32131
guided acoustic waves in the ocean, review 9-39753
jet, free, aeroacoustic characterisation (French) 9-41727
Lagrangian and Eulerian representations of linear acoustic fields (French) 9-41477
Lagrangian-mean flow, exact theory of nonlinear waves 9-37331
layered metal structure, acoustic size effect, sound attenuation anisotropy (Russian) 9-46752
liquid-saturated open cell foam in circular tube 9-41470
liquids, relation between sound vel. and mean vel. of thermal motion of molecules 9-14885
Love wave interaction in thin film with periodic surface corrugation 9-14130
multimodal far-field acoustic radiation pattern using mode cutoff ratio 9-32107
nematic liquid crystal near transition to isotropic liquid 9-19320
nonlinear, induced by vibr. cylinder, 2-dimens. case 9-23120
nonlinear, induced by vibr. cylinder, 3-dimens. case 9-23121
nonlinear one-dimensional waves in near-sonic flows 9-41701
ocean, long-range, transfer function for motional source 9-14140
ocean bottom roughness effects on LF propag. 9-41501
outdoor sound propagation over hard ground for distances under 200 ft, exp. study, community noise appl. 9-18600
parabolic approx., correction based on second range derivative 9-14146
parabolic-coherence function model 9-23111
Pekeris operator, resolvent in dispersive media (French) 9-41488
piezoelectric boundary waves propagating along SiO₂ and LiTaO₃ interface, characts. 9-14149
piezoelectric cryst., excitation and energy flux of acoustic harmonic 9-15404
piezoelectric crystal, three-field electroacoustic parametric interactions 9-1740
piston source, circular, meas. of fundamental and second harmonic pressures in acoustic field 9-46101
plasma, ion acoustic soliton, Boussinesq eqn. description 9-46449
porous media, fluid-filled, propag. and decay 9-7248
potential field induced by an acoustic wave incident upon a moving plane 9-37342
pre-seismic sound (Chinese) 9-34760
pulsed radiolysis acoustic wave generation in liquids 9-8446
SAW propagation study based on coherent light diffraction (Russian) 9-41472
shallow ocean water, Naval Research 9-25258
shallow-water propagation, investigation using reduced scale model (French) 9-3825
shallow-water sound propagation 9-5493
- acoustic wave propagation continued**
shear waves in an infinitely extended medium perforated with a row of cylindrical ducts 9-32116
solar atmosphere, acoustic waves propag. and chromosphere temp. rise 9-16911
solar atmosphere, heating of chromosphere and corona by sound waves 9-21246
splitter plate acoustics, zones of silence in sound wave-jet flow interaction 9-3819
submerged structures, doubly asymptotic approximations for transient motions 9-14132
surface waves on anisotropic substrates, transverse amplitude dependence 9-7242
transformation operators and wave propagation in a spherically stratified medium 9-18569
transverse acoustic wave at solid-solid interface 9-32118
turbulent media, scatt. and interaction of sound with sound (Russian) 9-18571
typhoons, detection and appl. of associated acoustic waves (Chinese) 9-34996
underwater acoustic fluctuations, aspects of apex approximation 9-41498
underwater sound, passive localisation of moving source 9-3826
underwater sound, pseudoresonances and virtual modes 9-14144
water, acoustic cavitation threshold and tensile strength, theory 9-42131
waveguides, discretely-layered, damping of normal and surface waves, depend. of vel. on losses 9-14135
wind speed distribution, effect on sound propag. outdoors (Japanese) 9-1018
LiNbO₃, anisotropy and phase velocities of prop. of elastic waves 9-1478
Mn-Cu alloy, acoustic shock pulse characts., stress amplitude and temp. depend. 9-19323
Mn_{0.53}Zn_{0.35}Fe_{2.12}O₄, and Ti substituted, acoustic losses 9-24207
- acoustic wave reflection**
see also echo; reverberation; ultrasonic reflection
backscattering from very rough water surfaces 9-41499
discrete layered media, structure estimation accuracy 9-23108
ground reflection, nonlocal boundary conditions 9-18573
harmonic acoustic waves, refraction to tunnelling transition 9-46099
impedance cylinders, calc. of differential cross sections 9-41474
liquid surface, influence of condensation or evaporation 9-46097
ocean bottom interaction, plane wave reflection loss model based on numerical integration 9-10425
ocean bottom reflections, nonparametric estimation of plane wave refl. coeff. 9-7252
resonance theory of acoustic reflection and transmission through a fluid layer 9-41471
seismic reflection profiles of marine sediments, statistical anal. 9-2385
shock wave reflection from concave surface, numerical simulation 9-18913
solid-liquid interface, surface wave reflection from periodic irregularities 9-18562
spherical enclosure, uniformly absorbing, effect of surface roughness on reverberation time 9-14160
thermosphere, lower, investigation by reflected natural infrasound obs. 9-21089
underwater shadow zones in horizontal plane 9-41494
underwater sound, Al cylindrical shells immersed in water 9-7251
- acoustic wave refraction**
see also acoustic dispersion; ultrasonic refraction
Te, acoustoelectric current flow, acoustic refraction effect 9-19637
- acoustic wave scattering**
see also ultrasonic scattering
arbitrary elastic structure in infinite inviscid fluid, acoustic radiation and scatt. 9-7318
backscattering from very rough water surfaces 9-41499
cylinders and spheres with complex impedance, approximate methods 9-41472
elastic spherical shells, fluid-filled, isolation of resonant component 9-46106
ellipsoid differing from surrounding medium in compressibility only, LF scatt. 9-18566
finite elastic struct. immersed in acoustic medium, finite element anal. of vibr. 9-7254
gas bubbles, effect of backscattered acoustic wave on bubble oscillation 9-1021
impedance cylinders, calc. of differential cross sections of geometrical reflections 9-41474
jet engine sound scatt. by aircraft fuselage, coordinate stretching 9-23123
marine organisms, acoustic target strengths 9-46103
nonlinear scattering of sound by sound 9-10424
ocean, scattering of sound by internal waves 9-14141
ocean bottom roughness effects on LF propag. 9-41501
pair-correlated scatterers, random distribns., acoustic bulk parameters 9-23112
SAW scatt. by post spacers 9-27456
sea surface, locally irradiated, correl. functions of amplitude fluctuations (Russian) 9-29777
sea surface scattering at rough boundary, interaction models 9-7247
sea surface scattering channel and undersea communications, modelling 9-1022
spherical cavities in viscoelastic materials, fluid-filled, determination' of shear absorption 9-7239
spherically stratified medium and bounded obstacle, integral equation 9-32120
statistical model for backscattering from a randomly fluctuating surface 9-27459
stratified media, acoustic impedography (French) 9-3816
stratified media with specific impedance profiles, investigation method (French) 9-41490
surface cracks, SAW excitation, length and depth resonances 9-8403
surface scatt. from moving rough surface 9-7246
target recognition using theory based on Bojarski's identity (French) 9-41479
transformation operators and wave propagation in a spherically stratified medium 9-18569
turbulent media, scatt. and interaction of sound with sound (Russian) 9-18571
underwater acoustic scatterers, classification, experimental appls. involving fish 9-41502

acoustic wave scattering continued
underwater sound, forward surface freq. spreading, physical models 9-14145
underwater sound, ocean bottom backscattering strengths at low grazing angles 9-14143

acoustic wave transmission

see also ultrasonic transmission
ferroelectric with orientational transition, coupled elastic, EM and polarisation oscill. spectrum 9-8103
harmonic acoustic waves, refraction to tunnelling transition 9-46099
layered metal structure, acoustic size effect, sound attenuation anisotropy (Russian) 9-46752
LF acoustic reduction of rectangular panel 9-32142
lined plenum chambers in ducts, attenuation 9-37071
open plan spaces, technique for sound pulse transmission anal. 9-23151
plywood panels, effect of orthotropy on sound transmission 9-41515
rectangular ducts, LF acoustic transmission 9-37070
resonance theory of acoustic reflection and transmission through a fluid layer 9-41471
resonant interaction of sound with electrons, sound transmission (Russian) 9-7774
scalar wave transmission, through small apertures, appl. of isoperimetric inequalities 9-32109
single-layer wall with porous layer, acoustic reduction 9-27466
thin cylindrical shell, effect of cavity resonances on sound transmission 9-3850
turbulent shear layer, sound transmission 9-37075
underwater sound, point source transmission of broadband sound through sinusoidal ocean surface 9-14142

acoustic wave velocity

see also acoustic dispersion; liquid helium sound propagation; shock waves; ultrasonic velocity
compressible liquid flow with heat transfer 9-14131
crystalline films, dispersion law and struct. transition, Fermi line geometry, acoustic spectrum, resist. min. (Russian) 9-7764
p-dioxane-water mixtures, adiabatic compressibilities and sound vels., temp. depend. 9-28044
diphenyl-diphenyl ether mixture, Dowtherm vapour, speed of sound meas. 9-18989
ferroelectric with orientational transition, coupled elastic, EM and polarisation oscill. spectrum 9-8103
fused quartz, determ. of acoustic and acousto-optical parameters using acoustic interferometry 9-41532
gas-bearing water-saturated sediment, sound vel. as function of bubble distrib. 9-39703
homogeneous isotropic material, high press. eqn. of state and sound vels. to fourth order elastic consts. 9-37806
inhomogeneous media model for acoustic vel. calc. in tissues 9-43945
liquids, relation with mean vel. of thermal motion of molecules 9-14885
lubricant, glass transition, light scattering study 9-29228
metals, Fermi surface geometry, effect on sound absorpt. and vel. 9-7775
mobile dislocation density determ. from sound velocity 9-19258
polystyrene-polyvinyl methyl ether blends, dynamic mech. and sonic vel. behaviour 9-34090
quartz, He^+ ion implanted, SAW velocity, influence of annealing 9-14996
thermosphere, lower, sound rel. from natural infrasound ten years obs. 9-21089
Al, mobile dislocation density determ. from sound velocity 9-19258
Ar, liquid, velocity of second meas. and thermodynamic stability (Russian) 9-4374
 $\text{Ba}_2\text{Si}_2\text{TiO}_8$, fresnoite single cryst. SAW characts. 9-37913
 D_2 , solid, melting curve, meas. of P, V, T and longitudinal sound velocity 9-37814
 p-H_2 , solid, elastic consts., Brillouin scatt. obs. 9-8149
 H_2 , solid, melting curve, meas. of P, V, T and longitudinal sound velocity 9-37814
 LiNbO_3 , anisotropy and phase velocities of prop. of elastic waves 9-1478
 LiNbO_3/Ti , in-diffused waveguide, acousto-optical meas. of optical field profiles 9-23054
 NaCl , high press. eqn. of state and sound vels. to fourth order elastic consts., 270 kbar 9-37806
 $\text{Y}_2\text{Fe}_{1-x}\text{Ga}_x\text{O}_{12}$, inhomogeneous stress effect on ferromagnetic resonance, elastic consts. from sound vel. meas. 9-24219

acoustic wave velocity measurement

see also ultrasonic velocity measurement
complex elasticity of crystals, small variations meas. by acousto-optical method 9-3867
geophysical acoustic logging, signals limited spectrum rel. to time interval and damping determ. accuracy (Russian) 9-39971
standing-wave systems, resonant, errors in wave velocity meas. 9-10436

acoustic waveguides

anisotropic elastic waveguide normal-mode anal., appl. to Rayleigh-Love wave mode converter 9-23113
cylindrical, containing moving viscous fluid, modal pattern anal. 9-32105
discretely layered, damping of normal and surface waves, depend. of vel. on losses 9-14135
discretely-layered, Holmholtz eqns., radiation conditions for boundary value problems 9-14134
elastic strip with fluctuating parameters, flexural wave characts. 9-23116
elastic waveguide slow torsional wave sensors 9-46748
elliptical cross-section, numerical anal. by mode-matching method 9-23109
nondispersive prop. of elastic strain waves in rectangular cross section solid waveguide 9-18565
overlay ridge waveguide SAW mode analysis 9-46100
planar, acoustooptical interaction 9-23150
travelling wave lens for high-speed optical scanners 9-36991

acoustic waves

see also acoustic emission; magnetoacoustic effects; shock waves; surface acoustic waves; ultrasonic waves
elastic transitions of second order, dynamical renormalisation group method 9-40512
gravity-acoustic waves, self-localisation, non-linear effect in non-uniform atmosphere 9-8761
ionospheric acoustic-gravity waves, Doppler sounding, rel. to storm detection and prediction 9-2326
nonlinear acoustics of pipes and ducts in gas, breakdown of acoustic approx. 9-3823

acoustic waves continued

scheelites, external lattice vibr. modes and elastic wave vels., dispersion relations 9-33050
shock wave-acoustic wave interactions in elastic solids 9-32370
solar transition zone and corona, wave refl. and wave disorder 9-12453

acoustical laboratories

see also anechoic chambers; reverberation chambers
No entries.

acoustics

see also acoustic applications; acoustic devices; acoustic equipment; acoustic noise; anechoic chambers; architectural acoustics; atmospheric acoustics; audio acoustics; hearing; musical acoustics; photoacoustic effect; sound reproduction; ultrasonics; underwater sound; vibrations
contemporary acoustics, brief review (Chinese) 9-37069
cutting-out techniques (French) 9-41476
nonlinear acoustics of pipes and ducts in gas, breakdown of acoustic approx. 9-3823
references to contemporary papers on acoustics 9-41468
review, acoustics in perspective (Chinese) 9-37068
undergraduate teaching, 'demonstration cart' 9-35481

acousto-optical devices

see also acousto-optical effects
Bragg deflection of guided optical wave by surface acoustic waves in LiNbO_3 , Ti-diffused waveguides 9-14118
Bragg diffraction imaging, aspect ratio restoration by holographic lenses 9-46122
bulk acousto-optic interactions in thin film waveguides, gigahertz modulators 9-32091
chalcopyrite crystal acousto-optical props. 9-46054
Fourier transform., real-time, via acousto-optics 9-46112
guided acoustic travelling wave lens for high-speed optical scanners 9-36991
guided wave acoustooptics, fundamental principles and wideband appls. 9-37038
guided-wave acousto-optic interaction on Si substrate 9-37050
imaging, analogue fast Fresnel transform methods 9-46116
isolator for stabilisation of optically pumped submm. lasers 9-31918
large time-bandwidth acousto-optic signal processors 9-46118
laser beam modulation using US acousto-optic modulator 9-3730
modulation of pumping laser, for CW dye laser mode-locking 9-18456
modulator, for intracavity laser intensity modulation, 0.01 Hz to 1.2 GHz 9-41400
modulator, for single sideband Doppler-free double reson. Stark spectroscopy 9-44935
modulator, mode-locking CW Nd:YAG laser, optical spectra obs. by interferometer 9-7134
modulator for mode-locked phosphate glass oscillator (Japanese) 9-13999
modulator using acoustic Fabry-Perot resonator, for gas laser mode locked operation 9-45976
multichannel acoustooptical modulator for real-time recording and optical processing 9-10399
optical probe for meas. local elastic props. in transparent media 9-14174
optical video disc, acoustooptical travelling wave transcription signal recording 9-36986
planar acoustic waveguide, acoustooptical interaction 9-23150
Q-switches for Nd:YAG lasers 9-7166
scanning laser acoustic microscope 9-7263
spectrograph, for radioastronomy (Russian) 9-25506
transducer array, anal. and design for light diff. 9-18527
ultrasonic symposium, Phoenix, AZ, USA (Oct. 1977) 9-46096
CO laser driven spectrophone, humidity trace detection in H_2 and air 9-20477
 LiNbO_3 , acousto-optic interaction, phase grating production 9-41454
Si array/ LiNbO_3 gap-coupled imaging devices 9-46057
 TeO_2 noncollinear IR tunable acousto-optical filter 9-23086
 Ti_3AsSe noncollinear acousto-optic tunable filter, operation at 10 μm 9-41434

acousto-optical effects

see also acousto-optical devices
complex elasticity of crystals, small variations meas. by acousto-optical method 9-3867
diffraction of light by sound in solids, review 9-18577
double phase-matching function 9-41332
ferroelectric crystals., meas. using optical heterodyning and Raman diff. by US waves 9-18640
fused quartz, determ. of acoustic and acousto-optical parameters using acoustic interferometry 9-41532
laser output power stabilisation appl. (Polish) 9-13994
laser speckle reduction by US modulation 9-3638
light coherence reduction by amplitude-modulated US wave 9-3624
liquid, photoelastic, EM wave-excited, radiation from uniformly moving charge 9-13882
optical fibres, single-mode, Brillouin spectrum 9-46032
optical materials, elasto-optic coefficient determ. under static loading, by acousto-optic and Brillouin scatt. techniques 9-4787
optical waveguide, light diffraction by oppositely propagating SAWs 9-41453
quartz, fused, light scatt. by SAW on refl. and transmission 9-24288
surface acousto-optic interaction on nonpiezoelectric substrates 9-46090
US modulation of γ -radiation 9-24249
 As_2S_3 , amorphous, acousto-induced struct. change, Brillouin scatt. meas. 9-27928
 As_2S_3 , amorphous, US attenuation obs. 9-46756
 CdS , light scatt. by Bleustein-Gulyaev waves on refl. and transmission 9-24288
Ge, electron-hole drops, inflammation radiation under action of ultrasound (Russian) 9-7788
Ge-Pb-Bi-O glass, photoelasticity, glass transition limits 9-33670
 $\text{LiBi}(\text{MoO}_4)_2$, acoustooptical characteristics 9-8118
 LiNbO_3 film on Al_2O_3 , optical guided wave mode conversion by Love waves 9-46055
 LiNbO_3 laser beam/SAW mode conversion 9-46056
 LiNbO_3 , light scatt. by Rayleigh waves on refl. and transmission 9-24288
 LiNbO_3 , y-z crystal, line shape of light scattered by SAW upon total internal refl. 9-24287
 LiNbO_3/Ti , in-diffused waveguide, acousto-optical meas. of optical field profiles 9-23054
 PbMoO_4 , acousto-optic interaction at high optical intensities 9-42942

- acousto-optical effects** continued
 PbTeO₂, acousto-optic interaction at high optical intensities 9-42942
 ZnO, photoelastic consts., absolute sign determ. by Biegelsen method 9-1749
- acoustoelasticity** *see elasticity*
- acoustoelectric devices**
see also acoustoelectric transducers
 memory correlators, fabrication, experimentation and anal. 9-32179
 SAW image scanner applications 9-45912
 Si array/LiNbO₃ gap-coupled imaging devices 9-46057
- acoustoelectric effects**
 anisotropic semiconductor, with traps, kinetic theory of acousto-electrical effect in nonhydrodynamic collision region (*Russian*) 9-24019
 Eckart flow in conducting liq. or gas, acoustoelectric current prod. 9-27707
 n-GaAs, semidegenerate, acoustoelec. gain and lattice attenuation, X-ray Brillouin scatt. and elec. meas. 9-15193
 heavily doped compensated piezoelectric semiconductor, sound absorpt. coeff. calc. (*Russian*) 9-15194
 insulators, dynamics of electroacoustic waves 9-28381
 metal, Fermi surface local geometry ultrasonic absorpt. ang. depend., Pipard oscill. spectrum (*Russian*) 9-19507
 metallic thin films, attenuation and phase vel. of SAW interacting with charge carriers 9-46136
 phonon echoes and amplification of ultrasonic waves in a microwave electric field 9-19635
 piezoelectric crystal, electro-acoustic effects on phase vels. of acoustic and EM waves (*French*) 9-15401
 piezoelectric crystal, three-field electroacoustic parametric interactions 9-1740
 piezoelectric powder, mech. of long-time phase memory 9-42899
 piezoelectric semiconductor, acoustic waves parametric excitation 9-47128
 piezoelectric semiconductor, acoustohelicon waves, parametric excitation 9-38135
 piezoelectric semiconductor, dissipative, amplification of spin waves 9-24000
 piezoelectric semiconductor film, quantum acoustoelectric interaction 9-15197
 piezoelectric semiconductors, acoustoelectric surface phonon-conduction electron interaction 9-42360
 semiconductor, acoustoelectronic phenomena in alternating elec. field, theory 9-11187
 semiconductor, ultrasound absorption, intermediate frequency, nonlinear effects 9-28380
 semiconductor film, piezoelec., quantum acoustoelec. interaction, thickness depend. (*Russian*) 9-47126
 semiconductor with negative differential conductivity, amplification of SAW by transverse current 9-7741
 semiconductors, semimetals, electron heating by phonons, acoustic absorpt. and acoustoelectric current quantum oscills. (*Russian*) 9-19639
 Stoneley wave amplification between two piezoelects. separated by thin semicond. film 9-14998
 superconductors, difference between acoustoelec. and thermoelec. effects 9-38246
 surface-wave devices, gap-coupled, transverse modes 9-46138
 three pulse echo detection and electroacoustic recording (*Russian*) 9-47129
 Al-ZnO-SiO₂-Si monolithic MIS struct., charge-transfer device using SAW 9-11229
 Bi, stationary I-U curve, falling portion under phonon generation conditions 9-15195
 CdS, acoustoelectric current fluctuations 9-24020
 CdS, acoustoelectric fluctuations 9-7866
 CdS, heavily doped compensated piezoelectric semiconductor, sound absorpt. coeff. calc. (*Russian*) 9-15194
 CdS large- and small-signal lattice attenuation, Brillouin scatt. obs. 9-47130
 CdS, nonlinear electronic absorption of US waves 9-15196
 CdS, photocond., acoustoelec. fluctuations 9-24022
 CdS, photocond. cryst. characterisation of electron-trap responsible for acoustic holographic echoes (*French*) 9-19544
 CdS, photoconductive, transverse electric current effect on SAW propagation 9-47127
 CdS plate, amplification of elastic waves by transversely drifting injected carriers 9-7868
 CdS single cryst., melt growth, improvement of elec. characts. 9-38734
 CdS:Cu, US absorpt. in heavily doped piezoelec. semicond. 9-11189
 n-CdS(Se), bipolar photocond. and acoustoelectric current 9-19636
 CdSe, heavily doped compensated piezoelectric semiconductor, sound absorpt. coeff. calc. (*Russian*) 9-15194
 p-CdTe, bipolar photocond. and acoustoelectric current 9-19636
 n-GaAs, piezoelec. semicond., nonlinear interaction of acoustic waves with microwave elec. fields 9-42593
 n-InSb, acoustoelectronic interaction, effect of alternating electric field 9-11188
 InSb-NiSb system, anisotropic, acoustomagnetoec. effect, theory 9-24021
 LiNbO₃-CdS layer structure, temp. depend. of acoustoelectric current 9-7867
 MgSO₄, aq. soln., electrolytic conduct. affected by US waves 9-23997
 Te, acoustoelectric current flow, acoustic refraction effect 9-19637
 ZnO monolithic SAW device, separation of storage effects 9-18611
- acoustoelectric transducers**
see also earphones; headphones; hydrophones; loudspeakers; microphones
 radiating magnetostrictive transducers, impedance determ. 9-32173
 SAW IDTs, long, and resonators, coupled-mode analysis (*Japanese*) 9-27477
 US phase-insensitive receiver theory and CdS acoustoelectric converter 9-47871
- acoustooptics** *see acousto-optical effects*
- actinide alloys**
see also actinide compounds; plutonium alloys; uranium alloys
 conduction electron polarisation, model density of states 9-37949
 magnetic properties, review 9-4649
 non-stoichiometric intermetallic cpds., elec. resist. temp. depend. 9-1597
 Ce_{0.3}Th_{0.7}, inelastic neutron scatt. meas. 9-47066
 Fe-Th, amorphous, charge transfer and mag. props., ⁵⁷Fe Mossbauer spectra 9-19719
 NbAl₄ clusters, band struct., variational X α calc. 9-4508
- actinide alloys** continued
 Th-Os(Ir) system, phase diagram and thermodynamic props. (*German*) 9-47958
 ThFe₃, mag. props., ferrimag. moment arrangement 9-33475
 Th₇Fe₃, H induced change from supercond. to mag. ordered state 9-28525
 ThMn₁₂ type structure, role of elongated rhombic dodecahedron in alloy structures 9-32946
 ThRu₂, type II supercond., ESR of Nd³⁺ meas. 9-28444
 W-Th, atomic structure of grain boundaries 9-33003
- actinide compounds**
see also compounds of individual actinides, e.g. uranium compounds
see also actinide alloys
 bond lengths in oxygen and halogen compounds of d and f elements 9-37653
 conduction electron polarisation, model density of states 9-37949
 magnetic properties, review 9-4649
 valence transitions and intermediate valence states 9-42496
- actinide metal compounds** *see actinide compounds*
- actinide metals** *see actinides*
- actinides**
see also individual actinides, e.g. uranium
 atoms and ions, electronic struct. (*Japanese*) 9-6856
 inertial confinement fusion pellet centre burnup of fission-reactor actinide waste 9-31181
 ions, AnO₂²⁺ in CO₃²⁻ media, Raman scatt. 9-13718
 ions, tetrapositive, nucl. hexadecapole antishielding factors 9-26909
 ions in crystals, corrections to cryst. field Hamiltonian 9-33268
 magnetic properties, review 9-4649
 metals and semimetals, electronic structure (*Japanese*) 9-37941
 monazites, nuclear waste, synthesis, ideal actinide hosts for geologic disposal 9-22406
 reactor fuel reprocessing wastes, removal of actinides by solubilisation and solvent extraction 9-36384
 solvent extraction by triarylammonium nitrate carboxylic acid mixtures 9-22444
 transmutations in radioactive waste management scheme 9-26611
 valence transitions and intermediate valence states 9-42496
- actinium**
see also nuclei with
 No entries
- actinium compounds**
 No entries
- actinometers** *see radiometers*
- actinometry** *see radiometry*
- activation analysis** *see chemical analysis by nuclear reactions and scattering*
- active antennas**
 gravitation radiation detection, active resonant antennas, sensitivity and noise 9-30346
- active circuits** *see active networks*
- active filters**
 education, psychoacoustical expts. with all pass networks 9-25787
- active networks**
see also active filters
 nuclear spectroscopy systems, active zero-pole cancellation feedback loop 9-9972
- active nitrogen** *see nitrogen*
- active oxygen** *see oxygen*
- adaptive control**
see also adaptive optics; adaptive systems
 distributed parameter system control, conference, Coventry (1977) 9-3897
 eye continuous movement monitoring, proportional-integral adaptive system (*German*) 9-16320
 nuclear reactor systems, stable adaptive control systems appl. 9-9765
 PWR power plant self-tuning control and simulation 9-9827
 stochastic object, suboptimal adaptive control 9-30371
 wind energy conversion system control, on-line, performance in turbulent wind environment 9-48069
- adaptive optics**
 amplitude phase distortions correction of wave propag. in turbulent atm., efficiency 9-27178
 astronomy, rubber mirrors to compensate for atm. aberrations, book contrib. 9-35150
 atmospheric compensation, radial Ronchi grating lateral shear interferometer, book contrib. 9-31972
 book 9-31921
 deformable-mirror system, computer-aided, using differential angle control 9-27356
 diamond turned metal optics, book contrib. 9-32104
 dynamic-focusing mirror system, umbrella-type 9-36971
 image chopping techniques, fast meas. of irradiance distrib. parameters 9-36839
 laser beams, high energy, adaptive phase and amplitude control, book contrib. 9-31971
 overview of technology, book contrib. 9-32030
 phase adaptation by nonlinear techniques, optical propag. distortion compensation, book contrib. 9-31973
- adaptive systems**
see also adaptive control; adaptive optics; learning systems; pattern recognition; self-adjusting systems
 visual acuity meas. computer-aided system (*German*) 9-2144
- adding machines** *see calculating apparatus*
- adherence** *see adhesion*
- adhesion**
 acrylic copolymer adhesives, performance of polar and non-polar, relevance of glass transition temp. 9-39119
 bonded Al-CFRP single lap joint strength 9-29328
 bonded joints, adhesive nonlinearities, optimal length, performance 9-1103
 boride RF sputtered wear-resistant coatings, XPS study of adherence 9-34191
 carbide RF sputtered wear-resistant coatings, XPS study of adherence 9-34191
 colloidal particles, interaction force, calc. of electronic component 9-11829
 cyclic stress testing of adhesive bonds 9-15820
 dentistry, adhesion 9-20715

adhesion continued

dielectric coating adhesion improvement of diamond turned mirrors, ion polishing surface prep. 9-23102
 epoxy adhesive layers, interlaminar stress distrib. in nonlinear range 9-39117
 epoxy polymer, glass microsphere-filled, glass transition temp. (*Russian*) 9-24489
 epoxy system, inelastic electron tunnelling spectroscopy appl. 9-15952
 glass fibre reinforced epoxy/Al alloy bonded joint, mean strength, moisture effects 9-20106
 glass-enamel coatings, effect of firing method on adhesion 9-24647
 improvement by gas-plasma contaminant removal 9-39112
 joints, adhesive, effect of structural parameters on stressed state 9-41630
 lambda tight cement, for low temp. techniques 9-35752
 metal adhesive bond quality meas., digital US signal analysis 9-47863
 metal to ceramic joint, problems of characterizing the adherence 9-43552
 metal-polymer splices, adhesive bond destruction and strength w.r.t. electrochem. interaction 9-20339
 metal-to-metal bonds, stress analysis in hostile environments 9-20338
 metallic films, vapour deposited on polymer, ageing, adhesion, elec. cond., electrochem. pot. (*Russian*) 9-33362
 metallurgically bonded plates, structural integrity determ. by high energy impulse 9-39111
 microsphere removal by SAW displacement field 9-45884
 optical coating adhesion characterisation pull-off tests 9-14128
 peel mechanics with constraints 9-23285
 PET fibres, adhesivity improvement by plasma surface treatment 9-15823
 polybutadiene, adhesive, uncured linear flexible-chain polymers of narrow molecular mass distrib., fracture in triaxial stress 9-43550
 polyethylene, self-adhesion, surface polarity effect, meas. by Ca^{2+} adsorpt. 9-11759
 polyisobutylene-glass adhesion bond, macroscopic contact form. 9-39113
 polymer coated graphite fibres, adhesion to epoxy matrix 9-15644
 polymer film, in adhesive joint contact layer, intermol. interaction with substrate and filler (*German*) 9-8421
 polypropylene coating, glow-discharge-polymerised, adhesion and hydrophilicity 9-15829
 silicid RF sputtered wear-resistant coatings, XPS study of adherence 9-34191
 solid surfaces in contact, adhesive force 9-15026
 steel, low-C, bond form. between powder layer and dense basis during hot pressing 9-24669
 steel, machining, adhesion mechanism of built-up edge and layer on rake face of cutting tool 9-47784
 strain gauges, performance in pressurised water at 50°C, reactor pressure vessels testing 9-35713
 surface contacts, tribological props. 9-19469
 surface science in metallurgy, review 9-42388
 testing, coating to substrate, specimen prep. device 9-43518
 thermostatic glass-float adhesiometer 9-43519
 thick specimen visualisation and joint characterisation by scanning acoustic microscope 9-47875
 tooth, artificial-denture base joint, adhesion, fracture mech. 9-16350
 vinyl ester adhesive/Al lap shear specimens, electron beam curing 9-20337
 wedge adhesive joint, nonuniform stress distrib. under combined normal and shear stresses 9-18837
 Ag electroplated lead frames, surface struct. rel. to bonding behaviour, IC prod. (*German*) 9-11010
 Al alloys, epoxy bonded sheet, fatigue crack initiation, propagation 9-15776
 Al/Sn interface, effect of plastic deformation on structure and adhesion strength of interface (*Russian*) 9-28218
 Al-epoxy adhesive joints, cohesive-interfacial mixed-mode fracture 9-39110
 Au, immersion plating on Al, adhesion and contact resist. 9-39033
 Cu to polyethylene, reactions of CuO with Cu or polymer 9-39118
 Cu-Al₂O₃ composite coating, electrodeposited, exam. of particle-cathode adhesion during formation 9-33954
 Fe-Ni, exam. of mech. adhesion, with vitreous coating 9-20336
 Ge films, adhesion to substrates, effect of Ar⁺ ion irradi. 9-11047
 Ni-Al₂O₃ composite coating, electrodeposited, exam. of particle-cathode adhesion during formation 9-33954
 SnO₂ coating, scratch resistance and suitability for glass artificial heart valves (*German*) 9-12028
 Ti, adhesion reactions with refractory metals 9-29280
 TiC coatings, RF sputtered, on 440-C steel, adherence, friction, and wear props. 9-47823

adiabatic compression, plasma *see plasma heating*

adiabatic demagnetisation *see magnetic cooling*

adion *see adsorption*

admittance, electric *see electric admittance*

ADP (ammonium dihydrogen phosphate) *see ammonium compounds*

adsorbed layers

see also monolayers
 adatom binding site, UV photoemission intensity modulation, angle-resolved 9-47589
 adatom indirect interaction energy, separation distance depend. 9-42386
 adatom laser stimulated migration and multiphoton excitation, relax. and reaction enhancement 9-39200
 adsorbed layers, Maxwell Wagner and Debye processes, differentiation using temp. depend. of dielec. loss 9-28195
 anisotropic long range elastic interaction between adatoms 9-33185
 anthracene, chemisorbed on Al₂O₃, radiative and nonradiative processes 9-36686
 benzene, on graphite, diffusive motion on basal planes, neutron scatt. study 9-42385
 benzene, on Pt(111), electronic energy losses 9-46931
 benzene adsorbed on Pt(111) and Ni(111) surfaces, vibr. loss spectra 9-23838
 bubble with adsorbed film, migration in Hele-Shaw cell, rel. to materials processing in space 9-28912
 clustering, bulk vapour pressure behaviour 9-4473
 colloid particles with adsorbed polyelectrolyte, electrophoresis 9-47991
 core level spectroscopy of adsorbed atoms, soluble relax. model 9-8226
 core photoelectron spectra, shake up and relaxation effects 9-47595
 core photoelectron spectra, shape 9-47596
 core-level spectra spectral function calculation, time depend. approach 9-43096

adsorbed layers continued

cyanide, on Ag, at electrolyte interface, enhanced Raman effect 9-28767
 cyclohexane, thin crystals, and monolayers on Ag(111) surface, LEED 9-11014
 designed monolayers assemblies 9-37915
 dislocation geometry 9-23604
 disordered overlayers, diffuse LEED intensities, multiple scatt., theory 9-4476
 electron state of adatoms at high coverages 9-28400
 epoxy system, on Al₂O₃, inelastic electron tunnelling spectra 9-15952
 ethanol, dissoc. adsorption on porous glass, IR obs. 9-23830
 ethylene, on Pt(111), electronic energy losses 9-46931
 gas atom scattering by adsorbed layer, hard sphere theory (*Russian*) 9-38704
 hydrocarbon molecules, strongly adsorbed, contamination rate reduction 9-1550
 hydrocarbons, short-chain, on small particles, appl. of neutron scatt. to struct. and dynamics study 9-4481
 incommensurate two-dimensional crystal, ground state, spectrum, phase diagram 9-19458
 insoluble monolayer, ionised, of surfactant, thermodynamic eqn. of state 9-8450
 instability of an adatom lattice, and fluctuations of the field emission current 9-15024
 IR photoacoustic spectra in 4000 to 2000 cm⁻¹ region using broadband source 9-26149
 isobutyl alcohol adsorpt. on Al₂O₃, gravimetry, IR investigs. 9-1546
 light scattering by adsorbed mols. located near solid surface 9-18247
 metal on III-V semiconductor surfaces, adatom interactions, photoemission obs. 9-33898
 metallic thin films, low adsorption coverage, microscopic calc. of elec. cond. 9-15236
 methane, submonolayer on graphite, two-dimens. fluid 9-37920
 molecular chains, config. props. effect on surface coverage 9-42371
 molecular complex, adsorbed on metal, charge transfer model of Raman intensity enhancement 9-13720
 molecule vibrational energy on metals, heterogeneous relax. 9-42362
 molecules, on metallic surface, reson. Raman scatt. 9-45729
 molecules adsorbed on electrode surfaces, Raman scatt. theory 9-13724
 molecules adsorbed on metals, low energy electron inelastic scatt. exam. 9-46526
 molecules on metal surface, vibr. excitation due to electron impact 9-46912
 naphthalene, chemisorbed on Al₂O₃, radiative and nonradiative processes 9-36686
 neutral atoms, on metal surfaces, excitation spectrum 9-23832
 ordered adlayers, electronic struct. 9-38142
 phenanthrene, chemisorbed on Al₂O₃, radiative and nonradiative processes 9-36686
 photoemission from clean and adsorbate covered single cryst., appl. of simple selection rules 9-33896
 pinacyanol sensitizer adsorbed on CdS, spectral sensitization at low surface density 9-47973
 polyacetylene, polymerisation and Raman spectra on zeolite and alumina surfaces 9-13721
 polymer film, in adhesive joint contact layer, intermol. interaction with substrate and filler (*German*) 9-8421
 polymers, adsorbed molecules, configurational behaviour, computerised dynamic display 9-874
 Raman scattering, molecules adsorbed on bumpy metal surface 9-15448
 Raman scattering from oriented molecules, angle resolved, group theory 9-47425
 Raman spectra of adsorbed molecules, theory 9-37922
 rhodamine B adsorbed on NaCl, photoelectric meas. and contact charging 9-19643
 semiconductor sensitised photolysis and latent image structure 9-24768
 solvents adsorbed on insulating substrate, ionic conduction 9-33180
 vibrational normal modes obs. by neutron scatt. 9-19443
 water, effect on epitaxy of polycyclic aromatic quinone on alkali halides 9-28239
 water adsorbed on CaF₂, internal reflection spectroscopy 9-15549
 wetting film and capillary layer, transition layer 9-23807
 XPS, solid-state and adsorbate shifts, equivalent cores calc. 9-28888
 Ar, on graphite, adsorption of first layer, 55 to 62K 9-28197
 Au, adsorbed on W (100), electron field emission revealing unmasked surface reson. 9-15595
 Au overlayers on GaSb surfaces, adatom interactions, photoemission obs. 9-33898
 Ba, on W, Auger and work function meas., impregnated W cathode model 9-43073
 Ba-O system, on W, Auger and work function meas., impregnated W cathode model 9-43073
 C, on Pt, determ. of monolayer coverage by AES 9-46916
 CO adlayers, on Cu(100) and Cu(111), struct., LEED pattern reinterpretation 9-28209
 CO, adsorbed, lateral interactions on vibr. spectrum 9-46954
 CO adsorbed on Ni, energy depend. of vibr. excitation, electron energy loss spectra 9-28201
 CO, adsorbed on Pt, adsorbate induced electron losses 9-46959
 CO, an alkaline earth oxide, reflectance spectra 9-28781
 CO, c(2x2) on Ni (100), photoemission orientation determ. 9-19974
 CO, coadsorbed with O and Rh, desorption spectra; Langmuir-Hinshelwood reaction anal. 9-47965
 CO, on BaTiO₃, Auger spectroscopy of surface layers 9-42343
 CO, on Ni, laser-induced desorption expts. 9-1548
 CO on Ni (100) electron energy-loss spectra 9-47570
 CO, on Ni (111) surface, Raman spectra 9-28769
 CO, on supported Pt catalysts, temp. programmed desorption 9-46915
 CO, on W, He metastable atom bombard., secondary electron emission 9-47581
 CO, on W(210) surface, surface struct. rel. to adsorbed N₂ 9-15009
 CO+O₂, chemisorbed on Ru(001), surface reaction, electron energy loss spectra 9-46924
 CO₂ film, on KBr, density fluctuations 9-42391
 CO₂, on Ru (001), characteristic slow electron energy loss meas. 9-47562
 Co, on Pt, electron wave interference 9-33332
 Cs atoms and ions on W (001) face, thermal desorption kinetics 9-28210
 Cs monolayer on Cu(111), dilution of electron gas by O adsorption, plasmon energy losses 9-47036

adsorbed layers continued

- Cs, on Cu (111), XPS exam. of Cu surface state and Cs valence electrons 9-19647
 Cu, adsorbed on W (100), electron field emission revealing unmasked surface reson. 9-15595
 Cu, on polystyrene, unusual core level spectra, XPS obs., surface electronic struct. 9-24415
 Fe, on W (100) surface, field emission microscopy study 9-15015
 H, on jellium surfaces, charge density oscills. and adatom-adatom interaction 9-42389
 H, on W (100) face, fluctuation, thermal impurity depinning and commensurate-incommensurate transition of CDWs 9-42611
 H, on W (100) surface, induced lattice reconstruction, surface vibr. obs. 9-19445
 H₂, on Al₂O₃, diffusive motion, neutron scatt. study 9-42394
 H₂, on CoO, MnO magnetic surfaces, ortho→para conversion 9-47969
 H₂, on Ni (111), LEED intensity spectra, 173K 9-28192
 H₂, on Ni (111) surface, Raman spectra 9-28769
 H₂, on Ni laser-induced desorption expts. 9-1548
 H₂ on W (011) face, bidimensional lattice (*Russian*) 9-7744
 H₂O adsorbed layers on NH₄Cl, NH₄I powders, adsorpt. isotherms, heats of adsorpt. 9-1545
³He, absence of BCC nucleation on Grafoil substrate, 30-320 mK 9-19422
³He, adsorbed film on Grafoil, NMR, intermediate and near-monolayer coverages 9-46878
³He, adsorbed on Grafoil surface, ground state, thermodynamic anal. 9-19421
³He films adsorbed on Grafoil, NMR relax. times 9-28171
³He, on solid Ne, desorption heat capacity 9-4452
 k, on Re (1010) surface, electron-adsorption props. 9-33192
 Kr, on graphite, finite size effect and temp. depend., multicritical phase diagrams 9-42372
 N₂, on W(110) surface, surface struct., rel. to adsorbed CO 9-15009
 NaF coating defects and impurities affecting damage threshold and adsorbance 9-14065
 Ni (001), adsorbed S, crystallography by LEED, appl. of iso-intensity map method 9-19128
 O c(2×2) overlayer on Ni (100), angle-resolved photoemission study 9-33903
 O, chemisorbed on W (110), order-disorder transform., theory compared with LEED data 9-7748
 O, coadsorbed with CO on Rh, desorption spectra, Langmuir-Hinshelwood reaction anal. 9-47965
 O, on Cu (100), ejection by ion bombardment of atomic and mol. species 9-42373
 O on Ni (100), electron energy-loss spectra 9-47570
 O, on Ni (100), overlayer electronic struct. 9-47144
 O, on W (110), island size determ., response function and substrate struct., LEED meas. 9-42414
 O, on W(100) and (110), electron stimulated desorption 9-33181
 O₂, on Mo surface, low-energy ion scatt. study 9-1807
 O₂, on Ni (111) surface, Raman spectra 9-28769
 O₂, on Ru (001), characteristic slow electron energy loss meas. 9-47562
 O₂+CO, chemisorbed on Ru(001) surface reaction, electron energy loss spectra 9-46924
 OH adsorbed on Ni, energy depend. of vibr. excitation, electron energy loss spectra 9-28201
 Pb, on W (100) surface, field emission microscopy study 9-15015
 Rb, chemisorbed on Ag (111), struct., and reactivity towards NO 9-28207
 Se on Ni(100), normal photoelectron diffr. of Se 3d level 9-11501
 Si, adsorption site on Ni, photoelectron intensity modulation 9-47589
 Xe adsorbed monolayer, two-dimens. Lennard-Jones system, melting 9-28071
 Xe, on graphite, finite size effect and temp. depend., multicritical phase diagrams 9-42372
 Xe, on Ni (100) and Fe (100), UPS 9-33897
 Xe, on Pd (100), angular-resolved photoemission 9-43102

adsorption*see also heat of adsorption*

- adenine, adsorption on Ag halide grains (*German*) 9-39175
 adsorbed on Ni, electronic surface reson. of Ni(001)c(2×2)S, LEED obs. 9-24051
 alkali halide, band struct. of selectively adsorbed atoms 9-28399
 alkaline earth oxides, of CO, reflectance spectra obs. 9-28781
 γ-alumina surface, adsorbed benzene high-temp. IR spectra (*German*) 9-28757
 artificial liver support, protein-bound metabolite adsorbent equilibrium props. 9-20709
 artificial liver support, protein-bound substance removal kinetics 9-20710
 biporous media, influence of double layer on dynamics of ion adsorption 9-11827
 brass, of Hg, effect on mech. props (*Russian*) 9-29267
 breakthrough curves for adsorption-desorption, modelling using statistical moments 9-37916
 Brownian particles, reversible adsorption and reversible coagulation, kinetic eqns. 9-16045
 calorimetry, adsorption, for studying surface phenomena 9-40574
 capillary condensation and adsorption processes 9-28175
 cationic dyes, adsorbed ionisation energy, local environment effects 9-34337
 charcoal, wood, of N₂, methanol, cyclohexane 9-28973
 chemostress effect in ionic crystals and metals 9-28193
 coexisting mobile and localized adsorption 9-19455
 coherent potential approximation 9-33193
 competitive equilibrium adsorpt. model 9-42367
 conference on solid-vacuum interface, Amsterdam, Netherlands (June 78) 9-42342
 contact sorption moisture exchange in vacuum, mass exchange kinetics (*Russian*) 9-19468
 crystal growth, stochastic models, diffusion and relax. kinetics 9-37642
 crystal-solution interface, localised adsorpt. in one layer 9-46582
 distribution function of adsorption energy in relation to the overall adsorption isotherm 9-1542
 Duralumin, adsorpt. of Hg, effect on mech. strength, creep, fatigue, embrittlement (*Russian*) 9-29267
 electrochemical reaction kinetics, in presence of surface-active substances, eqn. selection 9-34322
 electrolyte flocculation of stabilised potassium 9-43638
 epoxy polymer, glass microsphere-filled, glass transition temp. (*Russian*) 9-24489
 field adsorption, monopole-dipole interaction 9-19979
 fission reactor fuel reprocessing, adsorptive removal of rare gases 9-31094
 gas atom scattering by adsorbed layer, hard sphere theory (*Russian*) 9-38704
 Gibbs adsorption equation, phenomenological interface theory 9-23834
 graphite, adsorption and migration of O₂, CNDO/2 calcs. 9-28205
 graphite, exfoliated, of benzene, -70 to -5°C (*French*) 9-33177
 graphite, exfoliated, of cyclohexane, -25 to -70°C (*French*) 9-33178
 graphite, He scattering, bound state reson. and inelastic effects 9-28876
 graphite, of first layer of Ar, 55-62K 9-28197
 graphitised C black, of methane, rot. tunnelling, neutron scatt. obs. 9-15000
 hard-sphere fluid, monolayer adsorption profile, adsorption isotherm 9-33182
 heat of adsorption determ., expt. methods 9-42370
 heterogeneous surface, topography effects on adsorpt. energy, asymptotically correct condensation approx. 9-7753
 homogeneous solid surface, monomolecular adsorption of single gases, model 9-4477
 homogeneous solid surfaces of binary gas mixtures, theory 9-42387
 homogeneous surface, competitive adsorption of binary gas mixtures (*German*) 9-33195
 ice, of CO₂, H₂S, propane, gas hydrate form. investigs. 9-39191
 inelastic electron tunnelling spectroscopy, rel. to vibration energy levels of adsorbed mol. or atom 9-4479
 inert gas atoms, physisorbed, dipole moments of atoms 9-33175
 inverse power law potentials in rectangular configurations 9-28213
 ionic crystal surface, electrostatic interaction energies 9-23831
 IR frequency shifts, coverage dependence 9-19464
 isostere equation, comparison with that based on John's isotherm eqn. 9-42368
 isotherm, statistical mechanics, summation of virial expansion for eqn. of state 9-15007
 kinetic analysis of Langmuir and Jovanovic models 9-33191
 local densities of states near a crystal surface with disordered overlayer 9-15201
 magnetic surfaces, ortho to para H₂ conversion 9-34362
 measurement using pulse gas chromatography of adsorption rate consts. in packed bed 9-48002
 membranes, linear laminated media, permeation, sorpt. 9-1966
 metal, perfectly imaging, physical adsorption of atomic H, variational calcs. 9-33188
 metal ammine complexes, metal extraction by adsorption, using low rank coals 9-11530
 metal surface, kinetics of adsorpt., desorpt. and migration, review 9-46921
 metal surface, review 9-37912
 metal surface, review (*Russian*) 9-46963
 metal surfaces, adsorbate spectra, vac. UV differential reflectivity obs. 9-28783
 metallic surface, of inert gas atoms, collective effects in physical adsorption 9-19456
 metals, of gases, review (*Japanese*) 9-46930
 mica, of aq. poly(ethylene oxide) soln., force meas. between mica surfaces 9-23833
 mixed gas adsorption on solids, Bragg-Williams approximation 9-19465
 monolayer model for gas adsorption on random topology of heterogeneities 9-23827
 montmorillonite, of N₂, H₂O, cyclohexane vapours, specific surface area 9-29406
 multilayer adsorption of gases on solid surfaces, heterogeneity effects 9-28212
 nonequilibrium distributions on lattice, operator formalism 9-4468
 nonisothermal sorption within adsorbent particle, heat and mass balance 9-19452
 nonlinear diffusion-reaction problem, dissipative structs., stability anal. 9-1938
 one-dimensional lattice model, thermodynamic functions calc., matrix method 9-37917
 oxide surfaces, adsorbate spectra, vac. UV differential reflectivity obs. 9-28783
 pendular ring condensation on spherical adsorbent, surface tension curvature depend. 9-46926
 polar molecules, spontaneous surface polarisation during adsorption 9-42381
 polyethylene, self-adhesion, surface polarity effect, meas. by Ca²⁺ adsorpt. 9-11759
 polymers, adsorbed molecules, configurational behaviour, computerised dynamic display 9-874
 polyox dilute aqueous solns., flow resistance mechanisms in porous media 9-41747
 porous glass, of ethanol, IR obs. 9-23830
 quartz, of water, appl. of Hill-de Boer eqn. 9-15008
 quartz surface, of chlorosilanes and n-alkanes 9-4466
 quinone adsorption on electron-donor and electron-acceptor centres of oxiphenol radical (*Russian*) 9-39138
 rough surfaces, adsorpt., capillary condensation 9-1544
 selective, correlation of intensity features with at-surface pot. Fourier components 9-15013
 semi-infinite crystal with surface impurity, electronic states 9-24046
 semiconductor surface, review 9-37912
 silica gel, adsorption from soln. of benzene-cyclohexane mixture, surface heterogeneity 9-23826
 silica gel, Mn²⁺ adsorption rel. to H₂O adsorpt., EPR study 9-5180
 solid surfaces, surface heterogeneity in physical adsorption 9-23829
 solids, of gas mixtures, review 9-28211
 solution, different-sized mols., orientation effects, surface region, lattice model 9-1540
 statistical mechanics of adsorption processes 9-40460
 steel, stainless, of O ions 9-1547
 steels, strength reduction by adsorpt., stress corrosion (*Russian*) 9-29265
 substrate-split localised adsorbate levels, spin polarisation effects in photoemission 9-19971
 surface science in metallurgy, review 9-42388
 surface states in (111) covalent faces, effect of alkali adsorbates 9-42601
 theory, concept of adphase 9-37919

adsorption continued

- transition metal carbonyl complexes, UV and X-ray photoelectron spectra, effect of adsorbed CO 9-4897
- transition metal oxides, UPS, LEED and AES studies of mol. adsorption 9-4480
- XX Si (111), of Cl, electronic energy states, cluster-type calcs. 9-47149
- Ag, of aromatic hydrocarbons, heat of adsorption, coating and fine struct. (*German*) 9-23844
- Ag, of O, surface species identification by XPS, high press. 9-28191
- Ag, of S, adsorpt. effects on electrodeposition 9-20001
- AgBr emulsion, latent image speck size, characteristic curve anal. 9-34338
- AgBr single crystals, adsorption and orientation of cyanine dyes 9-20431
- AgBr surface, vibr. freq. of adsorbed Ag atom, LCAO-MO calc. (*Russian*) 9-2866
- Al (100), of Pb and Sn, prep. and props. of monolayers 9-15018
- Al, anodised, of ^{90}Sr , prep. of radiation sources 9-36454
- Al, anodised, of ^{90}Y , prep. of radiation sources 9-36454
- Al, of O_2 , AES, XPS, and LEED obs. 9-46938
- Al, of O_2 , H_2O , gases, effect on exoelectron emission from rubbing surfaces 9-1816
- Al, of small molecules, photoelectron spectra, surface plasmon spectroscopy 9-47148
- Al, tunnel junction, barrier layer structure, mol. adsorption mechanisms (*Russian*) 9-31634
- Al_2O_3 , of 2-butanol, PMR spectra 9-19457
- Al_2O_3 , of isobutyl alcohol, gravimetry, IR investigs. 9-1546
- Al_2O_3 surface adsorption effects during inelastic electron tunnelling spectroscopy (*French*) 9-822
- As-Se, glassy, surface phenomena, gas adsorption effects on elec. props. 9-42621
- Au film, electrical resistivity, influence of metallic adsorption (*French*) 9-19677
- Au film, multiple attenuated total reflection spectroscopy, initial growth process 9-19490
- Au film electrode, electrochem. adsorpt. of O_2 , elec. resist. obs. (*French*) 9-29372
- Au, of iodide ion, depend. on electrode crystallographic orientation 9-15020
- BeO ceramics, thermally stimulated exoelectron max., effect of H_2 adsorption 9-43109
- C, activated, vol. adsorption capacity, 25°C , org. trace gases 9-16036
- C black, graphitised, adsorpt. of gases 9-42366
- C membranes, graphitised in situ, adsorpt. meas. using steady state flows and time lags 9-33183
- $\text{CO} + \text{N}_2\text{O}$ catalytic reaction on Sc_2O_3 and MgO , kinetic obs. 9-29389
- CeO_2 in O_2 atmos., adsorption and elec. cond. props. 9-23836
- Cr, secondary negative ion emission, effect of adsorbed O_2 (*Russian*) 9-28881
- Cr(111), of O, photoemission exam. 9-19976
- Cs monolayer on Cu(111), of O, dilution of electron gas, plasmon energy losses 9-47036
- Cs, oxidation, adsorbate-induced structs., UPS obs. 9-47828
- Cu (100), coadsorption of O_2 and Cs, effect of O_2 on Cs work function 9-15014
- Cu (100), diatomic mol. scatt., energy transfer and dissociative adsorption 9-46961
- Cu (100), of Pb and Bi, coadsorption, LEED and AES study 9-15017
- Cu films, adsorption of O, study of gravimetric uptake and work function 9-33179
- Cu, of O, on (001) face, core-level XPS, azimuthal anisotropy 9-19969
- Cu, of O_2 , H_2O , gases, effect on exoelectron emission from rubbing surfaces 9-1816
- Cu, of Pb, on stepped and low index surfaces, LEED, AES and desorption anal. 9-46942
- Cu, of S, Cl, adsorpt. effects on electrodeposition 9-20001
- Cu, secondary negative ion emission, effect of adsorbed O_2 (*Russian*) 9-28881
- CuCO , linear, ab initio RHF-MO calcs., rel. to adsorption 9-26883
- Fe (110), of Xe, UPS obs. 9-33897
- Fe liquid, C saturated, decarburization by CO_2 , effect of S 9-11726
- Fe, of CO, resistance changes, work function change and thermal desorption meas. 9-19450
- Fe, of CO and H, effect of preadsorption of one on adsorption of other 9-19451
- Fe, of O_2 , H_2O , gases, effect on exoelectron emission from rubbing surfaces 9-1816
- Fe-CR alloys, ion-etched, surface comp., effect of adsorbed CO, AES obs. 9-46896
- $\alpha\text{-Fe}_2\text{O}_3$, surface struct., adsorptive interactions rel. to rusting process, IR spectra 9-34363
- $\text{Fe}(\text{OH})_3$, of CO_2 rel. to prep. method 9-39192
- $\alpha\text{-FeOOH}$, surface struct., adsorptive interactions rel. to rusting process, IR spectra 9-34363
- Fe(111), of hydrazine, UPS and XPS 9-46956
- $\alpha\text{-Fe}(111)$, of water, adsorption under the influence of 2.5 keV electrons 9-28199
- GaAs (110), low O_2 exposure effects on electronic surface props. 9-47146
- n-GaAs (110) surface, Cs adsorption, work function meas., adsorption site model 9-23839
- GaAs (111), Ga-As-H-Cl CVD system, adsorption of Cl, GaCl, As, As_4 , Ga, AsGaCl, 973 to 1223K, equilb. adsorption layers 9-23858
- GaAs, of O_2 , adsorption states and Ga depletion, UPS, AES, and thermal desorption meas. 9-46952
- GaAs, oxide film influence on adsorption and electrophys. props. 9-42369
- Ge (111), of polar molecules, surface recomb. centre neutralization 9-38147
- p-Ge (111) surface, Cs adsorption work function meas., adsorption site model 9-23839
- Ge, of O_2 , degree of freedom of rot. and translational motion of O particles 9-23842
- Ge, of water, neutralization of surface recomb. and fast capture centre 9-33184
- H adsorption and desorption, self-consistent model calc. 9-46943
- H_2 , recombination on interstellar grains, translational and rot. energy 9-17045
- In-Sn liquid alloy, of 2-butanol vapour, effect on surface tension and surface comp. 9-14981
- Ir, of O_2 , work function changes by continuous meas. method 9-33328
- Ir(110), of O, structure of $c(2 \times 2)\text{O}$ overlayer 9-19463

adsorption continued

- Ir(110)-(1 \times 2) reconstructed, of S, AES study 9-42384
- K, oxidation, adsorbate-induced structs., UPS obs. 9-47828
- $\text{LaNi}_{4.6}\text{In}_{0.4}$, H_2 absorption props., desorpt. pressure calc., and decomp. pressures 9-24827
- $\text{LaNi}_{4.6}\text{Sn}_{0.4}$, H_2 absorption props., desorpt. pressure calc., and decomp. pressures 9-24827
- LiF type surface, He scatt., selective adsorption intensities, attractive corrugated wall model 9-28874
- LiH, of H_2 , on (100 surface), FSGO calcs. (*German*) 9-33196
- Mo, coadsorption of CO_2 and O_2 , AES and SIMS obs. 9-46928
- Mo, refl. of metastable He atoms, O_2 adsorption effects 9-11493
- Mo(112), of Sr, interaction of adatoms 9-7754
- NH_4Cl , powder, of H_2O vapour, isotherms, heat of adsorpt. 9-1545
- NH_4I , powder, of H_2O vapour, isotherms, heat of adsorpt. 9-1545
- NaCl , of CO , N_2 and H_2 , electrostatic interaction energies 9-23831
- Nb, evaporated film, of CS_2 and H_2S , 195 to 473K 9-33197
- Nb, interaction with O_2 , AES and low-energy SIMS meas. 9-47832
- Nb, of O_2 , electron-stimulated desorption study 9-11017
- Ni (001) and (001) $c(2 \times 2)$ S adsorbed, electronic surface resonances by LEED 9-24051
- Ni (100), clean and chalcogen-covered, electron ejection by metastable He atom impact 9-8217
- Ni (100), of Xe, UPS obs. 9-33897
- Ni (110), interaction with O_2 , electron energy loss spectra and AES obs. 9-47826
- Ni (110), surface relax., O_2 coverage effects, medium energy ion scatt. obs. 9-21181
- Ni (111), of acetylene, identification of CH species by electron energy loss spectra 9-15022
- Ni (111), of CO , H_2 and O_2 , Raman spectra 9-28769
- Ni (111), of H_2 , LEED intensity spectra, 173K 9-28192
- Ni film, of water, change in work function (*German*) 9-42365
- Ni, of CO , electron field emission, energy distrib. 9-8231
- Ni, of H_2 , activation mechanism, extended Huckel calc. (*French*) 9-42379
- Ni, of O_2 , H_2O , gases, effect on exoelectron emission from rubbing surfaces 9-1816
- Ni, secondary negative ion emission, effect of adsorbed O_2 (*Russian*) 9-28881
- NiCO , linear, ab initio RHF-MO calcs., rel. to adsorption 9-26883
- NiCr film, gas adsorption during electron beam deposition (*Polish*) 9-20492
- Pd, of CO , UPS of CO on Pd clusters, binding energy, d-electron emission particle size depend. 9-4888
- Pt, adsorption and decomp. of ethylene, 90 to 500K 9-46933
- Pt, of O_2 , surface struct. depend., LEED, AES, and electron energy loss spectra 9-46934
- Pt-graphite catalyst, of H, ESR obs. 9-24818
- Rb, oxidation, adsorbate-induced structs., UPS obs. 9-47828
- Re (1010) of k, electron-adsorption props. 9-33192
- Rh, coadsorption of CO and H_2 , thermal desorption mass spectroscopy meas. 9-46948
- Rh, of CO , inelastic electron tunnelling spectra obs. 9-46962
- Rh supported catalyst particles, of CO , inelastic electron tunnelling spectra 9-3509
- Ru, of CO on (001) surface, IR spectra and LEED 9-37914
- Si, of O_2 , early stages, AES, LEED, and XPS obs. 9-46937
- SE, amorphous film, inverse/combined photoadsorption and photodeposition, light-temp. interference 9-46977
- Si (111), adsorption of Cl, H, Si, SiCl , SiCl_2 , equilb. adsorption layers 9-23858
- Si (111), growth and etching vectors, adsorption and step reconstruction 9-23548
- Si, etching using XeF_2 vapour, adsorption/desorption process 9-43449
- Si, of O, chem. shift of Si 2p core level in SiO_x , relax. contrib. 9-47141
- Si, of O_2 , light sensitive electron loss meas. on surface 9-24396
- Si, surface, (111) 2×1 , cleaved, O_2 adsorption, low-energy electron loss spectra 9-15840
- Si/SiO_2 , adsorbed methanol, light scatt. from clusters 9-33721
- SiO_2 gel, irradi., adsorpt. of NH_3 , neutron scatt. 9-33194
- SiO_2 glass, porous, of inorganic cations, in distilled water medium 9-24814
- SiO_2 , of cetyl pyridinium bromide, adsorpt. pH depend., mechanism 9-20466
- SiO_2 , vitreous, He solubility, 100 to 1350 atm., 5 to 80°C 9-4414
- $\text{SiO}_2\text{-Na}_2\text{CO}_3$, sodium Erevanit-25, sintering, struct. 9-43284
- SnO_2 , of water, adsorption anomaly rel. to pretreatment 9-28194
- Ta, evaporated film, of CS_2 and H_2S , 195 to 473K 9-33197
- Ti, evaporated film, of CS_2 and H_2S , 195 to 473K 9-33197
- TiO_2 , OH^- adsorption on defect site, electronic struct. 9-47150
- Tn decay products, ats. and ions, adsorption probability on submicron particles 9-39803
- W (001), surface reconstruction and reordering by H adsorption, MeV ion scatt. 9-23835
- W (100), coadsorption of CO and H_2 , CO/H surface complex obs. 9-4478
- W (100) with adsorbed Au and Cu layers, electron field emission revealing unmasked surface reson. 9-15595
- W (110), coadsorption of Ba and Cs, work function of surface under equilibrium conditions 9-15025
- W (110), mobility of adsorbed O, 300 to 800K, field emission current meas. 9-33187
- W (111), of O_2 , AES, LEED and electron stimulated desorption obs. 9-46935
- W, adsorption and condensation of Fe, meas. by thermal desorption in time-of-flight mass spectra 9-15023
- W, adsorption of La, specific characts. (*Russian*) 9-1543
- W, coadsorpt. of Ni and K, average work function change 9-28190
- W, of Ag, adsorption and desorption kinetics, mass spectra obs. (*German*) 9-46951
- W, of Be, work function changes and scatt. electron energy losses 9-46947
- W(110), adsorption of CO , mobility of CO 9-46955
- W(110), of Xe, 77 to 90K, LEED study 9-42382
- Xe substrate, thin Ar films, phase transitions 9-42244
- ZnO , (0001) surface, of O, AES and refl. electron energy loss spectra 9-46927
- ZnO , film, of O_2 , logarithmic law 9-42392
- ZnO , of H and O, ellipsometric spectroscopy of nonpolar (1100) surface 9-33651

adsorption continued

- ZnO powder layers, of Rose Bengal dye, effect on surface potential and photovoltage obs. (*Japanese*) 9-24003
ZrC and ZrC-Re alloys, adsorption of H 9-19467

aerials *see* **antennas****aerodromes** *see* **airports****aerodynamics**

- see also* **hypersonic flow**; **jets**; **shock waves**; **supersonic flow**; **transonic flow**; **turbulence**; **wind tunnels**
ablation of melting bodies, effect of temp.-depend. heat capacity 9-37431
acceleration wave propagation, modification in theorem of Bailey and Chen 9-12621
acoustic disturbance propagation in gas stream, gas turbine noise appl. (*Russian*) 9-32131
aeroacoustics, theoretical modelling 9-37077
aerofoil flutter, vibration and stability of a bar in a stream of gas (*Russian*) 9-32548
aerofoils, laminar wakes and noise pattern 9-37341
aircraft vortex wakes, neutral atmospheric effects on dissipation 9-32528
aircraft wing weight optimisation with static aeroelasticity constraints (*Russian*) 9-23240
airfoil in supersonic and hypersonic flow, wedge problem 9-41705
airfoils placed near ground or in tunnels, flow with separation (*German*) 9-37345
annular aerofoil theory, experimental verification (*Russian*) 9-14420
architectural, wakes of surface-mounted cubes 9-12183
attitude motion of Skylab for revisit mission, digital computer simulation 9-16794
beam, pretwisted, slender, coupled torsional and longitudinal vibr. 9-18770
bridges, buffeting due to wind action 9-14321
bridges, flutter due to wind action 9-14320
cambered airfoil in generalised sinusoidal flow perturbations, lift, moment and press. distrib. 9-37343
cascade airfoil aerodynamic design, exact method based on conformal transformation (*Italian*) 9-41599
centrifugal and unsteady aerodynamic force field 9-1127
cylinders, aerodynamic noise vs. drag relationships 9-32550
delta wing equations, high freq. solns. 9-46337
excited jets, aerodynamic characterisation of broadband noise amplification 9-32491
flat plate boundary layer flow model and spherical particle drag expt. 9-18871
flow in pipelines, self-similar solns. to eqns. (*Russian*) 9-10584
hydraulic drag on banks of profiled twisted tubes in cross-flow of gas (*Russian*) 9-7381
hypersonic flow, conical wing-body combination, thin shock layer theory appl. 9-46339
hypersonic flow on slender wing (*Russian*) 9-10588
jet, subsonic hot free, coherent structures in mixing zone, acoustic effects 9-4052
lifting-line theory, alternative treatment as perturbation problem 9-27663
luffing in 2-dimens. sails, analytical theory 9-32549
magnetoaerodynamic forces on oscill. circular cylindrical shell, simple harmonic motion 9-1257
non-oscillatory circular lifting re-entries 9-37340
nonstationarity near cylinder in air cross-flow (*Russian*) 9-7382
optimum re-entry configuration via the method of steepest decent 9-37339
oscillating wings, three-dimensional nonlinear unsteady potential flow calcs. 9-41689
panel structural optimisation under supersonic flutter conditions (*Italian*) 9-41600
parachute influence on motion of axially symmetric air dropped object (*Polish*) 9-14243
plane jet curvature in bounded cross flow with stagnant zone 9-46355
pollution distrib., test results and numerical solution (*German*) 9-8686
polyatomic chemically reacting gases, hydrodynamic eqns. 9-32711
potential field induced by an acoustic wave incident upon a moving plane 9-37342
ray method for solving gas dynamics equations (*Russian*) 9-27659
rectangular cylinders in heaving mode, aeroelastic instability 9-3954
rigid shell, oscillatory flow through perforated surface, sound generation 9-18950
rolling missile, apsidal limits 9-3909
smooth profile in perfect incompressible fluid in irrotational motion, periodic solns. to eqns. of motion (*French*) 9-41703
static aeroelastic characts. of guided launch vehicle, effect of misalignments 9-14313
subsonic aircraft, aerodynamic forces for aeroelastic anal., doublet-lattice method (*Italian*) 9-41598
supersonic flow, Lorentz-like coord. transform. 9-37348
supersonic flow around flattened bodies and sharp tip wings 9-46341
supersonic flow over sharp-edged wings 9-10587
supersonic local zone near wing profile of infinite span, flow calcs. 9-32565
supersonic/hypersonic flow past an oscillating flat plate at high angles of attack 9-14424
transonic aerodynamics, finite element method, book contrib. 9-32556
transonic aerodynamics, variational formulation and finite element anal., book contrib. 9-32555
transonic cascades, numerical design 9-10585
transonic flow, two- and three-dimens., perturbation soln. method 9-1208
transonic profile flow at incidence with shock 9-4031
transonic viscous flow around 3D wings 9-37346
turbomachine cascade wing profile oscills., aerodynamic damping, ang. of attack influence 9-37344
turbomachine combustor, analysis and modelling of flow (*French*) 9-46401
turbulent transonic flow about lifting aerofoil 9-4032
unsteady thin aerofoil theory, lift and moment calc. 9-4029
Viking entry vehicle, aerodynamic behaviour, ground test and flight results 9-16821
viscous-inviscid flow interaction method, using blowing and suction flows 9-1154
vortex-induced side force on slender bodies 9-14408
windmill design and testing 9-43717
wing, trailing line vortices, axial flow 9-32534
wing aerodynamic characts., modelling ground plane effect 9-32553

aerodynamics continued

- wings, delta, for supersonic aircraft, lift with leading-edge vortices, at low speeds 9-14422
wings, low aspect ratio, computation of nonlinear characts. 9-41690
yawed slender wings, Abel integral eqns. for wake strength 9-32552

aeronomy *see* **meteorology**; **terrestrial atmosphere**; **upper atmosphere****aerosols***see also* **foams**

- airborne sampling system for plume monitoring 9-21027
ambient aerosols, particulate S chemical state determ. by PIXE anal. 9-5225
aqueous, crystallising, gas capture, role of gas adsorpt. in ice surface 9-39191
asymmetric deposition motion in circ. tube, anal. by Laplace transform methods (*Chinese*) 9-37379
atmosphere, aerosol anomalies preceding earthquakes 9-16407
atmosphere, aerosol characterization for particulate S, health effects 9-20984
atmosphere, effects on total O₃ estimation from UV radiance meas. 9-8662
atmosphere, erroneous elemental mass-size functions from high vol. impactor 9-20997
atmosphere, extinction coeff. from outgoing solar radiation meas. in O₂ 0.76 μ m band (*Russian*) 9-8690
atmosphere, haze microstruct. and refr. index from scatt. light polarisation characts. (*Russian*) 9-29852
atmosphere, Hg, As and Br quantitative analysis 9-12179
atmosphere, impact on nucleopore filter, collection efficiency 9-20475
atmosphere, influence on shortwave radiative transfer, pyranometer meas. errors 9-21050
atmosphere, marine, trace elements in size separated aerosols 9-20989
atmosphere, maritime, SO₂⁻ sources over N. Atlantic Ocean 9-20904
atmosphere, mass loadings evaluation from multispectral extinction data 9-12221
atmosphere, moist, equilb. sizes and size spectra of aerosols (*Russian*) 9-12194
atmosphere, nonautomotive components of Pb detect. in St. Louis region 9-12260
atmosphere, particle sources over Australia 9-20907
atmosphere, particles and trace gases meas. in St. Louis area 9-16600
atmosphere, particles scavenging by falling water drop, lab. expt. 9-5572
atmosphere, Pb aerosol concs. in Teheran 9-21011
atmosphere, produced by α -particles, evolution of <0.02 micron particles (*French*) 9-43640
atmosphere, S aerosols characts. in Florida, PIXE anal. 9-21030
atmosphere, sampling and anal. system for particulate S monitoring 9-21029
atmosphere, scatt. coeff. as function of visibility and wavelength, empirical formula 9-34944
atmosphere, size distrib. and turbidity meas. over St. Louis, Project METROMEX 9-16670
atmosphere, small ions attachment rate to aerosol particles 9-39817
atmosphere, SO₂⁻ long-distance transport rel. to visibility, London, England 9-21015
atmosphere, sources identification in St. Louis area using factor anal. 9-12200
atmosphere, thermodynamic props. and aerosol patterns in St. Louis downwind plume 9-16603
atmosphere, urban and rural, aerosols influence on warming 9-16671
atmosphere, UV communication based on scattering effect 9-3736
atmosphere aerosols, meas. of trace metals in Antarctic snows, (1914 to 1974) 9-34867
atmosphere snow and ice particles, influence on elec. field above Arctic Ocean (*Russian*) 9-48537
atmospheres, reflective dust blanket rel. to Earth albedo sudden change and ice age onset 9-44241
atmospheric degradation of electrooptical system performance 9-34940
atmospheric extinction and absorpt., effects of particulate complex refr. index and size distrib. 9-29849
atmospheric scattering from marine aerosols, ELOS optical communications system 9-29862
brush fires, influence on W. African atmospheric aerosols (*French*) 9-34883
catalytic oxidation of SO₂, expt. under atm. conditions 9-1941
centrifuge, calibration at unmatched relative humidities between stream and aerosol air 9-41775
coagulation, kinetics 9-39209
coagulation and diffusion in turbulent jet 9-23355
coagulation theory, new aspects (*Russian*) 9-8453
collision rates in highly dispersed aerosols with elec., acoustic fields 9-47986
condensation fume, nature and origin of particles 9-39221
corundum particle aerosol, nonlinear propag. of laser radiation 9-23033
dibutylphthalate, supersaturated vapour, aerosol form. by mixing of flows 9-39212
diffuse radiation, models with aerosols and common absorbing gases, data sets 9-44235
dioctyl phthalate, polydisperse, spectrophotometer studies 9-21797
direct visible spectra and aerosol optical depths at urban and rural locations during summer 1975 at Milwaukee, meas. 9-29857
drop, submicron size, evap. in continuum and non-continuum regimes 9-43639
electrification of β -active aerosol particles in external elec. field, influence of stopping power of gaseous medium 9-20473
electrodiffusion precipitation of charged particles onto cylindrical channel walls 9-14463
electrostatic collection of particles on sphere 9-47994
electrostatically charged, particle deposition in hollow cast of human larynx-tracheobronchial tree 9-43953
EM radiation scattering by soft particles, Mie series appl. 9-36824
EM scattering by cluster of spheres, soln. using Debye potentials 9-31800
fly ash nucleation props. in coal-fired power-plant plume 9-5607
formation, growth, general dynamic eqn., H₂SO₄/H₂O aerosol simulation appl. 9-47990
gasdynamic laser, two-phase mol. vibr. relax. in gas-aerosol system 9-45807
growth by condensation, general dynamic eqn., exact solns. 9-39218
health hazards, biohazard safety cabinet design testing 9-16362

aerosols continued

AgCl, solid monodisperse aerosols, in He jet system, for unstable nuclide transportation 9-22507
AgI aerosol particles, influence of cryst. struct. on their ice-forming activity 9-16048
Fe aerosol powders, oxidised, nucl. gamma reson. study (*Russian*) 9-1725
H₂SO₄, aerosol particles props. in subsiding air over Japan 9-20986
H₂SO₄, secondary particles form. and growth, kinetic aerosol model 9-29492
KCl, solid monodisperse aerosols, in He jet system, for unstable nuclide transportation 9-22507
⁸⁵Kr aerosol discharge devices, fabrication and use 9-1969
Na, form. and sedimentation, physico-chemical and semiempirical relations, review (*Czech*) 9-30956
Na pool fuel vapour and aerosol transport in HCDA 9-13455
NaCl particle generation 9-16606
NaCl, solid monodisperse aerosols, in He jet system, for unstable nuclide transportation 9-22507
²¹⁰Pb, atmospheric fluxes determ. from soil profiles 9-2346
Pu containing, charge distribution from mixed-oxide reactor fuel fabrication lab. 9-5181
Pu fumes, aerodynamic and dissolution behaviour of laser-ignited droplets 9-13438
²³⁹Pu, characterisation inside safety enclosures of mixed fuel fabrication facility 9-13501
²³⁹PuO₂, inhalation exposure of miniature swine 9-11976
S, determ. in submicrometric aerosols, SO₂-denuder (Sept. for continuous meas. 9-8699
S pollutants in atm., conf., Dubrovnik, Yugoslavia (Sept. 1977) 9-20965
SO₂+H₂O+O₂(N₂)(Ar), condensation nuclei form., ion polarity and age depend. 9-39220
SO₄²⁻, aerosol form. and growth in stratosphere 9-5604
SO₄²⁻, air pollution, large-scale spatial and temporal distrib. 9-20981
SO₄²⁻, atm. hazes and long-range pollution transport, satellite detect. 9-20975
SO₄²⁻, particle size depend. on relative humidity 9-20906
SO₄²⁻, quantitative determ. in aerosol particles 9-20474
Tn decay products, ats. and ions, adsorption probability on submicron particles 9-39803
⁹⁵Zr from Chinese atmospheric thermonuclear explosions, appl. to stratospheric transport parametrisation 9-2342

aerospace
see also *aerospace computing; aerospace control; aerospace instrumentation; aerospace propulsion; aerospace simulation; aerospace test facilities; aircraft; ground support systems; space research; space vehicles; terrestrial atmosphere*
kinematic tools, vectorial mechanics and variational method 9-30218

aerospace applications of computing see *aerospace computing*

aerospace computer control
see also *aerospace computing*
flexible CAMAC based data system for Space Shuttle scientific instruments 9-45603
type U CAMAC controller for the Spacelab multi-crate, multi-processor system 9-45604
UK-6 satellite, computer command system 9-25440

aerospace computing
see also *aerospace computer control*
artificial satellite nonconvex solar battery panel mounting, optimal ang. determ. 9-39291
Astronomical Netherlands Satellite, orbit prediction 9-21139
interplanetary missions, trajectory analysis computing, ESTEC program 9-21129
reinforced organic composite, graphite, or C-C, ablation, mathematical modelling 9-41564
shear modulus of superplastically formed sandwich cores 9-32286

aerospace control
see also *air traffic control; attitude control*
sounding rocket attitude estimation using star sensor data 9-25435
Space Shuttle orbiter, remote manipulator system 9-21150

aerospace engines
jet engine, air-breathing 9-7172

aerospace ground equipment see *ground support equipment*

aerospace instrumentation
see also *aircraft instrumentation; Langmuir probes*
electronic systems, explanation of basic principles for layman 9-29972
spacecraft systems, evaluation of acceptance testing 9-16797
Voyager Sun sensor, CdS detector, radiation effect test, simulator 9-23644

aerospace propulsion
see also *aerospace engines*
interstellar rocket, laser powered, mass ratio and instantaneous efficiency 9-21134
jet engine, air-breathing 9-7172
large payloads, launching into Earth orbit by intense relativistic electron beams 9-21135
nuclear, NASA's thermionic technology program, 1978 status, objectives and plans 9-48159
nuclear, out-of-core thermionic power conversion system 9-48160
starship, flight optimisation via time plus energy minimisation criterion rel. to, powerplant 9-44330
thermionic conversion appl., USSR activity and 1978 status, comparison with USA status 9-48158

aerospace simulation
see also *aerospace test facilities*
attitude motion of Skylab for revisit mission, digital computer simulation 9-16794
hypersonic shock tunnel, development for aerospace simulation 9-41777
ionospheric flight conditions simulation 9-16796
multiple radiation effects facility for testing materials exposed to space environment 9-48644
payload model, modal confidence factor in vibration testing 9-27607
Skeynet, system-generated EM pulse testing with exploding-wire photon 9-25433

aerospace test facilities
see also *wind tunnels*
acoustic environmental testing 9-3853
environmental testing, climatic, features of McKinley laboratory 9-16798
IR measurement facility, low-background large-aperture, design 9-21125

aerospace test facilities continued

- IR measurement facility, low-background large-aperture, performance 9-21126
- multiple radiation effects facility 9-48644
- NASA Long Duration Exposure Facility, for space testing and qualification of optical instrum. 9-5725
- noise technology laboratory facilities, Boeing Commercial Airplane Co. 9-18603
- non-metallic materials, flaw detection by tomodesitometry (*French*) 9-20295
- Voyager Sun sensor, CdS detector, radiation effect test, simulator 9-23644

a.f. amplifiers *see audio-frequency amplifiers***AFC** *see automatic frequency control***afterglows**

- density decay in diffusion-controlled atomic-gas plasma 9-7442
- electron energy distrib. function, expt. determ. by electronic instrum. 9-32840
- electron energy distribution function in afterglow discharge 9-10725
- functions, multistop method investig., dead time registration effects (*Russian*) 9-10719
- inert gas afterglow, anisotropic props. 9-1362
- ionic recombination in flowing afterglow, at. and mol. ions 9-1361
- phosphor, stationary recombinatorial luminesc. without thermal transitions, model 9-8193
- shock-radiative recombination rate in afterglow of He plasma 9-4205
- Z-discharge plasma, low-temp., time evolution, diagnostics 9-37548
- Ar+N₂, N₂ molecule, formation of C³Π_u and B³Π_g in early afterglow 9-34305
- Ar*(3p²4p)+Ar(S₀), collisional population transfer rate coeffs., 300K 9-10177
- CsI:TI single crystal gamma-optical converting screens, factors influencing relative afterglow intensity 9-8173
- He, afterglow, intermediate press., plasma discharge parameter time depend. calc. 9-19102
- He, cryogenic, recombination plasma decay (*Russian*) 9-4104
- He discharge, high-pressure, rapid formation of He₂⁺ a²Σ_u⁺ and b³Π_g molecules 9-37571
- He, excited state formation from He₂⁺ in afterglow, theory 9-22802
- He I 4³D, ³F-²P line struct., in low-pressure linear discharge 9-14523
- He plasma in electron beam-excited discharge, atm. press., relax. obs. and model 9-37569
- He+He, (2³S) and (2¹S) metastable states, direct and assoc. ionisation rate consts. in afterglow, electron energy spectra 9-13812
- He(2³S), bi- and ter-mol. deexcitation reaction rate coeffs. meas. in afterglow 9-36748
- He(3³S) decay rates in high-pressure afterglow 9-41898
- Nd₂La₂-P₂O₁₄, laser properties 9-22957
- Ne, 2p³3s³P₂ to ground state, electron collisions of the second kind, rate consts. 9-27090
- Ne afterglow, recombination processes, microwave quenching 9-14624
- Ne⁺+Zn, charge exchange and Penning ionisation in pulsed discharge afterglow 9-7007
- Ne₂⁺+e, in recombination afterglow, line intensity decay complex struct. 9-7503
- O₂-He afterglow, O₂(C¹Σ_u⁻, C³Δ_u, A³Σ_u⁺) generation from at. recomb. fluorescence obs. 9-15756

AGC *see automatic gain control***age (Earth)** *see geochronology***age determination, radioactive** *see radioactive dating***age hardening** *see precipitation hardening***ageing**

see also precipitation hardening; strain ageing

- Al alloy AK4-1, acoustic investigation of ageing 9-34083
- class IE electronic equipment qualification, ageing evaluation using Arrhenius techniques 9-45361
- Duralumin, effect of alloy purity and ageing on fracture mechanism, and resultant toughness 9-5049
- enamel slips, control of rheological props. 9-29136
- endurance limit, ageing effect (*Japanese*) 9-20077
- fluoroplastics, heavy charged particle detectors 9-26821
- glass fibres, types E and A, surface composition, effect of ageing, reduction, exam. using X-ray photoelectron spectroscopy 9-20223
- high alumina cement concrete, quality, thermal anal. investig. 9-15912
- Incoloy 800, and 800H, proposed specification changes 9-43298
- Incoloy 800, mechanical props., heat treatment and appl., conf., Petten, Netherlands (March 1978) 9-43296
- Incoloy 800, review of structural charact., heat treatment and comp. effects 9-43297
- Incoloy 800, use up to 550°C, creep ductility 9-43369
- Incoloy 800H, high temp. low cycle fatigue, ageing and cold working effect 9-43277
- Incoloy 800H, high temp.-low cycle fatigue, ageing and cold working effect on initial stress/strain curve 9-47720
- loaded column, creep and ageing optimisation problems stress-strain state (*Russian*) 9-46226
- metallic films, vapour deposited on polymer, ageing, adhesion, elec. cond., electrochem. pot. (*Russian*) 9-33362
- multilayer winding around hollow cylinder, creep and ageing optimisation problems stress-strain state (*Russian*) 9-46226
- optical fibres, plastic-coated fused silica, ageing and static fatigue 9-46067
- optical fibres, surface compressive strength, increase after ageing under load 9-46065
- optical waveguide performance before and after storage 9-27392
- photographic materials, non-Ag 9-24780
- polycaprolactam film, subjected to 9 kV elec. discharge, X-ray obs. (*Russian*) 9-23536
- polymer, glassy, ageing, scanning calorimeter meas., theoretical prediction 9-10810
- polymeric dielectric materials exposed to partial discharges, degradation product anal. 9-4765
- PWR pressure components reliability and residual life evaluation and precipitation 9-20191
- rubber, natural and accelerated, comparison 9-24625
- semiconductor, apparent ageing, caused by defect migration, dark and photocond. 9-11169
- semiconductor junction lasers in optical fibre links (*German*) 9-32042
- silica optical fibres, ageing polymer-coated fused specimens in pH solns., tensile strength and dynamic fatigue 9-46063
- steel, 37Kh12N8G8MFT, precipitation hardening, hardness meas. and electron microscope exam. (*Russian*) 9-38843
- steel, austenitic, Cr-Mn, Kh4G18F, microstruct. and mech. props. during tensile deform. (*Russian*) 9-20114
- steel, austenitic, Mn-Al-V-F₂, EM characts. after nitriding, aging, austenitizing, NDT of nitrated layer depth 9-17150
- steel, austenitic stainless, matrix precipitation of Cr₂N, due to P addition, TEM exam. 9-4973
- steel, austenitic stainless, type FV 548, effect of ageing on void swelling on cold worked samples 9-37744
- steel, C, yield point determ. rel. to grain size, deform., ageing and temp., dislocation theory (*Serbian*) 9-34120
- steel, Co-W-Mo-V-Ti-C (25.3, 12.8, 6.2, 0.5, 0.5, 0.05 wt.%), martensitically aged, structural transformation, and strengthening mech. (*Russian*) 9-15676
- steel, Cr, H-dislocation interaction 9-8307
- steel, Cr-Ni (32.8 wt.%), tensile props. and fracture of two phase Fe alloy austenite and ferrite (*Japanese*) 9-8344
- steel, low C, crack propagation energy rel. to temp., time factors 9-29179
- steel, low C, weldable, precipitation hardening rel. to low cycle fatigue (*Czech*) 9-15686
- steel, maraging, 18Ni300, ageing, electron diff. and microscope obs. (*Polish*) 9-34070
- steel, martensitic, ageing of 05kh3N2MD2, hardness depend. on tempering temp. (*Russian*) 9-24544
- steel, martensitic, Cr-Ni-Co-Mo-Ti, Kh12N8K5M3TYu, ageing of C free martensite (*Russian*) 9-1884
- steel, Ni, maraging, H₂ diffusion, diffusivity and solubility (*Japanese*) 9-42311
- steel, Ni-Cr, temper embrittled, electron microscope and X-ray microstruct. obs. 9-38870
- steel, Ni-Mn-Al-V, nonmagnetic, ageing, dispersion hardening, microstruct., phase comp., mech. props. (*Russian*) 9-34046
- steel, stainless, austenitic, Cr-Ni-Mn-Si-Mo-C alloy, 13Kh18N10G3S2M2, elastic moduli exam. after thermomechanical treatment (*Russian*) 9-24558
- steel, stainless, fatigue, influence of ageing and plastic deformation (*Russian*) 9-15857
- steel, stainless, ferritic, electron microscope obs. of precipitation hardening (*French*) 9-34049
- steel, stainless, two phase, variation of tensile and impact strength with heat treatment 9-34085
- steel, stainless, type 316, microstruct. changes in creep ductility, SEM, TEM, optical microscopy and X-ray diff. study 9-38927
- steel, tool, maraging, based on Ni2M10, exam. of hardening, crack resistance and wear (*Russian*) 9-34047
- steel, VN precipitation after heat treatment 9-29067
- steel, W, high C, amorphous, rapidly quenched from melt, mech. and thermal props. 9-38874
- steels, austenitic, microdefect accumulation during creep, effects of heat treatment, hardening 9-24550
- TGS:Cr³⁺, polarisation reversal and ageing mechanisms, EPR meas. 9-8044
- thermistor stability, ageing in constant temp. baths 9-21745
- Tishomingo Fe meteorite, microstructural study rel. to ageing 9-16898
- Ag-Pd-Cu, contact-spring props., fatigue and spring limit (*Japanese*) 9-29117
- Al alloy 01205, mech. props. at cryogenic temps. 9-29206
- Al alloy 2036, thermomechanical treatment on struct. and props. 9-29109
- Al alloy 6061, thermomechanically treated elev. temp. mech. props. 9-8310
- Al alloy D16, supersaturated solid soln., decomp. process, electron microscope obs. and acoustic anal. (*Russian*) 9-15650
- Al-Ag, struct. of two-layer film 9-23851
- Al-Cu, effect of alloy purity and ageing on fracture mechanism, and resultant toughness 9-5049
- Al-Cu (4 wt.%), with θ' precipitates, relation between elastic limit and hardness (*French*) 9-5018
- Al-Cu alloys, condensed films, metastable states 9-15046
- Al-Cu-Mg (1.3, 1.3 at.%) alloy, natural ageing, meas. of quenching vacancy dislocation loops 9-15704
- Al-Cu-Mg (2.0, 1.1 wt.%), Ostwald ripening of S' precipitates (*Korean*) 9-38831
- Al-Cu-Mg alloy, struct. of Guinier-Preston zones (*Russian*) 9-1870
- Al-Cu-Mg-Ag casting alloy, precipitation hardening in artificially aged condition 9-1874
- Al-Cu-Mg-Mn(-Zn-Cr), low temp. deformed, ageing and mech. props. 9-1881
- Al-Cu-Mn-Mg-Fe-Si (4.48, 0.66, 1.55, 0.43, 0.23 wt.%), alloy D16, relationship between intercrystallite corrosion depth, and elec. cond. 9-20220
- Al-Fe-Si commercial alloy, elevated temp. low cycle fatigue behaviour under rotating bending 9-47766
- Al-Ge alloy, effect of high press. on phase equilibrium (*Russian*) 9-1844
- Al-Mg-Si, Guinier-Preston zones, inception and effect on ageing (*Hungarian*) 9-11627
- Al-Mg-Si, precipitation of cube-shaped phases, electron diff. study using TEM (*Japanese*) 9-43251
- Al-Si, neutron small angle scatt. study 9-43255
- Al-Si (1.2 and 0.6 wt.%), single crystal, dispersion hardened with SiC, Bauschinger effect and work hardening 9-43360
- Al-Si(Cu)(Zn-Mg-Cu), extraction and phase anal. 9-15673
- Al-Zn, ageing alloy, zonal decomposition stage, new effects in X-ray diff. anal. (*Russian*) 9-4982
- Al-Zn (10 wt.%), ageing at low temp., solute conc. fluctuation effects (*Japanese*) 9-4969
- Al-Zn (2 and 4 wt.%), ageing and elec. cond. reversion (*Japanese*) 9-4983
- Al-Zn alloy, resist. and X-ray small angle scatt. during GP zone form., theory (*French*) 9-29070
- Al-Zn-Mg, solid soln. decomp., 20 to 200°C 9-38830
- Al-Zn-Mg, zone composition change during ageing 9-29110
- Al-Zn-Mg-Li alloys, effect of Li on thermal props. 9-24515
- Au/Pb thin film couple, room temp. interdiffusion study 9-28154
- β-Au-Cu-Zn, martensitic transformation temps. ageing and quenching effect 9-47687

ageing continued

- BaTiO₃, exam. of anomalous pyroelectric effect above Curie point 9-33613
 Co-Ni-Cr-C, carbide precipitation 9-29065
 (Co_{0.83}Cu_{0.17})₆Ce, cryst. struct. and mag. props., decomp. during ageing (*Russian*) 9-37661
 Co₂CuCe, cryst. struct., mag. characts., ageing and decomposition (*Russian*) 9-4272
 Co₂Sm sintered magnet, effect of surface conditions on mag. props. 9-28556
 Cr/Al layered films, microstruct. and interdiffusion during ageing, 423 to 573K 9-46965
 CsI:Na, crystal, kinetics of decay of surface solid soln. 9-23810
 Cu, cyclic strain hardening under deform. at various temps. 9-43273
 Cu, discontinuous film, ageing effect on elec. cond. 9-24084
 Cu-Cr, isothermal decomp. diagrams 9-38791
 Cu-Fe, Mossbauer studies of ageing and precip. 9-38415
 Cu-Ni-Al, ageing charact., optical TEM, X-ray, hardness obs. 9-29079
 Cu-Ni-Fe, spinodal alloy, heat treatments for improved mech. props. 9-5024
 Cu-Sn-Mg, precipitation, effect of thermomechanical treatment (*Japanese*) 9-4970
 Cu-Ti (4 wt.%), combined recrystallization and precipitation 9-29072
 Cu-Ti alloys (0.5 to 4.0 wt.%) ageing charact. determ. 9-20089
 Cu-Zn-Al (26, 4 wt.%), martensitic transform. temp. variation after low temp. ageing 9-15666
 Cu₂Au-Co, single crystal, overaging mechanism 9-20081
 Fe-Al-C alloys, C migration and mag. aftereffect, mag. permeab. disaccommodation and long-range order meas. 9-8020
 Fe-Co-Ni-Si-B amorphous alloy, magnetostriction and permeability, effect of annealing 9-1701
 Fe-Ni martensitic alloys, age hardening 9-47736
 Ga_{1-x}Al_xAs laser, buried heterostruct., stable operation during accelerated ageing at 70°C 9-7125
 He-Cd segmental tube laser ageing (*Bulgarian*) 9-18441
 HfO₂, monoclinic, microcracking, elasticity, internal friction, thermal expansion meas. 9-29195
 (Hf_{1-x}Zr_x)₈₀Nb₂₀, precip. of high vol. fraction of ω-phase particles 9-8304
 Mg-Ga (6 wt.%), precipitation, lattice const., ageing effects (*Chinese*) 9-43279
 MnCu, neutron scatt. near crit. comp., effects of stress and ageing 9-19722
 Mo-Zr-C (0.63, 0.06 wt.%), quenched and deformed, structural changes during heating to ageing temp. (*Russian*) 9-1879
 Nb, cold-worked, Snoek-Koster relaxation transient period, comparison with Schoeck's theory 9-34086
 Nb superconducting films, penetration depth measured with Nb-NbO_x-PbIn Josephson junctions 9-42691
 Nb-Zr-C alloy, struct. changes during stressed and unstressed ageing at 900, 1100°C (*Russian*) 9-29064
 Ni alloy 718, intermetallic second phase obs. using electrolytic extraction and SEM 9-34074
 Ni, cathodically H charged, isothermal ageing 9-15703
 Ni-Al-Cr, strain hardening, participation of various slip systems (*Russian*) 9-24536
 NiCr thin film resistor, 'clean vacuum' deposition equipment suitability obs. (*Polish*) 9-15611
 NiO:Mn, microhardness, plasticity, ageing effects 9-43291
 PLTZ, reduced, exam. of ageing phenomena, using dielectric hysteresis (*German*) 9-33647
 Pb-Sb (1 wt.%), highly averaged, fracture behaviour 9-8366
 PbIn superconducting films, penetration depth measured with Nb-NbO_x-PbIn Josephson junctions 9-42691
 PbNb₂O₆, O defects and elec. props. anomalies 9-42898
 Pd-Ag-Cu (35.25 at.%), determ. of ageing transformations by resist. meas., metallography, TEM and X-ray diff. 9-4967
 Pd-H, nature of the 50K anomaly, residual resist. 9-7818
 PdH_{0.73}, 50K transition, γ-ray and neutron diff. study 9-14932
 Pd₉₀Si₁₀-γ₂Fe₂, amorphous, ⁵⁷Fe Mossbauer spectra, X-ray diff., ageing behaviour 9-28651
 Si-Au Schottky diodes, role of O in formation mechanics 9-42639
 Ti-Al-Cr-Mo-V, alloy VT22M, exam. of ageing and phase transitions (*Russian*) 9-11641
 Ti-Al-V (6, 4 wt.%), cavitation induced erosion, under mill annealed, soln. treated and aged, and beta annealed conditions 9-8371
 Ti-Mo-Zr-Sn-Fe-C-Si alloy, β-III, cold deform. and annealing, effect on struct. and mech. props. (*Russian*) 9-24533
 Ti-Nb, cold strained, exam. of ω and α phases, precipitated during ageing (*Russian*) 9-11620
 Ti-V (27 and 30 wt.%), fatigue crack propag., in single and poly. crystals 9-5048
 Ti-V-Si (30, 1 at.%), quenched and aged, hardness, tensile behaviour and phase transform. 9-11646
 Ti_{1-x}Zr_xNb₂₀, ω phase precipitation 9-34042
 W, diffusion barrier between Ni-Cr-Al coatings and Ni eutectic alloys in gas turbines 9-24673
 Zn film, RF sputtered, thickness dependence variations in electrical resistance 9-42674
 ZnO, black, possible use as spectrally selective coating for low temp. solar collectors 9-994
 ZnS, electrolum. phosphors, surface phenomena occurring during ageing (*Russian*) 9-33842
 ZnS:Cu,Er,Cl film, ageing and forming, DC electroluminesc., impact excitation 9-47522
 Zr-Al (4.6 wt.%), microstruct. effect on mech. props. 9-20080
 Zr-Nb-V-Al (Fe) alloys, decomp. of β solid soln., metastable and equilib. phases 9-11632
 ZrO₂, crystallisation from Zr(OH)₄, effect of water vapour, heat treatment and grain size (*Japanese*) 9-19170

ageing characteristics see ageing

agriculture

- see also farming
 ancient Mesopotamia, barley harvest dates rel. to temp. 9-5597
 California, agricultural water demand information, remote sensing 9-2315
 digital crop identification, high-altitude versus Landsat imagery 9-25357
 dust storms, Great Plains, USA, lessons 9-29486
 genetic and physiological process control by magnetic methods (*Russian*) 9-2088

agriculture continued

- hail suppression, crop protection, involvement of society 9-8677
 irrigation, influence on radiation balance of Earth surface and components 9-29863
 irrigation, kinematic model 9-5529
 moisture meas. methods, review (*Polish*) 9-2776
 phosphate fertilizers, leaching from agricultural soils to groundwater 9-20901
 plant Pb uptake near roads in Egypt 9-12255
 reservoir management for irrigation, chance-constrained linear programming 9-2317
 soil, moist, emissivity in microwave range, temp. effect 9-29797
 soil moisture deficit estimation from meteorological factors 9-20890
 soil moisture meas. by remote microwave radiometry 9-48526
 St. Louis area, land use and cover correl. with meteorological anomalies 9-12201
 weather modification, economic context 9-20936
 weather modification, insurance perspective 9-20937
 weather modification economics, review, future anal. 9-20927
 weighing apparatus for hydraulic lysimeter in the Western Australian cereal belt 9-12276
 wind furnace systems, advanced, for residential and agricultural heating and power supply 9-48070
 N fertilised soil, N₂O evolution rates 9-16656
 N fertilizer and stratospheric ozone 9-21007
 N₂O in soil, losses dissolved in drainage water 9-43797

air

see also terrestrial atmosphere

- air-CO₂(He), probe for conc. meas. 9-4098
 breakdown formative time lag rel. to gap geometry, pressure, and overvoltage 9-18994
 composite discharge plasma, rate of heating of dry air as function of voltage and density (*Russian*) 9-37513
 conduction current, effect of cross mag. field 9-18990
 discharge, HV diffuse, gas stream temp. influence 9-32842
 dissociated, hypersonic flow over blunt axisymmetric body, nonsteady heat exchange 9-37319
 education, gas pressure gauge for student expt., mol. weight determ. by law of atm. 9-25795
 electron-photon cascade curves 9-44322
 EM cascades caused by electrons and photons, 10-100 GeV, longit. development 9-21120
 flows in triple point shock configurations, anal. thermodynamics (*Russian*) 9-32569
 gap corona pulse delay obs. and HV insulation design 9-19117
 hypersonic wake, electron recomb. coeff. temp. depend. meas. 9-27834
 ionisation path formation by laser beam with retractable focus 9-18992
 laser exploded, emission processes affecting development of explosion 9-7417
 L.F. coherent antiStokes Raman spectroscopy 9-13727
 light flash excited by γ-ray source, electric field effect 9-14514
 liquefaction, from Cailliet and Pictet to microkelvin 9-40
 methanol-water-air mixing, in perforated disc type stirring cascade, power dissipation, mechanism and correlation 9-1238
 microwave breakdown field calc., resonator and rectangular waveguide expt. 9-41789
 O₂ electron attachment coeff. meas., O₂ partial press. depend., in dry air (*German*) 9-13821
 optical detonation threshold, press. depend., rel. to Ar 9-23438
 positive corona discharge time lag obs. 9-27849
 positive point-to-plane corona, continuous and pulse components 9-19119
 propane-air mixture, turbulent combustion zone, initial temp. fluctuations influence on reaction evolution (*French*) 9-15998
 Rayleigh scatt. props., nephelometer meas. 9-29865
 Rayleigh scattering 9-1342
 shock photoionisation, radiation from shock heated gas 9-7438
 space charge limited current in N₂ and air, high pressure effect 9-32735
 thermal transpiration, theory and expt. comparison, molecular and transition flow 9-32579
 unionized, enhanced light emission from positive corona 9-37568
 US assisted radiant heat transfer into water and air 9-46169
 wake, hypersonic, ionised, free electron attachment coeff. meas. 9-27835
 HCN compact CW laser, output increased by He, Ar, air and O₂ buffer gases 9-10293

air bases see airports

air blast circuit breakers

- arc characts., depend. on electrode position 9-23470
 post-zero current and power loss meas. 9-19106

air bubbles see bubbles

air compressors see compressors

air conditioning

see also ventilation

- air based solar heating systems, phase charge energy storage, optimum physical properties 9-43742
 cooling and dehumidifying coil, heat, mass and momentum transfer 9-192
 diesel-driven chiller system, with multi-tank thermal storage system, computer simulation 9-48187
 noise control by auxiliary driving sources, air conditioning duct appls. 9-14133
 rectangular ducts, LF acoustic transmission 9-37070
 surgery cell with laminar air flow (*German*) 9-16335

air permeability see permeability

air pollution

see also air pollution detection and control; smoke

- acid precipitation at Ithaca, New York, origin of air masses 9-16655
 advection-diffusion model for pollutant dispersion near roadways 9-21003
 aerosol, photochem. prod. of submicron particles of very narrow size distrib. 9-29491
 aerosol particles influence on warming of urban and rural atm. 9-16671
 aerosols, effect on rate of new particle form. 9-24926
 aldehydes in air, gas chromatography 9-12284
 atmospheric chemistry, recent advances 9-12204
 atmospheric dispersion calcs. for nuclear plants, EFFAIR code 9-18007
 chemical composition of Norwegian snowpack, rel. to air pollution 9-20871
 chemical reactions, second-order, in turbulent fluid, model, formulation and validation 9-20349

air pollution continued

- chemical reactions, second-order, in turbulent fluid, model, appl. to atm. plumes 9-20350
 Chiltern, Oxon. (1951-1977), dose rate, air ionisation, radioactive fallout 9-6775
 climate and climatic change, numerical simulation 9-16643
 cloud, motion of a large dusty buoyant thermal with a vortex ring 9-48561
 coal smoke, diurnal variation, harmonic anal. (*Rumanian*) 9-21009
 coal-fired power plants, effects on cloud and precip. processes 9-20933
 coal-fired power station pollution, physics 9-44659
 contemporary climate changes, natural and anthropogenic factors 9-34938
 cooling tower drift deposition, modelling and monitoring 9-20992
 cooling tower plume effects on total solar radiation 9-12177
 cooling tower plume vortices, time-lapse photography 9-20950
 cooling tower plumes obs. and models 9-20991
 deposition velocities over water 9-8683
 diffusion eqn. for line sources, analytical steady soln. 9-12244
 diffusion from point sources, orthogonal collocation 9-12249
 diffusion problems soln., pseudo-spectral and orthogonal collocation method 9-12170
 dispersion from elevated point source in convective planetary boundary layer 9-12245
 dispersion from elevated source in convective planetary boundary layer 9-12246
 dispersion in stratified planetary boundary layer, numerical simulations 9-12251
 dispersion near roadways, simple line-source model 9-5600
 dispersion of chemically reacting plume 9-34453
 dispersion of gases, aerodynamic aspects, test results and numerical solution (*German*) 9-8686
 drift droplets deposition estimation from natural draught cooling tower 9-16647
 dry deposition from point source, pseudospectral simulation 9-2362
 emission inventory for Greater London 9-5608
 emissions over urban area sources, atmospheric transport 9-12184
 energy consumption effects on climate 9-29848
 energy use and climatic changes 9-29846
 environmental effects from nuclear energy, effects of small radiation doses 9-2312
 fluorocarbons, lifetime determ. methods 9-20920
 fly ash nucleation props. in coal-fired power-plant plume 9-5607
 fly ash particles, effect of chem. variability on cell exposure 9-16172
 furnaces, heat transfer and pollution (*French*) 9-16001
 Gaussian plume dispersion over rough terrain 9-12250
 ground level trajectory of diffusing cloud, wind vector turning effect 9-12232
 halocarbon conc. meas. in southern hemisphere 9-5602
 halocarbon lifetimes and conc. distrib. using two-dimens. tropospheric model 9-12180
 halocarbons, global budget analysis 9-34881
 humid plume interaction with stratocumulus cloud (*French*) 9-16605
 central Hungary, precipitation amounts, steelworks effects 9-20943
 hydrocarbons, assoc. with airborne particles, dispersion and transport 9-20990
 industrial area, pollutant concs., deposition vs. transport effects 9-12243
 industrial cumulus, numerical simulation, comparison with obs. 9-12202
 local meteorological situations, statistics and pollution potentials (*Spanish*) 9-29813
 London, summer 1976 photochemical pollution 9-16648
 long-range transport, meteorological aspects 9-20969
 long-range transport, OECD study assessment 9-20967
 long-range transport modelling, OECD study 9-20970
 Los Angeles, oxidant and precursor trends 9-16649
 meteorology of long-range transport 9-20966
 minor species meteorological control of lower stratosphere 9-12171
 mixing during pollution incident, acoustic and temp. meas. 9-12234
 motorways, Pb from motor exhausts 9-12248
 northern hemisphere, temp. trend to year 2000, prediction 9-16646
 S. Norway, heavy metals and chlorinated hydrocarbons 9-12239
 nuclear power stations, radioactive emissions, heat emissions, other environmental effects 9-22491
 organic pollutants in airborne particulate matter and gas phase 9-12238
 particle sources over Australia 9-20907
 particulate content in Yaounde, Cameroon, rel. to Intertropical Front 9-12240
 particulate pollution in Delhi due to Indraprastha power plant 9-21000
 photochemical pollutants day of weak vars. in St. Louis, USA 9-20988
 photochemical smog, fresh emissions, admixing effects 9-12237
 phytotoxic admixtures, standardisation and meas. of max. permissible concs. 9-8685
 plume dispersion from ground level sources in simulated atmospheric boundary layers 9-12231
 plume rise from multiple sources; A new model 9-34451
 point source, peak/meas. concs., long term statistics 9-34457
 population exposure doses from USSR power plants, evaluation, prediction, regulation (*Russian*) 9-26776
 power plant chimney plume, dispersion and chemical reactions 9-12178
 power plant plumes, visual impact, model 9-16664
 proper functions of two-dimens. field, matrix method and integral eqn. method 9-21002
 pseudospectral dispersion model, inter grid sources representation 9-12259
 radiation hazards from emissions of thermal and nuclear power stations, comparative study 9-34460
 radiative effect, latitudinally depend. radiation calcs. with clouds 9-34942
 radioactive effluent discharges, European Community, 1972-76, radiological aspects 9-41019
 radioactive particulates in gaseous effluents at nuclear fuel reprocessing facility 9-9848
 radioactive releases, estimation of inhalation doses using gross monitors 9-13532
 roof-level plume interaction with downwind building 9-12233
 sampling pump, personal, for hospital operating staff 9-12019
 semirural area, three-year study of pollution episodes 9-5603
 simple box model revisited 9-34456
 skyshine dose due to gamma-rays from nucl. power plant (*Japanese*) 9-29917
 smog episode, Los Angeles, pollutant transport in daytime sea breeze regime 9-5605

air pollution continued

- spatial correlation analysis of air pollution data in an urban area 9-12236
 SSTs, nitrogen fertiliser and stratospheric ozone 9-21007
 stratosphere Cl, prospects of HOCl as inert Cl reservoir 9-12207
 stratospheric effects from aviation 9-16657
 sulphate concs. in New York State, summertime trajectory analysis 9-34882
 sulphates in Canada, long-range transport 9-16561
 surface contamination, air conc. and horizontal fluxes estimation 9-5599
 Teheran atmosphere, Pb conc. 9-21011
 tetraalkyllead, natural source 9-2367
 Toronto, city light pollution and night sky spectra 9-16668
 transport and diffusion in near wake regions of surface-mounted cubes 9-12183
 turbulent diffusion, Sutton's formula criticised (*French*) 9-44223
 urban pollutants scavenging by thunderstorm rainfall, numerical expt. 9-12261
 vehicle generated air pollutants, correl. study 9-21012
 visibility rel. to surface wind at Gutersloh, Germany, smoke pollution effects 9-29853
 volatile fission product atmospheric release from nuclear reactors and fuel reprocessing plants 9-34461
 Washington, D.C., chemical element balances and pollution sources 9-12174
 waste heat release from nuclear power plant, convective cloud model appl. 9-34452
 Br/Pb ratios in atmospheric particulate matter over Perth, W. Australia, 1971-6 var. 9-34455
 CO near highways, line source dispersion models, comparison 9-12247
 CO₂, form. from fossil fuel combustion in atm., effect on climate 9-2359
 CO₂ problem, increase from fossil fuel combustion 9-16623
 Cl particulate distrib. in Houston-Galveston area 9-12252
 Cl⁻ ion concentrations in river, spring waters in Okinawa Honto, origin (*Japanese*) 9-39324
 Fe and stable Fe forms and availability in oceanic aerosols 9-12241
 H₂SO₄, secondary particles form. and growth, kinetic aerosol model 9-29492
¹³¹I, CH₃¹³¹I, radioactive, airborne, diffusion coeffs. 9-2142
 NO, absorpt. characts. of γ -0 band 9-39845
 N₂O, rates of evolution from N fertilised soil 9-16656
 O₃ depletion, uncertainty in calcs. from stratospheric photochemistry 9-16567
 O₃ levels from plant damage in British Isles 9-21008
 O₃ transport in St. Louis area 9-16650
 Pb near roads in Egypt 9-12255
²³⁹PuO₂, cancer risk, max. permissible conc. in air 9-25108
 S compounds, natural and man-made emissions in Europe 9-20968
 S compounds conc. in remote continental and oceanic areas 9-20983
 S compounds long term deposition calc. for Europe 9-20971
 S compounds long term region patterns in Europe 9-20973
 S compounds transform. and removal, time-dependent diffusion model 9-20972
 S compounds wet removal from atmosphere 9-2363
 S pollutants in atm., conf., Dubrovnik, Yugoslavia (Sept. 1977) 9-20965
 S wet fallout scale, geographical var. in S. Sweden 9-16653
 SO₂, aerosol-catalysed oxidation, expt. under atm. conditions 9-1941
 SO₂ and SO₂⁻, dry and wet removal from atmosphere 9-2361
 SO₂ and SO₂⁻ conc. relationship in urban and industrial air 9-2360
 SO₂ and smoke, ground level concs. in urban areas of UK rel. to meteorology 9-12253
 SO₂, atmospheric transport and conversion to sulphates 9-16654
 SO₂ conc., urban built-up area, Japan 9-21006
 SO₂ density prediction for Tokyo, adaptive transformation network method 9-5609
 SO₂, dry deposition on forests and grasslands 9-16652
 SO₂, emissions in Mediterranean region, remote meas. 9-20987
 SO₂, Helsinki study of district heating effect 9-21010
 SO₂ in St. Louis, numerical simulation of parametric effects 9-12235
 SO₂ long-distance transport, numerical model 9-44238
 SO₂ max. conc. rel. to av. time and av. conc. in urban area 9-34454
 SO₂ over E. United States, regional residence time 9-16651
 SO₂, oxidation, precursor effects, rel. to air pollution 9-1960
 SO₂, oxidation by O₂ and O₃ in aq. soln., kinetics, rel. to atm. rate processes 9-20905
 SO₂, reversible washout by rain, improved model 9-2364
 SO₂, SO₂⁻, budgets and turn-over times 9-20980
 SO₂, stochastic modelling and dosage area product forecast 9-5601
 SO₂, transform. and scavenging processes, plume transport model 9-20976
 SO₂, transmission on local, regional and continental scale 9-20974
 SO₂, vertical distrib., influence of clouds and rain, one-dimens. model 9-20982
 SO₂⁻, aerosol form. and growth in stratosphere 9-5604
 SO₂⁻, aerosol particles size depend. on relative humidity 9-20906
 SO₂⁻, aerosols long-distance transport rel. to visibility, London, England 9-21015
 SO₂⁻, conc. in rainwater, obs. by European Atmospheric Chemistry Network 9-2365
 SO₄²⁻, NO₃⁻, NH₄⁺, contrib. to acidity of rain 9-2327
 SO₄²⁻, production rel. to cloud water acidity 9-5546
^{99m}Tc, atmospheric release, dose evaluation 9-25119
¹³²Te in lower troposphere, airborne levels and lifetime 9-12242
 Tn decay products, ats. and ions, adsorption probability on submicron particles 9-39803
- air pollution detection and control**
 acidity, man-made, determ. using Gran's titration method 9-5606
 adaptive diagnostic model for air quality management 9-20996
 aerosol, monodisperse, quantitative analysis using IR differential absorpt. analysis 9-24931
 aerosol characterization for particulate S, health effects 9-20984
 aerosol concentration deduction from 1.06 μ m lidar meas. 9-25323
 aerosol particle size spectrometer, microcomputer-modified 9-39329
 aerosol particles and trace gases meas. in St. Louis area 9-16600
 aerosol samples, simulated, Be content by proton scatt. anal. 9-5217
 aerosol sampling and anal. system for particulate S monitoring 9-21029
 aerosol sources identification in St. Louis area using factor anal. 9-12200
 aerosols, erroneous elemental mass-size functions from high vol. impactor 9-20997
 aerosols, from dust storms, SW United States 9-20932

air pollution detection and control continued

aerosols impaction on nuclepore filter, collection efficiency 9-20475
 ambient air monitoring, microprocessor appls. 9-48201
 analyzer, automatic, calibration system, zero and span standardization 9-16107
 atmospheric trace gas IR monitor, airborne, nondispersive 9-8719
 baghouse maintenance, opacity monitoring technique 9-34459
 BWR power plant stack effluent inert gas nuclide monitor 9-3255
 chemical analysis of atmospheric dust (*Dutch*) 9-16713
 climatic change, long-term, prod. by fossil fuel usage, proposed space obs. 9-29844
 coal-fired power plants, inertial cascade impactor appl. 9-12278
 computerised tomography for two dims. remote pollution monitoring 9-39330
 conference on nuclear power systems, Washington, USA (1978) 9-41045
 contaminant diffusion in freely convective boundary layer, meas. by acoustic sounding 9-34966
 dispersion studies, long-term, temporal sampling requirements 9-39325
 dust gauges, directional, analytic expression for collection efficiency 9-21062
 dust measurement 9-39331
 dust meter, EIP-9M, with optical and inductive-charge transducers 9-17595
 dye laser, high energy pulsed, for atm. sounding 9-39868
 energy related pollutants study in NE.United States, MAP3S program 9-20978
 environmental data acquisition systems, SMART-I and CLEVER COUNTER 9-48196
 environmental radioactivity prior to the Kori nuclear power plant operation 9-6773
 fertilizers, nitrogenous and phosphate, pollution problems from manufacture 9-34450
 Fourier IR air monitor, description and appls. 9-16106
 Fourier-transform IR system, km pathlength, for trace pollutants detect. and meas. 9-5624
 gas analyzers, testing instrums. 9-8715
 gas cyclone fitted deswirler, efficiency 9-12254
 gas mixtures, kinetic studies rel. to gas lasers and pollutant detect. 9-48013
 gas monitoring system performance tests and specifications 9-16659
 gas monitors for in situ source emission, field experience 9-16660
 gaseous pollutant monitoring by mm-wave microwave rot. spectroscopy 9-48197
 gaseous release monitoring and γ spectrometric analysis (*French*) 9-3259
 global collective dose commitments, long lived radionuclide release 9-26780
 heat-electric power station for Cologne (*German*) 9-20999
 holocamera for particulate studies 9-22919
 hot fuel examination facility, air sampling system 9-13541
 hot particle physical props. determ. 9-3251
 housing estate heat supply methods comparison, computer based investigation (*Hungarian*) 9-2366
 incoherent optical heterodyne detection 9-16679
 iron detecting and measuring system with wide dynamic range 9-2870
 IRAN-1,2, plants, calc. of radioactive releases 9-18056
 laboratory vehicle for air-pollution measurements with computer-controlled data acquisition and navigation system (*German*) 9-39327
 laser absorpt. method based on use of two freqs. 9-21004
 long path monitoring of ambient gases, CO₂ versus semiconductor diode lasers 9-16682
 marine atmosphere, trace elements in size separated aerosols 9-20989
 measurement by incoherent optical heterodyne detection 9-48203
 meteorological satellites development, new trends 9-29964
 methane remote meas. by continuously tunable IR lidar 9-21025
 methylhydrazine, electrochem. oxidation on Au, appl. to gas monitoring 9-39248
 monitoring and instrumentation 9-12301
 monitoring by pulsed dye laser 9-48204
 network experiments, design criteria, for regional-scale pollutant transport and transform. 9-20993
 NIMBUS-7, global atmosphere pollution monitor 9-21149
 nuclear power plant vent-air monitoring by nuclide-specific detection system 9-3249
 nuclepore filters, clogging, cap form. model 9-20468
 objective sensor placement for sampling regional turbidity 9-5626
 odour detection, instrumental techniques (*Dutch*) 9-16658
 Ontario Hydro nuclear power plant stack effluent monitoring 9-3254
 optical methods, laser beam based apparatus (*Czech*) 9-21001
 oxidant control strategy, short term, statistical testing 9-20995
 particle analysis, SIMS appl. 9-43695
 particle size depend. of condensation nuclei counter 9-20476
 particles, surface composition, AES, X-ray photoelectron spectroscopy appl. 9-43694
 particulate C and SO₄²⁻ species identification by Raman spectroscopy 9-5625
 photoacoustic effect and appls., review 9-41786
 photomog inhibitors, O atom reaction rate constants 9-12185
 plume monitoring, airborne sampling system 9-21027
 radiation exposure near nuclear power plants, remote monitoring system 9-18055
 radioactive effluent release reduction, Japanese LWRs 9-31078
 radioactive fallout water deactivation using sorption props. of clinoptilolite, vermiculite, bentonite 9-43995
 radioactive material release to atmosphere, calc. of consequences with TIRION-4 code 9-29494
 radionuclide concentration determ. in ground level air 9-24927
 radionuclides in pine needles, washing effect as meas. of fallout 9-43799
 remote sensing by correl. spectroscopy, instrumental response characts. 9-5623
 research animals, monitoring of airborne tritium evolution 9-39526
 resonant optoacoustic cells for trace gas analysis 9-11840
 S aerosols characts. in Florida, PIXE anal. 9-21030
 sampling system at HFEF/N 9-45441
 smoke plume dispersion meas. at large distances from source 9-20998
 spectral interference correlation method 9-8727
 spectroscopic method, monitoring with pulsed lasers, numerical filter design (*Japanese*) 9-43801
 stack effluent monitor in-place testing 9-3257
 stack gas monitor, β scintillation detector+Ge(Li) detector system, environmental γ dose (*Japanese*) 9-3246

air pollution detection and control continued

stack monitoring of long-lived α -emitters, review of meas. techniques 9-48195
 stack plume downwash prediction formula, comment 9-12256
 stack release radioactivity monitoring with digital processing 9-3253
 standard apparatus, metrological warranty of gas-analysis instrums. 9-21005
 standardisation of methods and facilities 9-8684
 stochastic modelling and dosage area product forecast 9-5601
 stratosphere, NOHSO₄ and NOHS₂O₇ identification in aerosols, rel. to N oxides pollutants removal 9-39795
 stratosphere, trace constituents, in situ meas. 9-8676
 Sulphate Regional Experiment (SURE) in NE.United States 9-20977
 suspended particulates, field sampling techniques 9-12258
 testing instrums., standardisation and determ. of dynamic errors 9-8714
 town air basin pollution levels prediction by empirical statistical regression anal. (*Ukrainian*) 9-34887
 turbulent dispersion concentration valves, system for wind tunnel meas. 9-5191
 urban aerosols, optically absorbing component identification as graphitic C 9-34939
 USSR Hydrometeorological Service, automation of data collection and processing 9-34994
 volatile fission products from nuclear fuel cycle and power stations, pollution effects (*Russian*) 9-31152
 West German nuclear power plant airborne radioactive release control 9-13549
 wind tunnel testing of flue gas dispersion 9-12282
 X-ray fluorescence anal. of air particulates, S content meas. 9-20491
 Al electrolysis units, air washing tests (*French*) 9-29493
 CO₂-laser long-path absorption system, computerised, error anal. 9-25340
 CO₂ meas. in Karlsruhe Reprocessing Plant exhaust air 9-3231
 CIONO₂ collection using impregnated filters, simulation 9-12257
¹³⁷Cs, time variation of low concentrations in rain water 9-43994
 HF, CW chemical laser for remote pollution monitoring and process control, HF conc. in Al plant 9-48200
 H₂H₄, electrochem. oxidation on Au, appl. to gas monitoring 9-39248
 HNO₃, atmospheric monitoring, chemiluminesc. method 9-16062
 HNO₃ vapour line parameters meas. by CO laser transmittance 9-26976
 H₂S, new anal. method for remote areas 9-21028
 H₂SO₄, aerosol particles props. in subsiding air over Japan 9-20986
 H₂SO₄ and SO₄²⁻, determ. in Netherlands, 1971-76 period 9-21031
 Hg vapour conc. meter, construction and performance 9-2759
¹³¹I, airborne conc. in nuclear medicine lab. 9-34674
¹³¹I, concs. during thyroid therapies 9-25122
⁸⁵Kr, radioactive pollution in atmos., Warsaw 1975 to 1977, meas. methods 9-34458
⁸⁵Kr, seasonal and annual concs. at 30-150 km from point source 9-20994
 NH₃, conc. determ. on long path from CO₂ laser radiation reson. absorpt. 9-29904
 NH₃, photoacoustic spectroscopy at 9 μ m, 10 μ m ¹²C¹⁶O₂ laser wavelengths 9-21014
 NH₃ remote atmospheric sensing by multiphoton sequential photodissociative excitation 9-48199
 NO decomp. in industrial exhaust gases by electron beam irradiation 9-29490
 NO_x, atmospheric monitoring, chemiluminesc. method 9-16062
 NO_x emissions from European cars, control 9-48198
 NO_x reduction on Fe-based catalysts containing V 9-12285
 Pb, nonautomotive components detect. in St. Louis region 9-12260
 Pb ore dust, pollution analyser using Harwell 6000 series electronics 9-5649
²¹⁰Pb, time variation of low concentrations in rain water 9-43994
 Pu laboratory stack monitoring, computerised system 9-3256
 S compounds, large scale study in Canada 9-20979
 S compounds, large-scale spatial and temporal distrib. 9-20981
 S, concentration and valence state in pollution samples, X-ray fluoresc. anal. 9-48027
 S, determ. in submicrometric aerosols, SO₂-denuder appl. for continuous meas. 9-8699
 SO₂ collection from low-vel. jets, efficiency 9-16683
 SO₂ emissions in Mediterranean region, remote meas. 9-20987
 SO₂, interferential Fourier correl. of spectrum (*French*) 9-21059
 SO₂, long-path automatic monitoring using diode laser system 9-29892
 SO₂, new anal. method for remote areas 9-21028
 SO₂ remote meas. by continuously tunable IR lidar 9-21025
 SO₂ remote sensing, ¹²C¹⁸O₂ laser line absorption cross-sections 9-16661
 SO₂-aerosol hazes and long-range pollution transport, satellite detect. 9-20975
 SO₄²⁻, quantitative determ. in aerosol particles 9-20474
 SO₄²⁻, spatial and temporal distrib. in United States 9-20985
 SiO₂+Al₂O₃ particulate emission from calcining of clay, removal using electrostatic precipitator 9-24925
⁹⁰Sr, time variation of low concentrations in rain water 9-43994
 Zn ore dust, pollution analyser using Harwell 6000 series electronics 9-5649

air pumps see compressors

air terminals see airports

air-traffic control

see also aircraft

Glissada laser landing system 9-31920

aircraft

see also aerospace control; aerospace instrumentation; air-traffic control; helicopters

aerodynamic flow, vortex-induced side force on slender bodies 9-14408
 airbase noise contours prediction 9-1025
 aircraft wing weight optimisation with static aeroelasticity constraints (*Russian*) 9-23240
 lightning transient anal. for aircraft, flux induced voltage transients on low-loss transmission lines 9-36814
 noise, spectral broadening by turbulent shear layer 9-37076
 noise, transmission through turbulent shear layers 9-37075
 noise, variation of community response with time of day 9-34462
 noise and vibration ride comfort criteria 9-41512
 noise attenuation over an absorbing terrain, theoretical models comparison 9-18572
 noise identification system by correlation technique 9-23131
 noise pollution, numerical representation, control methods 9-3846
 noise propagation, meteorological and ground effects 9-14138

aircraft continued

- noise signature, meas. using remotely-operated multiple array acoustic range 9-23134
- noise technology laboratory facilities, Boeing Commercial Airplane Co. 9-18603
- radiation exposure meas. in aircraft from transported radioactive goods 9-22488
- stratospheric effects from aviation 9-16657

aircraft communication

- flying helmets, active noise reduction system 9-18602

aircraft instrumentation

- airborne, reconnaissance, data collection, conf., Washington, DC, USA, March 1978 9-32078
- MTF anal. for post-flight image eval. 9-31827
- tactical reconnaissance system, real-time, KA-102A EO LOROP camera 9-30599

airfields *see* **airports****airglow**

- see also atmospheric spectra; aurora; nightglow; sky brightness; twilight*
- EUV dayglow, obs. by He gas absorpt. cell 9-12326
- far UV radiation background at high galactic latits., D2B-Aura satellite obs. 9-17143
- ionosphere, airglow emission vars. due to solar EUV flux changes, calcs. 9-44293
- ionosphere, predawn, conjugate photoelectrons, rocket obs. 9-29931
- mesopause, energy characts. of internal gravity waves obs. by OH emission (*Russian*) 9-12324
- photometric systems, comparison at observatories in Arecibo and Stara Zagora 9-48575
- Photozavr modulation photometer for artificial aurorae/airglow 9-21076
- O I, 63 μ m emission as cooling mechanism in thermosphere and ionosphere 9-16732
- CO₂ 4.3 μ m emission, excitation mechanism involving OH and N₂ 9-16731
- Mg II equatorial airglow altitude distrib. 9-2418
- NO 5.3 μ m emission, effect of thermosphere N₂ anharmonic mols. vibr. relaxation 9-12322
- O I 557.7 nm forbidden line emission structure 9-35027
- O I 6300 Å airglow rel. to O atoms creation and destruction 9-8735
- O I 7790 Å branching ratio, lab. study, rel. to airglow and auroral emissions 9-775
- O₂ emission from atom recomb. 9-31576
- OH emission, obs. rel. to mesosphere internal gravity waves propag. range (*Russian*) 9-16575
- OH, submicron bands correl. studies during Spacelab simulation 9-25381
- O₂(² Σ) airglow, gravity waves interaction theory 9-29918

airports

- airbase noise contours prediction 9-1025

alarm systems

- audible, liquid level detection, thermistor appl. 9-12764
- Caorso nuclear power station airborne and liquid radioactive release monitoring systems 9-13553
- computerised monitoring of vinyl-chloride monomer for job safety 9-21727
- electric field variation during low solar activity (*Japanese*) 9-40032
- eneuresis alarm system, programmable op. amp., CMOS logic, Min. of Health Perf. Spec. 9-39600
- Large Azimuthal Telescope program control system 9-16829
- leg-load alarm system for partial-weight-bearing walking exercise (*Japanese*) 9-29658
- line sensor used to monitor a distant transducer 9-6145
- partial weight-bearing walk, limb load alarm system 9-29661
- stack release radioactivity monitoring with digital processing 9-3253

albedo

- cloudy atmosphere, radiative transfer model, solar radiation and cloud struct. 9-21016
- concrete, meas. of albedo number using ⁶⁰Co, ¹³⁷Cs sources 9-26768
- cosmic ray flux in atm., primary and splash albedo components, polar orbiting satellite meas. 9-25415
- Duluth-Superior Harbour, ice albedo distrib. rel. to growth rate 9-2299
- Earth, Mars and asteroids, palaeoglaciation due to solar radiation reduction (*French*) 9-34857
- Earth albedo sudden change, climatic effects 9-44241
- Earth atmosphere, middle UV, obs. by TAIYO satellite (*Japanese*) 9-44281
- Earth surface, new model, DSB satellite meas. interpretation 9-21020
- Earth surface albedo, satellite meas. over NW-Africa 9-2368
- Hyperion, radius and albedo from 20 μ obs. 9-40136
- Io, spectrum, S-containing mixtures and surface albedo 9-40127
- Lake Kainji, W.Africa, water columns movement, LANDSAT data 9-25284
- lunar, soils, mineral comp. determ. from spectral behaviour of albedo 9-21207
- Mars, opposition effect, Viking Orbiter 1 obs. of Chryse-Acidalia region 9-44397
- Moon, Heiligenschein and albedo differences at zero phase angle 9-21205
- neutron scatt. energy-dependent albedo calc. 9-9659
- neutron transport theory, F_N method, appl. and numerical results 9-30878
- ocean chlorophyll content airborne meas. under cloudy sky, Gulf of Guinea appl. 9-25359
- radiative transfer eqn. exact soln. for semiinfinite plane-parallel isotropic scatt. atm. 9-12396
- Rayleigh atmosphere single-scatt. albedo, determ. from polarisation meas. 9-35117
- singly scattered gamma radiation, albedo 9-40783
- slab reactor with finite reflectors, criticality 9-26475
- Venus surface, Venera-8 optical meas. interpretation 9-8864
- Al, meas. of albedo number using ⁶⁰Co, ¹³⁷Cs sources 9-26768

alclad *see* **aluminium alloys****Alfven waves** *see* **magnetohydrodynamic waves; solid-state plasma****algebra**

- see also Boolean algebra; linear algebra; matrix algebra*
- canonical Schwartz spaces and generalized operators 9-30284
- linear gauge theory algebraic struct., spontaneously broken symmetry, quantisation, massive gauge field 9-2906
- mathematical approximations in physical systes, rules and useful appl. (*Hungarian*) 9-25783

algebra continued

- para-Grassmann algebras and para-Fermi systems 9-44783
- physics, algebras, manifolds and fibre bundles 9-44709
- Poincare IO_{3,1}, centraliser subalgebras 9-6294
- Poincare IO_{3,1}, coordinate transforms. and centraliser subalgebra, algebra Casimirs 9-6295
- pseudo-quaternion and pseudo-octonian Lie-admissible algebras 9-2948
- quasifree completely positive semi-group generator for nonequilibrium statistical mechanics 9-25963
- superalgebra generalisation, 3-colour extension of OSP (4,1) de Sitter and SU(2,2;1) Wess-Zumino superalgebras 9-330
- unbounded operators in statistical mechanics, *-algebras for quantum mechanics formulation 9-6046

algorithms (computer listings) *see* **subroutines****aliphatic compounds** *see* **organic compounds****alkali metal alloys**

- see also caesium alloys; lithium alloys; potassium alloys; rubidium alloys; sodium alloys*
- diatoms, pot. curves, selected valence electron SCF MO calc. 9-10053
- alkali metal compounds**
- see also alkali metal alloys; alkali metal halides; caesium compounds; francium compounds; lithium compounds; potassium compounds; rubidium compounds; sodium compounds*
- alkali + inert gas molecule, far wing line broadening, quasistatic theory 9-22762
- alkali disulphide species, M⁺S₂⁻, laser photoluminescence spectra in solid Ar at 12K 9-5148
- azides, diamm. susceptibility, rel. to cryst. struct. 9-24127
- bisulphites, and disulphites, solid and soln., and isotopic forms, Raman spectra assignments 9-42968
- borate and silicate glasses, γ -irrad., paramag. SO₃⁻ radicals 9-42838
- borate glasses, phase separation 9-41965
- fluoroborates, ¹⁹F chem. shift, multiple pulse zero crossing NMR obs. 9-9230
- glass, alkali-alkaline earth nitrates, Raman spectra, vibr. perturbations effect 9-8132
- glyoxal-alkali (alkaline earth metal) complex, ab initio MOSCF calc., chelate effect 9-31386
- hexachloroniobate and hexachlorotantalate compounds, thermodynamic props. from VP meas. 9-34345
- iodates, lattice dynamics of IO₄⁻ mol. vibr. 9-42157
- metaphosphate glass, dielec. relax. at medium temp. 9-24257
- mixed halides, A₂CY₆, spectra by cryst. field theory 9-4820
- nitrates, Raman spectra, interionic interactions effect on bond lengths, dissociation energies and vibr. 9-36653
- nitroprussides, Mossbauer spectra, dehydration effects 9-24237
- oxides in binary system with WO₃, phase relations 9-8290
- suboxides, thermal and struct. anal., elec. and optical props., photoelectron spectra 9-47587
- tungsten bronzes, superconductivity at press. up to 20 kbar 9-38226
- uranates, struct., phys. and chem. props., preparation methods, review (*Japanese*) 9-14764
- Li₂B₂O₅ glass, phase separation 9-41965

alkali metal halides

- see also compounds of individual alkali metals, e.g. sodium compounds*
- activator centres, excited state transitions, bleaching dynamics 9-4527
- activity and brittle fracture, effect of lattice of point defects 9-15785
- alkali halide:Mn²⁺, spin-Hamiltonian parameters anal., superposition model applicability 9-28592
- aqueous area solutions, conc., viscosity meas. 9-23759
- avalanche impact ionisation, in optical breakdown 9-42895
- boiling, melting points rel. to mol. wt. 9-46785
- brittle fracture of single crysts. and active struct. of cleavage surfaces 9-28039
- charged dislocations for case of saturated region 9-46657
- chemostress effect in ionic crysts. and metals 9-28193
- crystal, optical emission following pulsed 10.6 μ irradi. 9-28847
- DC breakdown strength at room temp., calc. 9-24260
- defect energy, shell-model calc., crystal-independent interionic potential parameters 9-28141
- diatom+inert gas, inelastic scatt., short-lived complex form. 9-13796
- dielectric const., press. depend. from Szigeti relations 9-19828
- dielectric properties under hydrostatic press. 9-38436
- dipolar relaxation induced by AC field in divalent metal doped crystals 9-19833
- doped, AC field induced impurity-vacancy dipole relax. 9-11385
- electron irradiated, depth distrib. profiles of colour centres 9-27977
- electron momentum distrib. and Compton profiles 9-13631
- excited complexes, instrument for quenching studies 9-17511
- F_A-centre optical absorption, lattice statics theory 9-43004
- F-centre, impurity pseudopotential screening 9-15121
- F-centre, stabilisation process in first colouring stage 9-19246
- F-centres, emission and relaxed excited state for NaCl structured halides 9-42060
- fluorides, ¹⁹F chem. shift, multiple pulse zero crossing NMR obs. 9-9230
- fracture, exciton mechanism of complex active centre formation 9-33033
- gamma irradiated, positron annihilation 9-23643
- high-pressure submillimetric-wave spectra 9-33694
- impurity-vacancy dipoles, activation energy 9-33013
- ion sizes and short range repulsive interactions 9-37652
- ionic crystal-transition metal, excitation and trapping at impurity sites 9-33776
- ionicity trends in diamagnetism and its temp. depend. 9-19717
- IR laser window material extrinsic absorption 9-14049
- laser induced damage (*Russian*) 9-43070
- liquid, crit. consts., dense gas formulation 9-23700
- luminescence, colour centres and radiation-tunnel transition 9-4846
- luminescence, high press. expts. on In-, Cu²⁺, and Ag⁺-doped specimens 9-43017
- luminescence of Ti⁴⁺-like centres, Ga³⁺-centre polaris. effect 9-33806
- mass transport, contrib. of vacancy defects 9-46831
- molecule, interaction pot. 9-36720
- mosaic structure determ., rapid X-ray method 9-37584
- multiphonon recombination processes 9-38643
- off-centre displacement of univalent impurity ions 9-23632
- optical breakdown, multiphoton carrier generation theory 9-19953
- optical components, for high power lasers (*Rumanian*) 9-18462
- phenomenological potentials 9-37654
- photoelectric yield spectra, 10 to 40 eV photon energy 9-28887
- polarity, nucl. charge depend., empirical formula 9-26870

alkali metal halides continued

positron lifetime and Doppler broadening spectra in crystals. 9-8208
radiation hardening mechanism, dislocation-interstitial elastic interaction 9-23636
rare earth ion doped, optical props., review 9-15492
secondary electron emission statistics, photomultiplier appl. 9-47564
selectively adsorbed atoms, band struct. 9-28399
solid soln. hardening, dislocation motion and interaction with solute ions, stress effects 9-32994
solid solutions, Stokes losses for crystalline vibr. in impurity O_2^- anions luminesc. spectra (*Ukrainian*) 9-43012
solutions, in methanol, halide ion solvation, IR obs. 9-22703
sputtering and cluster formation, mass spectra and SIMS 9-19959
substrate, epitaxy of polycyclic aromatic quinone, effect of adsorbed water 9-28239
substrates, calc. binding of deposited Au atoms 9-33208
Suzuki phase, continuum model for periodic incorporation of aliovalent impurities 9-33012
Szigeti effective charge parameter, strain derivative, lattice dynamics and dielectricity 9-7571
thermoluminescence and X-ray induced luminescence 9-28830
thin films, photoacoustic determ. of optical absorptance of highly transparent solids 9-40632
three-body interactions, effect on electronic polarisabilities and photoelastic behaviour 9-47382
transition metal halide-alkali halide binary melt, spectra by cryst. field theory 9-4820
transparent, with inclusions, laser-induced stresses 9-28012
 U_2 centres, cluster-Bethe lattice calc. for electronic density of states 9-4531
UV laser window material absorption obs. 9-14012
UV transparent materials, 355 and 266 nm absolute two-photon absorption coeff. obs. 9-18493
 V_L -centre, electrostatic energy 9-27978
 CN^- doped, internal modes reson. hybridization 9-42194
 $MnCl_2$ -alkali metal chloride melts, Raman spectra of $MnCl_4^{2-}$ ion 9-24310

alkali metals

see also caesium; francium; lithium; potassium; rubidium; sodium
alkali trimers, LEPS pot. energy surfaces, equilib. geometries, vibr. force consts. 9-22624
atom, dynamic polarisability dispersion eqn., dispersion interaction of atoms 9-26902
atom, quantum beats in photoionis. by fine struct. levels coherent superposition 9-6922
atom, screened potential model, for at. energy levels and oscill. strengths 9-36516
atom, Stark effect for hyperfine structure sublevels and splitting of $n^2S_{1/2}$ states (*Russian*) 9-3401
atom, two-photon S-S transitions, press. broadening and shift by rare gases 9-6916
atomic and molecular collisions in intense light beams, quantum aspects (*Russian*) 9-6903
atomic electron scatt., polarised orbitals method modification 9-22835
chemisorption on Re surface, bond, valence energy level broadening (*French*) 9-33176
diatomic molecular ions, core-core interaction pots. 9-18251
diatomic molecule, ground state, opt. prod. and orientation, review (*Russian*) 9-27046
diatoms, pot. curves, selected valence electron SCF MO calc. 9-10053
dimers, photodecomp. 9-27049
electrical resistivity, phonon-limited, low temp., validity of empirical expressions 9-23945
ion, thermionic emission from zeolites 9-4887
ion+atom, charge exchange cross sections 9-26871
ions, pair formation with oixphenol radicals (*Russian*) 9-39138
lattice anharmonicity 9-19341
liquid metals, US absorption due to electrons and phonons 9-28046
liquid structure, from 1st-principles pseudopot. calc. 9-41941
low temp. plasma ionisation by fast electron beam, effective cross section calc. 9-14572
negative ions, autodetaching sub $2P_{1/2}$ threshold states 9-22611
phonon frequencies, depend. on atomic mass 9-14901
positive muon spin rotation frequency, Knight shift meas. 9-38421
rare-gas impurity in metal host, absorpt. edge, extra-orbital relax. model 9-4825
Stark profiles, of reson. lines, model microfield method appl. 9-26931
thermal expansion, elastic constants, phonon freq. anisotropy (*Russian*) 9-1516
trimers, London pot. energy surfaces 9-6893
vapour systems, nonreson. third harmonic generation of I laser radiation 9-3746
 S_2Cl_2 +alkali metal, matrix reaction, S_2Cl_2 absorpt. spectrum 9-5149
 S_2Cl_2 +alkali metal, matrix reaction, examination by laser excitation 9-5148

alkaline earth alloys

see also beryllium alloys; magnesium alloys
Ba-Cd system, short-range order calc. (*Russian*) 9-23566
 $Ba_{0.67}Pt_2B_2$, cryst. struct. and supercond. props. 9-38231
Ca containing alloy systems, prep., glass form., thermal props. 9-24461
Ca-Li-Mg, isothermal section calc. 9-29034
 $Ca_{0.67}Pt_2B_2$, cryst. struct. and supercond. props. 9-38231
Cu-Ca-Mg, exam. of phase diagrams and thermodynamics props. 9-8275
Ga-Mg(Al), metallic glasses, stability, microscopic calcs. 9-32914
Sr containing alloy systems, prep., glass form., thermal props. 9-24461
 $Sr_{0.67}Pt_2B_2$, cryst. struct. and supercond. props. 9-38231
Zn-Ca, liquid alloy, exam. of thermodynamic props., using EMF method (*Russian*) 9-34003

alkaline earth compounds

see also barium compounds; beryllium compounds; calcium compounds; magnesium compounds; radium compounds; strontium compounds
alkaline-earth-Os ternary oxide system, solid state prep. and reactions, cryst. struct., mag. and elec. props. 9-24739
aluminophosphate glass, electron irradi., EM pulses during thermoexcitation 9-42107
chalcogenides, crystal parameters calcs. using repulsive interaction pot. 9-37795
chalcogenides, ion sizes and short range repulsive interactions 9-37652
citrate electrolyte, Ni electrodeposition, cathodic process rate (*Russian*) 9-8440

alkaline earth compounds continued

feldspars, homogeneous and heterogeneous polymorphic transformations 9-15659
glass, alkali-alkaline earth nitrates, Raman spectra, vibr. perturbations effect 9-8132
glyoxal-alkali (alkaline earth metal) complex, ab initio MOSCF calc., chelate effect 9-31386
halides, rare earth ion doped, optical props., review 9-15492
oxides, adsorption of CO, reflectance spectra obs. 9-28781
oxides in binary system with WO_3 , phase relations 9-8290
phosphate glasses, $45RO.5Al_2O_3.50P_2O_5$, (R=alkali earths), electron beam irradi., exam. of charge accumulation and light-sum kinetics 9-4336
photoluminescent spectra of surface states 9-47505
sulphates, crystallisation kinetics 9-43119
supersaturated solutions, precipitation induction errors, a method for determ. 9-5175
transition metal ternary and quaternary oxides, ATO_3 , $ATi_{1-x}T_xO_3$, and $AZr_{1-x}T_xO_3$, prep., mag. props. and struct. 9-15277
uranates, struct., phys. and chem. props., preparation methods, review (*Japanese*) 9-14764
 Na_3AlF_6 -LiF-CaF $_2$ -AlF $_3$ -Al $_2$ O $_3$, electrolyte, exam. of phase equilibria, review 9-11590

alkaline earth metals

see also barium; beryllium; calcium; magnesium; radium; strontium
alkaline earth flame chemistry, photometric meas. of $H_2+O_2+N_2$ flames with/without Ca, Sr, Ba additions 9-8439
determination, mechanism of buffer action of La and Sr (*Russian*) 9-29441
positive muon spin rotation frequency, Knight shift meas. 9-38421
surface plasmons, excitation 9-28310

alkalinity see pH**allotropy** see polymorphism**alloy steel**

Al-killed, sheets, effect of strain path changes on formability 9-43347
API 5LX-X60, pipe fatigue strength under cyclic internal pressure, inner surface defects 9-38980
bending fatigue resistance, size effect and prediction 9-43411
carbide phase determ. by annealing in moist H_2 (*German*) 9-39231
carburised, kinetic parameter determ. (*Rumanian*) 9-29259
cast, high speed, solidification, $(Fe,Mn)_6C$ form., struct. 9-24514
compression, high strain rate, 4130 steel 9-34099
corrosion fatigue, effect of NaCl and shot peening, in AISI 6150 9-8391
crack propagation, acoustic emission transients meas. 9-8407
crack propagation vel. in delayed failure under cyclic load, temp. and freq. depend. in JIS SNCM8 9-43381
die, mech. props. high temp. thermomech. treatment 9-20086
diffusion modelling of carburization 9-24657
fatigue strength, of notched specimens with regard for cyclic plastic strains of type 1Kh2M 9-43414
fatigue strength rel. to absolute dimensions and stress conc. 9-43410
ferritic-pearlitic, low C, low alloy, low temp. effects on fatigue strength 9-5057
fine 42KhT YuA alloy wire, hysteresis loop and differential permeab. after US and conventional drawing 9-15818
fracture resist. assessment from stable crack length (*Russian*) 9-15765
fracture toughness, of medium and low-alloy steel with ferriticpearlitic struct. 9-15787
grain boundary anal., H_2 embrittlement effects, scanning AES 9-43256
grinding wheel loading meas. using neutron-activated workpieces 9-5070
hardened and tempered parts, nondestructive magnetic inspection 9-1929
heat resisting, type 15Kh1M1F, exam. of structural stability and props. (*Russian*) 9-29104
high Cr, substrate, TiB $_2$ coating prep. by CVD and interaction with substrate 9-24680
high speed, hardened, for drills, mech. and cutting props. 9-43407
high speed, M2, fracture behaviour and fracture toughness 9-24609
high speed tool, diffusion wear model 9-29230
high speed tool, laser surface melting 9-24654
high strength, low alloy, critical stress for delamination fracture 9-1907
high strength, residual stresses during low cycle fatigue 9-29201
high strength, type SAE 4340, depend. of fracture toughness on crack velocity 9-47772
high-speed, cast, mech. props. at high temps. 9-20135
high-speed tool, Nb addition effect on hardening 9-34048
hydrogen embrittlement and H $_2$ S cracking resist., effect of alloying elements and struct. 9-38953
impact and tensile props., Si effects 9-24614
ion nitrided and ion-softnitrided, comparison of compound layers in SACM1 and SCM3 (*Japanese*) 9-8386
ion-softnitriding effects on metallurgical props. of nitrided layer in Cr-Mo and Cr-Mo-Al alloy (*Japanese*) 9-5079
liquid, interface with $MnO-SiO_2-ZrO_2$ molten slag systems, wetting angles, surface tension (*Czech*) 9-19432
low alloy, 10KhSND, welded joint low-cycle fatigue during crack form. and propag. during biaxial bending 9-11704
low alloy, 45, depth length relationship of fatigue crack developing in circular specimens during bending 9-11705
low alloy, B, quenchability and microstructure (*French*) 9-47727
low alloy, C, corrosion fatigue crack growth, waveform effect (*Japanese*) 9-29274
low alloy, Nb effect on cold resist. 9-38954
low alloy, study of deformation and fracture processes by acoustic emission transient anal., SEM and optical microscopy study 9-43311
low alloy, type 10KhN1M, heat-treated, struct. and resist. to thermal embrittlement 9-15788
low alloy low C, types 45, 10GN2MFA, 15G2AFDps, fracture toughness characs. under cyclic loading 9-11703
low alloy sheet materials, 30KhGSA, regression anal. of critical stages of fracture process 9-15786
low alloys, exam. of stress corrosion cracking in H $_2$ S environments by const. strain rate method 9-29260
low alloys, Ni, exam. of stress corrosion cracking in S environment 9-20256
low C, cold-rolled, good and bad paintability, AES, SEM and X-ray diffraction characterisation of surfaces 9-42344
low C, Mn, recrystallisation and grain growth in hot rolling 9-47714
low strength, strain induced fracture 9-43382
low-alloy, electron fractographic analysis of fatigue fractures 9-38965
low-alloy, transform. of austenite, cooling rate effect 9-38821

alloy steel continued

low-alloy samples with fatigue crack, work of crack propag. and fracture toughness 9-38959
 maraging, 18Ni300, ageing, electron diffr. and microscope obs. (Polish) 9-34070
 maraging, Cr-Ni-Ti, effect of Ti addition on hardness and energy scatt. 9-15687
 maraging, electron fractographic analysis of fatigue fractures 9-38965
 maraging, Hart's model in hydrogen embrittlement 9-24621
 maraging, inert gas atomised, hot isostatic pressing temp. effect 9-24460
 maraging, precipitation hardening, strength and struct. (German) 9-47701
 microalloyed, recrystallisation, precipitation effect 9-47695
 microalloyed review of development 9-47699
 mild Cr welding, 550°-850°C heating effects on structure and toughness 9-24540
 pearlitic, Cr-Mo, Cr-Mo-V, and Mo-V, heat resist., Mo content rel. to mech. props. 9-20134
 pipe, large diameter, load carrying ability, failure charact. 9-5055
 positron lifetime and X-ray particle size meas. during high cycle fatigue of AISI 4340 9-5053
 pressure effect on reverse martensitic transform. and mech. props. for N30 and N29T (Russian) 9-38824
 PWR primary circuit constituent materials, design features verification (French) 9-17976
 quality, effect of methodic factors on quality of S replicas 9-24691
 quenched, high strength, shot blast hardening effect on repeated impact bending 9-1914
 rail, fracture tough, exam. of wear in rollers, subject to creep 9-15808
 rare earth addition effects and behaviour, review (Chinese) 9-43257
 roller-bearing, high-temp. wear resistant coating treatment (German) 9-24629
 rolls for cold-rolling mills, surface hardening, contact fatigue strength 9-24664
 rust analysis by Mossbauer spectroscopy 9-43487
 steel, low strength, strain induced fracture 9-43382
 strength, static, dynamic, interrelation 9-15725
 stress concentration, effect on endurance of type 16GNMA under repeated static loading 9-43412
 structural, CK10, temp. and freq. depend. of stress-strain behaviour under cyclic loading (German) 9-38888
 structural, effect of rare earth metals on cold temper brittleness 9-29202
 structural, heat treated, impurities effect on embrittlement susceptibility and temper brittleness 9-38955
 structural, microalloyed, precipitation hardening, strength and struct. (German) 9-47701
 structural, St37-2, crack tip displacement and flow curves (German) 9-47747
 structural, St37-2, large plastic deform., fracture behaviour, COD concept validity (German) 9-47764
 temper embrittlement, review 9-20154
 tempered martensite embrittlement mechanisms 9-8351
 tension test, computer simulation of deform. to fracture 9-11667
 thermodynamic aspects of gas-metal heat treating reactions 9-24547
 tool, abrasive wear rate rel. to fracture toughness and microstructure (German) 9-29232
 tool, and high speed steel samples, high frequency induction melting and centrifugal casting method for prep. in instrumental anal. (Japanese) 9-43232
 tool, cold hydrostatic extrusion rel. to struct., props. 9-20068
 tool, cutting blades, heat treatment in fluidised bed, hardening 9-20087
 tool, fully annealed, cantilever beams, nonlinear damping for nonsinusoidal strain 9-47762
 tool, hardened, crack propag. under cyclic load (German) 9-24596
 tool, maraging, based on Ni12M10, exam. of hardening, crack resistance and wear (Russian) 9-34047
 tool, TiC coated by CVD, wear resistance 9-34196
 weldments, heat-affected zone struct. 9-24552
 Al, quenched, tempered, orientation of precipitated Fe₃C particles, X-ray obs. (Russian) 9-29063
 C-Mn, stress corrosion cracking in PO₄ solns. over range of potentials and pHs 9-39021
 C-Mn-(Nb), weldable, high temp. thermomechanical treatment 9-15709
 C-Mo-P, intergranular fracture and grain boundary segregation, P, H, Mo effects (Japanese) 9-15775
 Co-W-Mo-V-Ti-C (25.3, 12.8, 6.2, 0.5, 0.5, 0.05 wt.%), martensitically aged, structural transformation, and strengthening mech. (Russian) 9-15676
 Cr, and Cr-Mo-Ni austenite decomposition, deform. effects, ferrite reaction 9-1842
 Cr, H-dislocation interaction 9-8307
 Cr, high C, Cr effect on superplasticity 9-15729
 Cr, high-C hardened rolls, parameters for short tempering times 9-38865
 Cr, hypereutectic, ShKh15, exam. of thermal props., 298 to 1173K (Russian) 9-28334
 Cr modified, heat resist. rel. to thermomech. treatment 9-20084
 Cr, pitting corrosion, temp. depend. (Czech) 9-39039
 Cr, type Kh, (GOST 5950-51), in biaxial tension, effect of charact. of preloading on low-temp. ductility and strength 9-15749
 Cr-Mn, carbide transform. (Russian) 9-33997
 Cr-Mn, exam. of phase composition and carbide form. (Russian) 9-20057
 Cr-Mo, annealed, creep and rupture, heat treatment effects 9-24548
 Cr-Mo, annealed, interaction solid soln. hardening, precipitation effects on creep 9-4974
 Cr-Mo, grain size effect on ductile brittle transition 9-24615
 Cr-Mo, hardened, fatigue life, effect of programmed load history (Japanese) 9-20160
 Cr-Mo, high-temp. props. and constitutive equations 9-34146
 Cr-Mo, low alloy, effect of stress intensity rate and stress ratio on corrosion fatigue crack growth enhancement 9-39022
 Cr-Mo, low alloy, stress corrosion cracking and corrosion fatigue 9-47806
 Cr-Mo, pressure vessel material, hydrogen embrittlement evaluation (Czech) 9-38950
 Cr-Mo (1, 0.5 wt.%), heat treated creep failure, role of stress state 9-5047
 Cr-Mo (2.25, 1 wt.%), annealed, tertiary creep behaviour 9-43326
 Cr-Mo-V, 1% Cr, chem. comp. and struct. effect on deform. props. (German) 9-1888
 Cr-Mo-V, cast, strain intensity approach of high temperature fatigue crack growth and failure 9-20175

alloy steel continued

Cr-Mo-V, creep deform. under const. and cyclic temp. 9-38914
 Cr-Mo-V, environmental crack growth during isothermal high strain fatigue and temp. cycling 9-5082
 Cr-Mo-V, fatigue crack growth rate and threshold under oxidising conditions 9-20272
 Cr-Mo-V, isothermal decomp. of austenite and carbide precip. 9-38832
 Cr-Mo-V, power station component, fracture toughness and fatigue charact. 9-20192
 Cr-Mo-V, rupture ductility rel. to cavitation, density and SEM obs. 9-34142
 Cr-Mo-V (1, 1.25, 0.25 wt.%), creep crack growth (Japanese) 9-43399
 Cr-Mo(-V), ductility and heat resistant prop. prediction rel. to fine struct. and solid soln. state 9-15751
 Cr-Ni, bainitic habit plane determ. 9-1927
 Cr-Ni, carbide transform. (Russian) 9-33997
 Cr-Ni, hydrogen effect on strength, ductile and fracture charact. 9-38960
 Cr-Ni, surface tension and limit wetting angle in contact with CaO-SiO₂-Al₂O₃-Na₂O-CaF₂ melts (Czech) 9-37908
 Cr-Ni-Al, intergranular crack investigation, by etching (Chinese) 9-43457
 Cr-Ni-Mo, 'light spots', fractographic anal. 9-29204
 Cr-Ni-Mo, combined B and rare earth metal additions effect on microstruct. impact strength and hardness 9-38963
 Cr-Ni-Mo-V, plate, type HY130, exam. of elastic-plastic R curve 9-29157
 Cr-Si-Mn-ΔV-Ti-Nb-Mo, effect of V, Ti, Mo, Nb additions on substructure, mech. props. (Russian) 9-34108
 Cr-V (1.5, 0.5 wt.%), ferritic, effect of temp. and microstruct. on creep damage 9-5023
 Cu, fission reactor vessels, neutron embrittled, exam. of technique for in situ thermal annealing 9-29114
 Cu, precipitation hardening, strength and struct. (German) 9-47701
 Mn (1.10 to 1.55 wt.%), reactor vessel material, assessment of weld heat affected zone mech. props. 9-29217
 Mn determ. by AES and APS 9-48001
 Mn, wear resistant, review of abrasive adhesive and rolling wear (Korean) 9-24624
 Mn-C, formation of filamentary V(C,N) precipitates during diffusional γ-α transform (Russian) 9-1865
 Mn-Cr, nuclear reactor pressure vessel, effect of Mn and C content on irradi. response 9-20196
 Mn-Cr, tempered, case hardened, shot peening effect on bending fatigue strength (German) 9-24645
 Mn-Cr-V, crack propag. resist. at hardness indentation, and fracture toughness (German) 9-29220
 Mn-Mo-Nb-C, transform. charact. and struct. during continuous cooling 9-29057
 Mn-Ni-Mo, PWR pressure vessel, irradi. induced embrittlement, chemical composition effect (French) 9-20195
 Mn-V, pressure vessel material, hydrogen embrittlement evaluation (Czech) 9-38950
 MnMoNi, pressure vessel, stress relief cracking 9-43404
 MnMoNiCr, pressure vessel, stress relief cracking 9-43404
 Mo-Nb, sheet, fracture toughness evaluation (Slovak) 9-38948
 Ni (9 wt.%), effect of repeated tempering on notch strength (Japanese) 9-43280
 Ni (9 wt.%), tempered, mech. stability of retained austenite 9-24521
 Ni, low alloy, low strength, stress corrosion cracking in sulphide environment 9-47812
 Ni, maraging, H₂ diffusion, diffusivity and solubility (Japanese) 9-42311
 Ni, martensitic transformation induced by pulsed mag. field in type 52X2H23 9-15667
 Ni, sintered, physical and mech. props. rel. to homogeneity 9-38762
 Ni-B, B effect on temperability and microstructure 9-15710
 Ni-Co-C (9.4, 0.2 wt.%), enthalpy, sp. ht. to 2000K 9-10960
 Ni-Cr, exam. of caustic stress corrosion cracking, comparison with type 304 stainless steel 9-29261
 Ni-Cr, temper embrittled, electron microscope and X-ray microstruct. obs. 9-38870
 Ni-Cr-Mo, SAE 4340, influence of air temp. and water vapour content on fatigue behaviour 9-43463
 Ni-Cr-Mo, type 4340, equivalence of K_{IC} and J_{IC} fracture toughness meas. for range of yield stress 9-38934
 Ni-Cr-Mo, weld, stress corrosion cracking, metallurgical effects 9-43468
 Ni-Cr-Mo and Ni-Cr, impact strength, effect of modified ausforming (Japanese) 9-11692
 Ni-Cr-Ti-P, Ti and P solubility effect on free surface segregation 9-11628
 Ni-Mn, directional martensitic transform. expt. 9-11613
 Ni-Mn-Al-V, nonmagnetic, ageing, dispersion hardening, microstruct., phase comp., mech. props. (Russian) 9-34046
 Ni-Mo-Cr, elastic plastic material, critical stress intensity factor determ., fracture mech. method (German) 9-11694
 Ni-Ti-Al, martensitic, coherent γ-phase particles and influence on α-γ transformation (Russian) 9-29056
 Si (3 wt.%), prediction of magnetisation hysteresis loops for distorted waveforms 9-47303
 Si (6.5 wt.%), fibre and sheet, Mn, Ni and Al additions influence research on mech. and magnetic props. (Slovak) 9-5064
 Si, commercial, O₂ diffusion coeff. determ. (Slovak) 9-39040
 Si, textured, alloying addition inhibition effects on grain orientation and growth (Japanese) 9-43270
 Si, with coating, grain-oriented, domain pattern measurements (Japanese) 9-38353
 Si-Mn, 27SG, heat treated sheets, underwater explosive forming (Polish) 9-34052
 Si-Mn, ferrite-pearlite structs., fatigue crack propagation (Russian) 9-34126
 V interface, diffusion above 500°C (German) 9-28156
 V-Nb, sheet, fracture toughness evaluation (Slovak) 9-38948
 VN precipitation after heat treatment 9-29067
 W, high C, amorphous, rapidly quenched from melt, mech. and thermal props. 9-38874

alloying additions

brass leaded, effect of Al, Sn, Fe on solidification, differential thermal analysis exam. (Russian) 9-29041
 chemically stabilised, sensitisation and corrosion resist., heat treatment depend., precipitation steel, stainless, Cr-Ni 9-38827

alloying additions continued

Incoloy 800, and 800H, proposed specification changes 9-43298
 steel, austenitic, high-speed, austenite grain growth, W addition effects 9-20085
 steel, austenitic, Kh17Ni13M3T, activation characts. of rupture, 630-730°C, Sb and Nb microalloying effects (*Russian*) 9-5033
 steel, austenitic stainless, Mo effect on mech. behaviour in inert medium and hot Cl⁻ medium (*French*) 9-43482
 steel, C-Mo-P, intergranular fracture and grain boundary segregation, P, H, Mo effects (*Japanese*) 9-15775
 steel, Cr-Ni-Mo, combined B and rare earth metal additions effect on microstruct. impact strength and hardness 9-38963
 steel, Cr-Si-Mn-ΔV-Ti-Nb-Mo, effect of V, Ti, Mo, Nb additions on substructure, mech. props. (*Russian*) 9-34108
 steel, high-speed tool, Nb addition effect on hardening 9-34048
 steel, impact and tensile props., Si effects 9-24614
 steel, low alloy, reactor pressure vessel, effect of Mn and C content on irradiation response 9-20196
 steel, low-alloy, transform. of austenite, cooling rate effect 9-38821
 steel, low-C and low-alloy types, Nb effect on cold resist. 9-38954
 steel, maraging, Cr-Ni-Ti, effect of Ti addition on hardness and energy scatt. 9-15687
 steel, microalloyed, review of development 9-47699
 steel, microalloyed with Ce, La, Nd, effect on crystal structure and thermal fatigue and resistance (*Russian*) 9-34136
 steel, pearlitic, Cr-Mo, Cr-Mo-V and Mo-V, heat resist., Mo content rel. to mech. props. 9-20134
 steel, rare earth addition effects and behaviour, review (*Chinese*) 9-43257
 steel, Si, textured, alloying addition inhibition effects on grain orientation and growth (*Japanese*) 9-43270
 steel, Si (6.5 wt.%) Mn, Ni and Al additions influence obs., on mech. and magnetic props. (*Slovak*) 9-5064
 steel, stainless, corrosion prevention by rare earth metal addition 9-20289
 steel, structural, effect of rare earth metals on cold temper brittleness 9-29202
 Ag-Sn-Au, dental amalgams, effect of small additions of Au, struct. and corrosion study 9-20718
 Al-Ag (up to 4 wt.%), creep, 570-630°C, influence of Ag addition (*Russian*) 9-5003
 Al-Si-Mg alloys, and Si content and Mg addition effect on mech. props., Na treatment (*Korean*) 9-38901
 Co-transition metal, transition metal additives influence on struct., specific resistance, microhardness, mech. props., magnetic props. 9-29078
 Cr-La-V-Nb-Ta, La, V, Nb Ta effect on hardness and strength (*Russian*) 9-34050
 Cr-V-Ce-N, (2.4 to 2.6, 1.7 to 2.3, 0.005 to 0.23 wt.%) V effect on hardness, and ductile to brittle transition temp. (*Russian*) 9-34138
 Cu, cold work, P effect on annealing 9-47707
 Cu melts, pure and alloyed, supercooled, influence of impurities on crystallisation 9-29042
 Cu powder, flowability, apparent density and comp., effect of Na, Mg and Al additions 9-28986
 Cu-Ag(Mn)(Ni)(Si)(Zn), alloying effect on embrittlement of stainless steel during soldering 9-47773
 Cu-Al-Si, Si effect on mech. props. and microstructure (*Korean*) 9-38903
 Fe, cast, C and Si effect on spheroidal graphite (*Korean*) 9-38839
 Fe, cast, mech. props., demodification influence of isothermal holding and Mg additions (*Bulgarian*) 9-15707
 Fe, cast, unalloyed and alloyed, addition effects on struct., thermodynamics of microsegregation 9-8305
 Fe-C-S-Mg melt, S and Mg effect on graphite growth shape 9-38817
 Fe-Cr (20 wt.%), high temperature oxidation resistance, effect of rare earth and reactive element additions (*Japanese*) 9-20271
 Fe-Cr-Al (14, up to 2 wt.%), Al effects on high temp. oxidations (*Japanese*) 9-15865
 Fe-Cu-Ti, improvement of irradiation-enhanced Cu embrittlement by Ti addition 9-43393
 Fe-Mo (0 to 6 wt.%), alloys, in chloride solns., role of Mo as localised corrosion inhibitor 9-20255
 Fe-P(S) sintered materials, antifriction props. 9-24626
 (Hf_{1-x}Zr_x)₈₀Nb₂₀, influence of Hf additions to Zr₈₀Nb₂₀, beta decomposition anal. 9-8304
 La₂In, supercond. T_c, alloying effects 9-38227
 LaNi_{5-x}Fe_x(Cr_x), Fe and Cr electron hydride formation, X-ray and SEM obs. (*Japanese*) 9-43202
 Mo, recrystallised sintered sheet, C addition effect on ductility 9-8319
 Mo, segregation of impurities and alloy elements at surface (*French*) 9-47697
 Ni-Co-Mo-Al-Cr, melt, effect of Al, Cr on O₂ activity, electrochemical determ. 9-11556
 Ni-Cr-Ce, Ce effect on oxidation 9-43484
 Ni-Ta-Al-Fe, Al and Fe effect on precipitation kinetics 9-20054
 Ti and Ti alloys, struct. sensitivity of mech. props., alloying influence (*Russian*) 9-47748
 Ti-Al-Sn-Zr-Mo-Si-O-H, Si, O, H effects on fatigue, fracture and creep charact. 9-11697
 Ti-Ni-Co(Fe) alloys, shape memory temp., alloying effect 9-38912
 Ti-transition metal, transition metal additive effect on struct., specific resistance, microhardness, mech. props. 9-29078
 TiNi alloys, structural transform., physical props. and memory effects (*Russian*) 9-1856
 W-ZrC(Re) eutectic alloy, Re effect on breaking stress, lattice parameters, electron struct. (*Russian*) 9-1845

alloys

alloys such as Au-Cu, Au-Cu-Zn are indexed under components of the named elements i.e. gold alloys; copper alloys; zinc alloys in these examples
 see also actinide alloys; alkali metal alloys; alkaline earth alloys; alloying additions; aluminium alloys; antimony alloys; arsenic alloys; bismuth alloys; boron alloys; cadmium alloys; dilute alloys; eutectic alloys; gallium alloys; germanium alloys; indium alloys; lead alloys; liquid alloys; mercury alloys; rare earth alloys; selenium alloys; silicon alloys; solid solutions; superalloys; tellurium alloys; thallium alloys; tin alloys; transition metal alloys; zinc alloys
 atomic rearrangements, radiation induced, in ordering and clustering alloys, conf. Atlanta, GA, USA (March 1977) 9-42099
 BCC, glide and work hardening, review (*German*) 9-29089
 BCC, glide and work hardening, review (*German*) 9-34067
 BCC, low temp. softening 9-34113
 BEC binary alloys, order-disorder transformation kinetics 9-20040

alloys continued

binary, computer experiments on phase separation 9-43198
 binary, electron localisation, self-consistency theory (*French*) 9-42480
 binary, electronic density of states, generalized cluster-Bethe-lattice approach 9-42432
 binary, kinetic behaviour of vacancies and atoms 9-28129
 binary, kinetics of nuclei coalescence by reactive diffusion (*Russian*) 9-42398
 binary, phase boundary effect on isothermal transform (*Russian*) 9-1857
 binary, quenching, cluster growth, first order phase transition, computer simulation anal. 9-34039
 binary, segregating alloy, theory of surface effects 9-19435
 binary, vapourisation kinetics from one source with feed maintenance (*Russian*) 9-37824
 binary, vol. changes during sintering, inter-ion interaction influence 9-28982
 binary, with curved solid-liq. interface, lateral solute segregation during unidirectional solidification 9-47692
 binary alloys, form factors of pseudopot., OPW calc. (*Russian*) 9-19498
 binary disordered, electronic density of states, optical theorem and multiple scatt. theory 9-4500
 binary internal oxidation beneath external scales, onset criteria 9-5074
 binary metallic systems, calc. of isomorphous and simple eutectic phase diagrams 9-11570
 binary narrow-band, metal-dielectric transition, off-diagonal disorder (*Russian*) 9-4512
 binary ordering alloy, theory of surface effects 9-19434
 binary systems, alloying tendencies and impurity heats of soln. 9-28102
 cemented carbides, hardmetal, bending strength and fracture toughness 9-20181
 cleaved alloys, electronic theory, off-diagonal disorder 9-4596
 close-packed, temp. depend. of stacking, fault energy 9-19266
 coarsening by temp. cycling 9-29111
 crack growth, subcritical, in high-strength alloys 9-43494
 deep-drawing curves, cryst. microstruct. during deform. (*French*) 9-20066
 digital electronic control system for co-evaporation prep. of two component alloys 9-24457
 dilatometric methods (*French*) 9-5100
 dislocations and operative slip systems, correl. for CsCl-type intermetallics 9-10852
 disordered, charge density function calculation method 9-42433
 disordered, influence of strong hybridization on elec. cond. 9-11097
 disordered ferromagnetic alloys, even magneto-optical effects, light cond. tensor 9-4792
 disordered muffin tin type, coherent pot. approx. appl. 9-15062
 disordered substitutional alloy, mag. props., Heisenberg model 9-38342
 dispersion hardened, particle size effect on fracture 9-43418
 electric power industry uses, high temp. phase diagram phenomena 9-11575
 emissivity measurement of small specimens at high temperatures, structural materials appl. 9-7281
 enthalpy of mixing, 'const. vol. alloy' formulation 9-28111
 FCC, binary, on Ising system, sublattice magnetisation, tricrit. point, simulation 9-33491
 ferromagnetic, binary, anomalous Hall effect (*Russian*) 9-42521
 ferromagnetic, coercive force, automatic meas. by remote means 9-24690
 ferromagnetic, partially ordered, spin wave stiffness const. 9-24150
 ferromagnetic alloy, binary ordered, dynamic mag. susceptibility, spin wave stiffness constant 9-38307
 ferromagnetic exam. of atomic ordering mech., when in mag. field (*Russian*) 9-11609
 ferrous and nonferrous, air-plasma cutting 9-8401
 finishing, use of ion implantation technique, affect on wear and corrosion props. 9-34204
 fracture toughness rel. to microstruct. characts., alloy design 9-43423
 friction and wear, effect of oxides 9-20203
 gas solutions in alloys, due to impurity-deoxidising element interactions, thermodynamic analysis (*Russian*) 9-43437
 glass forming ability of metallic alloy, prediction 9-23524
 heterogeneous nucleation during solidification 9-28077
 Hume-Rothery Phases, electronic struct., main features 9-23883
 impurity diffusion and distrib. 9-33118
 intergranular precipitate effect on diffusion growth of creep voids 9-34041
 interstitial, storage of H₂, review 9-10956
 ion implantation in tribology and corrosion science, overview 9-14830
 ion-implanted, annealing behaviour and apps. 9-14829
 itinerant electron ferromagnetic alloys, magnon energy, effect of ordering 9-7986
 L1₂-type superstructure, anomalous temp. depend. of deform. characts. (*Russian*) 9-20109
 laser erosion, influence of metallic target temp. (*Russian*) 9-39028
 Laves phase AB₂ intermetallic compounds, H₂ sorption, capacity and preferred location 9-43791
 magnetic, highly concentrated, Kondo effect 9-24134
 metal-H systems, solvus line interpretation, enthalpy change 9-15655
 metastable, determination and representation of phase diagram features 9-11568
 mictomagnet props. review 9-24183
 multicomponent, optimal composition determ., mathematical-statistical methods (*Czech*) 9-15624
 multicomponent alloy, phase diagram calc., computerised data bank 9-1848
 multicomponent alloy phase diagrams, calc. methods used at National Physics Laboratory 9-11569
 multinary alloy, X-ray small-angle scattering, rel. to elec. resist. 9-19125
 non-ferrous, exam. of props. with aid of phase diagrams 9-11573
 nonlocality and energy of form. 9-20459
 optical constants determ., review 9-33655
 ordered, cryst. struct. and phase transforms. (*Russian*) 9-29047
 ordering, BCC lattice, diffusion of interstitial atoms (*Russian*) 9-19400
 oxidation, alloy depletion profiles resulting from preferential removal of less noble metals 9-11728
 oxidation mech., exam. using autoradiography 9-20326
 phase diagrams, exam. of compilation activity 9-8274
 phase diagrams, prediction using non thermodynamic approaches 9-8281
 phase transforms. 9-2771
 polycrystalline metallic solid soln., creep and diffusion of vacancies (*Czech*) 9-43340
 precipitate distribution in subscales forming in dilute alloys 9-38834

alloys continued

- pseudobinary, use of parallel and monochromatic beams for comp. determ. by X-ray fluorescence 9-48000
 PWR boiler tubes, corrosion risk reduction by material selection, evaluation 9-39045
 quenched random, phase diagrams, multicritical points, mixed anisotropies 9-38343
 random alloys, CPA calcs. cluster extensions, appraisal of applicability 9-15063
 random binary, Anderson localization, equation-of-motion method 9-42482
 random binary, single-particle Hamiltonian and self-consistency 9-37953
 rapidly solidified powder, nucleation, undercooling and homogeneous struct. 9-11598
 refractory metal solid solutions, thermodynamic study (*Ukrainian*) 9-37845
 refractory metals and alloys, processing by powder and vacuum melting techniques 9-33966
 self-consistent cluster theories for diagonal and off-diagonal disorder 9-37950
 shape memory alloy, recovery stress determ. 9-15665
 short-range order, electronic theory using pseudopot. approx., review 9-47004
 solid soln., grain boundary mobility 9-46676
 solid soln. strengthening, HTR appl. 9-15688
 solid state reactions, effect on microstruct. 9-29015
 space environment, metallurgical studies in Skylab and Apollo-Soyuz 9-47700
 spinodally decomposed, interfacial energy effect on mech. strength, theoretical estimation 9-38790
 splat-quenching device, refractories in magnetic levitation furnace (*Croatian*) 9-11639
 strength/ductility relation (*Japanese*) 9-29145
 structural, time-depend. fatigue, nuclear reactor materials 9-1909
 superconducting, metallurgical factors influencing T_c 9-38225
 surface alloys, metastable, prod. by ion implantation, empirical rules for substitutionality 9-14832
 ternary, disordered, elec. cond. and density of states, CPA calc. (*Russian*) 9-47072
 ternary, transition of univariant form. equiv. into decomposition equil. (*German*) 9-43196
 ternary alloys, vibr. freq. distrib. spectra, small cluster statistical theory 9-24317
 thermal expansion coefficient, and volume effect anomalies during transformations, review of differential dilatometric error sources (*Russian*) 9-34223
 thermoelectric properties, effect of interference between electron-impurity and electron-phonon interactions 9-33282
 transfer matrix approx., dispersion relations and transport props. 9-42524
 two phase microstruct. revealed by selective sublimation 9-24698
 two-phase, deform. struct. and recrystallisation, review 9-34061
 two-phase, recrystallisation mechanisms 9-47708
 vacancies and lattice elec. cond. determ. method at high temp. 9-37695
 vacuum rolling at high temp. (*Russian*) 9-15708
 valence bond test for validity of structure 9-10830
 weldable clad metal interlayer growth kinetics model 9-24493
 C-Mn-V power station component, fracture toughness and fatigue characs. 9-20192
 cemented carbide tool, wear when turning grey cast Fe 9-43442
 $Fe_{40}Ni_{40}P_{14}B_6$, amorphous, stress-induced mag. easy axis 9-33516
 Ni-Al-Ti-Cr superalloys, estimation of conjugate γ and γ' compositions 9-8282

alnico alloys *see iron alloys* **Al_2O_3** *see alumina* **$Al_2O_3-\alpha$** *see corundum* **$\alpha-Al_2O_3$** *see corundum***alpha-decay***see also alpha-decay theory; alpha-particle spectra*

- cluster role in natural α -decay 9-6519
 giant resonances, cluster emission decay 9-26413
 pre-compound decay into complex particle channels 9-6456
 prep. and chem. charact. for half-life meas. 9-26404
 spectroscopic information from nuclear reactions: applications 9-459
 spectroscopic information from nuclear reactions: theory 9-458
 spectroscopic information from nuclear reactions 9-6455
 $Z=114-126$, nuclear stability reexamination using deformed Woods-Saxon pot. lifetimes level density 9-3094
 $^{27}Al+^{14}N$, 100 MeV, α pre-equilibrium decay 9-6666
 ^{231}Am alpha decay, ^{237}Np γ -ray transitions (*French*) 9-492
 ^{241}Am , γ -ray spectrum above 600 keV, Ge(Li) detector, ^{237}Np states 9-6480
 ^{197}Au , $A=181, 182$, alpha decay, half lives, decay energies and branching ratios 9-45215
 Bi isotopes, neutron deficient, anal. of α decay in terms of surface probabilities of α -particle formation (*Russian*) 9-9527
 ^{249}Cf , α -decay, ^{245}Cm level scheme 9-6477
 ^{178}Hf , decay of highly excited states using (n, α) reacts. (*Russian*) 9-9526
 ^{186}Hg , $A=177-183, 188$, alpha decay, half lives, decay energies and branching ratios 9-45215
 ^{197}Ir , $A=169, 170$, decay characteristics 9-503
 ^{171}Os , alpha decay, half lives, decay energies and branching ratios 9-45215
 ^{196}Pa , $A=215-218, 222$, α -decay half life and energies from $^{151}Ta+^{40}Ar$ and $^{184}W+^{40}Ar$ 9-45216
 ^{231}Pa α -decay, γ -rays and internal conversion spectrum, ^{227}Ac levels and bands 9-45217
 $^{208}Pb(^{16}O, ^{12}C)^{212}Po$ and α -decay, comparison for α -transfer reaction mechanism 9-6652
 Po in mica, anomalous haloes origin 9-44186
 ^{214}Po , half life of α -emitting excited 0^+ state 9-45205
 ^{214}Pt , $A=173-179, 188$, alpha decay, half lives, decay energies and branching ratios, rot. struct. 9-45215
 ^{188}Pt α -decay energy and branching ratio 9-22237
 ^{239}Pu , calorimetric determ. of half-life 9-26405
 ^{239}Pu , cross sections for α -decay and neutron induced fission (*Russian*) 9-17944
 ^{239}Pu , half life determ. by isotope dilution mass spectroscopy of ^{235}U 9-26409
 ^{239}Pu half life meas. by calorimetry, mass spectrometry and α -particle counting 9-26403
alpha-decay continued
 ^{239}Pu , half-life determ. from α -emission rates 9-26407
 ^{239}Pu , half-life determ. specific activity meas., mass spectroscopy of ^{235}U daughter growth 9-26408
 ^{239}Pu , half-life determ. using isotope dilution mass spectroscopy and α -specific activity meas. 9-26410
 ^{239}Pu , specific power and half-life, calorimetric determ. 9-26406
 ^{239}Pu , subparticle formation expt. 9-6520
 ^{240}Pu , half life and specific activity by α -counting 9-502
 ^{16}Re , $A=166, 167, 168$, α -branching ratios, decay characteristics 9-503
 ^{16}Te , $A=108, 109$, neutron deficient isotopes, new island of α -emission 9-6521
 U in natural samples, alpha-emitting nuclei recoil rel. to U series disequilibrium 9-16466
 ^{235}U , cross sections for α -decay and neutron induced fission (*Russian*) 9-17944
 Zn to Ni even isotope transition, α -particle spectroscopic factors, shell model calcs. 9-6385
alpha-decay theory
see also alpha decay
 $A=16-40$, α -spectroscopic factors between ground states, shell model prediction 9-13204
 exchange effects in radioactive decay theory based on many body scatt. 9-9525
 exclusion principle effects, significant separation distance 9-6518
 one-body alpha-decay widths and resonance states 9-13259
 parity nonconservation, asymmetric α -emission in polarised nuclei decay 9-6379
 rotation signatures, rel. to nuclear deform. changes 9-13258
 superheavy nuclei, α -decay lifetimes 9-36203
 ^{214}At , nuclear field theory approach to alpha-decay, calc. of relative α -decay rates 9-45218
 ^{12}C , excited state struct., anomalous α -decay props. 3-cluster GCM model 9-6399
 ^{16}O , α -spectroscopic amplitudes anal. using shell model based calc. 9-13203
alpha-particle absorption
 No entries
alpha-particle angular distribution
see also alpha-particle spectra
 $^{12}C(^{16}O, \alpha)^{24}Mg$, 13.7, 14.2, 14.7 MeV, ang. distrib., intermediate resonance struct. 9-13331
 $^{12}C(\alpha, \alpha')\gamma$ angular correlation function obs. (*Russian*) 9-13246
 $^{40}Ca(\alpha, \alpha)$, 40-62 MeV, $A=40, 44$, elastic and inelastic, ang. distrib. and collective state excitation 9-6650
 $^{6}Li(d, \alpha)$, (d,p), simultaneous determ. of p and α particle ang. distrib., cellulose nitrate detector 9-737
 $^{16}O+\alpha$ nucleon exchange and back-angle anomaly 9-6638
 $^{208}Pb(p, \alpha)$, 20 MeV, 3H pick-up, ^{208}Pb transition strengths and ang. distrib. 9-13271
 ^{173}Tm level and band struct., spin assignments, ang. distrib. from $^{176}Yb(p, \alpha)$, 16 MeV, ^{173}Tm level and band struct., spin assignments, ang. distrib. 9-474
alpha-particle attenuation *see alpha-particle absorption*
alpha-particle detection and measurement
see also alpha-particle spectrometers; radioactivity measurement
 air-luminescence in liquid scintillation spectrum 9-36479
 cellulose nitrate track detector, simultaneous determ. of p and α particle ang. distrib., (d, α) and (d,p) reactions 9-737
 coincidence meas. of α , X, and γ -rays 9-26851
 corona-streamer counter, performance characts. 9-9962
 diacel solid state track detector 9-750
 diamond, elec. props and performance for α - and β -particles 9-36481
 glass detectors, appl. to α -particle and fission fragment ranges in air 9-45597
 Kodak LR 115 dielec. track detect., applicability as α -particle detector (*Czech*) 9-8711
 plastic detectors, appl. to α -particle and fission fragment ranges in air 9-45597
 portable alpha survey instrument 9-22535
 radionuclide radiation precision spectrometry using semiconductor detectors (*Russian*) 9-31305
 scintillation counters, temperature characteristics of α -datum stabilizers 9-26808
 scintillation kinetics in condensed Xe 9-26828
 self-triggered liquid xenon drift chamber by the use of proportional ionization or proportional scintillation 9-45562
 semiconductor, ion-doped, coordinate detector 9-26825
 spark counting of α -radiograms recorded on LR-115 strippable cellulose nitrate film 9-26859
 stack monitoring of long-lived α -emitters, review of meas. techniques 9-48195
 thick sample total counting, review 9-36488
 $D(^3He, \alpha)H$, background reduction in depth profiling expts. using electrostatic deflector 9-14841
 Li isotope composition determ., α prod. by d bombardment 9-7029
 ^{239}Pu , half-life determ. from α -emission rates 9-26407
 ^{239}Pu , half-life determ. using isotope dilution mass spectroscopy and α -specific activity meas. 9-26410
 ^{226}Ra , determ. of tap water pollution (*Czech*) 9-34675
 Si detector, energy response differences for p and α particles 9-6805
alpha-particle effects
 charge exchange in solids, studies with Van de Graaff tandem (*French*) 9-4339
 diacel solid state track detector, characts. for α -particle detect. 9-750
 quartz, E_γ centre formation and regeneration, α and γ radiation efficiency 9-32992
 skin, α -irradiation, possibility of late effects, U miners 9-20584
 tissue-equivalent gases, Rossi-type, ionisation, energy dependance of W 9-6999
 Ar, condensed, luminescence decay under α - and β -particle excitation 9-38678
 cancer risk from $^{239}PuO_2$, max. permissible conc. in air 9-25108
 Fe-Cr-Ni, α -particle induced precip. and phase instability 9-1470
 Mo, 29 MeV α -particle irr. in He, micropore and dislocation loops form. 9-14859
 N_2 , electric breakdown in long high-voltage gaps with gamma and alpha particle irr. 9-18993
 $Na_2ZrSiO_5:Ln^{3+}, Ln_2$, scintillation, α -excited (*Russian*) 9-28841

alpha-particle effects continued

- Nb₂Ge, α -particle irradiation, relationship between density of states and superconduct. transition temp. 9-42684
 Nb₂Sn, α -particle irradiation, relationship between density of states and superconduct. transition temp. 9-42684

alpha-particle interactions see *alpha particle-nucleus reactions***alpha-particle model** see *nuclear cluster model***alpha particle-nucleus reactions**

- for inelastic alpha particle-nucleus scattering, see "alpha particle-nucleus scattering"
 0.7-8 GeV, scaling and nonscaling of inclusive π prod. 9-22296
 A=12 to 40, (α ,He) reaction, high spin state transition cross sections in 1p and 2sd shell 9-6644
 emulsion nuclei, g-proton energy and ang. characteristics (Russian) 9-40937
 fusion, α -induced, γ -ray spectra calcs. 9-36291
 high-energy, at Saturne I, five years of expts. (French) 9-3262
 optical potential as three body problem, microscopic description 9-6536
 (α ,2 α), 90 MeV, strong absorption diffraction model, spectroscopic factors 9-22306
 (α , 2 α) 700 MeV, cross section, effective cluster number from PWIA, momentum distrib. 9-40940
 (α ,2 α) comparison with (p,p α) reactions, antisymmetrisation effects 9-6575
 (α ,f) 140, 150 MeV, fission cross sections and probabilities, isomeric yield ratio 9-45308
 (α ,n), A=88 to 124, reaction rates of reaction important to nucleosynthesis 9-45253
 (α , N), DWBA finite range calc. 9-9541
 (α , n), spin alignment attenuation factors in mass 61-67 nuclei 9-26390
 (α ,n) reactions, black and grey neutron detectors 9-9971
 (α , p), spin alignment attenuation factors in mass 61-67 nuclei 9-26390
 (α ,p) direct 3-nucleon transfer reactions, microscopic approach review 9-6545
 (α , π), 700 MeV, backward π^+ prod., momentum depend., scaling, Monte Carlo calcs. 9-13305
 (α ,X), 1.6 GeV, in-beam nuclear γ -rays from Na, S, Ca 9-6483
 (α ,X) on light nuclei, 1.55, 2.89 GeV/c, total and inelastic cross sections 9-6610
 α - α , pot. calc. appl. to even-even N=Z nuclei 9-6661
 γ spectra of millisecond isomers, 38 MeV α -induced reactions, abs. cross-section determ. 9-9502
 Ag(α ,X) X=p,d,t,³He,⁴He, 720 MeV, back-angle prod. of light ions, model calcs. 9-45280
²⁷Al(α ,X), 140 MeV, nonequilibrium light charged particle yield, energy spectra and ang. distrib. 9-40942
²⁷Al(α ,d)²⁸Si, d ang. distrib. corrections for finite interaction radius 9-9597
²⁷Al(α ,n), 10-18 MeV, ³⁰P spin cutoff parameters, spectral distrib. calc. and meas. comparison 9-6382
 Al(α ,X) X=p,d,t,³He,⁴He, 720 MeV, back-angle prod. of light ions, model calcs. 9-45280
²⁴¹Am(α ,n), neutron yield in AmO₂ 9-17912
¹⁹⁷Au(α ,5n), 65 MeV, ¹⁹⁶Tl high spin states, γ -decay and rot. structs. 9-440
 B+ α , gamma-ray spectra from elements within ²⁴¹Am(n, α) source 9-3269
¹⁰Ba(α ,p)¹³C, appl. to B predeposited Si wafer anal. by combined ion beam techniques and X-ray microanal. 9-5238
 Be+ α , gamma-ray spectra from elements within ²⁴¹Am(n, α) source 9-3269
⁹Be(α ,n) 6.5 MeV, ¹³C, T=3/2 resonance parameters, ground state γ -decay width 9-3123
⁹Be(α ,n)¹²C, appl. to Be determ. in metals using nuclear microprobe anal. 9-5204
²⁰⁹Bi(α ,X), 140 MeV, nonequilibrium light charged particle yield, energy spectra and ang. distrib. 9-40942
¹²C+ α , spallation fragments 6 \leq A \leq 11 yields, nucleosynthesis interest 9-30845
¹²C(α ,Li*), unbound Li, relative energy distrib. of correlated decay products 9-13274
¹²C(α ,p α), 17.5-18.7 MeV, p ang. distrib. and integrated cross section 9-30846
¹²C(α ,p)¹⁴N (3/2⁺, 6.328 MeV) transition, giant resonance effects 9-9601
⁴⁰Ca(α ,ap), 96.8 MeV proton pickup by α -particles to unbound states DWBA anal. 9-22305
⁴⁰Ca(α , γ), ⁴⁴Ti lowest T=2 state isospin forbidden: γ -decay from resonances 9-22228
⁴⁰Ca(α ,n) 20 MeV, ⁴³Ti positive parity states, mean lifetimes, quasirotational band 9-6415
⁴¹Ca(α ,p)⁴⁴Sc, 25 MeV, population of (*f*_{7/2})⁴ states, relative transition strengths, semi-microscopic model calcs. 9-6645
 Cd(α , 2n γ), 17-33 MeV, ⁴⁸Sn, A=112, 114, 116, 118, positive parity band heads, excitation energies and transitions 9-45136
 Cd(α ,xn), 30-67 MeV, ⁴⁸Sn, A=109,111,113,115,117, level scheme, J π assignments, high spin states 9-45168
⁵²Co(α ,p γ), 10 MeV, ⁶²Ni level struct. and decay scheme, shell model calcs. 9-3085
⁵²Co(α ,p γ)⁶²Ni, lifetime meas. of excited states in ⁶²Ni 9-3115
⁶³Cu(α ,n γ), 18 MeV, ⁶⁶Ga high spin states, shell model interpretation (French) 9-3086
 Cu(α , π), 0.7-8 GeV, scaling and nonscaling of inclusive π prod. 9-22296
 D(³He,H)⁴He, determ. of D adsorption coverage on W (001) 9-23835
 Dy(α , xn γ) equilib. and pre-equilib. reactions, ang. momentum transfer, ground state bands 9-45277
¹⁶⁴Er(α ,2n), gamma deexcitation mechanism of rot. levels 9-26442
¹⁵¹Eu(α ,4n), 45-55 MeV, ¹⁵¹Tb 11/2 isomer, high spin few-particle states, in beam study 9-17805
 F+ α , gamma-ray spectra from elements within ²⁴¹Am(n, α) source 9-3269
⁵⁶Fe(α , γ), 4.2-7.1 MeV, reaction cross section, statistical model anal. 9-45278
⁶⁹Ga(α ,3n), 30-55 MeV, ⁷⁰As states, excitation functions, spin and half-lives 9-6414
⁴Gd+ α , A=154,160, reaction cross section meas., in beam γ -spectrometric technique 9-26445
¹⁵⁸Gd(α ,4n), 40 MeV, fusion and neutron evaporation, ¹⁵⁸Dy γ -spectrum 9-36291

alpha particle-nucleus reactions continued

- ¹⁶⁰Gd(α ,4n) 40, 49 MeV, fusion and neutron evaporation, ¹⁶⁰Dy γ -spectrum 9-36291
¹⁶⁰Gd(α ,xn γ), compound and precompound γ -ray entry lines from measured multiplicities and energies 9-6649
²H(²H,p)³He, appl. to effective ion temp. determ. in plasma focus (Russian) 9-27824
²H(α ,an)³H, 27.2 MeV, absolute differential cross sections 9-9599
²H(α ,pn), 7.5-7.9 MeV, modified impulse approx. anal. 9-6648
³H(α ,n)⁴Li cross section, exptl. data base for ³Li system 9-9584
³He(D,p)⁴He, appl. to effective ion temp. determ. in plasma focus (Russian) 9-27824
⁴He+ α , 103 MeV, exptl. study of ⁶Li and ⁷Be prod. 9-45279
⁴He+ α , ⁶He, ⁶Li, ⁷Li, ⁷Be, 61.5-158.2 MeV, Li nucleosynthesis 9-17886
⁴He(α , γ), 32-36 MeV, ⁹Be isovector radiative decay, E2-M1 mixing ratio, conserved vector currents 9-6488
⁴He(α ,n)⁷Be, ⁴He(α ,p)⁷Li, α - α scatt. phase shifts, cross sections near threshold 9-3163
¹⁷⁴Hf(α ,2n), gamma deexcitation mechanism of rot. levels 9-26442
¹⁷⁴Hf(α ,3n γ), 38 MeV, ¹⁷⁸W high spin rot. levels and bands 9-26359
¹²⁷I(α ,2n), ¹²⁹Cs 11/2⁻ isomer, g-factor and lifetime in CsI cubic environment MeV, ¹²⁹Cs 11/2⁻ isomer, g-factor and lifetime in CsI cubic environment 9-6394
 I(α , 2n), ⁴Cs A=127, 129, 131, 133, high spin states and collective properties 9-22170
¹¹⁵In(α ,2n γ), 22 MeV, ¹¹⁷Sb M2, E3 transition reduced matrix elements, EM core polarisation 9-17847
¹¹⁵In(α ,4n), 48 MeV, ¹¹⁵Sb g-factor of 19/2⁻ and 11/2⁻ isomers 9-40845
¹⁶Li(α ,d)¹⁸F, 29.8 MeV, cluster form factors, DWBA calcs. 9-6643
 Li+ α , gamma-ray spectra from elements within ²⁴¹Am(n, α) source 9-3269
⁶Li(α , γ), 1140-1250 keV, ¹⁰B 1175 keV level resonance strength 9-45228
¹⁷⁶Lu(α , 2n), 23-27 MeV, ¹⁷⁸Ta level properties, rot. bands, transitions and level lifetimes 9-36158
²⁴Mg(α ,Li*), unbound Li, relative energy distrib. of correlated decay products 9-13274
²⁴Mg(α ,¹²C)¹⁶O, 22-26 MeV, intermediate resonances in ¹²C+¹⁶O system, J π assignments 9-17880
²⁴Mg(α ,¹²C)¹⁶O, E_x=90 MeV, reaction mechanism 9-6646
²⁴Mg(α ,p)²⁷Al, 3.38 to 3.52 MeV, test of detailed balance at isolated resonances and time reversibility 9-45260
⁵⁸Mn(α ,p γ), 10 MeV, ⁵⁸Fe energy level lifetimes up to 4213 keV 9-17853
 Mo, activation in cyclotron by p, d, α , ³He 9-30839
¹⁴N+ α , spallation fragments 6 \leq A \leq 11 yields, nucleosynthesis interest 9-30845
¹⁴⁶Nd(α ,n), 47.9 MeV, ¹⁴⁶Sm, high spin states and transitions 9-6423
¹⁵⁰Nd(α ,n), 45 MeV, fusion and neutron evaporation, ¹⁵⁰Sm γ spectra 9-36291
²⁰Ne(α , γ), 3.0-6.0 MeV, ²⁴Mg radiative decays of unbound high spin states 9-6484
⁵⁸Ni(α ,X), 140 MeV, nonequilibrium light charged particle yield, energy spectra and ang. distrib. 9-40942
⁶⁰Ni(α ,n γ), 10-14 MeV, ⁶³Zn level scheme, spin and parity assignments 9-465
 Ni(α ,X)Zn, α spectroscopic factors in shell model 9-45158
¹⁶O+ α , spallation fragments 6 \leq A \leq 11 yields, nucleosynthesis interest 9-30845
¹⁶O+ α nucleon exchange and backangle anomaly 9-6638
¹⁶O(α ,2 α), determ. of spectroscopic factors by DWIA 9-6639
¹⁶O(α , α')¹⁶O, 3.05 MeV elastic scatt. reson., appl. to O concentration determ. in Au-Si contacts 9-4482
¹⁶O(α , γ) 8.18 MeV 9-22189
³¹P(α ,n) 13.0, 14.6 MeV, ³⁴Cl negative parity high spin states, ang. distrib. and lifetimes 9-17812
²⁰⁸Pb(α ,ap) 96.8 MeV, proton pickup by α -particles to unbound states DWBA anal. 9-22305
 Pb(α , p), 3.6 GeV, max. in p ang. distrib. (Russian) 9-36253
 Pu(α ,n), determination system by passive neutron counting 9-40985
¹⁰³Rh(α , 2n γ), 17-32 MeV, ¹⁰⁵Ag high spin states and bands, g-factor and isomeric state 9-36125
³⁵S(α ,p), 16-22 MeV, ³⁷Cl high spin state decay, spin assignments, yrast level lifetime 9-6490
⁴⁵Sc(α ,p), 26 MeV, ⁴⁸Ti levels and transition ang. distrib., form factors, DWBA anal. 9-45202
³¹Si(α ,n), threshold to 6.3 MeV, total n prod. cross sections, statistical model parameters, nucleosynthesis 9-9602
¹⁴⁴Sm(α ,n γ), 60-110 MeV, ¹⁴⁴Gd level scheme, delayed transitions, in-beam study 9-17809
¹⁴⁸Sm(α ,t), 27 MeV, ¹⁴⁹Eu proton states and transitions shell model anal. 9-30781
¹⁵²Sm(α ,2n), gamma deexcitation mechanism of rot. levels 9-26442
¹⁵²Sm(α ,2n γ), 24 MeV, ¹⁵⁴Gd levels from γ ang. distrib. 9-442
¹⁵⁴Sm(α ,t), 25 MeV, ¹⁵⁵Eu single proton states, spins and parity, rot. bands 9-30766
⁸⁶Sr(α , n)⁸⁷Zr, in-beam γ -ray spectroscopy of excited states of ⁸⁷Zr 9-17852
⁸⁶Sr(α , 2n γ)⁸⁸Zr, study of ⁸⁸Zr high spin states above 8⁺ isomer 9-40848
⁸⁶Sr(α , 3n)⁸⁷Zr, in-beam γ -ray spectroscopy of excited states of ⁸⁷Zr 9-17852
 Ta(He,X), 4.2 GeV.c⁻¹, inelastic cross section meas. and multiplicities obs. (Russian) 9-9580
 Ta(α ,X) X=p,d,t,³He,⁴He, 720 MeV, back-angle prod. of light ions, model calcs. 9-45280
²³²Th(α ,X), 140 MeV, nonequilibrium light charged particle yield, energy spectra and ang. distrib. 9-40942
⁵⁰Ti(α ,n), 9.11 MeV, ⁵³Cr excited state lifetimes 9-26392
 U+⁴He, 400 MeV nucleon⁻¹, inclusive proton production, classical many-body calc. 9-17918
 UO₂(α ,n), 3.6 to 8 MeV, neutron yields 9-6651
²³⁴U(α ,t), 30 MeV, ²³⁵Np deduced levels and Nilsson band configurations 9-468
⁵¹V(α ,n), 9.11 MeV, ⁵⁴Mn excited state lifetimes 9-26392
 W, activation in cyclotron by p, d, α , ³He 9-30839
¹⁸⁴W(α ,n γ), 28 MeV, ¹⁸⁶Os, A=186, 188, 7⁻ isomeric state lifetime 9-17854
⁶⁷Zn(α ,n γ), 9-15 MeV, ⁶⁷Ge excited state decay scheme, mean lifetimes 9-26393

alpha particle-nucleus reactions continued

- ⁶⁴Zn(α ,pn γ), 30 MeV, ⁶⁶Ga high spin states, shell model interpretation (French) 9-3086
⁶⁷Zn(α ,2n γ), ⁷⁰Ge level spin and parity assignments 9-3081
⁶⁸Zn(α ,2n γ), ⁷⁰Ge level spin and parity assignments 9-3081
⁷⁰Zn(α ,He,Be) pick-up reaction, ⁶⁸Ni mass excess 9-9452
⁷⁰Zn(α ,2n γ), ⁷²Ge, 30 MeV, determ. of high spin levels for ⁷²Ge with $J^\pi = 11^-, 12^+$ (French) 9-22304
⁹⁰Zr(α ,Zn), ⁹²Mo in beam γ -spectroscopy, level, lifetimes and excitation functions 9-13240
⁹⁰Zr(α ,X), 140 MeV, nonequilibrium light charged particle yield, energy spectra and ang. distrib. 9-40942
⁹⁰Zr(α ,ap) 96.8 MeV proton pickup by α -particles to unbound states DWBA anal. 9-22305
⁹⁶Zr(α ,n), 20 MeV, ⁹⁹Mo first excited state g factor 9-17801

alpha particle-nucleus scattering

- A=50 to 89, α -particle elastic scatt., neutron shell sensitivity, optical model parameters 9-6642
critical radii for α -particle elastic scatt., correl. with nuclear matter distrib. 9-45148
high-energy elastic and inelastic scatt. by light nuclei, mechanism and struct. determ. (French) 9-534
light ion scatt., optical pot. and proximity pot. comparison 9-3121
(α , α) anomalous large angle scatt., optical model sensitivity 9-13309
(α , α) elastic and inelastic, by heavy nuclei, Glauber amplitude approx. scheme 9-40939
(α , α), A=40-208, low energy octupole resonances, 96 and 115 MeV 9-511
 α - α , pot. calc. appl. to even-even N=Z nuclei 9-6661
 α - α scatt., quasi-mol. struct. model of ⁸Be 9-6397
 α +nucleus real pot., energy and target depend. 9-36251
 $\alpha\alpha$ and NN scatt. analogies, quark struct. and clustering connections 9-6442
⁶Li(α , α), resonant-group kernel function, analytical computation 9-40941
²¹Al(α , α), 41 MeV, elastic and inelastic, ang. distrib., optical and DWBA anal., scatt. pots. 9-556
⁴⁰Ar(α , α), 172.5 MeV, isoscalar giant quadrupole resonance 9-45231
⁸Be(α , α)⁸Be elastic scatt., generalised optical potentials, three-body approximation (Russian) 9-13313
⁹Be(α , α), 6.5 MeV, ¹³C, T=3/2 resonance parameters, ground state γ -decay width 9-3123
CC ¹²C(α , α), 1.37 GeV, elastic and inelastic, Glauber multiple scatt. theory 9-3161
¹²C(α , α), incident ion binding energy effects on scatt., qualitative anal. 9-9600
¹²C(α , α), γ angular correlation function obs. (Russian) 9-13246
¹²C(α , α), 9-11 MeV, elastic and inelastic, resonances and ang. distrib., orthogonality condition model 9-6637
¹²C(α , α), excitation function anal. with allowance for exchange processes 9-9596
⁴Ca(α , α), 40-62 MeV, A=40,44, elastic and inelastic, ang. distrib. and collective state excitation 9-6650
⁴Ca(α , α), A=40, 48, 104 MeV, refined folding model validity 9-509
⁴⁰Ca(α , α), 104 MeV, ⁴⁸Ca-⁴⁰Ca radius difference, optical model calcs. 9-454
⁴⁰Ca(α , α), 104 MeV, density depend. of N-N interaction 9-6660
⁴Ca(α , α), mirror state EM decay rates, multipole matrix element isospin decomposition 9-36190
⁴⁸Ca(α , α), 104 MeV, ⁴⁸Ca-⁴⁰Ca radius difference, optical model calcs. 9-454
¹¹⁴Cd(α , α) (elast. and inelast.), 21 MeV, Coulomb-nuclear interference calcs. 9-26444
¹³³Cs(α , α), 161 keV state magnetic moment and B(E2) values, Coulomb excitation 9-45159
⁴Dy(α , α), A=161,163, 9.0-13.5 MeV, B(E2) values, rigid rotor model validity 9-494
¹⁶⁷Er(α , α), 9.0-13.5 MeV, B(E2) values, rigid rotor model validity 9-494
¹⁵⁵Gd(α , α), 9.0-13.5 MeV, B(E2) values, rigid rotor model validity 9-494
⁴He deduced monopole excitation to O^{+} state DWBA anal. from (α , α') 9-22226
⁴He(α , α), 158.2 MeV, differential cross sections, optical model anal. 9-22307
⁴He(α , α), time dependent HF calcs. reaction cross sections 9-26443
⁷Li(α , α)⁷Li elastic scatt., generalised optical potentials, three-body approximation (Russian) 9-13313
¹⁷⁵Lu(α , α), 9.0-13.5 MeV, B(E2) values, rigid rotor model validity 9-494
²⁸Mg(α , α), 5.9-6.25 MeV, ²⁸Si lowest T=2 resonance α -width, observed narrow resonances 9-45236
²⁸Mg(α , α), 22-26 MeV, intermediate resonances in ¹²C+¹⁶O system, J^π assignments 9-17880
²⁸Mg(α , α)²⁸Mg, exptl. evidence of intermediate resonances, alpha-particle doorway states 9-13314
²⁸Mg(α , α), mirror state EM decay rates, multipole matrix element isospin decomposition 9-36190
⁹⁸Mo(α , α), 8 MeV, multiple Coulomb excitation, fast $2^{+} \rightarrow 0^{+}$ transition 9-17846
²⁰Ne(α , α), 3.0-6.0 MeV, ²⁴Mg radiative decays of unbound high spin states 9-6484
¹⁶O-light ion scatt., exchange Coulomb kernel in resonating group formulation 9-6531
¹⁶O(α , α)¹⁶O, one-channel scatt., nonlocal potential 9-9621
¹⁶O(α , α)¹⁶O, 3.045 MeV, O distrib. profiles, from emitted α -particle energy anal. 9-5213
¹⁶O+ α , 3.6 GeV, emitted proton vel. spectra max. (Russian) 9-9571
²⁰⁸Pb(α , α), elastic ang.-distrib., nuclear contributions, Born approx. validity 9-36252
²⁰⁸Pb(α , α), A=204,206,208, 13.8 MeV, quadrupole moment and B(E3) values 9-17797
⁴Si(α , α), 8-9 MeV, A=32, 34, 2_1^{+} state transient field g-factor meas. 9-36151
⁷Se(α , α), 7.3 MeV, first excited state, static quadrupole moment, deformation evidence 9-17802
⁴Si(α , α), 41 MeV, A=28-30, ang. distrib., optical and DWBA anal., scatt. pots. 9-556
¹²⁴Sn(α , α) (elast. and inelast.), 19.5 MeV, Coulomb-nuclear interference calcs. 9-26444
⁴Te(α , α) A=122,124 (elast. and inelast.), 19.3 MeV, Coulomb-nuclear interference calcs. 9-26444
⁴Ti(α , α), A=46,48,50, 140 MeV, nuclear size comparison, optical model pot. 9-17913

alpha-particle scattering see alpha particle-nucleus scattering**alpha-particle spectra**

- see also *alpha-particle angular distribution*
computer program to determ. average FWHM in background-free spectra 9-31349
monazite mineral, high-energy alpha emitters, $E \geq 10.6$ MeV 9-48467
nuclear π^{-} capture, p, d and α inclusive prod. spectra 9-22338
(p, α), continuous α -spectra, meas. and anal. 9-6585
Ag (π , α), 70 MeV, α cross sections and energy spectra, intranuclear cascade calcs. 9-575
Al(π , α), 70 MeV, α cross sections and energy spectra, intranuclear cascade calcs. 9-575
Au (π , α), 70 MeV, α cross sections and energy spectra, intranuclear cascade calcs. 9-575
¹⁹⁷Au(p, α), 72 MeV, pre-equilibrium α -emission 9-26440
C(π , α), 70 MeV, α cross sections and energy spectra, intranuclear cascade calcs. 9-575
¹⁴N-induced reactions energy relax. during fusion determ. by preequil. α -emission 9-26446
Ni-Cr thin film resistors, α -particle elastic scatt. and PIXE anal. 9-48022
⁴Ni(p, α), A=58, 60, 30 MeV, α -particle angular distrib. 9-6588
Ni(π , α), 70 MeV, α cross sections and energy spectra, intranuclear cascade calcs. 9-575
²²¹Rn, decay scheme, α -, β -, γ -spectra meas. 9-6507
³⁶S(d, α) 3.05-3.26 MeV, α -spectrum, ³⁴P mass and energy levels 9-6632
⁴⁴Ti, α -particle spectroscopic factors, two-oscill. shell model calcs. 9-6386
²³U(α , α), 40 MeV, isoscalar E2 giant resonance α particle search 9-9549
Zn to Ni even isotope transition, α -particle spectroscopic factors, shell model calcs. 9-6385

alpha-particle spectrometers

- see also *alpha-particle spectra*
magnetic α spectrograph performance 9-31316
one-arm magnetic spectrometer, Alfa facility, description and characts. 9-26809
stabilisation using ¹⁴⁸Gd source, multichannel analyser 9-22523

alpha-particles

- see also *cosmic ray alpha-particles and helium nuclei*
alpha reduced widths, point approx., higher order corrections 9-13213
¹⁶O, α -cluster model, clustering and nuclear forces in terms of quark struct. 9-6443

alpha-radiation see alpha-particles**alpha-rays see alpha-particles****alpha-rhythm see bioelectric potentials****alpha-rhythm measurement see electroencephalography****alternators**

- linear, Stirling free-piston engine/alternator power conversion system, 1978 development status 9-48178
linear, Stirling free-piston engine/alternator system, demonstrator engine design 9-48175

altimeters

- satellite, GEOS-3, for remote sensing of ocean surface topography 9-39882

altitude measurement see height measurement**alumina****see also corundum**

- γ -type, adsorbed benzene high-temp. IR spectra (German) 9-28757
adsorption of 2-butanol, PMR spectra 9-19457
adsorption of H_2 , diffusive motion, neutron scatt. study 9-42394
adsorption of isobutyl alcohol, gravimetry, IR investigs. 9-1546
adsorption of linoleic acid, under carbon tetrachloride immersion, IR obs. 9-24822
 β -Al₂O₃-Na₂O, IR high temp. amplitude-phase spectroscopy 9-35860
alkaline earth glasses, 45RO.5Al₂O₃.50P₂O₅, (R=alkali earths), electron beam irradi., exam. of charge accumulation and light-sum kinetics 9-4336
alkaline earth glasses, 45RO.5Al₂O₃.50P₂O₅, (R=Mg,Ca,Sr,Ba), electron beam irradi., temporal change in electric field produced 9-4760
alkaline earth glasses, RO-Al₂O₃-P₂O₅, R=Mg, Ca, Sr, Ba, exam. of electron beam irradiation effects 9-4253
anodic oxide films on superpure Al, growth kinetics and UV radiation effect 9-34190
atomic capture ratio for μ -transferred from μ p to Al₂O₃ 9-10236
Auger peaks, bremsstrahlung-induced, utility in spectroscopy 9-30618
bauxite, Si, Al, Fe determ., neutron activation anal. 9-24858
bone bioceramic implants, surface structure (German) 9-44057
calcined, exam. of morphological changes during calcination by SEM, exam. of sintering behaviour (German) 9-4931
ceramic artificial hip joint wear tests (German) 9-8567
chemisorbed aromatic molecules, radiative and non-radiative transitions 9-36686
chemisorbed formic acid, effect of formate ion conc. on conductance of MIM struct. 9-15233
circuit substrate, TiO₂ doped PbO-ZnO-B₂O₃ glass corrosion protection 9-29236
coating, pore size distrib. and permeability 9-24641
commercial, Na₂O impurity removal and modifier incorporation 9-43183
compact, morphological investigations significance 9-33988
corrosion resistance of phosphate bonded castable, and dense fired types in steam CO at 199°C 9-20222
crystallite size and lattice distortion, determination using X-ray line broadening analysis, appl. to ceramic powders 9-8261
deformation mechanism map 9-34109
epoxy-Al₂O₃ mixture, acoustic wave prop. characts., using differential-path U technique 9-42151
fatigue, static and dynamic in moist air 9-39002
femoral cement-free implant, mechanical strength tests (German) 9-8570
film, DC reactive sputtering prep., IR spectra characterization 9-11513
film, low energy electron absorpt., struct. and absorpt. centres 9-7763
film, refr. index and struct., deposition temp. depend. 9-4857
fracture stress, rel. to flaw and fracture mirror sizes, comment 9-11689
glass resistant, plasma coating props. 9-34164
glazed, cement, as vacuum chamber material 9-40585
ion condensing metal plasma stream, coating microhardness, chemical reactions 9-42426
layer, obtained by reactive evap., surface struct. and morphology (Polish) 9-28242

alumina continued

- layer on Mo film, passivation against IR reflectance losses caused by oxidation 9-3758
 limiter and liner, results in Tokamak Petula 9-655
 liquid, exam. of diffusion parameters, using Al^{26} 9-1518
 liquid, viscosity determ., oscill. cup technique 9-23758
 melting speed, effect of struct. and grain shape (*Polish*) 9-29002
 NMR of ^{27}Al , quadrupole splittings, strain meas. of US modulation 9-28636
 optical props. of F-centre 9-43003
 particulate emission from calcining of clay, removal using electrostatic precipitator 9-24925
 phonon spectroscopy of transition metal ion doped samples using freq. crossing techniques 9-42193
 plasma heating, alumina loaded antenna for lower hybrid wave heating 9-4159
 polycrystalline, conditions for formation of anion vacancies 9-10844
 polymorphic transitions during heat treatment at 900-1500°C 9-11607
 porous, validity of high pressure Hg intrusion porosimetry 9-24697
 porous anodic films formed on Al, cell walls anal. by STEM and energy dispersive X-ray anal. 9-19476
 pre-fired substrate, acid treatment, improvement in as-fired surface finish 9-24636
 radiation damage in HVEM, at high temp. and high dose in α -phase 9-46707
 radiation damage in HVEM, temp. depend. of displacement threshold in α -phase 9-46706
 refractories, stability of refractory bond phases in steam-CO atmosphere 9-24634
 refractory metal- Al_2O_3 systems, vaporis. at elevated temp., mass spectrometric obs. 9-29388
 scales on Pt-Al alloy, elec. props. 9-20282
 sintered surfaces, premetallizing with Mo-Mn-SiO₂ 9-47792
 sintering, effect of furnace atmosphere 9-20010
 sintering behaviour and props. of 24 aluminas (*German*) 9-4932
 sintering in liq. phase presence, particle rearrangement 9-29004
 sintering response with const. rate of heating, depend. on processing related pore distrib. 9-28992
 spark source mass spectrometric study of species 9-29423
 spray coated, reaction with Si, IR investig. 9-39197
 spray dried agglomerates, compaction response, fracture, deform. 9-43172
 steel against Al_2O_3 , elastohydrodynamic contact, lubricated by naphthenic hydrocarbon, IR meas. of surface temp 9-15807
 stopping power and energy straggling meas., Li ion backscatt. anal. 9-3328
 surface, adsorption effects during inelastic electron tunnelling spectroscopy (*French*) 9-822
 surface treatment of insulators with Mn-Ti, effect on voltage-holdoff in vacuum 9-24261
 suspensions, grinding method influence on rheology and suitability for high-density sintering 9-29001
 thermoluminescent trap stability, 450 to 1400°C 9-24372
 valence band density of states from self-deconvolution of $L_{23}VV$ Auger spectrum 9-47561
 whiskers growth by hydrolysis of AlF_3 9-28260
 $2ZrSiO_4 \cdot 3Al_2O_3$, identification of stages in reactive hot-pressing 9-11542
 adsorption of epoxy system, inelastic electron tunnelling spectra 9-15952
 $Al-Al_2O_3$, recrystallisation nucleation in drawn wires, optical and TEM obs. 9-47709
 $Al-Al_2O_3$ electron transport in very thin multilayers 9-4602
 $Al-Al_2O_3-Al$ MIM struct., elec. cond., island metal struct. 9-15231
 $Al-Al_2O_3-Hg$ systems, I-V characts. at room temp. for different thicknesses 9-47172
 $Al-Al_2O_3-In_2O_3-Sn$ tunnel junction, light emission via inelastic tunnelling effect 9-24076
 $Al-Al_2O_3-InSb$ MIS structures, recomb. processes and carrier lifetimes 9-38177
 $Al-Al_2O_3-Pd$ diodes, resonant tunnelling via localized impurity states 9-28416
 $Al_2Ga_{2(1-x)}O_3:Cr^{3+}$, luminesc., lifetime, 77 and 4K, struct., energy transfer 9-28798
 $\beta-Al_2O_3$ compounds, stoichiometry, phase transition and conductivity 9-23773
 Al_2O_3 , DC reactively sputtered, in MIS structs. optical and elec. props. 9-19486
 Al_2O_3 , derived from metalalkoxides, sintering behaviour 9-29005
 $\gamma-Al_2O_3$, electronic struct., determ. by X-ray spectroscopy 9-8210
 $\alpha-Al_2O_3$, noncubic cryst., axial-to-planar channelling transition 9-4367
 Al_2O_3 , vitreous-bonded, mech. behaviour under various stress-time schedules 9-38968
 Al_2O_3 , X-irrad., electron and hole traps, TSC and optical bleaching meas. 9-28356
 $Al_2O_3:CrCl_3$, calcination, mag. and optical studies of CrO_3 9-24736
 Al_2O_3/Al clad powder prep. and physicochem. props. 9-29010
 Al_2O_3/Al soldered samples, UTS and fracture surface comp., 20 to 500°C 9-38941
 β - $11Al_2O_3-Ag_2O$, sublattice phase transition, stoichiometric 9-42241
 $Al_2O_3-Ag(Au)(Cr)(Cu)$ cermet selective surfaces for evacuated solar collectors 9-43785
 $Al_2O_3-Cr_2O_3$ melt, exam. of surface tension and density 9-1541
 $Al_2O_3-Dy_2O_3$, phase diagram at high temps. (*Japanese*) 9-38810
 Al_2O_3 -epoxy mechanical mixtures, stress-wave propag. model, dynamic response expts. 9-1477
 Al_2O_3-Fe cermet, microstruct. and physical props. 9-42279
 $Al_2O_3-Fe_2O_3:Cr^{3+}$, dil. paramag. system, Cr^{3+} conc., effect on cross relax. 9-15387
 $Al_2O_3-Fe_2O_3:(Cr^{3+})$ paramag. system, cross relax. temp. and mag. field effects on Mossbauer spectra 9-33576
 $\beta-Al_2O_3-H_2O^+$, high press. thermal stability 9-23678
 $\beta-Al_2O_3-H_2O^+$ protonic cond., struct. investig. 9-19213
 $\beta-Al_2O_3-H^+(H_2O)_n$, p-type conductor, stability (*French*) 9-38063
 $\beta-Al_2O_3-K_2O$, K-content determ., ave. backscatt. spectra anal., rot. sample technique 9-5208
 $\beta-Al_2O_3-Li_2O$, Raman scatt. from $^6Li^+$ and $^7Li^+$ ions 9-28766
 $Al_2O_3-MgO-Cr_2O_3$, effect of Cr_2O_3 on surface grain growth 9-23815
 $\beta-Al_2O_3-NH_4^+$, high press. thermal stability 9-23678
 $\beta-Al_2O_3-NH_4^+$, p-type conductor, stability (*French*) 9-38063
 $\beta-Al_2O_3-NH_4^+$, protonic cond., struct. investig. 9-19213
 $\beta-Al_2O_3-Na_2O$, diffusion of Na^+ , effect of path tortuosity and anisotropy 9-28140

alumina continued

- $\beta-Al_2O_3-Na_2O$, grain boundaries and ionic cond. 9-23620
 $\beta-Al_2O_3-Na_2O$, hot pressing and phys. props. 9-4940
 $\beta''-Al_2O_3-Na_2O, Li_2O$ stabilized β'' phase, texture conductivity relationship 9-47788
 $\beta-Al_2O_3-Na_2O$, synthesis, ceramic form., sintering, cond. 9-11537
 $\beta-Al_2O_3-Na_2O$ 9-19396
 $\beta-Al_2O_3-Na_2O$ electrolyte development for Na-S battery 9-29461
 $\beta-Al_2O_3-Na_2O$ tube life determ. for Na-S battery 9-29462
 $\beta-Al_2O_3-Na_2O:Cr$, absorpt. and emission spectra, mag. susceptibility 9-15495
 $\beta-Al_2O_3-Na_2O-K_2O$, cation interstitial pair modes in vibr. spectra 9-37788
 $\beta-Al_2O_3-Na_2O-Li_2O, ^7Li$ NMR 9-15361
 $\beta-Al_2O_3-Na_2O-Li_2O$, struct. determ. by powder neutron diffr. 9-46623
 $\beta-Al_2O_3-Na_2O-Rb_2O$, cation interstitial pair modes in vibr. spectra 9-37788
 $Al_2O_3-Nb_2O_5-NiO$, isothermal phase sections, 1100, 1250, 1400°C (*Italian*) 9-20032
 $Al_2O_3-SiO_2$, derived from metalalkoxides, sintering behaviour 9-29005
 $Al_2O_3-SiO_2$, mullite, powder, synthesis using silicic acid, clay and $AlCl_3$ (*German*) 9-4933
 $Al_2O_3-SiO_2$ fibre/mineral wool fibre composites, exam. of strength and shrinkage characts. rel. to $Al_2O_3-SiO_2$ fibre content effects 9-20105
 $Al_2O_3-SiO_2$ melt, exam. of surface tension and density 9-1541
 $Al_2O_3-SiO_2-CaO-B_2O_3(1,1,1 \text{ wt.}\%)$ chemical analysis by photocalorimetry and titration 9-20483
 $Al_2O_3-SiO_2-MgO$, cordierite, powder, synthesis using silicic acid, clay and $AlCl_3$ (*German*) 9-4933
 $Al_2O_3-SiO_2-TiO_2-B_2O_3-Fe_2O_3$, exam. of porous structure, using a combinational method 9-29303
 $Al_2O_3-TiO_2$ coating, prep. by plasma arc spraying and characterisation 9-23873
 $\beta-Al_2O_3-X_2O$, ($X=Na, K, Rb, Ag, Tl$), infrared and Raman spectra 9-1761
 $Al_2O_3-ZrO_2$, tetragonal to monoclinic transform. of ZrO_2 particles (*German*) 9-43240
 $Al_2O_3-ZrO_2$ composite, fracture toughness increase by microcracking in energy dissipative zone near crack tip 9-20156
 Al_2O_3+TiC system, elastic and fracture charact. at elev. temp. (*German*) 9-43299
 $(Al_2O_3)_xMgO$, spinel composition, dislocation climb, mass transport 9-32996
 $Al_2O_3 \cdot 3H_2O-H_3PO_4-CaO(ZnO)$, phase equil., $AlPO_4$ solid soln. 9-11586
 $BaO-Al_2O_3-SiO_3-H_2O$ system, phase transitions during hydrothermal treatment 9-43216
 $BeO-Al_2O_3-V_2O_5$, mixture kinetics and mechanism of formation of crysoberyll 9-11535
 $CaAl_2O_4$ cement bond phases, corrosion in steam-CO at 199°C 9-29234
 $CaAl_2O_5$, form by interdiffusion of CaO and Al_2O_3 9-28998
 $CaAl_2O_5$, form. by solid state reaction of CaO and Al_2O_3 , electric field effects 9-28997
 $CaO-Al_2O_3$, binary slag, reduction of Al_2O_3 by C saturated Fe (*Japanese*) 9-24733
 $CaO-Al_2O_3-H_2O$ system, chemical degradation under high gaseous pressure and temp. 9-20464
 $Cr_2O_3-Al_2O_3-ZrSiO_4$, exam. of microstructure by optical microscopy 9-29073
 $Cr_2O_3-Al_2O_3-ZrSiO_4$ system, electrosmelted refractories, phase comp., corrosion and glass resist. Cr^{3+} conc. depend. 9-33982
 $Cu-Al_2O_3$, dispersion hardening single crystal, cyclic deform. (*French*) 9-1893
 $Cu-Al_2O_3$ coatings, electrodeposited, dispersion hardened, exam. of props. 9-34181
 $Cu-Al_2O_3$ composite coating, electrodeposited, exam. of particle-cathode adhesion during formation 9-33954
 $Cu-Al_2O_3$ electrodeposits, dispersion hardened, props. 9-28258
 $K_2O-Al_2O_3-B_2O_3$, subsolidus compatibility relations determ. (*Japanese*) 9-4957
 $La_2O_3-Al_2O_3$ system, alumina rich phase, X-ray obs. 9-29030
 $LiF-Li_2O-Al_2O_3-P_2O_5$ glass, ionic cond., transport numbers determ. 9-28143
 $MgO-Al_2O_3-Fe_2O_3-SiO_2$, cordierite, in ceramic, effect of heat treatment on cordierite content 9-20039
 $MgO \cdot 3.5Al_2O_3$, precipitation during creep experiments 9-47694
 MoO_3/Al_2O_3 , catalyst support system, Raman obs. 9-28734
 $Na_3AlF_6-LiF-CaF_2-AlF_3-Al_2O_3$, electrolyte, exam. of phase equilibria, review 9-11590
 $NaCl-Al_2O_3$, threshold stress in particle inhibited diffusive creep 9-38922
 $Na_2O-Al_2O_3-B_2O_3$ glasses, kinetic study of Cu^+-Cu^{2+} equil. 9-8448
 $Na_2O-Al_2O_3-P_2O_5$, exam. of subsolidus structure 9-4954
 β and $\beta-Na_2O_3-Na_2O$, selection rules for spinel-block modes 9-19332
 $Nb_2Sn-Al_2O_3$ composite, electron beam deposited, microstruct., rel. to supercond. props. 9-37935
 $Ni-Al_2O_3$ composite coating, electrodeposited, exam. of particle-cathode adhesion during formation 9-33954
 $Ni-Al_2O_3$ cermet, fabrication and mech. characts. 9-38781
 $Pb-Al_2O_3-HgSe$ junction, asymmetry of tunnelling characts. 9-47169
 $PbO-B_2O_3-SiO_2-Li_2O-Al_2O_3$, glass enamel, chemical durability and microstruct., Al_2O_3 addition effect 9-29255
 Pd/Al_2O_3 catalyst, contact poison 2-methylthiophene damage reduction by neutron irradi. (*Russian*) 9-20467
 $\beta-Si_3N_4-AlN-Al_2O_3-MgO$, insolubility of Mg in $\beta-Si_3N_4$ 9-10953
 SiO_2/Al_2O_3 ratio in zeolite containing catalysts, IR spectra, struct. 9-42958
 $SiO_2-Al_2O_3$ mixture, depend. of phase comp. on nuclei available 9-11584
 $SiO_2-Al_2O_3-CaO-MgO-Na_2O-K_2O-B_2O_3-ZrO_2$, glaze, exam. of zircon crystallisation 9-19155
 $SiO_2-CaO-Na_2O-TiO_2$ system, water, alkali, acid resist., chem. durability 9-34162
 $Si_2ON_2-Y_2O_3-Al_2O_3$ phase relations at 1400°C (*Japanese*) 9-38811
 $Ti-Al_2O_3$ system mixed films, prep., phase comp., struct. and elec. props. 9-37930
 $Y_2O_3-Al_2O_3$, thin film, electron diffraction exam. of phase transformations (*Russian*) 9-34025
 $Zr-Al_2O_3$ couple, diffusion welding, 1000 to 1300°C (*German*) 9-28155
 $ZrN-Al_2O_3$, effect of N on sintering 9-33991
 $ZrSiO_4-Al_2O_3$ mixture, reaction hot pressing 9-38775

aluminium

see also nuclei with

- ²⁶Al in seawater rel. to oceanic residence times of dissolved Al 9-34856
²³²Pu₂ at. quadrupole shielding factor 9-10222
 abrasion, low speed, strain rate effects 9-20208
 acoustic wave drag, acousto-elec.-mag. effects (*Russian*) 9-19638
 adhered lap-shear and double cantilevered beam specimens, cyclic stress testing 9-15820
 adsorption of O₂, AES, XPS, and LEED obs. 9-46938
 adsorption of small molecules, photoelectron spectra, surface plasmon spectroscopy 9-47148
 albedo number meas. using ⁶⁰Co, ¹³⁷Cs sources 9-26768
 anodic layers, coloured, prep. by ultramicrotome without embedding for TEM and X-ray obs. 9-39074
 anodic oxide film, porosity determ. by pore filling method 9-47848
 anodisation, barrier and porous layer regions of Al₂O₃, eqn. 9-5089
 anodised, electrolytic colouring, improvements 9-15870
 anodised layer, exam. of factors affecting abrasion resistance 9-34207
 anodized, inorganic glass coating, solution deposited, environmental protection 9-34205
 atom, spectral anal. in HV impulse discharge sensitivity limit 9-29420
 Auger electron microscopy, edge effect, Monte Carlo simulation 9-1801
 beam, exam. of elastoplastic contract strength law, using impact bending (*German*) 9-43365
 bicrystal, faceting of migrating (110) coincidence boundaries 9-46680
 bicrystal, migration of special (110) tilt boundary 9-46670
 bimetal film with Cu, Ti(V.Ni) and alloy MLT(RS-3710), struct. and macroscopic defects (*Russian*) 9-1555
 blistering and exfoliation by 2 MeV He⁺ beam 9-46722
 bonded Al-CFRP single lap joint strength 9-29328
 cantilever beams, nonlinear damping for nonisotropical strain 9-47762
 chain of Al rings, plastic extension due to axial impact load 9-18737
 chemical polishing, electrochem. props. of soln. 9-29282
 chemisorbed monolayer on Si (111) surface, local density of states 9-47142
 chemisorption, charge-density maps 9-19453
 chemisorption of CO, interatomic Auger transition spectroscopy 9-7747
 chemisorption of H₂, calc. of adsorption sites and binding energy 9-46953
 circular plate perforation and deformation by square section punch 9-34100
 cladding of Al₂O₃ and ZrO₂ 9-29010
 coating for optical fibres, empirical formula for induced excess loss 9-46074
 coating thickness determ. H₂ generating method (*German*) 9-35660
 coatings on superalloys, improvement by sputtering (*French*) 9-29278
 combustion in water vapour, thermodynamic calc., 0.1 to 40 MPa (*Russian*) 9-39148
 corrosion during 10 years at coastal site at Alicante 9-20244
 corrosion-protective chromate coatings, characterisation 9-47798
 creep, press. effect (*Russian*) 9-29134
 creep and rupture, 77 to 273K (*Russian*) 9-43386
 creep and rupture, in torsion, mech. (*Russian*) 9-5030
 creep strength and rupture under combined stresses 9-20133
 critical pitting potential meas., review 9-43501
 crystal orientation effect on their cutting mechanism in single crystals 9-34193
 cutting mechanism, anisotropy effects 9-11760
 deformation mechanism map 9-34109
 deformed, positive muons diffusion and trapping 9-11372
 depth resolution for MeV ⁴He⁺ backscattering in C, Al, Cu 9-14840
 determination, by neutron activation anal., 14 MeV (*Czech*) 9-24862
 determination in bauxite by neutron activation anal. 9-24858
 diagnostic radiography, diff. phenomena on using Al attenuation-equalising filters 9-39486
 dielectric function pseudopot. theory, vol. plasmon dispersion 9-23917
 dielectric screening function and effective interaction strength 9-33387
 diffusion in migrating interfaces 9-19390
 diffusion of Hg, Tl, Pb (*Japanese*) 9-19403
 dislocation dynamics study by current noise measurements 9-14813
 dislocation interactions with grain boundaries, in annealed and creep polycryst. specimens 9-42067
 dislocation velocity, from amplitude-dependent internal friction 9-11653
 dynamical factors calcs., by multi-slice dynamical diff. methods 9-23505
 electrical resistivity and magnetoresist., anisotropic temp. depend. (*Russian*) 9-11103
 electrochemical displacement reactions, electron microscope obs. of nucleation and growth, comparison of Cu/Fe and Cu/Al cementation systems 9-47939
 electrolysis units, air washing tests (*French*) 9-29493
 electron backscattering, X-ray prod., energy distrib. calc. 9-38698
 electron beam evaporation, high rate deposition on strip steel 9-24440
 electron beam impact, measurement of dynamic response using laser interferometer 9-42102
 electron inelastic mean free paths and energy losses, electron gas model 9-46732
 electron inelastic mean free paths and energy losses, electron gas statistical model 9-46733
 electron-phonon interaction, press. depend. rel. to normal state resist. 9-28063
 electronic stopping power of H₂⁺ 9-10888
 energy loss of 120 keV heavy ions, range and range straggling determ. 9-45595
 energy release during annealing, Bragg diff. expt. with Mossbauer γ rays 9-24546
 epitaxial growth, on alkali halide substrates, role of phase interaction, TEM study 9-46979
 epitaxial layers, elec. props. 9-42671
 fatigue, effect of pre-existing subgrains 9-5041
 fatigue hardening at various test freqs. 9-24539
 FCC, stacking fault, antiphase boundary energies, investig. methods, review (*French*) 9-42080
 FCC single crystal, crystal rotation accompanying scratch deform. (*Japanese*) 9-15733
 Fermi surface, positron annihilation study 9-4869
 film, (e, 2e) reaction, ang. correlation functions, plasmon satellites 9-19955
 film, caesiated, photoelectron escape length, 1.5-4 eV (*French*) 9-47585
 film, condensation from partially ionised vapour flow, peculiarities of form. and struct. 9-28252
 film, evaporated, oxidation resistivity change meas. (*Japanese*) 9-11723

aluminium continued

- film, ion plated, morphology exam. by SEM 9-28251
 film, ion plating, through mask hole, thickness nonuniformity (*Japanese*) 9-19999
 film, on simple cryst. Si slices, long-term tests 9-33346
 film, supercond., meas. of effective quasiparticle recombination times, density of electronic states at Fermi level 9-38264
 film, superconducting, metastable current states 9-15265
 film, vapour deposited on polymer, ageing, adhesion, elec. cond., electrochem. pot. (*Russian*) 9-33362
 film, vol. plasmon dispersion and damping, electron energy loss spectra 9-7797
 film pulse biased sputter deposited, Kr entrapment 9-28255
 foil, 8 ns laser pulse-target interactions, ion-expansion struct. 9-14575
 foil, flaw detection using proton radiography 9-15939
 foil, partially stripped ¹²C⁺ energy straggling 3-36 MeV 9-41237
 fracture mechanism, plastic strain role 9-38977
 fracture under influence of high power US waves (*Russian*) 9-5034
 galvanic corrosion, anal. for coplanar electrodes with one electrode infinitely large 9-8398
 gamma-ray scattering, incoherent, total at. cross section 9-13679
 grinding wheel loading meas. using neutron-activated workpieces 9-5070
 Gruneisen parameter determ. using thermoelastic effect 9-28068
 Gruneisen parameters, dynamical study using modified Bhatia model 9-37797
 Gruneisen parameters, low temp. 9-23694
 hermetic jacketing on SiO₂ fibres, reductions in static fatigue 9-43448
 hydration, in vap. phase, rel. to upper atmosphere chemiluminesc. 9-29362
 hydroextrusion, effect of longitudinal US oscils. (*Russian*) 9-34071
 immersion plating of Au on Al, adhesion and contact resist. 9-39033
 implanted ^{119m}Sb, Mossbauer spectroscopy, isomer shift and Debye-Waller factors 9-24240
 inclusion, in Si, behaviour during annealing in elec. field (*Russian*) 9-23779
 industrial, depth profiling by ion microprobe with high mass resolution 9-46894
 initial oxidation, interatomic Auger transition spectroscopy 9-7746
 interstitial clustering following electron irradiation at low temp. 9-19243
 intrinsic stacking fault energy, effect on cyclic hardening 9-11638
 ion bombarded, L₂₃ shell ionisation cross-section under H⁺, heavy-ion impact, Auger spectra (*French*) 9-24406
 ion-implanted, dechannelling by dislocations, backscatt. expts. 9-7642
 junction growth, expt. anal. with junction model 9-47783
 K-shell X-ray production, by 0.4 to 2.4 MeV ⁴He and ¹H ions 9-47550
 Kapitza conductance, heat transport through subcooled He II 9-23794
 laminate, free-free plates, predicted and expt. natural modes 9-10520
 lateral spread distribution widths MeV He ions in C, Al, Cu from energy spectra 9-14860
 liquid, electron component of entropy (*Russian*) 9-23747
 liquid, isothermal compressibility, harmonic pot. model calc. 9-14870
 liquid, radial distrib. function calc., pseudopot. method (*Russian*) 9-19138
 liquid, resist. and thermo-electric power using corrected parameters of Shaw model 9-19566
 liquid, short-wavelength density fluctuations 9-46550
 liquid, X-ray diffraction analysis 9-4232
 liquid structure factor, 680 to 840°C, neutron diff. study 9-46552
 magnetoresistance, elec. field distrib. in strong mag. fields (*Russian*) 9-11104
 mean excitation energies from α -particle stopping power meas. 9-13615
 membranes in pulsed electron beam, temp. and ultimate load calcs. 9-45484
 metal beam epitaxy, high temp. high purity sources 9-43156
 metallization of semiconductor devices by high rate magnetron/plasmatron sputtering 9-28919
 microcrack singularities in low stress range at elevated temp. (*Russian*) 9-29172
 mirror, acted on by laser radiation, reflectivity meas. 9-10342
 mirror, SiO₂ protected, far UV-refl., UV irr. effects 9-7191
 mirror IR reflectance at 45° incidence, obs. 9-14074
 mobile dislocation density determ. from sound velocity 9-19258
 molten, determination of H content, using electrochemical probe 9-11843
 molten, graphite wetting, effects of US 9-15629
 multiple plasmon excitation, in-energy loss spectrum 9-4872
 muonic atoms, Lyman series, muon transfer effect 9-7040
 non-pair inter ion interaction through cond. electrons, inelastic neutron scatt. study (*Russian*) 9-46773
 nonequilibrium superconductivity in microwave field 9-42695
 nuclear acoustic resonance, influence of longitudinal and transverse magnetoresistivity 9-24222
 nuclear acoustical reson., 20-80K 9-8058
 oriented single crystal, plastic deform. (*Japanese*) 9-43336
 overlayers on Si (111) surface, surface electronic struct., self-consistent pseudopotential method 9-4595
 oxidation in hot water, electron microscope obs. of initial stages 9-11718
 oxidised surface, EXAFS in soft-X-ray region 9-37921
 phonon dispersion curves, lattice dynamics unpaired forces 9-42170
 phonon scattering surfaces, obs., by neutron film methods 9-46761
 photoionisation and electron impact ionisation relationship, mean free paths 9-22672
 photoelectric cross sections, from total absorption cross sections, 5 to 130 keV 9-26947
 photoelectron spectral yields from monochromatic soft X-radiation 9-22757
 photoemission from (100), (110), and (111) cryst. faces, surface states 9-4893
 photoemission spectrum for exploding wire radiator source, Boltzmann eqn. soln. 9-26949
 photoemission study of energy depend. of bulk plasmon loss intensity 9-47035
 photon absorption and photoelectric cross-sections calcs. 9-31486
 pitting corrosion in Cl solns., electrochemical exam. 9-20248
 plasma, X-ray photoabsorp. coeff. 9-27754
 plasma anodisation current efficiency (*Japanese*) 9-24655
 plasma vapour surrounding plane target, light propag. in plasma vapour, 10.6 μ m laser 9-23435
 plasmon loss intensities in XPS, Auger and electron energy loss spectra 9-38012
 plasmon struct. obs. in K photoabsorp. spectra 9-38693
 plastic anisotropy of textured sheet (*Japanese*) 9-34103

aluminium continued

plastic deform., strain rate history and temp. effects depend. 9-11684
 plastic deform. of poly- and single-crystals, AE study 9-24579
 plastic deformation meas. in normal and supercond. states, down to 0.4K (Russian) 9-11658
 plastic flow under torsion, thermoactivation parameters (Russian) 9-38926
 plastically deformed by pulsed mag. field, mobility of Fe atoms, radiator profiles 9-28584
 plastically deforming at high strain rates, distrib. of temp., strain rate and strain 9-19311
 plastically prestrained, dynamic props. 9-15743
 plasticity, temp. and rate dependence for different rigidities of stressed state (Russian) 9-29139
 plates, exam. of stress conc. around conical cutouts, using strain gauges 9-41639
 polishing, electrolytic and chemical, SEM exam. of gassing defects 9-34206
 positron annihilation momentum spectra, low temp. depend. 9-19948
 positronium formation at surface, positron beam irradi. 9-13845
 proton energy staggering in ion backscatt. expt. 9-37750
 recovery from coal combustion wastes, using combustion sinter-dilute acid leach methods 9-48063
 recrystallisation dislocations formation, during recrystn. in single crystals, study by X-ray synchrotron topography 9-38849
 recrystallisation nuclei form. and well defined deform. band struct. 9-20136
 reduction cell, C cathode intercalation props. 9-43559
 rolling discs, coeff. of friction 9-14360
 sacrificial anode dissolution, Hg effect study using ion implantation 9-39016
 SAW attenuation coeffs. and wave speeds 9-46903
 secondary electron emission 2-12 MeV electron impact, Monte Carlo calc. 9-28868
 secondary ion emission, energy spectra, 0-55 eV, contamination levels 9-15573
 single cryst., primary knocked-out atom, energy of spatial distrib., modelling of 0.2 MeV proton trajectories 9-14864
 single crystal, deformation behaviour during cold rolling 9-47751
 single crystal, nonstop uniaxial tensile tests, electro-optical image intensifier 9-34277
 solar selective absorbers, Si on Al, interf. films deposited on diff. gratings 9-14103
 spreading of high-press. polyethylene melt, index 9-37902
 sputtered excited Al particles, effect of O during ion bombardment on spectra 9-38703
 SQUID, granular supercond. characterisation 9-28489
 steel, stainless, fibre reinforced Al, CC strengthened by lattice transformations, mech. props. study (Japanese) 9-43332
 stopping power and energy straggling meas., Li ion backscatt. anal. 9-3328
 stopping power of valence electrons, Monte Carlo calcs. 9-10886
 stopping powers, low energy, determ. by TOF techniques 9-45594
 strained, localised corrosion on slip steps 9-20265
 strips, supercond., order-parameter relaxation meas. 9-47207
 structure sensitive props., temp. hysteresis after melting and crystallisation (Russian) 9-29036
 substrate, adhesion and hydrophilicity of glow-discharge-polymerised propylene coating 9-15829
 superconducting, an anomalous strain-rate sensitivity of flow stress 9-43313
 superconducting film, granular, edge pinning in perpendicular mag. fields 9-4633
 superconducting film, granular, O content and oxide barrier thickness, transition temp. meas. 9-15250
 superconducting film, microwave enhanced critical current, charact. time const. meas. 9-24102
 superconducting film, resistive states, voltage switching effect in tunnelling systems (Russian) 9-7938
 superconducting films, thick, phonon damping of virtual levels 9-4626
 superconducting films, tunnelling with spin polarised electrons 9-4627
 superconductor, order-parameter relax. time calc. 9-4618
 superplasticity in single crystals 9-1901
 superpure, anodic oxide film growth kinetics, UV radiation effect 9-34190
 surface, (110), prep. and props. of Pb and Sn monolayers 9-15018
 surface, Ar^+ and e^- excited Ar Auger electron emission 9-47560
 surface, light diff., photon excitation of compound plasmon resonances 9-28307
 surface, porous anodic films, cell walls anal. by STEM and energy dispersive X-ray anal. 9-19476
 surface, single cryst. unoccupied surface resonances, surface soft-X-ray absorption spectroscopy 9-28862
 surface (111), chemisorpt., of O_2 , SCF X_α scatt. wave MO calc. 9-42374
 surface diffusion on Si (111) 9-28184
 surface effects on X-ray level widths 9-47147
 surface film electronoptical exam., appl. of ultramicrotomy to specimen prep. 9-47847
 surface photoelec. effect, surface photoemission spectroscopy on jellium 9-4900
 surface photoelectric effect, optical excitation using synchrotron radiation 9-4892
 surface relaxation using surface EXAFS 9-23816
 surface roughness effects on the energy dispersion of backscattered protons 9-24403
 surface subjected to friction, wear, exoelectron emission, rel. to O_2 , H_2O , gaseous adsorpt. 9-1816
 surfaces, Au-coated and diamond-turned, EUV reflection efficiencies 9-14073
 surfaces, interaction with O_2 , work function changes and ellipsometric parameters 9-47831
 surfaces, Van der Waals forces computation 9-15204
 target, spatial distrib. of heating by laser-ignited air plasmas 9-23433
 thermal diffusivity meas. by flash with negative pulse, plasma jet heating 9-37888
 thick film, supercond., tunnelling characts., geometrical reson., in Al-Pb struct. 9-38260
 thin films, discontinuous, thickness meas., electron mode microanalyser 9-2744
 thin films, vacuum deposited, influence of film thickness on internal stresses magnitude (Russian) 9-37938

aluminium continued

thin foil thickness meas. using ^{148}Gd and ^{241}Am alpha-particles 9-30417
 tilt boundaries (110), computer simulation, struct. and symmetry 9-37713
 Tokamak toroidal field coil shielding calc. 9-31212
 torque and length change during fracture in torsion test (German) 9-24611
 torsional fatigue and bending tests 9-43521
 transient reflectivity at 10.6 μm 9-11408
 tribomechanically activated, photostimulated electron emission 9-33905
 tunnel junction, barrier layer structure, mol. adsorption mechanisms (Russian) 9-31634
 twin and stacking fault energies 9-38018
 US velocity, depend. of applied stress and third order elastic const. (Japanese) 9-29124
 US wave excitation by electron beam 9-14888
 vacancy electron density, local electronic struct. theory 9-1580
 vacancy formation energy, thermal expansion meas. 9-14798
 vacuum deposition on GaAs (001), perfect and faceting growth 9-47632
 vacuum-condensed film, structural changes under glow discharge (Russian) 9-15852
 water/Al/adhesive/Al/water five layer struct., time domain anal. of US propag. 9-20319
 X-ray appearance pot. spectrum, 1s soft, struct. 9-33862
 X-ray Debye-Waller factors, CGW vs. DAF models 9-37794
 XPS angular depend. (Russian) 9-38722
 Al I, electron impact line broadening in arc spectra 9-26919
 Al I line broadening and shifts by van der Waals interaction with Ar and He atoms 9-6912
 Al, neutron irradi., μ^+ mobility and trapping by vacancies, muon spin rot. meas. 9-4757
 Al XII, He-like ion resonance line satellites 9-10064
 Al $^{+}$, metastable, electron affinity calcs. 9-31439
 Al:He, excited He atom lifetime, optical absorption 9-38578
 Al/(Zn)-phthalocyanine/Au, photovoltaic effects, illuminated thin-film cell props. 9-4605
 Al/(Zn)-phthalocyanine/Au, photovoltaic effects, dark elec. props. of rectifying cells 9-4604
 Al/Al $_2O_3$ vacuum deposited laminates, struct. and mech. props. 9-28219
 Al/Cu laminates, vapour deposited, strength enhancement 9-24576
 Al/Ge multilayered superconducting films, crit. fields and crit. temps. 9-7945
 Al/Ge/Al sandwich structs., interdiffusion effect on Ge film conductivity 9-23788
 Al/Mg soldered samples, UTS and fracture surface comp., 20 to 500°C 9-38941
 Al/NiSi/Si system, high temp. interaction study, elec. and struct. characts. 9-24075
 Al/Sn interface, effect of plastic deformation on structure and adhesion strength of interface (Russian) 9-28218
 Al-Ag, struct. of two-layer film 9-23851
 Al-Ag, thin-layered laminates, yield strength rel. to dislocation generation and motion 9-20137
 Al-air batteries, mechanically rechargeable, for automotive propulsion 9-48103
 Al- Al_2O_3 , recrystallisation nucleation in drawn wires, optical and TEM obs. 9-47709
 Al- Al_2O_3 electron transport in very thin multilayers 9-4602
 Al- Al_2O_3 -Al MIM struct., elec. cond., island metal struct. 9-15231
 Al- Al_2O_3 -Hg systems, I-V characts. at room temp. for different thicknesses 9-47172
 Al- Al_2O_3 -In $_2O_3$ -Sn tunnel junction, light emission via inelastic tunnelling effect 9-24076
 Al- Al_2O_3 -InSb MIS structures, recomb. processes and carrier lifetimes 9-38177
 Al- Al_2O_3 -Pb tunnel junction, depend. of conductance corres. on chemisorbed ion conc. in barrier 9-15233
 Al- Al_2O_3 -Pd diodes, resonant tunnelling via localized impurity states 9-28416
 Al- As_2Se_3 -Al, photographic process based on electrochem. reactions (Russian) 9-6213
 Al-CdS-Au structure, interfacial phenomena, complex impedance meas. (French) 9-42668
 Al-CdTe-Al thin film VLF dielectric props. (Slovak) 9-7907
 Al-Cu, thin-layered laminates, yield strength rel. to dislocation generation and motion 9-20137
 Al-CuAl $_2$ lamellar composite, creep, microstruct. obs. 9-8331
 Al-dimethyl terephthalate contacts, effect of elec. field on contact electrification 9-19660
 Al-epoxy adhesive joints, cohesive-interfacial mixed-mode fracture 9-39110
 Al-GaAs interfaces, chemically induced charge redistrib. 9-33342
 Al-Ge photovoltaic cell, charact. 9-40612
 Al-graphite two-dimensional shield, neutron penetration meas. 9-3245
 Al-I-Pb tunnel junction, clean and doped, tunnelling conductance 9-15232
 Al-insulator-Al(Au) diodes, elastic tunnelling current 9-42666
 Al-monolayer-Pb, supercond. junction, electron tunnelling meas. 9-28482
 Al-PMMA laminated composites, shock wave propag., flash radiographi obs. 9-4370
 Al-Pb junction, intensity and line-shape measurements in inelastic electron tunneling spectroscopy 9-24104
 Al-SiO $_2$ -Si, MOS struct., lateral photovoltaic effect 9-4601
 Al-SiO $_2$ -Si capacitors, transient capacitance temp. depend., -40 to 70°C 9-47167
 Al-SiO $_2$ -Si Schottky barrier solar cells, recomb. effects 9-39310
 Al-V-Ti junction, spin-dependent electron tunnelling 9-19700
 Al-ZnO-SiO $_2$ -Si monolithic MIS struct., charge-transfer device using SAW 9-11229
 Al $^{+}$ +N $^{n+}$ (O $^{n+}$)(N $^{n+}$), X-ray prod. and electron transfer cross-section 9-45790
 AlCl $_3$ -Al chemically deposited photosensitive cells, photovoltaic characts. 9-39303
 Al $_2O_3$ /Al soldered samples, UTS and fracture surface comp., 20 to 500°C 9-38941
 ^{26}Al in Fe meteorites and past cosmic ray intensity 9-44422
 ^{26}Al , prod. from stellar evolutionary sequence 9-5809
 ^{26}Al , search for effects in Allende meteorite FUN inclusion Cl 9-16896
 ^{26}Al , solar system synthesis limits from carbonaceous chondrites B concs. 9-16897

aluminium continued

- ²⁷Al⁺ ion ranges in Ti(Ni)(Cu)(Mo)(Ag)(Ta)(W)(Au)(Pb), meas. by (p, γ) reson. broadening 9-46729
 Al|chlorophyll-a|Hg|In, sandwich cell, photovoltaic, rectifying and tunnelling effects 9-1628
 B fibre reinforced Al, prep. by reaction sintering 9-38769
 B fibre reinforced Al, stress redistribution in fibre elastic deformation failure (*Russian*) 9-47740
 B fibre reinforced Al alloy 6061, cross plied laminate, tension-compression fatigue 9-38940
 B fibre reinforced Al composites, corrosion, electrochem. behaviour 9-20225
 B fibre/Al laminates, use in neutron collimators 9-45506
 BaTiO₃-Al, 0.05-0.3 wt.%, ceramic dielectric, dielec. and mech. props. 9-8091
 C fibre reinforced Al composite, C-Al contact interaction kinetics 9-20007
 Ga/Al ratio vars. along Reykjanes Ridge and Iceland 9-8617
 Ga-Al and Ge-Si fractionation in Hawaiian volcanic rocks 9-12112
 p-GaAs-Al interface, produced by diffusion method using heavily doped GaAs, rectifying props. 9-28409
 Si:Al, valley-orbit splitting of bound exciton states 9-28290
 Si:Se:Al, diffusion of Se, solubility and ionization levels, Hall effect and photocond. meas. 9-42486
 Si-Al optically thick, plasma, use of multiple photoexcitation to obtain lasing at 44 Å 9-3684
 Si-Al solid-phase epitaxial growth, substrate effects, SIMS and backscatt. spectra 9-42421
 Si-Al-Si, isothermal version of the moving solvent method 9-1824
 α-SiC:Al diodes, ion implanted, transient characts. of electrolum. 9-24369
 SiO₂-Al implantation, in MOS struct., trapped charge location, using photo I-V technique 9-15227
 SiO₂ film, Al implantation, in MOS struct., electron traps characts. obs. 9-15226
 Si(111)/Al/Si, growth kinetics of (111) Si through Al layer by solid phase epitaxy 9-28236
 Ti-W/Au metalisation on Al, temp. stability, barrier props. 9-23868
 Ti-Al coating on steel 45, failure during high temp. creep in NH₃ 9-11731
 U₃O₈-Al cermet fuel for research reactors 9-9835
 V-Al junction, spin-dependent electron tunnelling 9-19700
 YIG-Al, diamagnetically substituted, annealing effects on cation distrib. 9-1455
 ZnS:Ag, Al and ZnS:Cu, Al, LV cathodoluminesc. 9-33844
 ZnS:Al, IR studies of Al complexes 9-33741
 ZnS:Al, luminesc., exciton struct. 9-33801
 ZnSe:Al, current switching mechanism (*German*) 9-28385
 ZnSe:Al, defect struct., Hall effect and Zn self-diffusion meas. 9-1427
 ZnSe:Al, Schottky diode, direct impact excitation of luminescent centres 9-7900
 ZnSe:Al, thermally stimulated transients, new approach 9-38086
 ZnSe:Cu, Al, LV cathodoluminesc. 9-3844
 ZnTe:Al, pure and doped, Zn vacancy energy levels, elec. and optical props. 9-4827

aluminium alloys

see also aluminium compounds

- 2618 A, Al alloy, crack closure effect (*French*) 9-20172
 7039 alloy, high strain rate compression 9-29137
 acoustic investigation of ageing 9-34083
 Al-Cu(4wt.%), θ' precipitation, effect on Young's modulus, electron microscope obs. (*French*) 9-47689
 binary alloys, exam. of dislocation structure, using diffraction electron microscopy (*Russian*) 9-10857
 α-brass, Al bearing, high temp. relief cavitation, SEM, STEM, TEM, SIMS and EDX anal. 9-5039
 brass leaded, effect of Al, Sn, Fe on solidification, differential thermal analysis exam. (*Russian*) 9-29041
 cast, forging and heat treatment effects on diamond planishing treatment 9-43237
 circular plates with work hardening, nonlinear behaviour, experimental deflection and strain data 9-38893
 coldworked fastener holes, elastic-plastic boundary layer determ. in type 7075-Tb 9-34066
 compacts, specific press. for extrusion 9-20070
 crack propagation and closure, tensile overloads effects in 7050 9-43384
 creep and recovery under combined stress, viscous-viscoelastic model representation in type 2618 9-34117
 critical pitting potential meas., review 9-43501
 Cu-Al (24.0 at.%), eutectic systems, specific phase boundary enthalpy, calorimetric study (*German*) 9-29016
 deformation at large plastic strains, work hardening rate 9-20065
 die casting, steel mould thermal fatigue 9-24619
 dilute, recrystallisation during hot rolling 9-47732
 Duralumin, adsorpt. of Hg, effect on mech. strength, creep, fatigue, embrittlement (*Russian*) 9-29267
 Duralumin, effect of alloy purity and ageing on fracture mechanism, and resultant toughness 9-5049
 Duralumin, fatigue cracks development, intermetallic inclusion influence 9-38962
 Duralumin, gas evolution obs. under electron bombardment (*Russian*) 9-1460
 Duralumin, lifetime after preliminary plastic deform., kinetic theory of strength 9-43395
 Duralumin 2017, superplasticity (*Korean*) 9-38902
 Duralumin rings, stress/strain relations, compression and tension tests, rigid plastic theory 9-34098
 epoxy bonded sheet, fatigue crack initiation, propagation 9-15776
 erosion damage, temp. effects 9-34156
 fatigue, effect of intermediate thermomech. treatments, in 7050 9-8352
 fatigue crack initiation, effect of intermetallic comp. and microstruct. 9-5054
 fatigue crack prop., stress ratio effect in 7075-T6 (*Japanese*) 9-38946
 fatigue crack prop. and fatigue life, shallow notch effect (*Japanese*) 9-29199
 fatigue crack prop. under periodic overstressing, design criterion (*Japanese*) 9-20166
 fatigue crack propagation under repeated two-step loadings above and below threshold condition (*Japanese*) 9-38945
 fatigue cracking diagrams (*Russian*) 9-29301

aluminium alloys continued

- fatigue props. eval. 9-15750
 fatigue strength, low-cycle, isothermal hardening effect 9-38863
 fracture analysis of exfoliation 9-43464
 glass fibre reinforced epoxy/Al bonded joint, mean strength, moisture effects 9-20106
 hardness testing, depth of impression meas., automated 9-15892
 high-strength, quenching using water-soluble polymers 9-38862
 mechanical properties, correlation with elect. cond. 9-34114
 mechanical props. at cryogenic temps. 9-29206
 microstruct. effects on strength, fracture toughness, fatigue cracks 9-43434
 molten, determination of H content, using electrochemical probe 9-11843
 multicomponent alloy optimum composition for high-strength (*Bulgarian*) 9-15628
 Nimonic alloy, effect of annealing on hardness, carbide phase strengthening (*Russian*) 9-34137
 plastic anisotropy of textured sheet in 5052 (*Japanese*) 9-34103
 powder metallurgy technology innovations, 1978 status 9-47646
 pyrochlore struct. and its relatives 9-14773
 rare earth intermetallics, RAl₂, cryst. field volume magnetostriction calc. 9-8029
 rare earth-Al₂, mag. coupling mechanism 9-4655
 recrystallisation during hot deform. and after cold working 9-47715
 residual stress gradient meas., modified hole-drilling technique 9-29300
 sheet materials, D16AT, regression anal. of critical stages of fracture process 9-15786
 Silumin, CsSi phase form. due to Cs diffusion 9-38798
 statistical fatigue props. of A5083 and A7075 9-5060
 steel, Al, quenched, tempered, orientation of precipitated Fe₃C particles, X-ray obs. (*Russian*) 9-29063
 steel, Si (6.5 wt.%) Mn, Ni and Al additions influence obs., on mech. and magnetic props. (*Slovak*) 9-5064
 steel, stainless wire reinforced Al-Zn-Mg system, resistance to crack propagation 9-43409
 strain response to acoustic excitation, statistical props., comparison with C fibre reinforced plastic 9-43502
 strength contribution of particles and dislocations (*German*) 9-29080
 stress corrosion cracking testing 9-20296
 supersaturated solid soln., decomp. process, electron microscope obs. and acoustic anal. (*Russian*) 9-15650
 surface, electron beam impact, time-varying evaporation 9-10942
 thermoelasticity, retardation time effects on heat pulse propagation 9-18725
 thermomechanical treatment on struct. and props. of alloy 2036 9-29109
 thermomechanically treated 6061, elev. temp. mech. props. 9-8310
 transition metal impurities, 3d, influence of multiple scatt. effects on residual resist. 9-19570
 waffle cylindrical shell, technological charact. and bearing capacity 9-3936
 wall and limiter material for Tokamaks, induced desorption diffusion and gas production by 100 eV electrons and ions 9-675
 weld metal structure and hot cracking susceptibility 9-24595
 welded joint, microstructural and chemical heterogeneity 9-29096
 welded joints, hot cracks in mutual solidification zone 9-24594
 X-ray spectral microanalysis by accel. voltage variation method (*Bulgarian*) 9-16093
 yield surface, effect of 2-D cyclic loading 9-34097
 Al alloy 7050, crack propagation and closure, tensile overloads effects 9-43384
 Al alloys, steady-state fatigue crack growth rate behaviour 9-43432
 Al-3d transition metal, dil., localisation of additional screening charge 9-47051
 Al-Ag, dil., radiation damage by channelled and random He⁺ ion beams 9-46719
 Al-Ag (up to 4 wt.%), creep, 570-630°C, influence of Ag addition (*Russian*) 9-5003
 Al-Ag(Ga)(Ge) dil. alloys, Hall coeff., residual resist., and relax. times 9-11107
 Al-Ag(Mg)(Zn)(Ga)(Ge), dil., deviations from Matthiessens's rule, 4-OPW approx. calc. 9-19574
 Al-Al₂Fe, fibre reinforced eutectic, deformation behaviour by rolling, TEM and SEM study 9-29129
 Al-based 3d-transition metal alloys, soft X-ray absorpt., electronic struct. 9-38690
 Al-Be-Mg (30, 5wt.%) alloy, weld solidification parameters 9-24511
 Al-Bi-(Fe), directionally solidified monotectic, growth parameters for aligned microstructs. 9-43236
 Al-Cr, dilute, morphological stabilities of planar solid-liquid interfaces during unidirectional solidification 9-4960
 Al-Cr-Zr(Nb), calc. of phase equilibria 9-11569
 Al-Cu, anal. of electron diff. micrographs using Patterson function (*French*) 9-20044
 Al-Cu, condensed films, metastable states 9-15046
 Al-Cu, dil., anisotropic scattering of conduction electrons on dilute Cu impurities 9-47082
 Al-Cu, effect of alloy purity and ageing on fracture mechanism, and resultant toughness 9-5049
 Al-Cu, elastic interaction energy calcs. for Guinier-Preston zones 9-11617
 Al-Cu, melt near solid-liquid interface, diffusion during crystallisation (*German*) 9-29046
 Al-Cu, partially solidified, viscosity and struct. (*Japanese*) 9-14950
 Al-Cu, stir cast microstructure, turbulent flow and solidification 9-20036
 Al-Cu, work hardening under tension at 1.6-900K 9-38842
 Al-Cu (Ag)(Au), precipitate plate growth kinetics 9-15679
 Al-Cu (2.6 wt.%), sheets, effect of strain path changes on formability 9-43347
 Al-Cu (4 wt.%), effect of semicoherent precipitation on void swelling, when neutron irradiated 9-42115
 Al-Cu (4 wt.%), single cryst., small angle X-ray scatt. map after spinodal decomp. 9-15645
 Al-Cu (4 wt.%), with θ' precipitates, relation between elastic limit and hardness (*French*) 9-5018
 Al-Cu (4.2 wt.%), precipitation strengthened, solute depletion at fatigue facets, AES study 9-38973
 Al-Cu (4.5 wt.%), growth struts, with dendrite growth directions differing from heat flow direction during solidification 9-42335
 Al-Cu (4wt.%), elastic limit, precipitation effects (*French*) 9-47738
 Al-Cu (5.7wt.%), unidirectionally solidified, dendritic morphology and dendrite arm spacing 9-29043

aluminium alloys continued

- Al-Cu alloys, positive muons diffusion and trapping 9-11372
 Al-Cu liquid alloys, rapid quenching prep. of metastable solids, apparatus (German) 9-28990
 Al-Cu-Fe, liquid, mag. moment and transition from mag. to nonmag. state 9-24132
 Al-Cu-Mg (1.3, 1.3 at.%) alloy, natural ageing, meas. of quenching vacancy dislocation loops 9-15704
 Al-Cu-Mg (2.0, 1.1 wt.%), Ostwald ripening of S' precipitates (Korean) 9-38831
 Al-Cu-Mg alloy, struct. of Guinier-Preston zones (Russian) 9-1870
 Al-Cu-Mg-Ag casting alloy, precipitation hardening in artificially aged condition 9-1874
 Al-Cu-Mg-Mn(-Zn-Cr), low temp. deformed, ageing and mech. props. 9-1881
 Al-Cu-Mn-Mg-Fe-Si (4.48, 0.66, 1.55, 0.43, 0.23 wt.%), alloy D16, relationship between intercrystallite corrosion depth, and elec. cond. 9-20220
 Al-Cu-Mn-Mg-Fe-Si-Zn alloy D16, surface layers chem. composition rel. to fatigue resist., corrosion-fatigue resist. 9-29275
 Al-Cu-Ni, vacancy ordering, electron microscope and electron diffr. obs. 9-27954
 Al-Cu-Si, Al rich, unidirectionally solidified, microstruct. 9-34021
 Al-CuAl₂, interface undercooling-growth vel. relationship, horizontal and vertical solidification 9-8294
 Al-CuAl₂ lamellar composite, creep, microstruct. obs. 9-8331
 Al-Cu(Mg)(Cu-Mg), normal and gravity segregation in ingots, expt. study (Japanese) 9-24526
 Al-Cu(Mg)(Zn), cold working causing preprecipitation, thermoelec. power (French) 9-8306
 Al-Fe (1 wt.%), depth resolved ⁵⁷Fe conversion electron Mossbauer spectra 9-38413
 Al-Fe dil., magnetisation, 2-0.01K 9-4652
 Al-Fe dil. alloy, bamboo struct., grain boundary internal friction peak 9-43306
 Al-Fe-Ni, oxidation in hot water, electron microscope obs. of initial stages 9-11718
 Al-Fe-Si commercial alloy, elevated temp. low cycle fatigue behaviour under rotating bending 9-47766
 Al-Ga(In)(Sn), interpretation of metallic phase diagrams, entropy of mixing 9-42274
 Al-Ga(In)(Ti), enthalpy of mixing, 'const. vol. alloy' formulation 9-28111
 Al-Ga(Sn), ab initio calcs. of partial enthalpy and result for enthalpy of mixing 9-43197
 Al-Ge, internal friction and shear modulus after neutron irradi. at 80K 9-1468
 Al-Ge alloy, effect of high press. on phase equilibrium (Russian) 9-1844
 Al-Ge film, random percolation, elec. resist. meas. 9-28418
 Al-Ge(Mg)(Zn)(Ga), dil., electronic transport coeffs. for point defect scatt., 4-OPW calc. 9-42531
 Al-In alloys within miscibility gap, agglomeration in space environment 9-47672
 Al-Li, diffusion coeff. determ. during hydriding (German) 9-29288
 Al-Li-Mg, estimation of isothermal sections of phase diagram 9-11567
 Al-Mg, AMg6, US vibr. during superplastic deform. effect on struct. 9-38911
 Al-Mg, dil., form of distortion field produced by Mg substitution, elastic neutron scatt. meas. (German) 9-42092
 Al-Mg, elastic and anelastic props. in relation to Guinier-Preston zones, US investigation (French) 9-38833
 Al-Mg, grade 5083, superplastic, interaction effects during growth of drilled holes 9-38923
 Al-Mg, rapidly solidified, metastable phases (German) 9-34011
 Al-Mg, superconducting, an anomalous strain-rate sensitivity of flow stress 9-43313
 Al-Mg, thermodynamic props. (German) 9-29027
 Al-Mg, work hardening under tension at 1.6-900K 9-38842
 Al-Mg 0.1 at.%, neutron-irradiated, dislocation loop characterisation by TEM 9-23614
 Al-Mg (2 wt.%), high temp. creep, effect of cold working on mechanism 9-43351
 Al-Mg (2 wt.%), exam. of Harper-Dorn creep 9-5026
 Al-Mg (2.2 at.%), creep at 573K 9-20145
 Al-Mg (5 wt.%), serrated flow 9-43343
 Al-Mg (5 wt.%), static strain ageing at low temp. 9-29116
 Al-Mg (5.5 at.%), stress change expt. on creep 9-24584
 Al-Mg alloy A99, intercrystalline fracture during US treatment 9-15795
 Al-Mg alloys, AC colour anodisation 9-20283
 Al-Mg₂Si (1 wt.%) secondary recrystallisation by grain boundary unsewing 9-1886
 Al-Mg-Li-Zr alloys, struct., mech. props. 9-24498
 Al-Mg-Si, dispersoid effect on fatigue crack propag. 9-43420
 Al-Mg-Si, effect of quenching on recryst. after hot working 9-43289
 Al-Mg-Si, Guinier-Preston zones, inception and effect on ageing, review (Hungarian) 9-11627
 Al-Mg-Si, heavily rolled, electron microscope obs. of cube oriented region, rolling texture 9-29093
 Al-Mg-Si, precipitation of cube-shaped phases, electron diffr. study using TEM (Japanese) 9-43251
 Al-Mg-Si (0.52, 0.58 wt.%), ductile fracture intergranular mechanism 9-15784
 Al-Mg-Si (0.7, 0.4 at.%), effect of precipitation hardening on strain rate behaviour and yield behaviour 9-29075
 Al-Mg-Zn, neutron small angle scatt. study 9-43255
 Al-Mg-Zn alloy, surface Be migration, depth profiling by ion microprobe with high mass resolution 9-46894
 Al-Mn, dil., magnetisation, 2-0.01K 9-4652
 Al-Mn (1 wt.%), commercial, recrystallisation 9-47710
 Al-Mn(Cu)-Zr, particle stabilized structures, hot deform. 9-47733
 Al-NbTi solenoid magnet for high energy particle detector, conductor and cryostat design 9-31319
 Al-Ni, interdiffusion and intrinsic diffusion in NiAl δ phase 9-10988
 Al-Pd, rapidly solidified, new ordered phase, electron microscope obs. 9-11645
 Al-Pt (2 at.%), splat cooled, AlPt₂ phase, electron diffr. obs. 9-15657
 Al-Si, AC colour anodisation 9-20283
 Al-Si, dil., mechanism of dissolution of Si 9-19375
 Al-Si, effect of irradi. on the nucleation of incoherent precipitates 9-8303
 Al-Si, hypereutectic Ostwald ripening of Si crystals during solidification (Japanese) 9-4962

aluminium alloys continued

- Al-Si, inoculated with NaCl+KCl+NaF, effect on morphology of eutectic columns (Russian) 9-15684
 Al-Si, liquid alloy, compressibility and struct. factors at zero wavevector 9-23515
 Al-Si, neutron small angle scatt. study 9-43255
 Al-Si (0.6, 0.9, 1.19 wt.%), interdiffusion coeffs. determ. by Matano's method 9-42295
 Al-Si (1.2 and 0.6 wt.%), single crystal, dispersion hardened with SiC, Bauschinger effect and work hardening 9-43360
 Al-Si alloy metallisation by rate controlled dual electron beam gun evaporator 9-11516
 Al-Si-Cu casting alloy, optimum selection of chem. contents for optimum strength (Czech) 9-15625
 Al-Si-Mg, Si content and Mg addition effect on mech. props., Na treatment (Korean) 9-38901
 Al-Si(Cu)(Zn-Mg-Cu), extraction and phase anal. 9-15673
 Al-Sn liquid alloys, heats of mixing and activities calcs. 9-42264
 Al-Sn(Ag)(Cu)(Au), liquid alloys, exam. of Si diffusion (Russian) 9-28118
 Al-Ti, dilute, morphological stabilities of planar solid-liquid interfaces during unidirectional solidification 9-4960
 Al-Ti, solid soln., unidirectionally solidified, segregation patterns revealed by etching 9-47693
 Al-Ti alloy target in surface anal. by XPS 9-43682
 Al-Ti alloys, growth crystallography and morphologies of Al₃Ti primary dendrites 9-43230
 Al-Ti dilute alloys, solute distrib. during unidirectional solidification 9-4961
 Al-Ti-C, grain refinements study using centrifugal force (Japanese) 9-20035
 Al-transition metal, impurity binding energies 9-42096
 Al-transition metal alloys, anomalous sp. ht. and nuclear spin-lattice relax. 9-46814
 Al-Zn, ageing alloy, zonal decomposition stage, new effects in X-ray diffr. anal. (Russian) 9-4982
 Al-Zn, flow stress, Zn content effect 9-38913
 Al-Zn, Guinier-Preston zone reversion, thermoelectric power meas. (French) 9-20058
 Al-Zn, miscibility gap, spinodal region, thermodynamic data transferability (German) 9-20027
 Al-Zn, neutron small angle scattering from above critical point 9-1840
 Al-Zn, neutron small angle scatt. study 9-43255
 Al-Zn, work hardening under tension at 1.6-900K 9-38842
 Al-Zn (0.14 at.%), nuclear acoustic reson., 20-80K 9-8058
 Al-Zn (10 wt.%), ageing at low temp., solute conc. fluctuation effects (Japanese) 9-4969
 Al-Zn (10 wt.%), solid soln., decomposition meas. by resistivity meas. under isothermal conditions (French) 9-20025
 Al-Zn (11.8 at.%), growth and dissolution of metastable precipitates, neutron scatt. study 9-15671
 Al-Zn (2 and 4 wt.%), ageing and elec. cond. reversion (Japanese) 9-4983
 Al-Zn (5.05 at.%), comparison of X-ray and neutron small-angle scatt. 9-15647
 Al-Zn (6.8 at.%), synchrotron radn. use in X-ray scatt. (French) 9-47723
 Al-Zn alloy, resist. and X-ray small angle scatt. during GP zone form., theory (French) 9-29070
 Al-Zn alloys, cast, Zn diffusion during homogenization (Polish) 9-33108
 Al-Zn-Hg alloy, cathodic protection charact., surface free energy, lattice struct. 9-29281
 Al-Zn-Mg, solid soln. decomp., 20 to 200°C 9-38830
 Al-Zn-Mg, zone composition change during ageing 9-29110
 Al-Zn-Mg (3.87, 1.79 wt.%) TEM exam. of early stage precipitation, on dislocation lines 9-4972
 Al-Zn-Mg alloy, thermomech. treatment, precipitation and strengthening 9-24527
 Al-Zn-Mg-Li alloys, effect of Li on thermal props. 9-24515
 Al-Zr, interphases, formed during precipitation and solidification (German) 9-29062
 AlCu, electron microscope spot prep. of deform. bands 9-15922
 AlGe (4 wt.%), struct. peculiarities of superplastic behaviour due to porosity 9-34111
 AlMg5, memory effect of plastically deformed alloy under complex loading 9-38891
 AlPb alloy prod. under microgravity (German) 9-38766
 AlZn, homogenization processes, dendritic struct. 9-15700
 AlZnMg, corrosion cracking (Czech) 9-43478
 Au-Al-In solid soln., elastic strain energy depend. of supercond. T_c 9-38229
 Au₂(MnAl)₂, Heusler alloy, magnetic order and coupling 9-38303
 B fibre reinforced Al alloy, influence of bond strength on failure (Russian) 9-43387
 Ba-Al-Si, exam. of phase diagram, confirmation of BaAl₂Si₂ and Ba(Al₂Si)₂ (Russian) 9-29019
 BaAl₄ type structure, role of elongated rhombic dodecahedron in alloy structs. 9-32946
 Be-Al-Fe system, phase equilibria using high energy ion beams 9-43203
 Ca-Al, metallic glass, stability, microscopic calcs. 9-32914
 CeAl₂, Anderson lattice system, volume collapsed strongly mixed valent state 9-38033
 CeAl₂, Anderson lattice system, thermal expansion meas. 1.5 to 10K 9-37860
 CeAl₂, electronic transition under pressure, resist. meas. 9-33311
 CeAl₃, inelastic neutron scatt. meas. 9-47066
 CeAl₃, sp. ht. anomalies due to presence of CeAl₁₁, 9-19745
 Ce₃Al₁₁, mag. ordering at low temps. under press., relation to CeAl₃ props. 9-19745
 Co-Al, positron lifetime and angular correl. curves 9-47538
 Co-Al system, nucl. spin relaxation exam. 9-19798
 Co-Cr-Al, high temperature wear resistant coatings, CrO₂ hardened 9-24677
 Co-Cr-Al, protective coating, exam. of interdiffusion kinetics, development of analysing procedure 9-5085
 Co-Cr-Al-Y coated turbine airfoils, effect of electron beam deposition rate on struct. 9-23870
 Co-Cr-Al-Y coatings, hot corrosion resist., thermal expansion coeffs. 9-24674
 Co-Cr-Ni-Ta-Al-Y (25, 10, 5, 3, 0.5 wt.%), exam. of hot corrosion 9-20251
 Cr-Al, abnormal thermal cond., 5 to 100K 9-19573

aluminium alloys continued

- Cr-Al, effect of Al concentration and hydrostatic press. on Neel temp. 9-33482
 Cr-Al, elementary excitations, exchange stiffness const., inelastic neutron scatt. study 9-47294
 Cr-Al, mag. excitation, neutron spectrometry 9-4654
 Cr-Al, spin density wave, neutron diffraction studies 9-1664
 Cr-Al, temp. depend. of Hall coeff. 9-33280
 CrAl coating on Ti alloy, electrospray applied, friction and wear resistance obs. (Russian) 9-1916
 Cr₃Al₈, γ -phase, microstruct., transform. strains, TEM obs. 9-11614
 Cu-Al, dislocation core energy, core tension, Peierls model 9-27984
 α -Cu-Al, fracture behaviour, effect of deform. temp. and alloying content (Japanese) 9-20159
 Cu-Al, heavily deformed martensites, annealing 9-38873
 α -Cu-Al, kinetic behaviour of vacancies and atoms 9-28129
 α -Cu-Al, mechanical twinning characs., 4.2 to 300K (Russian) 9-37714
 Cu-Al, plasticity, athermal and thermal (Russian) 9-11685
 Cu-Al, preferred crystallographic orientation of melt grown single crystals (Czech) 9-43134
 Cu-Al, preferred crystallographic orientation of unidirectionally solidified polycrystals (Czech) 9-43233
 α -Cu-Al, single crystal, low cycle fatigue 9-43405
 α -Cu-Al, solid soln., ductility, comp. effect (Japanese) 9-43334
 Cu-Al, solid soln., intermediate temp. embrittlement (Japanese) 9-20158
 Cu-Al, study of internal oxidation using central diffusion of X-rays (French) 9-37839
 Cu-Al (10 wt.%), deformed and tempered transform. during heat treatment of β' martensite (Rumanian) 9-34031
 Cu-Al (11.47 wt.%), high temp. phase transforms., effect of pre-exposure to neutrons 9-20045
 Cu-Al (12 wt.%), acoustic emission related to props. 9-34032
 Cu-Al (15 at.%), CC Cu-Al(Si), single crystals, latent hardening study by meas. of flow stress on secondary systems (Japanese) 9-24538
 Cu-Al (15 at.%), rolled single crystals, metallographic study of deformation struct., orientational change, shear bonds (Japanese) 9-24582
 Cu-Al (9 wt.%) deformed, dispersed, ordered, microcalorimetry of plastic zones during fatigue crack propag. 9-47769
 Cu-Al alloy, dil., lattice expansion and localised vibr. mode 9-37789
 Cu-Al alloy, vibrs., average local information transfer approx. 9-46774
 Cu-Al alloys, strain hardening parameters, conc. and temp. depend., 4.2 to 300K (Russian) 9-20063
 Cu-Al dil. alloys, dislocation etch pit obs. on {111} surfaces 9-10861
 Cu-Al electrode, photopotentials, rel. to corrosion 9-24648
 Cu-Al martensite, temper hardening, study by TEM, DTA, microhardness and yield strength meas. 9-43260
 Cu-Al-Fe-Mn (10.3, 2 wt.%), phase comp. struct., continuous cooling from β -phase effect 9-24499
 Cu-Al-Ni, formation of martensitic phases during deform. by extension 9-20048
 Cu-Al-Ni, heredity of martensitic transformations 9-47688
 Cu-Al-Ni, phase diagram associated with stress induced martensitic transform. 9-8272
 Cu-Al-Ni alloys, successive stress-induced martensitic transformations and associated transformation pseudoelasticity 9-43245
 β -Cu-Al-Ni₃(DO₃), nonradial diffuse streaks and complex diffuse scatt. patterns of electrons 9-7527
 Cu-Al-Si, Si effect on mech. props. and microstructure (Korean) 9-38903
 Cu-Mn-Al, mag. props. and atomic ordering 9-24139
 Cu-Ni-Al, ageing charact., optical TEM, X-ray, hardness obs. 9-29079
 Cu-Zn-Al, polycrystn., β -phase, fatigue life, intergranular cracking 9-38974
 Cu-Zn-Al, reversible shape memory effect associated with $\beta_1 \rightleftharpoons \beta'_1 \rightleftharpoons \alpha'_1$ transform. (Japanese) 9-43242
 Cu-Zn-Al, reversible shape memory effect obtained by heating under constraint (Japanese) 9-43335
 Cu-Zn-Al, TTT diagrams (German) 9-43208
 α -Cu-Zn-Al (18, 7 at.%), deform. and mech. props. 9-29159
 Cu-Zn-Al (26, 4 wt.%), martensitic transform. temp. variation after low temp. ageing 9-15666
 Cu-Zn-Al (35.45, 1.72 wt.%), memory effect and martensitic transform. (Russian) 9-43320
 Cu-Zn-Al martensite, the rubber effect 9-47684
 Cu-Zn-Al martensites, model for rubber like behaviour 9-47685
 β -Cu-Zn-Al pseudoelasticity 9-29126
 Cu-Zn-Al wire, made from pendant drop melt extraction technique from bulk material, X-ray diff. and thermal anal. 9-43227
 CuAl₂, constitutional defect struct., from X-ray and density meas. proposed substitutional-vacancy model, 9-37696
 Cu_{0.7}Al_{0.3}, chemical effect on valence electronic states, AES and SXAPS meas. 9-47558
 Cu₂MnAl, alloy, energy band calc. by nonrelativistic SAPW method 9-4507
 Cu₂MnAl, plastically deformed, domain struct., X-ray diff. and electron microscope obs. (Russian) 9-20110
 Cu₂Mn_{0.863}Al_{0.137}, Heusler alloy, mag. moment distrib., polarised neutron study 9-47247
 EuFe₂Al₈, mag. ordered, mixed valency of Eu, X-ray, susceptibility and Mossbauer spectra studies 9-19728
 Fe-Al, disordered, obs. of Kohn singularities in X-ray diffuse scatt. 9-27874
 Fe-Al, Mossbauer study of ordering (Japanese) 9-19822
 Fe-Al, optical props., comp. and order-disorder transform. depend. (Russian) 9-28852
 Fe-Al, positron lifetime and angular correl. curves 9-47538
 Fe-Al, single crystal, twinning and pseudoelasticity 9-15718
 Fe-Al, variation in absolute thermoelec. power under heat/treatment (Ukrainian) 9-38051
 Fe-Al (1 to 4 wt.%), effect of nitriding on surface structure and props., and on diffusion layer (Russian) 9-34197
 Fe-Al-C alloys, C migration and mag. aftereffect, mag. permeab. disaccommodation and long-range order meas. 9-8020
 Fe-Al-Co-Ni, Alnico alloys, irreversible remagnetisation processes in rotating fields (Russian) 9-8015
 Fe-Cr-Al (14, up to 2 wt.%), Al effects on high temp. oxidations (Japanese) 9-15865
 Fe-Cr-Co-Al(Nb), phase equilib., X-ray diff. meas. (Russian) 9-47658
 Fe-Cr(Cr-Ni)(Cr-Ni-Mo)-Al, liquid, N solubility, AlN precipitation 9-11630
 Fe-Ni-Al alloys, ordering X-ray and neutron diff. obs. (Russian) 9-20038

aluminium alloys continued

- Fe-Ni-Al austenite, high N content, cryst. struct. electron diff. and electron microscope anal. (Russian) 9-24490
 Fe-Ni-Al-Co-Cr-Ti, YuNDK35T5BA, exam. of hypodissociation process (Russian) 9-11547
 Fe-Ni-Cr-Ti-Al Elinvar alloys, dispersion-hardened, structural transform. (Russian) 9-1872
 Fe-Ni-Ti-Al, martensite, nature of tetragonality 9-32936
 Fe-P-Al, amorphous alloy, anelastic relaxation 9-4997
 Fe-Si-Al (5.10 wt.%) struct. anal. by electron microscopy and electron diff. (Chinese) 9-11618
 FeAl intermetallic, constitutional vacancies, lattice parameter and thermal vacancy conc. obs. 9-23599
 FeAl, order parameter, atomic scattering factor, thickness fringes in electron micrographs 9-10832
 Fe₃Al, order-disorder transition, elec. resistance meas. 9-42518
 Fe₃Al, order-disorder transition effect on low energy spin waves 9-47271
 Fe_{30.8}Al_{69.2}, meas. of ordering instability 9-38818
 Fe₃AlSi_{1-x}, DO₃ structured, ferromag., lattice parameters 9-42010
 Fe₇₃Al_{27-x}DO₃ structured, ferromag., lattice parameters 9-42010
 Fe₂MnAl, plastically deformed, domain struct., X-ray diff. and electron microscope obs. (Russian) 9-20110
 (Fe₆₅Ni₃₅)₇₅P₁₆B₈Al₁, amorphous ferromagnet, mag. excitations 9-7984
 (Fe₆₅Ni₃₅)₇₅P₁₆B₈Al₁, amorphous, spin wave excitations and low temp. magnetisation 9-33468
 Gd-Ni-Al, (Gd<33.3 at.%), isothermal section, 800°C, X-ray and microscopic anal. (Russian) 9-27950
 GdAl₂-GdCo₂ system, EPR and mag. props. 9-33478
 Gd₂Co₃Al₁₁, NMR and mag. susceptibility 9-15367
 Gd₂Cu₃Al₁₁, NMR and mag. susceptibility 9-15367
 Ge-Al film, polycryst., struct. props. determ. 9-4494
 HoAl₂, Ho moment reorientation, polarized neutron diff. study 9-42761
 (La,Er)Al₂, cryst. field parameters, inelastic neutron scatt. study 9-23937
 (La,Gd)Al₂, very dil., resist. 9-23958
 LaAl₂, magnetoresist. and de Haas-van Alphen effect, Fermi surface model 9-15069
 La_{1-x}Ce_xAl₂, Kondo system, low temp. thermal expansion behaviour 9-19382
 (La_{1-x}Ce_x)Al₂, Kondo system, antiferromag., specific heat 9-24179
 Li-Al-Mg alloy electrodes, polarisation behaviour and struct. 9-43588
 Mg-Al cylindrical shells, loading history, effect on plastic buckling (Russian) 9-14288
 Mg-Al-Zn (3, 1 wt.%), alloy AZ31, mech. props. of extruded and welded pipe and sheet, optical microscopy exam. 9-34065
 Mn-Al-C alloy, anisotropic, permanent magnet appl., properties and production (German) 9-8309
 Mn-V-Al, magnetic props., heat treatment effects 9-29233
 Nb-Al film, Josephson junction, tunnelling exam. 9-38257
 Nb₂Al, electron-phonon coupling and supercond. crit. temp. 9-33379
 Nb₂Al, electronic struct. calcs. 9-47005
 Nb₂Al, mechanical and supercond. props. 9-38214
 Nb₂Al, nuclear magnetic relaxation, near T_c (Russian) 9-42852
 Nb₂Al, phonon density of states, temp. depend. 9-42183
 Nb₂Al_{0.83}Ge_{0.21}, A-15 phase, sp. ht. meas. 9-19689
 Ni-Al, grain boundary diffusion in migrating boundaries 9-46830
 Ni-Al (1.18 wt.%), substruct. hardening effect, depend. on mechanism controlling creep rate, 700°C 9-20144
 Ni-Al alloys, effects of electron irradiation in precipitation, nucleation and dislocation loop growth, TEM study 9-42106
 Ni-Al alloys, XPS for band struct. 9-33889
 Ni-Al film, high-temp. condensed, electron diff. and elec. resist. (Russian) 9-4485
 Ni-Al-Cr, IN-100, growth geometry of carbides in dendritic monocrystals, solidification effects 9-11597
 Ni-Al-Cr, strain hardening, participation of various slip systems (Russian) 9-24536
 Ni-Al-Fe system, order-disorder phase transform., Gorskii-Bragg-Williams approx. (Russian) 9-29048
 Ni-Al-Mn alloy system, oxidation resist. 9-24661
 Ni-Al-Ta, solvus surface determ. using precipitation method 9-15674
 Ni-Al-Ta (7.5, 2.0 wt.%), dendritic monocrystal, microsegregation and nonhomogenisation 9-37940
 Ni-Al-Ti-Cr superalloys, estimation of conjugate γ and γ' compositions 9-8282
 Ni-Co-Al (1, 35.2 at.%), tempered martensite, new ordered phase 9-11560
 Ni-Co-Cr-Mo-Al, Astroloy, extruded powder metallurgy superalloy, recrystallisation study 9-4976
 Ni-Co-Mo-Al-Cr, melt, effect of Al, Cr on O₂ activity, electrochemical determ. 9-11556
 Ni-Cr-Al, oxidation at 850°C in air containing HCl gas 9-8396
 Ni-Cr-Al, protective coating, exam. of interdiffusion kinetics, development of analysing procedure 9-5085
 Ni-Cr-Al coatings, corrosion and thermal shock resist. in diesel engines 9-24675
 Ni-Cr-Al coatings Ni eutectic alloys in gas turbines, use of diffusion barrier 9-24673
 Ni-Cr-AlPt, exam. of phase diagram 9-8276
 Ni-Cr-Co-Mo-Ti-Al, powders, HCl surface treatment to prevent TiC precipitation, fracture props. 9-8397
 Ni-Nb-Al, eutectic, thermal cycling effect on strength and ductility (Russian) 9-24601
 Ni-Nb-Al, unidirectionally solidified γ/γ' - δ eutectic, fatigue crack propag. 9-29184
 Ni-Nb-Al-Cr, directionally solidified, exam. of growth and morphology 9-11601
 Ni-Si-Al alloy system, oxidation resist. 9-24661
 Ni-Ta-Al-Fe, Al and Fe effect on precipitation kinetics 9-20054
 Ni-Ti-Al, martensitic, coherent γ -phase particles and influence on α - γ transformation (Russian) 9-29056
 β -NiAl alloy, elastic soft modes preceding martensitic phase transition 9-4388
 NiAl coating on Ti alloy, electrospray applied, friction and wear resistance obs. (Russian) 9-1916
 NiAl, compositional depend. of oxidation rates 9-8393
 NiAl, quenched and annealed, void formation 9-46652
 NiAl₃, quantitative STEM chem. anal. using standard and standardless programs 9-17578
 Ni₂Al based alloys, mean square atomic displacements 9-28053
 Ni₃Al, noncoherent second phase particle effect on strain-hardening parameters (Russian) 9-47703

aluminium alloys continued

- $\text{Ni}_3\text{Al-Fe}$ (10 at.%), activation anal. of plastic deform. 9-1900
 $\text{Ni}_3\text{Al}(\gamma)\text{-Ni}_3\text{Nb}(\delta)$, directionally solidified, deformation substruct. and slip systems 9-8326
 $\text{Ni}_{62}\text{Co}_4\text{Al}_{34}$, fine struct. of martensite, electron microscopy obs. (*Russian*) 9-46672
 NiAl_3 clusters, band struct., variational $X\alpha$ calc. 9-4508
 PdAl_3 hydrides, supercond. transition temp. 9-47188
 Pr-Ni-Al system, Pr (0 to 33.3 at.%), isothermal section at 800°C (*Ukrainian*) 9-34002
 PrAl_2 , crystal field splitting, inelastic neutron scatt. study 9-47067
 Pr_3Al , crystal field splitting, inelastic neutron scatt. study 9-47067
 Pt-Al (22 wt.%), elec. props. of growing alumina scales 9-20282
 $\text{Pt}_3\text{Al}_{47}$, ordered BCC phases at high temp. 9-32948
 PuAl_3 clusters, band struct., variational $X\alpha$ calc. 9-4508
 TbAl-NdAl , existence of high-temperature superconducting phase (*Russian*) 9-42685
 $\text{TbFe}_{1.5}\text{Al}_{0.5}$, crystalline, small angle neutron scatt. study of mag. order and mag. microstruct. 9-15283
 Ti-Al-V (6, 4 wt.%), castings, fatigue crack initiation 9-29186
 Ti-Al (14.4 at.%), void form. and solute segregation under Ni ion irradiation 9-42122
 Ti-Al-Cr-Mo-V , alloy VT22M, exam. of ageing and phase transitions (*Russian*) 9-11641
 Ti-Al-Cr-Mo-V alloy VT-22, effect of heating rate on phase recrystallisation (*Russian*) 9-34077
 Ti-Al-Sn (3.7, 0.8 at.%) alloy, specific heat, 4 to 290K (*Russian*) 9-14938
 Ti-Al-Sn-Zr (6.19, 1.92, 1.43 wt.%), fatigue cracking characteristics of β annealed microstruct. 9-5051
 $\alpha + \beta\text{-Ti-Al-Sn-Zr-Mo-Cr}$, low cycle fatigue crack nucleation and early growth 9-8354
 $\text{Ti-Al-Sn-Zr-Mo-Si-O-H}$, Si, O, H effects on fatigue, fracture and creep charact. 9-11697
 $\beta\text{-Ti-Al-V}$, annealed, differing interstitial O content, fatigue crack propag. resist. 9-11696
 Ti-Al-V , erosion resistant boride coating 9-20290
 Ti-Al-V (6, 4 wt.%), cavitation induced erosion, under mill annealed, soln. treated and aged, and beta annealed conditions 9-8371
 Ti-Al-V (6, 4 wt.%), stress corrosion cracking, composition, microstruct. and texture effects 9-11725
 Ti-Al-V (6, 4 wt.%), textured, anisotropy of fracture toughness over various specimen orientations 9-8353
 Ti-Al-V (6.4 wt.%), corrosion fatigue behaviour, surgical implant material 9-39027
 Ti-Al-V (6.4 wt.%), fatigue crack growth, influence of dwell-time 9-43380
 Ti-Al-V (6.4 wt.%), heavy ion irradiation effect on microstructure 9-10884
 Ti-Al-V (6.4 wt.%), surface and grain boundary free energy, zero-creep determ. 9-4313
 Ti-Al-V-Sn (6.6, 2 wt.%), H_2 induced crack growth, in-situ scanning Auger anal. 9-8355
 Ti-Al-V-Sn , surface finishing effect on internal stresses, X-ray study (*German*) 9-34210
 Ti-Co-Al , ThMn_{23} type struct., mag. susceptibility (*Russian*) 9-42736
 Ti-Fe-Al , ThMn_{23} type struct., mag. susceptibility (*Russian*) 9-42736
 Ti-M-V-Cr-Mo , RMI 38644, shock loaded, age hardening 9-29112
 Ti-Ni-Al , ThMn_{23} type struct., mag. susceptibility (*Russian*) 9-42736
 TiAl , coatings, electrospray applied, friction and wear resistance obs. (*Russian*) 9-1916
 $\text{Ti}(\text{Al}, \text{B}_{1-x})_2$ (B=Cr, Mn, Fe, Co), $0 < x < 0.4$, influence of Al on H sorption props. X-ray cryst. struct. determ. 9-28198
 UAl_2 , dynamical susceptibility, diffuse neutron scatt. study 9-24138
 UAl_2 , low temp. mag. susceptibility 9-38301
 UAl_3 clusters, band struct., variational $X\alpha$ calc. 9-4508
 $^{235}\text{U-Al}$ castings in water, pulsed reactivity meas., Monte Carlo anal. 9-26522
 $^{235}\text{U-Al}$ castings in water moderated lattices, pulsed reactivity meas. 9-26529
 V-Al/Cu-Ge composite superconductors, transition temp. and upper crit. field, heat treatment effects 9-38268
 V_3Al , electronic struct. calcs. 9-47005
 $\text{Y}(\text{Fe}, \text{Al})_2$, cryst. field parameters, inelastic neutron scatt. study 9-23937
 $\text{Y}(\text{Fe}, \text{Al})_2$, mag. props. 9-38308
 YbAl_3 , susceptibility, sp. ht. and magnetisation 9-28512
 YbCuAl , susceptibility, sp. ht. and magnetisation 9-28512
 Zn-Al , dil., isotherm of internal adsorption at dislocations 9-37733
 Zn-Al , dil. alloy, creep ductility 9-38899
 Zn-Al , dislocation slip peculiarities during superplastic deform. 9-20102
 Zn-Al , high strength superplastic alloy, exam. of precise forging method 9-4929
 Zn-Al , liq., partial interference functions, short range chem. order effects 9-7541
 Zn-Al , near eutectoid alloy, deformation kinetics analysis 9-29161
 Zn-Al (20 wt.%) superplastic alloys, Zn diffusion, strain influence (*Russian*) 9-37870
 Zn-Al (22 wt.%), superplastic, of very high purity, cavitation 9-24586
 Zn-Al (22 wt.%), texture effect on superplasticity 9-20103
 Zn-Al eutectoid alloy, straining at elev. temp., whisker crystal 9-29087
 Zr-Al , diffusion welding with Al_2O_3 and ZrO_2 , 1000 to 1300°C (*German*) 9-33122
 Zr-Al (14 at.%), martensitic, discontinuous precipitation, TEM. obs. 9-34040
 Zr-Al (4.6 wt.%), microstruct. effect on mech. props. 9-20080
 Zr-Nb-V-Al alloys, decomp. of β solid soln., metastable and equilib. phases 9-11632
 Zr_3Al , ordered, elec. resist. of Li_2 phase as function of temp. 9-19572
 $\text{Zr}(\text{V}, \text{Al})_2$, struct., supercond. props., elec. resist. and mag. susceptibility, 4.2 to 300K (*Russian*) 9-15246

aluminium compounds

see also alumina; aluminium alloys

- β -eucryptite, glass-ceramics, internal stresses 9-15770
 aluminate phosphors, energy transfer models 9-43019
 cordierite, dense ceramic prep. with sintered condition over 300°C interval 9-33983
 $\text{GaAs-AlGa}_{1-x}\text{As}$ strip buried heterostructure laser densely packed monolithic linear array 9-45956
 methylammonium aluminium sulphate dodecahydrate, ferro to paraelectric transition, low freq. dielectric behaviour 9-4770

aluminium compounds continued

- rare earth aluminium borates, thermal stability, X-ray struct. anal., refractive indices 9-4297
 turquoise, crystalline, Nogales Mexico, SEM and TEM study 9-29760
 YAG synthetic, cryst. growth, review (*German*) 9-33926
 zeolites, synthetic, effect of sintering on elec. cond., porosity and microstruct. 9-29009
 $\text{Ag}_2^+/\text{AlO}_4$ paramagnetic centre in X-irrad. α -quartz, EPR obs. 9-28612
 $(\text{Al}, \text{Ga})\text{As}$ DH diode laser, double-dovetail constricted, single mode CW operation 9-22949
 Al saponite, evidence for inclusion in chlorite-like mineral group, X-ray and chem. anal. 9-12108
 $\text{Al}/\text{Al}_2\text{O}_3$ vacuum deposited laminates, struct. and mech. props. 9-28219
 Al-Ga-As heterostructure photocell with a transition layer 9-19655
 $\text{Al-Ga-In-P}(\text{As})(\text{Sb})$, III-V quaternary alloy, $\text{A}_x\text{B}_y\text{C}_z\text{D}$ or $\text{AB}_x\text{C}_y\text{D}_z$, energy band gap and lattice constant 9-4296
 Al-P-As-Sb , III-V quaternary alloy, $\text{A}_x\text{B}_y\text{C}_z\text{D}$ or $\text{AB}_x\text{C}_y\text{D}_z$, energy band gap and lattice constant 9-4296
 AlAs-GaAs heterostructure, fabrication by selective liq.-phase epitaxy 9-15618
 AlAs-GaAs stripe heterojunction laser, O^+ implantation effect on threshold characts. 9-41383
 AlAsO_4 , XPS of cryst., inner shell binding energies of elements 9-43092
 $\text{AlAsO}_4 \cdot 2\text{H}_2\text{O}$, XPS of cryst., inner shell binding energies of elements 9-43092
 $\text{Al}_2\text{Be}_3(\text{Si}_2\text{O}_{18})$, beryl single crystals, dislocations obs., X-ray topography (*French*) 9-37709
 $\text{Al}_2\text{Be}_3(\text{Si}_2\text{O}_{18})$, beryl single crystals, growth defects study using X-ray topography (*French*) 9-37710
 AlBr_3 , IR spectra in Ar matrix, struct. 9-31520
 Al_2Br_6 , $\text{Br}_2\text{Al-Br-AlBr}_3$, vibr. obs., normal coordinate anal. (*German*) 9-26967
 Al_2C_3 , solid-state ^{13}C NMR spectra 9-24220
 $\text{AlCl} + \text{HCl}$, matrix reaction, HAlCl_2 IR spectrum (*German*) 9-11786
 AlCl_3 intercalation of C cathode in Al reduction cell 9-43559
 $\text{AlCl}_3\text{-Al}$ chemically deposited photosensitive cells, photovoltaic characts. 9-39303
 AlCl_4^- , IR spectra in $\text{AlCl}_3\text{-MCl}$ (M=Li, Na, K) melts 9-806
 AlClBr , IR spectra in Ar matrix, struct. 9-31520
 AlCl_2Br , IR spectra in Ar matrix, struct. 9-31520
 AlF_3 film, refr. index and struct., deposition temp. depend. 9-4857
 AlF_3^+ , SCF $X\alpha$ SW calcs., ionis. pot. 9-26887
 $\text{Al}_x\text{Ga}_{1-x}\text{-GaP}$ structure, LPE, double heterostruct. light modulator appl. 9-28963
 $(\text{AlGa})\text{As}$, CW laser diodes, long-term lifetests at room temp. 9-22963
 AlGaAs DH, temp. depend. of intensities and times of radiative transitions 9-38660
 AlGaAs DH stripe geometry lasers, spontaneous radiation, carrier conc., and threshold current, luminesc. meas. 9-36898
 AlGaAs laser mode, fractional spontaneous emission coupling, power fraction, expt. evaluation 9-959
 AlGaAs-GaAs , DH semiconductor laser, influence of struct. parameters on lasing characteristics 9-45942
 AlGaAs-GaAs cascade solar-cell structure, fabrication and characteristics 9-43758
 AlGaAs-GaAs concentrator solar cells of high-efficiency characts. 9-48125
 AlGaAs-GaAs DH lasers, coupling efficiency between gain-induced guides 9-23094
 AlGaAs-GaAs heterostructure, minority carrier lifetime, photon recycling effect (*Japanese*) 9-42556
 AlGaAs-GaAs lasers, defects and degradation (*Japanese*) 9-31899
 AlGaAs-GaAs lasers for optical fibre transmission, defects and degradation 9-41382
 $\text{Al}_x\text{Ga}_{1-x}\text{As}$ CSP laser, analytical waveguide study 9-10302
 $\text{Al}_x\text{Ga}_{1-x}\text{As}$, DH, defect generation in active regions at high optical excitation rates 9-23845
 $\text{Al}_x\text{Ga}_{1-x}\text{As}$ epitaxial diode, neutron and γ -irrad. effects on cathodolum. in SEM 9-11473
 $\text{Al}_x\text{Ga}_{1-x}\text{As}$ epitaxial films, microanal. in photoemissive electron microscope 9-16068
 $\text{Al}_x\text{Ga}_{1-x}\text{As}$, graded band-gap heterostruct., photo-EMF 9-24072
 $\text{Al}_x\text{Ga}_{1-x}\text{As}$ heterojunction LED 9-28403
 $\text{Al}_x\text{Ga}_{1-x}\text{As}$, indirect, exciton-phonon coupling, photolum. meas. 9-47511
 $\text{p-Al}_x\text{Ga}_{1-x}\text{As}$, LED in red and IR region, multiple-pass heterostruct. 9-19653
 $\text{Al}_x\text{Ga}_{1-x}\text{As}$ MBE layers, ionized beam doping, elec. and optical characts. 9-37721
 $\text{Al}_x\text{Ga}_{1-x}\text{As}$, metalorganic-CVD, photopumped laser operation meas. GaAs quantum well 9-10303
 $\text{Al}_x\text{Ga}_{1-x}\text{As}$, mode-stabilised injection laser, longitudinal-mode behaviour 9-962
 $\text{Al}_x\text{Ga}_{1-x}\text{As}$, resistor pressure sensors 9-2756
 $\text{Al}_x\text{Ga}_{1-x}\text{As}$, temp. coeff. of resistance of pressure sensors 9-6108
 $\text{Al}_x\text{Ga}_{1-x}\text{As}$ thick epitaxial layer production, by zone recrystn. in temp. gradient 9-15619
 $\text{Al}_x\text{Ga}_{1-x}\text{As}$, valence and core level photoemission spectra 9-19973
 $\text{Al}_x\text{Ga}_{1-x}\text{As}$ variable gap thin structs., radiative recomb. photoluminesc. spectra 9-43036
 $\text{n-Al}_x\text{Ga}_{1-x}\text{As}$, variable-gap solid solns., diffusion length, photolum. meas. 9-38659
 $\text{Al}_x\text{Ga}_{1-x}\text{As}$, waveguide heterostruct. epitaxial growth with gradual composition change 9-42416
 $\text{Al}_x\text{Ga}_{1-x}\text{As:N}$, photoluminesc. and optical absorpt. spectra of N impurity bound-excitons 9-47496
 $\text{Al}_x\text{Ga}_{1-x}\text{As-GaAs}$, carrier transport across heterojunction interfaces 9-47158
 $\text{Al}_x\text{Ga}_{1-x}\text{As-GaAs}$, diode pump system for YAG: Nd^{3+} laser 9-41396
 $\text{Al}_x\text{Ga}_{1-x}\text{As-GaAs}$, quantum-well MO-CVD heterostructure lasers, band-filling props. 9-22954
 $\text{Al}_x\text{Ga}_{1-x}\text{As-GaAs}$ linear-gradient heterostruct., photoelec. props. 9-11205
 $\text{Al}_x\text{Ga}_{1-x}\text{As-GaAs}$ multilayers, LPE, using addition of GaCl vapour and new boat struct. 9-33950
 $\text{Al}_x\text{Ga}_{1-x}\text{As-GaAs}$ quantum-well heterostructure laser, metalorganic CVD growth, CW operation 300 to 337K 9-10304
 $\text{Al}_x\text{Ga}_{1-x}\text{As-GaAs-Al}_x\text{Ga}_{1-x}\text{As}$ quantum well, carrier collection 9-15211
 $\text{Al}_x\text{Ga}_{1-x}\text{As}_y\text{-xSb}_y$, LPE, strain effects near miscibility gap, importance 9-7759
 $\text{Al}_x\text{Ga}_{1-x}\text{-N}$ epitaxial layers, growth and props. 9-11522
 $\text{Al}_{2x}\text{Ga}_{2(1-x)}\text{O}_3\text{:Cr}^{3+}$, luminesc., lifetimes 9-33784

aluminium compounds continued

- Al₂Ga_{1-x}Sb, LED, 1.54 μ m efficient emission at 300K reproducible fabrication 9-42636
- Al₂Ga_{1-x}Sb, photolum. intensity increase due to composition variation 9-15528
- Al₂Ga_{1-x}Sb, surface flatness depend. on LPE condition 9-15042
- AlH(SO₄)₃·H₂O, cryst. parameters and X-ray powder diff. data (*French*) 9-14765
- Al₂MgO₄, spinel, dislocations, dissociated, weak-beam technique, appl. (*French*) 9-42070
- AlN, hot pressed, effect of O₂ content on flexural strength and compact density 9-11668
- AlN, nonlinear susceptibilities 9-27312
- AlN powder, effect of O impurity on sintering and thermal cond. (*Japanese*) 9-20017
- AlN powder, production using Al powder in N plasma with electric discharge 9-33990
- AlN whiskers, strength rel. to growth conditions using vapour-liquid-solid method 9-11052
- AlN:Mn, vol. and surface excited luminesc. 9-38630
- AlO, Franck-Condon factors, rot. quantum number effect 9-31613
- Al(OH)₃, coprecipitated with Cr(OH)₃ gel, magnetic, optical studies, calcination 9-47995
- Al(OH)₃, derived from metalalkoxides, sintering behaviour 9-29005
- γ -AlOOH, boehmite, lattice vibrs., evidence for C_{2v} space group 9-28756
- AlP, semicond., ³¹P nuclear mag. shielding 9-33549
- AlP(As)(Sb), refractive index dispersion 9-24280
- AlPO₄, α - β cristobalite phase transition, Raman meas. 9-4799
- AlPO₄, XPS of cryst., inner shell binding energies of elements 9-43092
- AlPO₄·2H₂O, XPS of cryst., inner shell binding energies of elements 9-43092
- α -Al₂S₃, prep. by direct sulphidation, chem. vapour transport and AlI₃ flux growth 9-43118
- Al₂(SO₄)₃ + Sc₂(SO₄)₃ aq. solns., complex form. reacts., kinetics, US relax. investig. 9-1942
- Al₂SiO₅, kyanite, sillimanite, mullitisation, effect of gaseous atm. 9-11604
- Al₂TiO₅, grain size pseudobrookite oxide, microcracking relations 9-29194
- Al₂TiO₅, sinterability improvement by partial decomposition 9-28994
- Al₂VO₂, reduced, microstruct., crystallographic shear planes, electron microscope obs. 9-1443
- BPO₄-AlPO₄, non-equal. phase diagram, electron microscope obs. 9-43225
- Be₂Al₂Si₂O₁₈:Cr³⁺, EPR spectra, exchange-coupled pairs 9-28596
- Ca₂Al₂GeO₇, gehlenite struct., synthesis and physicochem. props. 9-43181
- CaO-Al₂O₃, binary slag, reduction of Al₂O₃ by C saturated Fe (*Japanese*) 9-24733
- FeAl_{2-x}Cr_xO₄, spinel, elec. cond. behaviour during oxidation 9-19593
- γ -(Fe_{1/3}Al_{2/3}- γ -Cr₂)₂O₃, lacunar spinels, elec. cond. behaviour during oxidation 9-19593
- (Ga,Al)As injection laser parameters, homogeneous degradation calc. from initial rates 9-22951
- Ga-Al-Sb, liq. phase epitaxy, phase diagram, X-ray microanal. 9-19491
- GaAlAs DH laser, optimum p-n junction depth, photoluminesc. method 9-4598
- GaAlAs DH laser, stripe geometry, spatially resolved emission 9-27257
- GaAlAs DH lasers, electron-hole recomb. effects 9-45944
- GaAlAs DH lasers, nonlinearity, second and third harmonic distortion 9-31898
- GaAlAs DH photovoltaic detectors, high efficiency 9-11198
- GaAlAs plasma grown oxide film, anal. by combined ion beam techniques 9-7760
- (Ga,Al)As system, automated system for growth of multilayered structs. by LPE 9-38752
- n-GaAlAs:Sn LED DH donor-level analysis, DLTS obs. 9-47040
- GaAlAs/GaAs heterostructures, ellipsometric assessment of epitaxial layer during growth in organometallic VPE system 9-37933
- (Ga,Al)As-GaAs, DH laser, degradation in water due to facet deterioration 9-22970
- (Ga,Al)As-GaAs, double heterostructure laser, TEM study of dark line defect growth from dislocation clusters 9-33206
- GaAlAs-GaAs heterostruct. solar cells, Al, P, Zn incorporation by LPE (*French*) 9-24899
- GaAlAs-GaAs n-n heterojunction, rectification 9-28402
- (Ga,Al)As-GaAs twin-transverse-junction stripe laser with linear light/current characteristic and low threshold 9-36893
- GaAl_{1-x}As_x, ion beam synthesis for photodetector fabrication 9-46688
- Ga_{0.5}Al_{0.5}As, heterostructure, cation order, effect on energy bands 9-1570
- Ga_{0.5}Al_{0.5}As-GaAs(Ge) DH structure, minority carrier lifetime and internal quantum efficiency of surface-free GaAs 9-43013
- Ga_{1-x}Al_xAs DH laser hybrid device, reliability 9-27281
- Ga_{1-x}Al_xAs, DH stripe geometry laser, lasing-induced change in differential resistance 9-45943
- Ga_{1-x}Al_xAs electrodes, interface capacitance meas., flatband pot., conduction and valence band boundaries (*French*) 9-33339
- Ga_{1-x}Al_xAs, epitaxial layers, on GaAs substrates, X-ray double-cryst. diffractometry, state of strain 9-19480
- Ga_{1-x}Al_xAs, LPE, growth mechanism and morphology on channelled substrates 9-28960
- Ga_{1-x}Al_xAs LPE crystals for DH laser, LEDs, TEM obs. of Ge, Si-doped epitaxial layers 9-1556
- Ga_{1-x}Al_xAs laser, buried heterostruct., stable operation during accelerated ageing at 70°C 9-7125
- Ga_{1-x}Al_xAs, MBE, state-of-the-art 9-24450
- Ga_{1-x}Al_xAs, solid solution, synthesized by ion implantation, Raman scattering 9-42972
- n-Ga_{1-x}Al_xAs, variable gap photodetector, quantum efficiency 9-7903
- Ga_{1-x}Al_xAs-GaAs, injection lasers, defects, TEM anal. 9-23866
- Ga_{1-x}Al_xAs-GaAs channel guide laser grown by metalorganic CVD 9-10317
- Ga_{1-x}Al_xAs-GaAs heterostructure lasers grown by metalorganic CVD, prep. and props. 9-36918
- Ga_{1-x}Al_xAs-GaAs LPE multilayer heterostructure photovolt. solar cells, fabrication and performance 9-48128
- Ga_{1-x}Al_xAs-GaAs p-n structures, variable-gap front layer, photoelec. props. 9-7884

aluminium compounds continued

- Ga_{1-x}Al_xAs-GaAs p-n solar cell, with thin variable gap layer, high efficiency 9-24064
- Ga_{1-x}Al_xAs-GaAs-GaAs, p-p-n junctions, variable gap solar photocell with coordinate depend. band gap gradient 9-11213
- Ga_{1-x}Al_xAs-Ge, MBE of ultra thin film superlattices on GaAs substrates TEM study 9-37932
- Ga_{1-x}Al_xAs_{1-x}P_x, layer of uniform composition grown on GaAs by LPE, temp. diff. method appl. 9-23864
- Ga_{1-x}Al_xAs_{1-x}P_x-GaAs heterojunctions, light-induced misfit dislocation motion, photoluminesc. and X-ray diff. meas. 9-11200
- Ga_{1-x}Al_xP-GaP-GaP n-n-p struct., electrolum. spectra 9-24368
- Ga_{0.72}Al_{0.28}Sb avalanche photodiodes, ionization coeff. 9-17488
- Ga_{1-x}Al_xSb variable-gap p-n structures, wide-band photoelec. effect 9-42635
- Ga_{1-x}Al_xSb, VPE, closed tube transport technique 9-28935
- GaAs-Al_{1-x}Ga_xAs, film waveguide, heterojunction lasers with Bragg mirrors, threshold characs. 9-23095
- GaAs-Al_{1-x}Ga_xAs double heterojunctions, dark-line defects and recomb. centres, scanning photocurrent microscopy 9-35822
- GaAs-Al_{1-x}Ga_xAs heterojunctions, MBE grown, photocollection efficiency and interface charges 9-11199
- GaAs-Al_{1-x}Ga_xAs heterostruct., photon recycling, diffusion length and lifetime determ. 9-47499
- GaAs-Al_{1-x}Ga_xAs modulation-doped heterojunction superlattices, electron mobilities 9-7877
- GaAs-Al_{1-x}Ga_xAs structures for DH lasers, LPE (*Polish*) 9-4922
- GaAs-Al_{1-x}Ga_xAs heterostructure thyristors, operation and elec. characs. 9-7891
- GaAs-Ga_{1-x}Al_xAs-Ga_{1-x}Al_xAs n⁺-i-n heterostructure, electroluminesc. characs., 80 to 330K (*Russian*) 9-28404
- GaAs-Ga_{1-x}Al_xAs double heterojunction laser structures, LPE growth with double source method 9-28962
- GaAs-Ga_{1-x}Al_xAs superlattice, photoconductor with high sensitivity and reduced dark current appl. 9-7881
- GaAs-GaAlAs DH laser, beam scanning with twin-stripe injection lasers 9-10334
- GaAs-GaAlAs heterostructure, GaAs preferential etching, using O₂ and CCl₂F₂ 9-8373
- GaAs-GaAlAs injection laser sources for fibre optic communications, design 9-31923
- GaAs-GaAlAs multiple-stripe phase-locked laser array, behaviour 9-45955
- (GaAs)_x(AlAs)_{1-x}, multilayer heterostructure, cation order, effect on energy bands 9-1570
- InAs-Al_{1-x}Ga_xSb heterojunctions, elec. and photoelec. props. 9-11206
- LiAlSiO₄, β -eucryptite, superionic conductor, order-disorder transition, microwave impedance obs. 9-14966
- LiBaAlF₆:Eu²⁺, luminesc., band emission and line emission 9-28810
- LiCl-NaCl-AlCl₃ ternary melt, density as function of temp. and composition, meas. by macroscopic method (*Japanese*) 9-42130
- Mg-Si-Al-O-N, grain boundary segregation, combined X-ray microanal. and lattice fringe imaging determ. 9-15681
- MgAl₂O₄, composition rel. to ceramic microstruct. form., light transmission 9-43188
- (NH₄)₂Al(SO₄)₂, ¹H spin-lattice relax., 100-500K 9-38398
- Na₃AlF₆-LiF-CaF₂-AlF₃-Al₂O₃, electrolyte, exam. of phase equilibria, review 9-11590
- NdAl₃(BO₃)₄, cw laser action at 1.3 μ m 9-27258
- NdAl₃(BO₃)₄, luminescence and lasing characs., solubility 9-31910
- OAICl and OAIF, IR matrix spectra, vibr. freqs. (*German*) 9-11785
- α -Rb₂Al(MoO₄)₃, cryst. struct. 9-19219
- RbAl(SO₄)₂·12H₂O, ENDOR of ⁵⁷Fe³⁺ in trigonally distorted octahedral sites 9-38405
- RbAl(SO₄)₂·12H₂O:Cr³⁺, high order EPR transitions 9-22736
- Si-Al-O-N, compression creep, comparison with SiC and Si₃N₄ 9-15728
- Si-Al-O-N ceramics, grain boundary segregation determ. by X-ray microanal. and lattice fringe imaging 9-15681
- Si_{1-x}Al_xO₂N_{2-x}, x=1.5, 3, 4, Sialon ceramics, elec., thermal cond. 9-33124
- β -Si₃N₄-AlN-Al₂O₃-MgO, insolubility of Mg in β -Si₃N₄ 9-10953
- SiO₂-Al(OH)₃, derived from metalalkoxides, sintering behaviour 9-29005
- Sr₂Al₂GeO₇, gehlenite struct., synthesis and physicochem. props. 9-43181
- YAG, optical films, high quality growth 9-46984
- YAl₃B₂O₇:Bi³⁺, luminesc., vibr. struct., energy transfer 9-38584
- Zn-Si-Al₂S₃, phase relationships, 720 to 1110°C 9-1852
- Zr-Al-O system, diffusion welding, 1000 to 1300°C, Al₂O₃-(Zr-Al) alloy, ZrO₂-(Zr-Al) alloy, Al₂O₃-ZrO₂ couples (*German*) 9-33122

aluminosilicate glasses

- β -spodumene, glass-ceramics, internal stresses 9-15770
- aluminoborosilicate, working props. during microfibre and ultrafine fibre prod. 9-24486
- gehlenite, crystallisation kinetics 9-4251
- holograms, photoinduced anisotropic recording media 9-41354
- particles, new method for X-ray micro-anal., based on peak to background meas. 9-24881
- Al₂O₃-B₂O₃-SiO₂ system, metastable liq.-liq. phase separation 9-42263
- Al₂O₃-SiO₂ glasses, phase decomp., small-angle X-ray and neutron scatt. study 9-14688
- CaAl₂Si₂O₆-CaSiO₃-CaMgSi₂O₆, exam. of glass forming regions and properties of glasses 9-4958
- CaO-SiO₂-Al₂O₃-Na₂O-CaF₂ melts, surface tension and limit wetting angle in contact with C and CrNi steels (*Czech*) 9-37908
- Ca₂O-Al₂O₃-SiO₂, rain erosion mechanisms 9-34154
- K₂O-CaO-Al₂O₃-SiO₂ glass, exam. of liquid phase separation phenomena 9-4417
- Li₂O-Al₂O₃-SiO₂, Tb³⁺(²D₃) luminesc., cross-relax. quenching (*Russian*) 9-33836
- Li₂O-Al₂O₃-SiO₂, with refractive index gradient, produced by ion exchange diffusion, exam. of refractive index and concentration changes 9-4782
- Li₂O-Al₂O₃-SiO₂ glasses, viscosity, thermal expansion, glass transform. temp. and refr. index 9-42282
- Li₂O-Al₂O₃-SiO₂-Cu, Cu film self-generation for low-expansion IR laser mirrors 9-14127
- 19Li₂O·19Al₂O₃·62SiO₂ glass, ionic cond. meas. 9-33110
- MgO-Al₂O₃-SiO₂-NiO glass, gamma ray irradiated, exam. of ESR spectrum of Ni(II) 9-4719
- MgO-CaO-Al₂O₃-SiO₂-(TiO₃) systems, glass-ceramics, crystn. kinetics (*Russian*) 9-37626

aluminosilicate glasses continued

- NaAlSi₃O₈ melts quenched at high press., struct. from IR and Al K-radiation data 9-32907
 Na₂O-Al₂O₃-B₂O₃-SiO₂-AgBr(Cl), photochromic glass, exam. of role of O and Cu ions, using luminescence spectra 9-4849
 Na₂O-Al₂O₃-B₂O₃-SiO₂, CuCl crystal activated photochromic glasses, absorpt. spectra 9-27353
 Na₂O-Al₂O₃-SiO₂, surface charge in aqueous electrolyte soln. 9-29245
 Na₂O-CaO-Al₂O₃-SiO₂ glass, exam. of liquid phase separation phenomena 9-4417
 Na₂O-SiO₂-B₂O₃-Al₂O₃, comp. changes as evidence for spinodal decomposition 9-11549
 Si-Y-Al-O-N glasses, compositional anal., hardness depend. on N₂ content 9-34129
 SiO₂-Al₂O₃-B₂O₃-CaO-Na₂O-K₂O system glasses, relax. of struct. stresses rel. to forming process 9-34088
 SiO₂-Al₂O₃-CaO-MgO-Na₂O (1.58, 7.16, 3.59, 14.9 mole.%), polished sheet, strength in commercial state and after strengthening by ion exchange 9-1904
 SiO₂-Al₂O₃-CaO-MgO-Na₂O, ion exchange and electrodiffusion of Li ions in surface layer 9-20227
 SiO₂-Al₂O₃-Fe₂O₃-CaO-MgO-Na₂O-B₂O₃-SO₃, exam. of white flaky inclusions, causes and formation time 9-29237
 SiO₂-Al₂O₃-K₂O-Na₂O, exam. of leucite crystal growth 9-19496
 SiO₂-CaO-Na₂O-TiO₂ system, water, alkali, acid resist., chem. durability 9-34162
 ZnO-Al₂O₃-SiO₂ glass, crystalline phase precipitation, crystallisation (Japanese) 9-32916
 ZnO-Al₂O₃-SiO₂-Cu, Cu film self-generation for low-expansion IR laser mirrors 9-14127

a.m. (modulation) see amplitude modulation

ambient temperature see temperature

americium

see also nuclei with

- dilatometry and thermal anal., melting point, transformation regions 9-43241
 polymorphic transform. exam. by hot stage X-ray diffr. anal. (Russian) 9-24518
 superconductivity, discovery of, up to 0.79K 9-11262
 Am-Be, neutron fluence-to-dose conversion factors 9-6771
²⁴¹Am, environmental pollution, biophysical aspects 9-39530
²⁴¹Am, gastrointestinal absorpt. in hamster 9-39520
²⁴¹Am, in English Channel, transfer into S.North Sea 9-48519
²⁴¹Am spectrometer for Compton scatt. studies 9-2899

americium compounds

- α-Am₂(MoO₄)₃, cryst. struct., lattice parameters 9-14774
 AmO₂ and AmO₃, electronic struct. and chem. bonding and XPS line shape calcs. 9-33264
 AmOBr, cryst. struct. from powder patterns 9-46617
 AmTe_{1.73(2)}, X-ray single cryst. struct. determ. and refinement 9-19201
 α-Am₂(WO₄)₃, cryst. struct., lattice parameters 9-14774

ammeters

- DC picoammeter, 10⁻⁵ to 10⁻¹¹ A range, portable 9-17441
 maintenance, renovation and repair procedures for multimeters including Avo model 8 9-35795

ammonia

- abundance determ. for Jupiter from 2 μ spectrum 9-35182
 adsorbed on irradi. SiO₂ gel, neutron scatt. 9-33194
 adsorption on Ge (111) surface, surface recom. centre neutralization 9-38147
 air pollution conc. determ. on long path from CO₂ laser radiation reson. absorpt. 9-29904
 atmospheric, photoacoustic spectroscopy at 9 μm, 10 μm ¹²C¹⁶O₂ laser wavelengths 9-21014
 atmospheric cycles 9-48562
 atmospheric remote sensing by multiphoton sequential photodissociative excitation 9-48199
 catalytic synthesis on Fe, promoter action of K 9-29390
 cell, incapity, technique for obtaining CW CO₂ sequence laser lines 9-18438
 chemisorption, on W, decomposition mechanism, isotope effect 9-29409
 collisionally induced transition rates, estimation from lab. data, rel. to interstellar mols. 9-45787
 crystal, and deuterated crystal, atom-atom and multipole-multipole pot. lattice dynamics calc. 9-1479
 decomposition, on supported Fe catalyst, kinetics, IR obs. 9-11792
 detection of extragalactic ammonia 9-48886
 dissociating gas in pipe flow, heat transfer crisis, flow laminarisation 9-1265
 equation of state, perturbed-hard-sphere, applicable to sub- and supercritical temps. 9-19350
 excitation in interstellar Kleinmann-Low nebula 9-5878
 frost, near IR refl. spectra, appl. to Saturn upper clouds 9-8135
 gas, electron-ion recombination, at 292K, three-body interaction 9-46418
 gas, ion mobility meas. 9-23393
 gas phase proton solvation energetics, mol. beam-photoionis. obs. 9-29345
 glow discharge, electron energy distrib. and negative ions (Russian) 9-7499
 intercalated in TaS₂, press. induced diffusion effects, NMR study 9-19797
 intercalation compound with TaS₂, kinetic study of NH₃/ND₃ exchange by neutron diffr. 9-29350
 interstellar, absorpt. in Sagittarius B2 direction 9-35341
 interstellar, obs. in DR 21, NGC 1333 and NGC 6334 N 9-17044
 interstellar emission lines in direction of T Tauri stars, radio obs. 9-25662
 interstellar NH₃, nonmetastable levels obs. 9-25665
 IRC+10216, C star, NH₃ obs. in circumstellar envelope 9-48793
 Jupiter, thermal profiles and NH₃ distrib. from IR spectral meas. 9-40126
 laser, high power, improved optical pumping geometry in Littrow cavity config. 9-22973
 laser, optically pumped, multiwatt, laser operation in 12-13 μm range 9-7141
 laser emission, far IR CW, by optical pumping 9-3687
 laser emission, IR and far IR, using TE CO₂ laser pump 9-934
 marine pollution in Kuwait, meas. 9-5510
 maser, injection priming of pulsed molecular-beam maser oscillator 9-27226

ammonia continued

- metal-NH₃ mixture, attractive electron-electron interaction from molecular tunnelling mode 9-37793
 mixing ratio in Jupiter stratosphere 9-16874
 molecule, 35 keV electron elastic differential cross section, bond formation, independent atom model 9-31683
 molecule, Compton profile asymmetry, 35 keV electron impact spectroscopy 9-7025
 molecule, CW and pulsed Pb_{1-x}Sn_xSe diode laser spectroscopy 9-26980
 molecule, electron correl., quadrupole excitation in correl. energy theories 9-36538
 molecule, electron impact partial absolute ionis. cross section, 20-350 eV, rel. to H₂ and H₂O (French) 9-861
 molecule, electron scatt., 35 keV, Compton defect 9-27092
 molecule, excited states, pot. energy curves w.r.t. bond ang., one-centre expansion approx. 9-6886
 molecule, freq. depend. hyperpolarisability, time-depend. Hartree-Fock calcs. 9-36559
 molecule, Gaussian lobe orbitals, symmetry defects 9-9990
 molecule, Hartree-Fock perturbation theory, first-order, symmetry calcs. 9-6854
 molecule, high-resolution polarisation spectroscopy in 10 μm region 9-6196
 molecule, interstellar emission line in Orion, 23 GHz obs. 9-30109
 molecule, inversion splitting calc., variable pot. barrier 9-18177
 molecule, laser photochemistry 9-43604
 molecule, mag. shielding consts., coupled HF perturbation theory 9-6863
 molecule, mean amplitude of mol. vibration, approx. calc. method 9-13697
 molecule, microwave spectra, press. shift of inversion lines 9-31615
 molecule, minimal basis set localised orbitals, conjugate gradients method calcs. 9-6849
 molecule, one-electron props. in terms of localised mol. orbital components 9-6840
 molecule, photodissoc., NH c²Π state anomalous population 9-10133
 molecule, pot. energy surface by MS Xα method and mol. geometry 9-13656
 molecule, separated electronic pair functions, direct minimisation of energy functional, LCAO-MO SCF, density matrix formalism 9-31392
 molecule+He, rot. excitation, IOS approx. calcs. 9-45801
 olefin+NH₃, gas mixtures, γ-radiolysis over whole composition range (Japanese) 9-5172
 parametric upconversion, resonantly enhanced 26 GHz, of CO₂ laser 9-23020
 photolysis and greenhouse effect in primordial atmosphere 9-39864
 photorespiratory cycling, reassimilation involving glutamine synthetase 9-2011
 solid, AES excited by X-rays 9-33894
 solid, UPS, valence band struct. 9-33890
 solid film, contaminant on cryocooled Ge optical window, IR transmission 9-32007
 turbulent flow in tube, heat transfer 9-14395
 Ag(I) reduction by tartrate in HN₃ solns. (Russian) 9-47976
 CaCl₂+8NH₃ coolant for solar refrigeration (French) 9-24911
 H₂-NH₃ mixture, viscosity meas., 25-100°C, up to 120×10⁵ Pa 9-32731
 H⁺(NH₃)_n, secondary electron emission from charged clusters on 2.4 keV Ar bombarded surfaces 9-15580
 He+NH₃, rot. excitation rate consts., semiclassical method 9-3538
 Li-ND₃, near liq.-liq. crit. point, conc. fluctuations, neutron diffr. long wavelength thermodynamic limit 9-10948
 Li-NH₃, conc. solns., elec. cond. and thermolec. power 9-19640
 NCl₃.NH₃, force const. calcs. 9-36603
 ND₃, chemisorbed on W, decomposition mechanism, isotope effect 9-29409
¹⁴NH₃, inversion spectrum 9-3438
 NH₃-ethylene (propylene) mixtures, crit. curves at high-pressure. 9-23715
 NH₃-Li(Na) solution, small angle X-ray scatt. meas. 9-14667
 NH₃-N₂(H₂)(Ne)(Ar)(Kr)(Xe), as R(1,1) vibr-rot. line parameters, ν₂ band, using CO₂ laser light 9-3444
 NH₃-water system, vapour-liquid equilb., thermodynamics 9-42246
 NH₃+BP, dissoci. reacts. 9-43627
 NH₃+Br₂, gas phase reaction, NHBr₂ identified by ESCA 9-31599
 NH₃+H₂O coolant for solar refrigeration (French) 9-24911
 NH₃+He, differential scatt. cross-section, intermol. pot. 9-36728
 NH₃+NH₃(He)(Ar)(N₂)(O₂), ν₂ state vibr. relax., laser induced vibr. fluoresc. obs. 9-18269
 NH₃+NaSCN, coolant for solar refrigeration (French) 9-24911
 NH₃+Ne⁺, thermal energy, reaction rate coeffs. and product distrib. 9-29333
 NH₃+O₂, flash photolysis, NH₃+HO₂ rate const. 9-47943
 NH₃+OH, rot. inelastic collision, microwave spectra 9-45806
 NH₃(ND₃)+Hg, photosensitised luminesc., phase shift anal. 9-15966
¹⁵NH₃, and ¹⁴NH₃, laser-microwave two-photon spectroscopy, appl. of tunable source 9-30579
¹⁵NH₃, interstellar detection at 23 GHz 9-44590
 Na-NH₃, solns., US absorpt. and vel. near crit. point 9-28047

ammonia clocks see atomic clocks

ammonium compounds

- ammonium hydrogen chloracetate, order disorder type transition 9-47399
 ammonium Rochelle salt, incommensurate phase transitions under existence of Lifshitz invariant 9-15416
 fertilizers, nitrogenous and phosphate, pollution problems from manufacture 9-34450
 isopropyl ammonium chloroplatinate and chlorostannate, ferroelastic transition, thermal, optical, and elastic meas. 9-28096
 oxalate monohydrate: Mn²⁺, ESR, 77-345K 9-19768
 sodium ammonium tartrate, crystals, temp. depend. of elastic compliances at phase transition 9-15409
 [(NH₄)_{1-x}K_x]₂CuCl₂·2H₂O, Raman scatt. spectra 9-15459
 [(NH₄)₂K_{1-x}Li_xSO₄·NH₄ dynamics, neutron scatt. study 9-42167
 [(NH₄)₂K_{1-x}Li_xSnCl₆, mixed cryst., spectroscopic study 9-33712
 β-Al₂O₃-NH₄⁺, high press. thermal stability 9-23678
 β-Al₂O₃-NH₄⁺, protonic cond., struct. investig. 9-19213
 Cd(NH₄)₂(SeO₄)₂·6H₂O:Mn²⁺, EPR of Mn²⁺, spin-Hamiltonian parameters 9-33528
 LiND₄SO₄, ⁷Li and ²D NMR exam. of high-pressure phase 9-11396
 LiNH₄SO₄, atomic struct. exam. 9-37678
 LiNH₄SO₄, ferroelect. and press. induced phase transitions 9-38473
 ND₄⁺, NMR in lyotropic systems 9-22732
 β-ND₄Br, ND₄⁺ orientational fluctuations, neutron scatt. obs. 9-7557

ammonium compounds continued

- ND_4Cl , ultrasonic exam. near order-disorder transition, elastic consts. 9-46799
 $(\text{ND}_4)_2\text{D}(\text{SeO}_4)_2$, phase transitions, isotope effect, dielectric and dilatometric meas. 9-38500
 ND_4I , librational motion of ND_4^+ ion, far IR spectra obs. (*Japanese*) 9-8142
 ND_4I , Raman spectra at high press. 9-47459
 ND_4PF_6 , tunnelling ND_4^+ ion, deuteron NMR lineshape computations, first order quadrupolar interactions 9-15362
 $(\text{ND}_4)_2\text{PtCl}_6$, ND_4^+ ion, deuteron NMR lineshape computations, first order quadrupolar interactions 9-15362
 ND_4ReO_4 , nuclear electric hexadecapole interactions of ^{185}Re and ^{187}Re 9-1722
 NH_4^+ , contrib. to acidity of rain 9-2327
 NH_4^+ , nuclear dipolar relaxation in four-spin-1/2 tetrahedral group 9-24225
 $(\text{NH}_4)_2\text{Al}(\text{SO}_4)_2$, ^1H spin-lattice relax., 100-500K 9-38398
 $(\text{NH}_4)_2\text{BeF}_4$, effect of surface layer on spontaneous polarisation 9-38445
 $(\text{NH}_4)_2\text{BeF}_4$, ferroelectric, Brillouin scattering study 9-15470
 $(\text{NH}_4)_2\text{BeF}_4$, ferroelectric, cryst. struct., phase transition, X-ray study 9-28689
 $(\text{NH}_4)_2\text{BeF}_4$, γ -irrad., trapped H atoms, ferroelec. transition, EPR meas. 9-4724
 $(\text{NH}_4)_2\text{BeF}_4$, incommensurate phase transitions under existence of Lifshitz invariant 9-15416
 NH_4Br , ^{15}N NMR obs., rel. to structural transforms. 9-15368
 NH_4Br , anisotropy of $T_{1\rho}$ and $T_{1\rho}$ 9-38393
 NH_4Br , order-disorder phenomena, high press. US investigation 9-37835
 NH_4Br , proton spin-lattice relax., temp. depend. 9-42859
 $\text{NH}_4\text{Br}:\text{Ti}$, absorption, excitation and fluorescence spectra 9-33824
 NH_4CdCl_3 , X-ray cryst. struct. refinement by blocked least-squares method 9-1404
 $(\text{NH}_4)_2\text{Cd}_2(\text{SO}_4)_3$, structural phase transition, phenomenological theory 9-7693
 $(\text{NH}_4)_2\text{Cd}_2(\text{SO}_4)_3:\text{Mn}^{2+}$, UO_2^{2+} , luminesc., vibr. modes 9-38629
 $(\text{NH}_4)_2\text{Ce}(\text{NO}_3)_6$, proton spin-lattice relax., temp. depend. 9-42859
 NH_4Cl , anisotropy of $T_{1\rho}$ and $T_{1\rho}$ 9-38393
 NH_4Cl , cryst., impurity overtone states, interference two-photon spectrum (*Russian*) 9-24344
 NH_4Cl , cryst. nucleation, growth rates from organic media, outline meas. technique 9-38730
 NH_4Cl crystal, polarization light scattering spectra in zone of dissociated states 9-47029
 NH_4Cl , order-disorder phase transform., effect of plastic deform. and electrooptic effect 9-33672
 NH_4Cl , powder, adsorpt. of H_2O vapour 9-1545
 NH_4Cl single crystals, quasielastic neutron scattering expts. near order-disorder phase transition 9-4410
 NH_4Cl , solid phase, resonant transfer of nucl. spin dipolar order in rotating frame 9-33564
 $\text{NH}_4\text{Cl}:\text{Ti}$, phosphoresc. decay rates obs., pretreatment effects 9-4853
 $\text{NH}_4\text{Cl}:\text{H}_2\text{O}$, binary dendritic system, exam. of solidification 9-11599
 $\text{NH}_4\text{Cl}:\text{TiCl}_4$, mixed phosphors, diffuse absorption spectrum 9-24342
 NH_4ClO_4 , elec. field effect on decomp. 9-15987
 NH_4ClO_4 , formation of colour center by X-irradiation, optical absorption spectra 9-19247
 NH_4ClO_4 , γ -irrad., trapping and motion of NH_3^+ radical in cryst. lattice 9-33538
 NH_4ClO_4 , instantaneous jump reorientations, neutron scatt. study 9-41990
 NH_4ClO_4 , photothermochemical process, influence of phase transition 9-24770
 NH_4ClO_4 , photothermochemical process 9-24769
 $(\text{NH}_4)_2\text{Cr}_2\text{O}_7$, proton spin-lattice relax., temp. depend. 9-42859
 $(\text{NH}_4)_2\text{CuCl}_4\cdot 2\text{H}_2\text{O}$, Raman spectra, dynamics, struct., phase transition 9-47434
 $\text{NH}_4_2\text{C}_2\text{O}_4:\text{Cr}_2\text{O}_7^{2-}$, optical absorpt. spectra, mol. orbital calcs. 9-15491
 $(\text{NH}_4)_4\text{Fe}(\text{CN})_6\cdot 1.5\text{H}_2\text{O}$, cryst. struct., and possible ionic transport mechanism 9-14758
 NH_4FeF_6 , Mossbauer and optical evidence for crystallographic transition 9-14931
 $(\text{NH}_4)_2\text{GeF}_6$, NMR, nuclear dipolar energy relax. 9-42853
 $(\text{NH}_4)_2\text{HASO}_4$, hydrogen bonded, ^{75}As NQR study 9-38399
 $\text{NH}_4\text{H}_2\text{AsO}_4$, doubling crystal for ring dye laser 9-41392
 $\text{NH}_4\text{H}_2\text{AsO}_4$, H positions, paraelectric phase 9-19210
 $\text{NH}_4\text{H}_2\text{AsO}_4$, microhardness, expt. determ. 9-24603
 $\text{NH}_4\text{H}_2\text{AsO}_4:\text{Cr}^{3+}$, antiferroelec. phase transition, EPR intensity and line-width meas. 9-4721
 $\text{NH}_4\text{H}_2\text{AsO}_4\cdot\text{NH}_4\text{H}_2\text{PO}_4$, AsO_4^{4-} centre, EPR central peak dynamics 9-33523
 $(\text{NH}_4)_2\text{HCr}_3\text{AsO}_{13}$, prep. and cryst. struct. (*French*) 9-1415
 $(\text{NH}_4)_2\text{HCr}_3\text{AsO}_{13}$, X-ray cryst. struct. determ., existence of a new anion $(\text{Cr}_3\text{AsO}_{13})^{3-}$ (*French*) 9-4295
 $\text{NH}_4\text{H}_2\text{PO}_4$, ^1H spin-lattice relax. in paraelec. and antiferroelec. phases 9-33555
 $\text{NH}_4\text{H}_2\text{PO}_4$ crystal, ferroelectricity, spontaneous polarisation obs. 9-28687
 $\text{NH}_4\text{H}_2\text{PO}_4$, crystals, mechanism of habit change due to Fe^{3+} , Mossbauer study 9-19821
 $\text{NH}_4\text{H}_2\text{PO}_4$, electronic struct., UV reflection spectra and XPS 9-38558
 $\text{NH}_4\text{H}_2\text{PO}_4$, IR overtone spectra and temp. depend. 9-47456
 $\text{NH}_4\text{H}_2\text{PO}_4$, microhardness, expt. determ. 9-24603
 $\text{NH}_4\text{H}_2\text{PO}_4$, parametric amplifier, rhodamine laser light shifting into blue-green 9-18471
 $\text{NH}_4\text{H}_2\text{PO}_4$, parametric excitation of continuously tunable visible picosecond pulses 9-18482
 $\text{NH}_4\text{H}_2\text{PO}_4$, polycrystalline materials; pyroelec. temp. anal. as method for studying ferroelec. transitions 9-38502
 $(\text{NH}_4)_2\text{H}_2\text{PO}_4$, single cryst., X-ray diffr. contrast at twin boundaries, computer simulation 9-33000
 $\text{NH}_4\text{H}_2\text{PO}_4:\text{VO}^{2+}$, EPR of VO^{2+} ions in antiferroelec. cryst. 9-47329
 $\text{NH}_4\text{HSO}_4\cdot\text{VO}^{2+}$, ferroelastic, internal strains, ferroelec. transitions, EPR 9-47400
 NH_4I , ^{14}N NMR obs., rel. to structural transformations 9-15368
 NH_4I , coexisting phases and NH_4^+ dynamics, neutron scatt. exam. 9-42158
 NH_4I , cryst., Debye characteristic temp. calcs. 9-37796
 NH_4I , NMR, spin-torsional spectra 9-15363
 NH_4I , powder, adsorpt. of H_2O vapour 9-1545
 NH_4I , Raman spectra at high press. 9-47459

ammonium compounds continued

- NH_4I , reorientational motion of ammonium ions in octahedral environments, neutron scatt. exam. 9-42159
 NH_4IO_4 , ^{121}I NQR rel. to thermal expansion 9-4742
 NH_4IO_4 , dynamics of IO_4^- vibr. in lattice 9-42157
 $\text{NH}_4\text{In}(\text{SO}_4)_2\cdot 4\text{H}_2\text{O}$, cryst. struct. 9-19231
 $(\text{NH}_4)_{0.16}\text{K}_{0.84}(\text{Br})$, reorientation motion of ammonium ions in octahedral environments, neutron scatt. exam. 9-42159
 NH_4LiSO_4 , ferroelec., hydrostatic press. effect on I-II phase transition, dielec. meas. 9-38496
 $(\text{NH}_4)_2\text{MCl}_6$, (M = Pd, Pt, Te, Ru, Ti, Ir and Re), proton relaxation and tunnelling 9-4737
 NH_4MnCl_3 , X-ray single crystal analysis, phase transitions, Mossbauer effect 9-19366
 $(\text{NH}_4)_2\text{MoO}_4$, ^1H spin-lattice relax., 100-500K 9-38398
 $(\text{NH}_4)_4\text{Mo}_8\text{O}_{26}\cdot 4\text{H}_2\text{O}$, X-ray cryst. struct., Fourier and Patterson synthesis (*French*) 9-42032
 $(\text{NH}_4)_2\text{MoS}_4$, aq. soln., Raman intensity, scatt. frequency depend. 9-28747
 NH_4N_3 , diamag. susceptibility, rel. to cryst. struct. 9-24127
 $\text{NH}_4\text{NH}_2\text{SO}_4$, ^1H spin-lattice relax., 100-500K 9-38398
 NH_4NO_3 , elastic growth of cryst. during IV to x polymorphic transitions 9-46593
 NH_4NO_3 , proton spin-lattice relax., temp. depend. 9-42859
 NH_4NO_3 , solid, nuclear double reson. cross-relax. 9-15379
 $(\text{NH}_4)_2\text{Ni}(\text{CrO}_4)_2\cdot 6\text{H}_2\text{O}$, X-ray single cryst. struct. determ. 9-19207
 $(\text{NH}_4)_2\text{PtBr}_6$, cubic to tetragonal phase transitions 9-1500
 NH_4ReO_4 , ND_4ReO_4 , external lattice vibr. modes and elastic wave vel., dispersion relations 9-33050
 NH_4ReO_4 , nuclear electric hexadecapole interactions of ^{185}Re and ^{187}Re 9-1722
 NH_4SCN , proton spin-lattice relax., temp. depend. 9-42859
 $(\text{NH}_4)_2\text{SO}_4$, ESR study of NH_3^+ radicals 9-38367
 $(\text{NH}_4)_2\text{SO}_4$, ferroelec. transition, EPR study 9-38472
 $(\text{NH}_4)_2\text{SO}_4$, mechanically twinned, orthorhombic, search for antiphase boundaries 9-37715
 $(\text{NH}_4)_2\text{SO}_4$, NH_4^+ dynamics, neutron scatt. study 9-42167
 $(\text{NH}_4)_2\text{SO}_4$, phase transition mechanisms by optical spectroscopy 9-15411
 $(\text{NH}_4)_2\text{SO}_4$, phase transition theory 9-24275
 $(\text{NH}_4)_2\text{SO}_4$, polycrystalline materials; pyroelec. temp. anal. as method for studying ferroelec. transitions 9-38502
 $(\text{NH}_4)_2\text{SO}_4\cdot\text{H}_2\text{O}$ -ethanol-benzene, tricritical mixture, light scatt. 9-15473
 $(\text{NH}_4)_2\text{S}_2\text{O}_8$, X-ray crystal and powder diffr. data 9-14766
 $(\text{NH}_4)_2\text{S}_2\text{O}_8$, proton spin-lattice relax., temp. depend. 9-42859
 $(\text{NH}_4)_2\text{SO}_4\cdot\text{Al}_2(\text{SO}_4)_3\cdot 24\text{H}_2\text{O}:\text{Cr}_2\text{O}_7^{2-}$, optical absorpt. spectra, mol. orbital calcs. 9-15491
 $(\text{NH}_4)_2\text{SiF}_6$, low-temp. dielec. loss maxima in cubic and trigonal crystals. 9-19831
 $(\text{NH}_4)_2\text{SnCl}_6$, ^1H spin-lattice relax., 100-500K 9-38398
 NH_4TaWO_6 , rapid ionic motion, spin-lattice and spin-spin relax. times meas. 9-38396
 $(\text{NH}_4)_2\text{TeCl}_6$, X-ray single cryst. struct. determ. 9-19197
 $(\text{NH}_4)_3\text{UO}_2\text{F}_6$, normal coordinate anal. 9-22596
 NH_4X , (X = Cl, Br, I), tricritical points 9-7695
 NH_4ZnF_6 , rot. motion of NH_4^+ in lattice, neutron scatt. 9-37773
 $(\text{NH}_4)_2\text{Zn}(\text{SO}_4)_2:\text{Ni}^{2+}$, optical absorpt. spectrum, room and liq. air temp. 9-15499
 $(\text{NH}_4)_{10}[\text{W}_{12}\text{O}_{40}(\text{OH})_2]\cdot\text{H}_2\text{O}$, thermal polycondensation 9-14924
 $\text{NaNH}_4\text{SeO}_4\cdot 2\text{H}_2\text{O}$, atomic struct. exam. and phase transition 9-37678

amorphisation

- metals, ion-induced amorphisation, review 9-14686
pyrographite, surface struct., amorphisation, secondary electron spectra and AES 9-43077
 BeAl_2O_3 , chrysoberyl, kinetics and mechanism of formation, in presence of V_2O_5 9-11535
Nb-Ni, amorphous thin film, vapour quenched, elec. resistivity and thermoelectric power 9-33275
Si, amorphised by ion irradiation, doping effects on cond. in hopping transport regime 9-28424
Si, ion implanted, EPR line shape exam. of amorphous centres 9-28587

amorphous magnetic materials see magnetic properties of amorphous substances

amorphous semiconductors

- see also chalcogenide glasses; electrical conductivity of amorphous semiconductors and insulators; insulators
amorphous, EXAFS, evidence for inequivalent environments of Ga and As 9-15558
barrier controlled charge carrier transport in structures, props. (*German*) 9-47162
crystallisation and decomposition 9-41959
defect chemistry and states in gap, models 9-38030
electrical and optical props., w.r.t. electronic band states (*Japanese*) 9-23979
electrical conductivity, super-linear freq. depend. 9-28348
electrical switching, aggregated electrons emulsion inversion as possible mechanism 9-38139
electronic properties and structure (*Japanese*) 9-47179
elemental, struct. models 9-37628
hopping transport for random spatial distrib. of localised sites 9-23971
impurity control (*Japanese*) 9-37722
local order as determined by electronic and vibrational spectroscopy 9-37627
RC network model, based on percolation theory 9-4560
recombination processes, review 9-38088
solar cell applications 9-48130
structural models 9-37628
TCNQ salts organic semiconducting polymers, electron transfer mechanisms 9-42544
tetrahedrally bonded, As(P) doped, gap density of states 9-19545
tetrahedrally bonded, effects of quantitative disorder on electronic struct. 9-47003
trap-controlled transient current injection 9-23984
As, electronic struct. of even-ring network model 9-23884
 As_2S_3 , XPS, electronic struct. calcs. using scattered wave method 9-11502
 As_2Se_3 :Ag, doping effect of gap states and elec. cond., dielec. relax. and DC cond. meas. 9-47098
 $\text{Cd}_{1-x}\text{Zn}_x\text{S}$, film, technical data, for low cost solar cell 9-48127

amorphous semiconductors continued

GaAs amorphous film, effective medium theory and freq. depend of conductivity 9-24090
GaAs, film, composition, study by nondispersive X-ray anal. (French) 9-8457
GaAs:Te, amorphous, ion implanted layers, optical refl., 1.5-7.0 eV 9-8152
Ge, amorphous, tunnelling states simulation and sp. ht. 9-37791
Ge, amorphous and crystn. films, contamination behaviour, XPS examin. 9-1815
Ge, amorphous film, annealing, effect on localised states 9-4535
Ge amorphous film, effective medium theory and freq. depend of conductivity 9-24090
Ge, amorphous film, ion-implanted, regrowth 9-15043
Ge, amorphous film, optical consts. in near IR range (Korean) 9-8137
Ge amorphous solid dielectric loss meas. by submillimetric waveguide laser 9-33603
Ge, annealing effect on absorpt. edge (Korean) 9-15142
Ge, film, in situ meas. of thermal EMP, by ultrahigh vacuum electron microscopy 9-26184
Ge, laser recording of implanted amorphous layer 9-19270
Ge:Sb(Ga), amorphous, doping effects on Fermi level, electrical meas. 9-42546
GeSe₂, exciton absorpt., transmission spectra of cryst., glasses and amorphous samples 9-15485
InSb amorphous film, effective medium theory and freq. depend of conductivity 9-24090
InSb, sputtered NaCl-type compression 9-46751
InSe film, structure, influence of laser beam 9-7761
Se, amorphous, AC cond. magnitude and variation (French) 9-47095
Se, amorphous, kinematic transform. study by DTA 9-27921
Se, amorphous, O impurity addition rel. to elec. cond. 9-38067
Se, amorphous, trigonal and α -monoclinic, positron annihilation 9-11484
Se, amorphous film, AC conductivity at radio and microwave frequencies 9-11248
Se, amorphous film, inverse/combined photoadsorption and photodeposition, light-temp. interference 9-46977
Se amorphous film, stabilisation by thermal treatment (French) 9-47176
Se, elastic props. at high press. 9-37753
Se, evaporated films, structural relax., viscosity, creep, heat capacitors, and IR spectra meas. 9-42424
Se film, block formation during crystn., electron microscope obs. 9-11030
Se, struct. and elec. cond. transitions under high press. 9-42237
Se, viscosity meas. using holographic technique 9-37263
Se:As, amorphous, pure and doped, photoelectronic preps. in glass transition region 9-4583
Se:U, cryst. and amorphous, impurity conc. and distrib., solid state nuclear track detection 9-46694
Se_{1-x}Ge_x, amorphous film, photoconduction effect 9-46975
Si, amorphised by ion implantation, EPR obs. of mag. ordering 9-24186
Si, amorphous, clean and O₂ adsorbed, light sensitive electron laser meas. 9-24396
Si, amorphous, hydrogenated, pure and B doped, annealing effect on cond. and band gap states (Korean) 9-15142
Si, amorphous, ion-implanted, hopping parameter at natural phonon freqs. 9-15152
Si, amorphous, mag. field depend. of luminesc. 9-43034
Si, amorphous, sputter-deposited electrical and optical props. 9-47181
Si, amorphous, tunnelling states simulation and sp. ht. 9-37791
Si, amorphous 9-28103
Si, amorphous discharge produced, electronic density of states 9-46992
Si, amorphous film, drift mobility and photocond. 9-15143
Si, amorphous film, ESR, cond. secular change on annealing (Japanese) 9-15238
Si, amorphous film, Fermi energy shift with substitutional doping 9-46998
Si, amorphous film, hole drift mobility, temp. depend. 9-23973
Si amorphous film, ion-implanted, regrowth 9-15043
Si, amorphous film, plasma-deposited, photoluminesc. and EPR meas. 9-4864
Si amorphous film, saturation meas. on ESR signals 9-33535
Si, asymmetrical profile of ion implanted P 9-46693
Si, electronic struct. and optical dielec. function, LCAO calc. 9-42478
Si, epitaxial regrowth of thin amorphous layers by laser annealing, absorpt. coeff. influence 9-46968
Si, ion implanted, difference between ruby and Nd:YAG laser annealing 9-37723
Si, ion implanted, EPR line shape exam. of amorphous centres 9-28587
Si, ion irradiated, elec. cond. 9-11127
Si, scatt. intensity and radial distrib. function, random stacking model 9-27919
Si, Schottky barrier and p-n junction props. 9-28407
Si, spin-pairing at defect centres, mechanism in terms of chem. bonding 9-23928
Si, whisker, growth method for field desorption mass spectrometry 9-28262
Si:Ar, ion implanted, amorphous, epitaxial regrowth 9-10868
Si:As, amorphous, field effect and thermoelectric power 9-33289
Si:As, appl. of EXAFS methods for struct. determ. 9-37624
Si:B amorphous film, CVD prep., EPR, elec. and optical props. 9-4558
Si:H, amorphous, doped, Fermi level position, photoelectron spectra 9-47592
Si:H, amorphous, electronic states of hydrogenated Si, theory 9-42494
 α -Si:H, discharge produced, electronic props. rel. to solar cell characts. 9-15241
Si:H, evaporated amorphous film, prep. elec. cond. and photocond. 9-38201
Si:H amorphous films, effects of glow-discharge prep. conditions on H content 9-46969
Si:H amorphous layer as passivant for p-n junction in crystalline Si 9-47155
Si:Ne(Kr), ion implanted, amorphous, epitaxial regrowth 9-10869
Si:P, amorphous, CVD, substitutional doping, electronic props. 9-23923
Si:P, CVD amorphous film, electronic density of states 9-46993
Si:P CVD films, doping and annealing effects on localised states, ESR meas. 9-38380
Si-Au amorphous film, metal-nonmetal transition, elec. cond., thermoelectric power meas. 9-47132
Si-Au amorphous system, optical absorpt., IR photocond. 9-42582
Si-Au(Cr)(Pd), contact reactions between amorphous Si and metallic films, TEM, transmission electron diff. obs. 9-23846

amorphous semiconductors continued

Si-C amorphous wear-resistant coating 9-34165
Si-F-H amorphous alloy for electronic appls. 9-15627
Si_{1-x}H_x, amorphous sputtered films, IR vibr. spectra 9-43051
a-Si_{1-x}H_x, oxygenated thin film, sputtered, elec. cond. and optical props. 9-15239
TiS₂, optical consts. 9-11400
VO₂, metal-semiconductor transition, effect of deviations from cryst. lattice periodicity 9-23898
V₂O₅-P₂O₅ glasses containing metallic particles, elec. props. 9-42547
amorphous state
see also electrical conductivity of amorphous metals and alloys; electrical conductivity of amorphous semiconductors and insulators; electron energy states of amorphous solids; magnetic properties of amorphous substances; vitreous state
amorphous ferromagnets, spatial fluctuations of magnetisation 9-19727
deformation, computer simulation 9-7647
dislocation model (Japanese) 9-42065
ethylene-propylene copolymer, melt struct., X-ray diff. obs. (Russian) 9-23533
film, thickness meas. in electron microscope 9-26186
magnetic materials prep. techniques (Japanese) 9-43169
metal, amorphous struct., simple computer modelling 9-19154
metal, deformation mechanisms (Japanese) 9-42136
metals, computer simulations of tensile deformation and radiation damage (Japanese) 9-42137
molecular crystal, exciton density of states, effect of struct. disorder 9-28288
one-dimens. disordered solid, anomalous specific heat 9-23746
polyethylene, melt struct., X-ray diff. obs. (Russian) 9-23533
polystyrene, T₁ relax. above glass transition 9-4259
semiconductor, electronic props. and struct. (Japanese) 9-47179
surface-gas interaction, model potential 9-46919
thermoluminescence, traps and emission centres 9-24373
trap-controlled transient current injection 9-23984
As, amorphous, thermally generated paramagnetism 9-19720
As amorphous solid dielectric loss meas. by submillimetric waveguide laser 9-33603
As, low temp. thermal cond. and sp. ht. 9-28161
Au amorphous film, getter sputtering at 25K 9-38741
Au, bombard. by Au ions, collision cascades, computer simulation 9-46731
B-transition metal, amorphous thin film, crystallisation, TEM obs. 9-19483
BaPb_{1-x}Bi_xO₃ film, RF sputtered, T_c as function of comp. and annealing conditions 9-24100
C, electron energy loss spectra 9-47566
Co, amorphous and liquid, density of electronic states 9-23881
Cs amorphous film, catalytic crystallization by Ni particles 9-14683
Cu, bombard. by Au ions, collision cascades, computer simulation 9-46731
Cu_{0.57}Zr_{0.43}, partial struct. factor, TOF pulsed neutron diffraction 9-14684
Fe amorphous film, getter sputtering at 25K 9-38741
Fe based amorphous alloys, Invar effects, mag. and elastic props. (Japanese) 9-20100
Fe, chain of Bernal holes, dislocation model 9-4249
Fe³⁺ ions, in frozen aq. solns., spin-spin relax., Mossbauer obs. of effect of paramag. impurity ions 9-33573
Fe-rare earth, amorphous thin film, crystallisation, TEM obs. 9-19483
Fe-Y(Th)(Zr), amorphous, charge transfer and mag. props., ⁵⁷Fe Mossbauer spectra 9-19719
Ge alloy, amorphous film, formation and stability criteria 9-10799
La_{1-x}Ga_x foils, amorphous, splat cooled, calorimetric and resistive meas. 9-33417
Mn-Bi film, form. and crystn. 9-28923
Mo superconducting film, amorphous and crystalline, transition temp. exam. by UPS 9-28433
Mo-Ge(Bi) amorphous films, supercond. transition temp. and residual elec. resist. (Russian) 9-19680
Nb-Si amorphous amorphous thin film tunnel junctions 9-28473
Ni, amorphous film, getter sputtering at 25K 9-38741
Ni-P amorphous alloy, positron annihilation exam. of crystallisation 9-43061
P, amorphous film, prepared by chemical transport in glow discharge, electronic props. 9-24011
P, bulk red amorphous, Raman scatt. and IR absorption 9-24323
P, XPS anal. of stability, form. of oxidised layer (German) 9-11496
Pb-Ga(Ge)(Si)(Mo)(Bi) amorphous films, supercond. transition temp. and residual elec. resist. (Russian) 9-19680
Pd-Si amorphous alloy, positron annihilation exam. of crystallisation 9-43061
Pd_{0.8}Si_{0.2}, amorphous, He²⁺ ion irradiation effect on structure 9-42120
Pd_{100-x-y}Si_xFe_y, amorphous, ⁵⁷Fe Mossbauer spectra, X-ray diff., ageing behaviour 9-28651
S, amorphous and monoclinic transform. kinetics (German) 9-42239
Se, amorphous, acoustic behaviour in terms of model involving stochastic reson. 9-23681
Se amorphous solid dielectric loss meas. by submillimetric waveguide laser 9-33603
a-Se, hole form. energy, heating time and cooling rate depend. 9-41958
Si₃N₄ amorphous films, struct., short-range order, and crystn. kinetics 9-28240
SiO₂ system, cluster plus effective medium tight-binding study 9-33216
V₂O₅, electronic cond., effect of random glass struct. 9-23972
amorphous state structure see noncrystalline state structure
amplification
see also acoustic wave amplification; amplifiers
acoustic focusing systems, nonlinear effects 9-32126
magnetoelastic Love waves by interaction with carrier waves in layered composite 9-28577
shock waves, astrophysical, post-collisional propag. and amplification (Russian) 9-44360
superconductor-semiconductor contact amplification props. 9-7941
amplification measurement see gain measurement
amplifiers
see also amplification; audio-frequency amplifiers; d.c. amplifiers; differential amplifiers; high-frequency amplifiers; intermediate-frequency amplifiers; microwave amplifiers; operational amplifiers; parametric amplifiers; preamplifiers; pulse amplifiers; ring lasers

amplifiers continued

- electrometers, errors and nonlinearity in low-current meas. 9-6142
- length meas., capacitive transducer method, precision, procedure and instruments (*German*) 9-26024
- magnetometer output amp., improving accuracy of pulse magnetometer meas. 9-2793
- noise thermometry system, features, design aspects (*German*) 9-30478
- programmable gain amplifier, for chem. anal. instruments 9-43644
- superconducting chopper amplifier for resistance meas., sensitivity and noise calc. 9-12817
- unity gain follower with buffer for electrophysiological meas. 9-12048

amplifying *see amplification***amplitude limiting circuits** *see limiters***amplitude modulation***see also pulse amplitude modulation*

- Lamb wave device using interdigital transducer, influence of electrical termination 9-41549
- moderate-resolution spectrometer with interf. selective amplitude modulation, construction of prototype 9-30588
- multichannel audio monitor for detecting electrical signals, neurophysiological expt. appl. 9-20694
- optical video disc, acoustooptic travelling wave transcription signal recording 9-36986
- radio signal diffraction in homogeneous dispersive medium, space time geometric theory 9-4149
- strong radio wave, amplitude modulation effects on upper ionosphere disturbance 9-12330
- tones, dependence of fluctuation strength on sound parameters (*German*) 9-34569
- Nd:YAG, actively AM mode-locked Q-switched laser, pulse compression by liq. Kerr cell 9-22990

amplitude selectors *see limiters***analogue computer applications** *see analogue simulation***analogue computer methods** *see analogue simulation***analogue-digital conversion***see also digital-analogue conversion*

- 16-channel analog store and multiplexer unit 9-45614
- CRO with digital storage, OS4000, features (*Spanish*) 9-6116
- CRT screen image distortion corrections in R7912 transient digitiser, FORTRAN programs 9-30440
- digital thermometer, using LSI ADC 9-44907
- digitisers, nonlinear clock 9-18091
- digitizer for use with pulsed depth sounders 9-21065
- ECG processing A/D converter control by microprocessor (*Bulgarian*) 9-25123
- fast event recorder utilizing a CCD analog shift register 9-45578
- geometric reconstruction of bubble chamber events meas. on HPD 9-753
- graphic materials, aided-track cursor for improving digitising accuracy 9-29899
- hydrometeorological information, optimum conversion to digital form 9-29903
- microprocessor controlled dual parameter ADC system with CAMAC interface 9-3337
- minicomputerised pressure transducer data logging system (*Russian*) 9-6102
- modular 125 ps resolution time interval digitizer for 10 MHz stop burst rates and 33 ms range 9-45591
- MTI filter, with inherent A/D, for US blood flow velocimeter 9-16263
- multi-parameter CAMAC compatible ADC scanner 9-31350
- multitrack pulse height electronics 9-3325
- optical method, direct, using coherent or incoherent light 9-22908
- precision gated current integrator and live time meter system 9-9973
- prototype CCD system for the time projection chamber 9-45575
- pulsed data A-D acquisition system 9-22572
- rhythm analysis, long-term ECG data storage and multipass scanning 9-39578
- satellite IR pictures, automatic digital techniques for oceanic features enhancement and extraction 9-5682
- signal interface element survey, low cost quantisers, fast ADC's, high energy physics appl. 9-45584
- stellar magnitude, colour index and position meas. from astronomical photographs, automated technique 9-21194
- time projection chamber multichannel ADC and readout system 9-45590

analogue memories *see analogue storage***analogue simulation**

- breathing process analogue model (*German*) 9-16228
- complex ECG and triaxiacardiometric recording and analogue processing 9-44023
- diffusion process, by means of electric analogies (*Hungarian*) 9-17361
- Earth EM fields, analogue model meas. for horizontal mag. dipole embedded in conducting medium 9-12068
- education, diffraction grating and interference effects, electronic opt. analogue 9-9052
- electrode, disc type, current distrib., analogue model investig. 9-34321
- heat conduction, inverse problems using analogue computer 9-37121
- joint-simulating machines, prosthesis wear meas. 9-20716
- muscular fatigue, EMG meas. and analogue model (*Japanese*) 9-8498
- MWPC with analogue read-out, high energy e^-/γ detection 9-13593
- PWR power plant modelling and simulation 9-9828
- room acoustics and subjective sound perception (*Polish*) 9-7258
- Stirling cycle machines, comparison with expt. simulation and theoretical analysis 9-48169

analogue storage

- 16-channel analog store and multiplexer unit 9-45614
- complex ECG and triaxiacardiometric recording and analogue processing 9-44023
- multichannel analog memory, using MOS transistors for data transmission to M6000 computer 9-26043
- SEM colour images, electronic adding-up and storing 9-21879

analytical chemistry *see chemical analysis***anaphoresis** *see electrophoresis***Anderson model**

- alloy, random binary, Anderson localization, equation-of-motion method 9-42482
- atomic limit, perturbation expansion in infinite conduction bandwidth limit, Kondo temp. 9-28506
- correlation corrections to the chemisorption energy in the Anderson model 9-19538
- degenerate Anderson model, Fermi liq. theory 9-19715

Anderson model continued

- diamond lattice, Anderson localisation, real-space renormalisation study 9-28324
- dilute alloy, impurity electron states, method of orthogonal operator 9-33254
- dilute magnetic alloy, configuration fluctuations 9-33449
- disordered system, particle diffusion in Anderson model 9-33273
- electron correlation effects on Anderson localized states 9-23919
- electron localisation in systems with purely off-diagonal disorder, Anderson transition 9-19518
- intermediate valence compound, pressure-temperature phase diagram 9-28283
- local densities of states near a crystal surface with disordered overlayers 9-15201
- local moments and localized states, theory, review 9-23935
- localisation, study by continued-fraction method 9-4534
- metal, review of chemisorption 9-42377
- mixed organic solids, triplet exciton transport at crit. conc., Anderson localization or delocalization 9-15087
- mixed valence compounds, structural phase transitions, effect of electron-phonon coupling 9-33265
- negative magnetoresistance 9-28357
- noninteracting electron gas, dynamical conductivity, Anderson transition 9-28279
- organic solid, isotopically mixed, electronic energy transfer, Anderson localisation model 9-19557
- orthogonality catastrophe due to local electron interaction 9-1566
- orthogonality catastrophe for a system of interacting electrons 9-1576
- random alloys, CPA calcs. cluster extensions, appraisal of applicability 9-15063
- superconducting order parameter, spatial variations in presence of impurity near transition temp., Anderson model calcs. 9-38245
- transition metal magnetic alloys, dilute, props., review of theory 9-15282
- Al-Cu-Fe, liquid, mag. moment and transition from mag. to nonmag. state 9-24132
- Ce compounds, Anderson model, exchange parameter, Kondo temp., magnetic susceptibility 9-1656
- CeAl₃, Anderson lattice system, volume collapsed strongly mixed valence state 9-38033
- CeAl₃, Anderson lattice system, thermal expansion meas. 1.5 to 10K 9-37860
- Eu-alloys, mixed valence, role of phonons and Coulomb interactions 9-38032
- FeSi₂ films, structural and Anderson transitions, cond. and IR reflectance meas. 9-15200
- GaAs-Al_xGa_{1-x}As heterojunctions, MBE grown, photocollection efficiency and interface charges 9-11199
- Si:P, electronic states, NMR of metallic and intermediate samples 9-4511

anechoic chambers

- acoustical enclosure, airtight, methods for predicting the insertion loss 9-18607
- EM wave scatt., echo width meas. 9-3614

anelastic relaxation

- see also Bordon effect; creep; elastic aftereffect; internal friction; Snoek effect; stress relaxation; Zener relaxation*
- density matrix formalism for anelastic relaxation 9-14880
- dicyclohexyl phthalate, plasticiser for PVC, effect on secondary relaxation 9-4995
- general linear response analysis of anelasticity 9-10895
- Fe-B-(Si)-(Ni), amorphous alloy, anelastic relaxation 9-4997
- Fe-Ni-P-B(C), amorphous alloy, anelastic relaxation 9-4997
- Fe-P-Al(Si)(B), amorphous alloy, anelastic relaxation 9-4997
- Nb, cold-worked, Snoek-Koster relaxation transient period, comparison with Schoeck's theory 9-34086
- Nb, theory of Gorsky effect of interstitial diffusion, for low interstitial H concs. 9-10896

anelasticity*see also anelastic relaxation*

- α -brass, electron irradiated, vacancy migration props., effect on enhanced atomic mobility 9-46829
- collagen film, dynamic mech. props., β -galactosidase impregnation effects 9-11885
- rubber, synthetic, nonlinear anelastic behaviour at finite strains 9-3923
- steel, austenitic, measured internal stress and anelasticity in creep (*Czech*) 9-38909
- steel, austenitic, Ni-Cr, precipitation strengthened, anelasticity, plastic creep limit, 823K 9-1899
- Ag-Zn (24 at.%), γ -irradiated, directional order by in-flux anelasticity meas. (*French*) 9-10877
- Al-Mg, elastic and anelastic props. in relation to Guinier-Preston zones, US investigation (*French*) 9-38833
- Cu-Ge (8 wt.%), anelastic effect due to deform. twins (*Japanese*) 9-20095
- Ni-Cr base alloy, strain relaxation, effect of grain size, particle size, γ' vol. fraction 9-47741
- Ta, proton implanted, anelasticity, internal friction meas. 9-24560

anemometers*see also laser velocimeters*

- air flow meas. in tunnel using anemometers and pitot tubes 9-41779
- commercial LDA instruments (*Czech*) 9-46409
- flow meas., laser Doppler anemometry, practical considerations 9-27725
- holographic interferometry methods and applications (*French*) 9-7099
- hot-film, appl. to blood flow velocity meas. (*Japanese*) 9-29678
- hot-film probe, calibration in liquids 9-27723
- hot-film type, signal anal. method for two-phase flow 9-32639
- hot-wire, analysis of signals of multidimensional turbulent flow field 9-27720
- hot-wire, for air flow measurements, calibration at low vels. 9-27724
- hot-wire system for turbulence quantities meas. in two-stream mixing layer 9-32488
- laser, Reynolds stress expt. analysis appl., turbulent flow in rectangular channel (*Italian*) 9-4094
- laser anemointerferometer, for simultaneous velocity and density meas. 9-18976
- laser anemometer elements, Gaussian beam transform. 9-45991
- laser Doppler anemometer system, influence of Gaussian beam props. 9-41406

anemometers continued

- laser Doppler anemometry of high-temp. industrial gas flow (*German*) 9-10618
- propeller anemometer and thermistor meas., meas. interpretation (*French*) 9-16708

angle measurement *see angular measurement***angular correlation techniques**

- clustering studies, ang. correl. anal. 9-6547
- heavy ion induced transfer reactions, new methods using particle ang. correls. (*French*) 9-558
- high density proportional counter, medical imaging of e^+ radioisotope distrib. 9-5399
- multidetector meas. of ang. correl. 9-41084
- statistical theory of asymmetry detection 9-26853
- three body sequential decay processes, α -transfer reaction studies 9-6526
- e^- annihilation in solids, angular correl. meas. by proportional counter 9-4869
- $^{16}\text{O}(^6\text{Li}, d\gamma)^{20}\text{Ne}$, $d\gamma$ ang. correl. reaction strength comparison, DWBA anal. 9-26452
- ^{160}Tb , perturbed ang. correl. determ. by one ang. meas. 9-17851

angular measurement*see also angular velocity measurement*

- angular stresses of spindle with air bearings 9-35678
- dimensions, classification and symbols for means of meas. 9-6081
- laser interferometry measurement system 9-6171
- linear and angular microdisplacement instrument (*Japanese*) 9-21728
- method (*Russian*) 9-30413
- point-source image energy centre of gravity, location accuracy, aberrations effect 9-27192
- radiointerferometric frequency and coordinate meas. accuracy, tropospheric fluctuation constraints 9-8848
- surveying, precise direction measurement by laser, techniques and instruments (*Czech*) 9-30414
- torque generated by an angle sensor with a short-circuited-coil rotor (*Russian*) 9-26025
- very small angles, meas. by constant inclination interference (*Chinese*) 9-30419

angular momentum

- close binary stars, ang. momenta rel. to fission origin 9-5859
- education, gyroscopes, rolling and suspended, ang. momentum demonstration 9-9061
- galaxies, masses and ang. momenta anal. rel. to morphological types (*Chinese*) 9-17097
- galaxies, tidal hypothesis for ang. momentum origin 9-48927
- planetary systems, ang. momenta rel. to fission origin 9-5859
- thermal conductivity of gases, ang. momentum polarisation contrib. 9-37435

angular momentum theory*see also quantum theory; Regge poles and trajectories*

- 3j coeff., symmetries 9-305
- complex angular momentum theories, background integral evaluation 9-6986
- even-even nuclei, excited states, angular momentum projection method, appl. to ^{162}Er 0 $^-$ band 9-3069
- Gaussian orbitals, multi-centre integrals, Racah algebra, Talmi transformation 9-45626
- Hill-Wheeler integral for rotational energies, polynomial expansion 9-95
- integral transformation describing Clebsch-Gordan coefficients, d-function SU(2) and their symmetry (*Russian*) 9-2665
- O(3) shift operators, general anal. 9-94
- operator equivalents, polynomial formula, derivation in terms of ang. momentum operators 9-6014
- path integrals with a periodic constraint: entangled strings 9-2651
- Pauli equation with differential operators for the spin (*German*) 9-2664
- spherical harmonic gradient formula, generalisation 9-17271
- spherical top molecule, triply degenerate fundamentals, line freq. expression for lage ang. momentum 9-36614

angular velocity measurement

- instantaneous, method (*Russian*) 9-30428
- shaft, using digital tachometer 9-6101
- transducer, transformer-type for low rotational spaced meas. (*Polish*) 9-2752
- USSR State Standard 1976-77 9-30429

animal communication *see biocommunications***anisotropy, magnetic** *see magnetic anisotropy***anisotropy, magnetocrystalline** *see magnetic anisotropy***annealing***see also graphitising; magnetic annealing; recrystallisation annealing; solution annealing; stress relaxation*

- alkali halide, F-centre, stabilisation process in first colouring stage, thermal-annealing-curves 9-19246
- alloy, solid state reactions, effect on microstruct. 9-29015
- alloy, two-phase, recrystallisation mechanisms 9-47708
- alloys, ion-implanted, annealing behaviour and appls. 9-14829
- Astroloy, grain coarsening by critical strain annealing 9-47711
- brass, α and $\alpha + \beta$ phase, positron annihilation, short-range order, clustering and lattice defects influence 9-29107
- cellulose acetate membranes, modified, tensile props., desalination performance 9-11818
- Co, influence of annealing time on mech. props. 9-47677
- diamond, high temp. ion implantation 9-23623
- epoxy resin, crack propagation, photoelasticity investig. 9-8341
- epoxy system, rubber-modified and unmodified, sub- T_g annealing expts. 9-11643
- exploding wire, structural inhomogeneity and MHD sausage instability, arc chains, grain size and annealing 9-41904
- fission track annealing characts. in crystals 9-26863
- glass, toughened, stress relax. at temp. below annealing range (*Czech*) 9-43305
- graphite, neutron irradi., annealing of radiation damage 9-1465
- LWR pressure vessels, guidelines for thermal annealing to correct radiation embrittlement 9-22435
- metal, annealing, struct. and grain boundary mobility 9-47728
- metal, annealing embrittlement, AES study (*Chinese*) 9-38982
- metals, irradiated, solute segregation and annealing kinetics at sinks 9-23640
- metals, thermal instabilities due to recomb. of radiation-induced Frenkel pairs 9-23597

annealing continued

- MNOS structures, high temp. H anneal, effects of fast surface states 9-38178
- muscovite mica, annealing of latent tracks of heavy ions (*French*) 9-19290
- Nimonic alloy, effect of annealing on hardness, carbide phase strengthening (*Russian*) 9-34137
- nuclear reactor fuel elements, annealing apparatus and tests up to 2500°C (*German*) 9-3228
- nylon 6, relationship between morphology and dynamic mech. props. 9-4992
- Nylon 6, small-angle X-ray scatt. struct. changes w.r.t. thermal and mech. history 9-41976
- Nylon 6 fibre, shrinkage, influence of chain rupture during tensile deform. 9-34055
- nylon 6 fibres, struct. changes due to strain annealing 9-15692
- optical fibre, γ -ray irradi., damage recovery by annealing 9-23078
- phase diagrams, ion beam determination of phase boundaries, exam. of techniques 9-8418
- plasma torch with magnetically traversed arc for surface heat treatment 9-32832
- poly(1-butene), melting and annealing behaviour, X-ray diffr. and DTA 9-28083
- poly-1-butene, annealing and melting behaviour 9-38871
- poly- γ -methyl-D-glutamate, α -helical form, annealing effect, morphology 9-14702
- polybutyleneterephthalate, drawn annealed, struct. and props., X-ray scattering 9-7552
- polyethylene, branched, annealing effect on lattice consts. 9-14698
- polyethylene, linear, films, elec. cond. rel. to drawing, annealing (*Japanese*) 9-15817
- polyethylene terephthalate, β relax., dynamic mech. and dielectric loss data 9-15399
- polystyrene, shrinkability, orient. 9-11660
- PVC, rigid, viscoelastic props. rel. to thermal, mech. history 9-5016
- pyrocarbon coated particles, influence of fast neutrons on transport behaviour of solid fission products (*German*) 9-13427
- quartz, electron-hole centres, activation energy determ. by isothermal annealing 200 to 550°C 9-32991
- quartz, He^+ ion implanted, SAW velocity, influence of annealing 9-14996
- rare-earth dihydride epitaxial films, growth and struct. 9-37936
- recrystallisation, conf., Leeds, England (April 1978) 9-47706
- ruby colouring due to specific growth, annealing and irradi., exam. of visible, infrared and UV spectra 9-11440
- semiconductor with inhomogeneous impurity distrib., irradi. effects, annealing effects 9-10875
- n-Si:B, ion implanted, rapid identification of faulted loops 9-19254
- steel, 0.54% C, fatigue crack accel. and closure in rotating bending tests, in annealed or quenched/tempered state 9-43383
- steel, Al killed, cold rolled and recrystallised grain shape anisotropy 9-34064
- steel, austenitic, high-speed, austenite grain growth, W addition effects 9-20085
- steel, austenitic stainless, recrystallization after hot rolling 9-47734
- steel, C, crack propag. and sealing, effect of thermal working (*Russian*) 9-34078
- steel, carbide phase determ. by annealing in moist H_2 (*German*) 9-39231
- steel, Cr, H-dislocation interaction 9-8307
- steel, Cr (12wt.%), mech. props, carbide phase struct. 9-15702
- steel, Cr modified, heat resist. rel. to thermomech. treatment 9-20084
- steel, Cr-Mo, annealed, creep and rupture, heat treatment effects 9-24548
- steel, Cr-Si-Mn- Δ V-Ti-Nb-Mo, effect of V, Ti, Mo, Nb additions on sub-structure, mech. props. (*Russian*) 9-34108
- steel, Cu, fission reactor vessels, neutron embrittled, exam. of technique for in situ thermal annealing 9-29114
- steel, heat resisting, type 15Kh1M1F, exam. of structural stability and props. (*Russian*) 9-29104
- steel, low C, crack propagation energy rel. to temp., time factors 9-29179
- steel, mild, sheet, with low Al content, annealing, AlN recrystn., precipitation kinetics (*French*) 9-20083
- steel, neutron irradiated press. vessel material, small angle neutron scatt. meas. 9-13428
- steel, Ni-Mn directional martensitic transform expt. 9-11613
- steel, Si, textured, alloying addition inhibition effects on grain orientation and growth (*Japanese*) 9-43270
- steel, Si-Mn, 27SG, heat treated sheets, underwater explosive forming (*Polish*) 9-34052
- steel, sintered, mech. props., effect of small cold reduction 9-39048
- steel, stainless, 304, deformed in torsion, annealed, static recrystallization and restoration after hot deform. 9-47735
- steel, stainless, austenitic high Mn, thermally induced segregation 9-4971
- steel, stainless, Cr (17 wt.%), recrystallisation texture, effect of N (*Japanese*) 9-4978
- steel, stainless, grain boundaries, electron microscope obs. (*Russian*) 9-4311
- steel, stainless, microduplex, austenite/ferrite, recrystallisation, annealing and cold work effects 9-47713
- steel, stainless, two phase, variation of tensile and impact strength with heat treatment 9-34085
- steel, stainless 310, proton induced radiation damage investigation by Mossbauer effect 9-1735
- steel, W, high C, amorphous, rapidly quenched from melt, mech. and thermal props. 9-38874
- surface discontinuity, annealing by surface diffusion 9-23812
- technical superconductor radiation damage obs. 9-33422
- TLD-600, activation and damage effects after neutron pre-exposure 9-13540
- Zircaloy-2, neutron irradi., low temp. deform. studies 9-47757
- Zircaloy-4 spent fuel cladding, tensile props. and annealing characts. 9-23292
- Ag, surfaces, dislocation climbing, etch pit investig. 9-19260
- Ag-Au alloy, ion irradi., surface segregation and selective sputtering, AES expts. 9-7740
- Ag-Ga (27 at.%), cooling rate depend. of thermal arrest, transform. temp. 9-29053
- Ag-Te amorphous films, effect of annealing on elec. resist., phase transitions 9-11241

annealing continued

- Al alloy, recrystallisation during hot deform. and after cold working 9-47715
 Al, annealed, positron annihilation momentum spectra, low temp depend. 9-19948
 Al bimetal film with Cu, Ti(V,Ni) and alloy MLT(RS-3710), struct. and macroscopic defects (*Russian*) 9-1555
 Al, energy release during annealing, Bragg diffr. expt. with Mossbauer γ rays 9-24546
 Al, fatigue, effect of pre-existing subgrains 9-5041
 Al, fracture mechanism, plastic strain role 9-38977
 Al, polycryst. in annealed and creep conds., dislocation interactions with grain boundaries 9-42067
 Al, recrystallisation nuclei form. and well defined deform. band struct. 9-20136
 Al/Sn interface, effect of plastic deformation on structure and adhesion strength of interface (*Russian*) 9-28218
 Al-Cu alloys, condensed films, metastable states 9-15046
 Al-Mg-Si, Guinier-Preston zones, inception and effect on ageing, review (*Hungarian*) 9-11627
 Al-Mg-Si, heavily rolled, electron microscope obs. of cube oriented region, rolling texture 9-29093
 Al-Mn (1 wt.%), commercial, recrystallisation 9-47710
 Al-Zn (2 and 4 wt.%), ageing and elec. cond. reversion (*Japanese*) 9-4983
 Al-Zn alloys, cast, Zn diffusion during homogenization (*Polish*) 9-33108
 Al-Zn-Mg, zone composition change during ageing 9-29110
 AlAs-GaAs stripe heterojunction laser, O^+ implantation effect on threshold characts. 9-41383
 Al₂O₃, crystallite size and lattice distortion, determination using X-ray line broadening analysis, appl. to ceramic powders 9-8261
 Al₂O₃, polycrystalline, conditions for formation of anion vacancies 9-10844
 AlZn, homogenization processes, dendritic struct. 9-15700
 As₂S₃(Se₃) evaporated films, optical absorpt. and thermally induced effects 9-42989
 As₂S₃(Se₃) evaporated films, struct. and thermally induced effects 9-41963
 Au, magnetoresist of quenched and annealed metal, defect scatt. 9-4981
 Au, thin film bicrystal, annealing twin form. by boundary dissociation 9-47729
 Au-Fe, polygonisation, recrystallisation, precipitation microstruct. without external plastic deform. 9-43276
 Au-Si-Mn, amorphous spin glass film, mag. susceptibility 9-42775
 Au₄Mn, high resolution dark field electron microscopy exam. of ordering 9-7615
 Au₄Mn₂, monoclinic, ordering, high resolution electron microscopy 9-43290
 Ba ferrite powder, effect of lattice defects on coercivity (*German*) 9-24194
 BaPb_{1-x}Bi_xO₃ film, RF sputtered, T_c as function of comp. and annealing conditions 9-24100
 BaTiO₃, acceptor doped, exam. of electrical conductivity 130 to 300°C 9-35286
 BaTiO₃, ferroelec., reduction of hysteresis losses 9-42926
 Bi, superconducting ultrathin film, metastable, supercond. props. (*Russian*) 9-7917
 C fibre reinforced Ni, hot pressed and electrodeposited, strength 9-38898
 C films, surface struct., graphitisation, secondary electron spectra and AES 9-43077
 CaF₂-YF₃, fluorite- and tysonite-related ordered phases (*German*) 9-23725
 Cd-Co(-Mo), amorphous films, thermal stability of mag. props. (*Japanese*) 9-47307
 Cd_{0.7}Hg_{0.3}Te, annealing in saturated Hg vapour (*German*) 9-43447
 Cd_{0.7}Hg_{1-x}Te magnetoresistor prep. and props. 9-7844
 CdS, chemically precipitated film, optical spectra, annealing effects (*Russian*) 9-11424
 CdS, thin film, dark- and photo-currents, annealing time effect 9-38199
 CdS:Li, thermochemical changes in microstructure of anisotropic centres, polarisation modulation method meas. 9-38027
 CdS:Na, thin film, dark- and photo-currents, annealing time effect 9-38199
 Co allotropic transformation, X-ray diffr., analysis exam. (*Russian*) 9-34027
 Co-Cr-Al, protective coating, exam. of interdiffusion kinetics, development of analysing procedure 9-5085
 Co-Cr-NiTaC eutectic, directionally solidified, microstructural stability 9-38815
 Co-Fe-Nb, heavily cold worked, magnetic hardening 9-20073
 Co-V (12.4-18.7 at.%), ferromag. behaviour 9-24163
 Co(Cr,Ni)-TaC fibrous eutectic, deformed, thermal stability of microstruct. (*Russian*) 9-1895
 CoP metallic glasses, elec. and optical props., annealing effects 9-38565
 CoPr, coercive force variation as function of annealing temp. (*Japanese*) 9-47787
 Co₂Sm, coercive force variation as function of annealing temp. (*Japanese*) 9-47787
 Cr, specific heat of strained and annealed samples 9-38331
 Cr₂O₃-Fe₂O₃ solid soln., completely annealed, reclustered of Fe³⁺ ions 9-33578
 Cs₂O-MgO-SiO₂ system, glasses, crystn. prods., composition, props. 9-41961
 Cu, cold work, P effect on annealing 9-47707
 Cu, cyclic strain hardening under deform. at various temps. 9-43273
 Cu, defect annealing around stage III, $\gamma\gamma$ ang. correlation expt. 9-14846
 Cu, grain boundary character, revealed by etching and slip line continuity 9-33001
 Cu, heavily rolled, electron microscope obs. of cube oriented region, rolling texture 9-29093
 Cu, well annealed crystal, etch pit technique refinement, dislocation config. study (*Japanese*) 9-4307
 Cu-Al, heavily deformed martensites, annealing 9-38873
 Cu-Al₂O₃ coatings, electrodeposited, dispersion hardened, exam. of props. 9-34181
 Cu-Al₂O₃ electrodeposits, dispersion hardened, props. 9-28258
 Cu-Au, (0.02-5 at.%), cold worked, internal friction peaks 9-11652
 Cu-Cd (0.03 at.%), single cryst., deformed, dislocation arrangement 9-10856
 Cu-Fe, precipitation kinetics study by thermoelectric power measurement (*French*) 9-20050

annealing continued

- Cu-In, thermally cycled, effect on mech. props. and microstruct. 9-4987
 Cu-Nb(Nb₂-Sn) composite wires, powder metallurgy prod., supercond. props. and annealing 9-33428
 Cu-Ni, bimetallic film, exam. of diffusion by electrical resistivity meas. (*Russian*) 9-14970
 CuMn, acceleration of coarsening by temp. changes, study by resistivity meas. 9-47718
 CuPt equiatomic alloy, effects of quenching temp. on ordering, study by elec. resistivity meas. (*Japanese*) 9-43285
 Dy, electron irradiated, defect annealing, recovery spectra 9-23648
 Er, electron irradiated, defect annealing, recovery spectra 9-23648
 Er₂EuFe_{2-x}Ga_{0.12}, rag-domain garnet film, controlled variation of props. under O₂ annealing 9-15328
 EuTe, chalcogenides, exam. of crystal-chemical characts. 9-1407
 EuS, ferromag., on W, electron field emission 9-8230
 Fe, annealed, and deformed, exam. of immobile dislocation distrib. (*Russian*) 9-32995
 Fe, Armco, flat-rolled and annealed, dislocation struct. and mech. props. (*Russian*) 9-20062
 Fe, cast, atomised powder, reduction and decarburisation annealing in converted gas 9-24463
 Fe, cast, atomised powder, reduction-decarburisation annealing with converted gas, optimum conditions 9-24465
 Fe, cast, high Cr, phase composition, mech. props. rel. to heat treatment 9-29108
 Fe, cast, homogenization of property difference due to mass effect by repeated heat treatment (*Japanese*) 9-38857
 Fe, cast powder, exam. of reaction between C and O, before and after annealing in converted gas 9-33973
 Fe, deformation twin form. during high temp. creep (*Russian*) 9-24573
 Fe, grain boundaries, electron microscope obs. (*Russian*) 9-4311
 Fe, pure, grain growth, abnormal, kinetics 9-24537
 Fe-Al, single crystal, twinning and pseudoelasticity 9-15718
 Fe-Al-C alloys, C migration and mag. aftereffect, mag. permeab. disaccommodation and long-range order meas. 9-8020
 Fe-B, rapidly solidified, metastable phases (*German*) 9-29045
 Fe-B glass, crystallisation kinetics, elec. resist. meas. 9-4254
 Fe-B-C amorphous alloys, room-temp. saturation induction over 17.5 kG 9-47300
 Fe-C (0.64 wt.%), quasileave during fatigue crack prop., pearlitic microstruct. effect 9-11702
 Fe-Co-Ni-Si-B amorphous alloy, magnetostriction and permeability, effect of annealing 9-1701
 Fe-Cr-Ni, α -particle induced precip. and phase instability 9-1470
 Fe-N, neutron irradi. effects on mech. props. 9-4338
 Fe-Ni two-phase films, alloy component redistrib. during annealing, electron diffr. anal. (*Russian*) 9-20053
 Fe-Ni-C (24, 0.45 wt.%), single crystal, plastic deform. effect on martensitic burst transform. 9-15695
 Fe-Ni-C-Mn (3.56, 3.25, 0.6 wt.%), solid soln., quenched, changes during annealing to crystal structure, mech. props. (*Russian*) 9-34076
 Fe-rare earth, amorphous thin film, crystallisation, TEM obs. 9-19483
 Fe-Si, internal friction, domain boundary area (*Russian*) 9-24562
 FeCo, isothermal annealing effect on lattice const. (*Japanese*) 9-20076
 FeCo, ordered and disordered alloy, annealing of point defects created by neutron irradi. at 20K (*French*) 9-1467
 FeCo₂V, ordered and disordered alloys, annealing of point defects created by neutron irradi. at 20K (*French*) 9-1467
 Fe₄₀Ni₄₀P₁₄B₆, amorphous, annealed and unannealed, temp. depend. of flow stress and ductility 9-29119
 Fe₄₀Ni₄₀P₁₄B₆, metglas 2826, amorphous, Hall resistivity, thermal cycling and annealing effects 9-38050
 Fe₂O₃, haematite, annealing of nonequil. defects 9-43283
 Fe₂O₃, haematite, single domain, defect moment components coercivities 9-16438
 Fe₂O₄, partial thermal dissociation in air, using solar concentrator (*French*) 9-20015
 Fe₂Pd, quenched, or annealed exam. of magnetostriction, galvano- and thermomagnetic props. (*Russian*) 9-19757
 FeSi-Fe₂Si₂ eutectic, FeSi₂ formation, annealing temp. and time effects 9-24512
 GaAs, growth of noncrystalline Si₃N₄ layers by CVD for encapsulation 9-19994
 n-GaAs ohmic planar contacts formation and elec. props. on basis of Au and Au-Ge alloys 9-15223
 p-GaAs:Be, ion implanted, annealing characts., defect cond. profiling, electron diffr. obs. 9-4318
 GaAs:Se(Te), laser annealed, donor implanted, elec. props. 9-4556
 GaAs:Si, ion-implanted, elec. props. 9-46686
 n-GaAs:Si, thermally treated, photolum., acceptor levels obs. 9-38587
 GaAs:Si,Cr, under layer of SiO₂, effect of annealing, on electron concentration and mobility, and impurity distrib. 9-4323
 GaAs:Te-implanted by laser-annealing, ohmic contacts 9-19658
 GaAs-metal junctions, thermal stability improvement, with and without near noble metals 9-7143
 GaAs-plasma grown oxide interface, new resonant ellipsometric technique for characterisation 9-40606
 Gd, electron irradiated, defect annealing, recovery spectra 9-23648
 Gd-Co amorphous films, mag. anisotropy, static and ferromag. reson. expts. 9-33477
 GdFe, amorphous films, thermal stability of mag. props. (*Japanese*) 9-47307
 Ge, amorphous, annealing effect on absorpt. edge (*Korean*) 9-15142
 Ge, amorphous and crystn. films, contamination behaviour, XPS exam. 9-1815
 Ge, amorphous film, annealing, effect on localised states 9-4535
 p-Ge, neutron irradi. quenched sample, lattice defects 9-19284
 Ge, trapping defects, deep level transient spectroscopy 9-47045
 Ge⁺, low energy mass analysed ion beam deposition on Ge and Si substrates 9-33946
 n-Ge:Sb, fast electron irradi. at 77K, radiation defect changes by annealing at 220K 9-37737
 Ge:Te, ion-implanted, thermally assisted Xe-flash annealing, Rutherford backscatt. meas. 9-10881
 Ge-S, Ge-S-Ag, amorphous prop. and origin of paramagnetic defects 9-10801
 Ge-Sb, eutectic alloy, exam. of morphology during solidification (*Russian*) 9-34022
 GeSe₂ evaporated films, struct. and thermally induced effects 9-41963

annealing continued

- GeSe₂ evaporated films, optical absorpt. and thermally induced effects 9-42989
- Ge_{1-x}Si_x, with Si implanted ions, optical and photoelec. props. 9-24014
- Hf-Mo-C, isothermal section of phase diagram at 1400°C, X-ray phase analysis determ. 9-34006
- HfO₂, monoclinic, microcracking, elasticity, internal friction, thermal expansion meas. 9-29195
- Ho, elastic consts., 80-140K, 95K anomaly and annealing 9-46734
- Ho, electron irradiated, defect annealing, recovery spectra 9-23648
- InAs, exam. of decomposition of donors 9-1605
- InP:Be, ion implantation, hole conc. and mobility, junction depth 9-46685
- InP:Si(Mg), ion implantation and PH₃ ambient annealing under VPE conditions 9-42085
- InP-Au contacts, conditions of fabrication that control interfacial microstruct. 9-42643
- p-InSb, ion bombardment using 30-80 keV ions, isochronous annealing, elec. props. obs. 9-19295
- InSb, ion implantation at elevated temps. 9-10870
- n-InSb:Zn, Zn diffusion out of implanted layers, annealing effects 9-10984
- IrSi, Schottky barrier height meas. 9-47160
- KBr:Li(Na), low temp. radiation hardening mechanism, single halogen interstitials as hardening agent, Ha annealing 9-23634
- KCaCl₃ impurity in NaCl cryst., precipitation and dissolution 9-42259
- La_{100-x}Al_x, amorphous film, phase stability determ. 9-4636
- LaF₃-La(OH)₃, high pressure phases, X-ray diffr. and IR spectroscopic anal. 9-47679
- Li-Na ferrite powders, props. rel. to Fe₂O₃ chem., thermal, mech. historical 9-11539
- LiF single crystals, exam. of void morphology effects on their disappearance kinetics 9-10843
- LiF, TLD phosphor, Z₃ centre, thermolum. and optical absorption spectra 9-24374
- (LiPO₃)_n·H₂O, intramolecular rearrangement on annealing 9-19179
- Lu, electron irradiated, defect annealing, recovery spectra 9-23648
- Mg, SiO₂:Th TLD phosphor, γ-ray induced sensitisation and photo-transfer 9-33851
- Mg-Fe alloy film, quench-condensed, resistance meas. 9-15235
- Mg_{0.8}Mn_{0.2}Fe_{1.8}Al_{0.2}O₄, grade 6SChl ferrite, milling conditions effect on fine cryst. struct. and activity 9-24483
- MgO polycrystals, hot-pressed, effect of annealing on props. 9-34073
- MgO:Li, oxidation and reduction up to 1700K, defect prod. 9-39013
- Mn film, heat treated, lattice distortion energy, resist. meas. 9-19492
- Mn film, resistivity-temperature variation 9-24085
- γ-Mn-Cu, metastable, structural aspects of decomposition 9-1871
- Mn-MgF₂ cermet, heat treated, lattice distortion, resist. meas. 9-19492
- Mn-MgF₂ cermet film, resistivity-temperature variation 9-24085
- Mn-Ni-Ti (Zr) systems, and mech. props. thermal expansion for different heat treatments (*Japanese*) 9-29123
- Mn-Ni-Ti(Zr), non-ferromagnetic Elinvar-type alloys 9-24566
- Mn₂Ga, formation of DO₂₂ superstruct. and para-antiferromag. transition 9-19737
- Mo, electron irradiated, recovery studies of pure and radiation doped crystals 9-19280
- Mo, grain boundaries, electron microscope obs. (*Russian*) 9-4311
- Mo, neutron-irradiated, positron lifetime study 9-23654
- Mo-C-Zr-B (0.004, 0.12, 0.002 wt.%) effect of grain size, cellular dislocation structure, on mech. props. (*Russian*) 9-34105
- Mo-W-Mo (4.74, 2.17 wt.%), creep resistance in ultrahigh vacuum 9-5027
- Mo-Zr, interaction with MoSi₂ diffusion coating, at elevated temps. (*Russian*) 9-28150
- NaCl, reduction of dislocation density during isothermal annealing (*Russian*) 9-4303
- NaCl:Ca²⁺, highly doped, aggregation of point defects, NMR and dielec. loss meas. 9-10847
- NaClO₄, X-irrad., thermal stability of radiation damage products 9-34324
- Na₂O-Al₂O₃-P₂O₅, exam. of subsolidus structure 9-4954
- Na₂O-B₂O₃ glass, γ- or UV-irrad., laser and thermal bleaching of colour centre, absorpt. spectra 9-33744
- Nb film, superconducting tunnelling, meas. of annealing characteristics 9-7944
- Nb, supercond. surface resistance derivative meas. for annealed and unannealed crystals. 9-33395
- Nb wire drawing, NbFe₂ layers form. by diffusion 9-28153
- Nb-Ti, metallurgical treatment, effects on props. 9-38846
- Nb₃Al, mechanical and supercond. props. 9-38214
- NbC_x, self diffusion, near surface effect 9-42303
- Nb₃Ge, DC sputtered films, annealing and mech. deform. effects on struct. and supercond. props. 9-38217
- γ-NbN, single crystal growth by annealing, NbN in nitrogen gas pressure 9-8246
- Nb₃Pt, neutron irrad. effects on supercond. props. 9-38224
- Nb₃Si, ion implantation synthesis, supercond. transition temp. optimization 9-38218
- Nb₃Sn multifilamentary composite superconductor, effect of heat treatment on supercond. props. 9-33376
- Nb₃Sn, supercond. tape, crit. current, effect of Sn-Nb phase, annealing 9-34119
- Nb₃Sn supercond. tape substrate structural changes 9-33373
- Nb₃Sn-Cu composite superconductors, in-situ, AC losses 9-38283
- Ni alloy 718, intermetallic second phase obs. using electrolytic extraction and SEM 9-34074
- Ni alloy Eh1867, effect of structural state on fatigue and heat resistance (*Russian*) 9-34140
- Ni, cathodically H charged, isothermal ageing 9-15703
- Ni, cold rolled, influence of impurities on recovery and recrystallisation, positron annihilation meas. 9-15696
- Ni, Hopkinson effect, mag. field depend. (*Russian*) 9-4657
- Ni, thin film, size depend. electronic cond., annealing effects 9-47174
- Ni-Cr, solubility limit determ., X-ray method 9-43199
- Ni-Cr-Al, protective coating, exam. of interdiffusion kinetics, development of analysing procedure 9-5085
- Ni-Cu (30 wt.%), cast cold- and warm-worked, recrystallization 9-29092
- Ni-Fe, influence of atomic ordering on spin waves 9-7987
- Ni-ThO₂ (2.51 wt.%), dispersion hardened, high temp.-strength, deform. method and annealing effects 9-1882

annealing continued

- β-Ni-Ti, struct. changes during annealing, TEM and selected area diffr. 9-34081
- NiAl, quenched and annealed, void formation 9-46652
- NiO, single crystals, TEM of dislocations 9-4306
- Pb, positron annihilation, Doppler broadening, 4.2 to 600K 9-47540
- Pb-Bi, supercond. tunnelling, effect of phase composition and press. 9-15261
- Pb_{1-x}Mn_xTe (x=0.005, 0.001, 0.05), solid solns., exam. of electrical and thermal props. 9-1599
- PbNb₂O₆, O defects and elec. props. anomalies 9-42898
- PbS epitaxial layers, ion bombardment effects on struct., and annealing 9-10882
- PbTe:Ga, location, behaviour of Ga, electrophysical props. meas. 9-38016
- Pd-Cu-Ga, cold work and annealing-induced hardening, X-ray diffr. anal. and metallographic exam. (*Russian*) 9-38844
- PdH_x, Pd₈₁, ordering, resistivity, annealing and neutron diffr. obs. 9-34030
- S:P, ion implanted, defect annealing 450-800°C, deep-level transient spectroscopy 9-47042
- Si (111) surfaces, 2X1 to 7X7 struct. transition during annealing, LEED obs. 9-42352
- Si, amorphous, hydrogenated, pure and B doped, annealing effect on cond. and band gap states (*Korean*) 9-15142
- Si, Czochralski grown, inhomogeneous O precip. and stacking fault form. 9-14820
- Si, deformed, defect states associated with dislocations, capacitance transient spectroscopy 9-42483
- Si dosimetry diode, irrad. by γ-rays and fast neutrons, lattice defect annealing (*Czech*) 9-45570
- Si, epitaxial layers, cryst. quality improvement by ion implantation, backscatt. and TEM obs. 9-42397
- Si, epitaxial regrowth of thin amorphised layers by laser annealing, absorpt. coeff. influence 9-46968
- Si films, polycryst., annealing of paramag. vacancy-type defects, EPR obs. 9-10848
- Si, in elec. field, behaviour of second phase inclusions (*Russian*) 9-23779
- Si, ion implanted, difference between ruby and Nd:YAG laser annealing 9-37723
- Si, ion-implanted, laser annealing at 1.06 μm, computer simulation 9-47556
- Si, lattice damage, influence of laser annealing 9-23608
- Si, oxidation-induced stacking faults, control by Cl implantation 9-46682
- n-Si, plastically deformed, donor action of dislocations, elec. props. 9-11126
- p-Si, radiation defects by annealing, kinetics anal. 9-33018
- p-Si, self-interstitials, influence of white light on annealing process (*German*) 9-19245
- Si, X-ray channeling technique anomalous transmission, appl. to microdefects induced by heat treatment 9-19124
- Si:Ar, ion implanted, amorphous, epitaxial regrowth 9-10868
- Si:As, implanted As redistrib. during annealing in oxidising ambient, carrier distrib. meas. 9-19275
- Si:As, laser annealing, channelling, optical obs., and resist. meas. 9-1444
- Si:As wafers, laser annealing, Rutherford backscatt., optical, and TEM obs. 9-1445
- Si:B, annealing mechanism of radiation change and dopants in pulsed laser irrad. ion implanted layers 9-46691
- Si:B, ion implanted, radiation defect accumulation and annealing, X-ray diffr. obs. 9-37726
- Si:B, ion-implanted, annealing by incoherent light source 9-19267
- Si:B, ionisation-assisted annealing 9-23628
- Si:B, P, high temp. diffusion, effects of laser irrad. on diffused layer 9-14834
- Si:B, polycryst., effect of laser annealing on struct. and elec. props. 9-11243
- Si:B(P)(As)(Sb), ion implanted, redistrib. of dopants by pulsed laser annealing 9-7620
- p-Si:N₂⁺, implanted, anneal behaviours of lateral photovoltaic method 9-14825
- Si:Ne(Ar)(Kr), ion implantation damage, annealing, comparative study 9-10867
- Si:Ne(Kr), ion implanted, amorphous, epitaxial regrowth 9-10869
- Si:O, annealed, minority carrier lifetime 9-23985
- Si:P, heavily ion implanted, polycrystalline, grain growth 9-19477
- Si:P, implanted, two-stage laser annealing of lattice disorder 9-1452
- Si:P, neutron transmutation doped, EPR obs. of annealing behaviour 9-1453
- Si:P amorphous films, doping and annealing effects on localized states, ESR meas. 9-38380
- Si:P solar cell, minority carrier lifetime degradation during ion implanted processing, surface photovoltage 9-39305
- Si:Pb, diffusion behaviour of Pb in high dose implanted Si layers during isothermal annealing 9-1525
- Si:Sb wafers, laser annealing, Rutherford backscatt., optical, and TEM obs. 9-1445
- Si:Zn, implanted atom diffusion during laser annealing 9-37725
- Si-sapphire, interface radiation induced charge trapping, rapid anneal phenomena 9-19666
- Si-SiO₂ interface, effect of N₂ annealing on electron scatt. 9-42660
- Si₃N₄, film, H₂ concentration profile, chem. bonding 9-33205
- Si₃N₄, hot pressed, crack healing (*German*) 9-24599
- Si₃N₄ powder, high press. hot pressing 9-38772
- SiO₂ film, Al implanted, in MOS struct., electron traps characts. obs. 9-15226
- SiO₂-Al₂O₃-CaO-MgO-NaO-K₂O-B₂O₃-ZrO₂, glaze, exam. of zircon crystallisation 9-19155
- SmCo₅ magnets, effect of heat treatment on coercive force (*Russian*) 9-1684
- Sn, single crystal, dislocation walls consisting of double arrays 9-46664
- SnS(Se)(Te)(S₂)(Se₂), oxidation, thermal decomp., Mossbauer spectra 9-11713
- SnTe, film, heat treatment in air, effect on struct., props. 9-11037
- SrF₂, neutron irrad., role of F-centres in thermoluminesc. 9-19941
- Tb, electron irradiated, defect annealing, recovery spectra 9-23648
- Te, cryst., effect on Hall coeff. and conductivity 9-7847
- Ti, cold rolled, transcrystalline SCC in methanol-bromine soln., crystallographic texture effect 9-15872
- Ti, cold worked, annealed, internal friction meas. of H degassing (*French*) 9-43304
- Ti, neutron irrad., low temp. deform. studies 9-47757

annealing continued

- Ti-Al-Sn-Zr (6.19, 1.92, 1.43 wt.%), fatigue cracking characteristics of β annealed microstruct. 9-5051
 Ti-B-W(Mo), annealed at 1400°C, exam. of phase diagram, using X-ray phase and metallographic analysis 9-1847
 Ti-Mo-V (8 wt.%, 8 wt.%), FCC phase, decay of β -solid soln., electron microdiff. 9-15670
 Ti-Mo-Zr-Sn-Fe-C-Si alloy, β -III, cold deform. and annealing, effect on struct. and mech. props. (Russian) 9-24533
 Ti-Ni, eutectoid decomposition, effect of interphase boundary struct. on mech. 9-4952
 Ti-W/Au, metallisation on Al, temp. stability, barrier props., annealing effects 9-23868
 Tm, electron irradiated, defect annealing, recovery spectra 9-23648
 V-V-Zr (2 wt.%), internally oxidised, neutron irradiated, annealing effect on mech. props., elec. cond. and electron microscope obs. (Japanese) 9-15701
 W, Frenkel pair creation and stage I recovery of electron irradi. cryst. near threshold 9-1463
 W, metal-ceramic, mech. props. and structural nonuniformity 9-15705
 W, neutron irradi., recovery of defects, isochronal and isothermal annealing 9-46712
 W, neutron irradiated, FIM obs. of radiation damage 9-7632
 W, polygonisation critical stage in single crystals deformed in compression 9-4979
 W(111) surface, effect on ethane chemisorption obs., AES and LEED pattern exam. 9-15005
 YIG, diamagnetically substituted, annealing effects on cation distrib. 9-1455
 Zn, isothermal annealing effect at 400-410°C, on dislocation struct. in monocrystals (Russian) 9-20082
 Zn-Al eutectoid alloy, straining at elev. temp., whisker crystal 9-29087
 ZnMn ferrites, prepared by wet chemical and ceramic methods, comparison of struct. and mag. props. (German) 9-24470
 ZnO, ellipsometric spectroscopy of nonpolar (1100) surface 9-33651
 ZnSe, electron irradi., dislocation climb, TEM obs. 9-1461
 Zr, neutron irradi., low temp. deform. studies 9-47757
 Zr-Nb-Fe (13 wt.%, 5 wt.%), struct. changes during decay of BCC β solid solution 9-15669
 Zr-Nb-V-Fe (12 wt.%, 6 wt.%, 4 wt.%), struct. changer during decay of BCC β solid soln. 9-15669
 ZrH_{1.8}, radiation-induced defects in hydrogen sublattice 9-37739
 ZrO₂-Cr₂O₃ system, react., phase diagram 1600-2400°C 9-11580

annealing, magnetic see magnetic annealing**anodes**

- electron accelerator with inductive energy accumulator 9-26785
 high-current, low/intermediate press. arc, anode sheath and pot. drop 9-41901
 high-current arc, positive anode pot. drop 9-41902
 metal anode, hot electron emission from NaCl single-crystal film, anode damage 9-15244
 plasma accelerator, end-fire type, high-current discharge effects, anode damage 9-27839
 Trichel corona negative ion transit times 9-19115
 X-ray, rotating, temperature distribution, various types comparison 9-2901
 Pt, anode, impedance behaviour study in β -ZnS suspension-electrolysis leaching in 1N H₂SO₄ soln. (Japanese) 9-24754
 Ti, heart pacemaker appl. 9-44052

anodes, electrochemical see electrochemical electrodes**anodic machining see electrolytic machining****anodisation**

- Fe, strengthening in H₂SO₄, H₂ hardening rel. to struct., anodic behaviour (Russian) 9-15855
 metals, corrosion in marine atm., potentiometric technique, appls. 9-24693
 metals and semiconductors, plasma anodisation, model 9-28952
 steel, stainless, passive state breakdown, and repassivation 9-39031
 steel, stainless 304, sensitized electrochemical polarisation in high temp. water (Japanese) 9-15868
 Ag, corrosion in marine atm., potentiometric technique, appls. 9-24693
 Ag-Pd-Ni, corrosion in marine atm., potentiometric technique, appls. 9-24693
 Al, anodic layers, coloured, prep. by ultramicrotome without embedding, for TEM and X-ray obs. 9-39074
 Al anodised layer, exam. of factors affecting abrasion resistance 9-34207
 Al, anodized, inorganic glass coating, solution deposited, environmental protection 9-34205
 Al, barrier and porous layer regions, eqn. 9-5089
 Al, electrolytic colouring of anodised layers, improvements 9-15870
 Al plasma anodisation current efficiency (Japanese) 9-24655
 Al, sacrificial anode dissolution, Hg effect study using ion implantation 9-39016
 Al, superpure, anodic oxide film growth kinetics, UV radiation effect 9-34190
 Al-Mg alloys, AC colour anodisation 9-20283
 Al-Si alloys, AC colour anodisation 9-20283
 Al-Si(Cu)(Zn-Mg-Cu), extraction and phase anal. 9-15673
 Bi anodisation, electric breakdown 9-20377
 CdTe, anodic oxidation as thin-layer removal technique for impurity distrib. profile determ. 9-34169
 Co, anodic oxidation in neutral and basic soln. 9-39032
 Cu₅₀Ti₅₀, amorphous and cryst. alloy, corrosion rates and anodic polarisation curves 9-24650
 Cu₅₀Zr₅₀, amorphous and cryst. alloy, corrosion rates and anodic polarisation curves 9-24650
 Fe, cast, anodic protection under boiling H₂SO₄ in industrial conditions 9-20245
 Fe-Cr (28 wt.%), intergranular corrosion and anodic polarization at grain boundary groove (Japanese) 9-15869
 Fe-Ni-Cr (10, 6 to 14 wt.%), electrochemical polarisation in high temp. water (Japanese) 9-15868
 GaAs, anodic oxidation in nonaqueous electrolyte and MOS characts. 9-38183
 InP, anal. of anodically oxidised (111) layers by MeV ⁴He⁺ channelling effect meas. and AES 9-4492
 Ni, anodic oxidation kinetics, electrochem. props. 9-15861
 Ni-Ag, corrosion in marine atm., potentiometric technique, appls. 9-24693

anodisation continued

- Pb-In film, RF sputter anodisation, Josephson junction form., ellipsometry anal. 9-29258
 n-Si, high resistivity wafer, oxide layer anodically grown, improved homogeneity 9-24642
 Si, thin sheet, Sb impurity profile eval. in p-n diffusion junction by anodisation and resist. meas. 9-46695
 Si:B(P) impurity conc. profile determ. by anodic oxidation 9-28010
 Si-SiO₂ interface formation, F⁻ and Cl⁻ ions effect obs. 9-15842
 β -Ta film, Ta³⁺ transport number during anodic oxidation 9-39036
 Ta on Nb duplex layers, cation-transport processes during anodic oxidation, Rutherford backscatt. and nucl. microanal. 9-20264
 Ta₂O₅ anodic films, reanodisation effect on exoelectron emission 9-43110
 Ti, anodic oxidation kinetics, electrochem. props. 9-15861
 Ti in perchloric acid-acetic acid soln., AES study of anodic films 9-5072
 Ti, in perchloric acid-acetic acid soln., polarisation behaviour, stoichiometry 9-5073
 Ti-Ni, anodic oxidation kinetics, electrochem. props. 9-15861
 W dendritic surface anodisation for solar absorptance enhancement 9-34440

anodised coatings see anodised layers**anodised layers**

- electrolytic colouring, improvements 9-15870
 Al, anodic oxide film, porosity determ. by pore filling method 9-47848
 Al anodised layer, exam. of factors affecting abrasion resistance 9-34207
 Al₂O₃ films, barrier and porous layer regions, eqn. 9-5089
 Bi₂O₃ anodic film form. on Bi, electric breakdown 9-20377
 Co₂O₃, comp. of layers formed by anodic oxidation of Co in neutral and basic soln. 9-39032
 Fe-Ni alloy, anodic oxide film formed in H₂BO₃-Na₂B₄O₇ soln., exam. of in depth profile by AES and sputter etching 9-20247
 Ga_{1-x}Al_xAs, anodic oxide films, ellipsometric anal. 9-20234
 GaAs, film, selective anodisation, grain boundary edge passivation 9-11711
 GaAs-anodic oxide interfaces, struct. and chem. props., Raman scatt. obs. 9-47168
 GaAs_{1-x}P_x, anodic oxide films, ellipsometric anal. 9-20234
 InP oxide, anal. by MeV ⁴He⁺ channelling effect meas. and AES 9-4492
 IrO₂ anodic films, electrochromism, on transparent substrates 9-19861
 IrO₂ heat-treated anodic films, pH depend. of electrochromism 9-8120
 Nb₂O₅ anodic coatings, refr. index and spectral phase change, reflectance meas. 9-43052
 NiO films, on Ni (100) electrodes, oxide defect sites role in breakdown 9-43587
 SiO₂, ellipsometry of anodised layers on clean and ion bombarded Si surfaces (Russian) 9-24382
 SiO₂ layers, anodic oxidation growth on p-Si, transmission electron diff. obs. 9-28241
 TaO_x, combined SIMS, AES and XPS investigation 9-33199
 Ta₂O₅, anodic, sputtered, equilib. surface comp., mass and energy depend. 9-19472
 Ta₂O₅ anodic films, reanodisation effect on exoelectron emission 9-43110
 TiO₂ films, in Ti-TiO₂-electrolyte system, electrorreflectance response 9-42945
 WO₃ film, anodically formed, electrochromism 9-1752

anodised thin films see anodised layers**anolytes see electrolytes****anomalous skin effect**

- cyclotron resonance, retarded, effect of electron-phonon coupling (Russian) 9-8051
 unmagnetised plasma column, anomalous skin effect, finite element calc. 9-14552

antenna accessories

- see also antenna feeders; directional couplers
 Cassegrain radiotelescope prism beamswitch 9-21186
 EM wave diffraction by plane angular sector, geometrical theory 9-45896
 radiotelescope for amateur, electronic components 9-21189

antenna arrays

- see also directional couplers
 IEE antennas and propag. international conf., London, England, 1978, Nov. 9-12342
 optical heterodyne receiver arrays, partial tracking, operating in turbulent atm. 9-41345
 space-time signal processing, optimal versus conventional detectors 9-27467
 T-type correlation antennas, optical image forming system 9-27180

antenna components see antenna accessories**antenna feeders**

- IEE antennas and propag. international conf., London, England, 1978, Nov. 9-12342
 planar dielectric waveguide, interacting discontinuities, anal. 9-27445

antenna lobe patterns see antenna radiation patterns**antenna patterns see antenna radiation patterns****antenna radiation patterns**

- dipole antennas entering planetary atmosphere, plasma wake model and radiation patterns 9-48647
 IR and submillimetric-wave antenna design and simulation 9-30552
 open-structure submillimetric-wave mixer props. 9-30551
 optical waveguide directional couplers, parameter meas. using radiation patterns 9-3771
 plasma, cyclotron harmonic wave propag. 9-4152
 plasma antenna system, multilayered, electronically scannable, for space communication 9-4151
 spherical, calc. of radiating field (Chinese) 9-10243
 transform-pair relationship between incident and scatt. fields from arbitrary reflector 9-7058
 troposphere communication, effect of beam with on energy spectrum of delays (Russian) 9-2329
 whip antenna coupling with human body (Czech) 9-43958

antenna reflectors

- EM wave scatt. by plane grating with reflector, point matching soln. 9-45894
 radiotelescope, surface meas. with two feeds 9-12403

antenna theory

- boundary value problem, null field approach, computational approach 9-13877
 electric dipole in isotropic plasma, low-freq. radiation 9-46436

antenna theory continued

- horizontal electric dipole antenna, quasi-static range propag. within conducting slab 9-48515
 IEE antennas and propag. international conf., London, England, 1978, Nov. 9-12342
 natural VLF antenna, Deception Island, impedance meas. 9-48399
 plasma antenna system, multilayered, electronically scannable, for space communication 9-4151
 radiotelescope rotational aperture synthesis, tangent-plane aberration 9-8847
 transform-pair relationship between incident and scatt. fields from arbitrary reflector 9-7058

antennas

- see also active antennas; antenna radiation patterns; dipole antennas; directive antennas; microwave antennas; radar antennas; receiving antennas; reflector antennas; scanning antennas; television antennas*
 electric current collection, by long wire in near-Earth orbit 9-25438
 electric dipole in isotropic plasma, low-freq. radiation 9-46436
 EM field strength meas., broadband antenna probes (Polish) 9-21722
 gravitational-wave antenna, small, cryogenic, meas. at 1.5K 9-21646
 gravitoelectric antennas, direction sensitive, using uniformly moving charged particle beam 9-9164
 horizontal electric dipole antenna, quasi-static range propag. within conducting slab 9-48515
 IEE antennas and propag. international conf., London, England, 1978, Nov. 9-12342
 natural VLF antenna, Deception Island, impedance meas. 9-48399
 plasma heating, alumina loaded antenna for lower hybrid wave heating 9-4159
 prototype Nb gravitational radiation antenna 9-44841
 quartz gravitational wave antenna, Q-factor 9-35623
 radiotelescope with two antennae, phase-switched between 160 and 190 MHz (Italian) 9-12402
 whip, radiation effect on human body (Czech) 9-43958

antibaryons *see baryons***anticorrosion coatings *see corrosion protective coatings*****antiferromagnetism**

No entries

antiferroelectric materials

- see also antiferroelectricity; ferroelectric materials*
 copper formate tetrahydrate, dielec. anisotropy and dimer theory 9-38427
 copper formate tetrahydrate, stress effect on antiferroelec. phase transition, dielec. meas. 9-38498
 orthovanadates, centrosymmetric exhibiting cooperative Jahn-Teller effect, dielec. props. 9-28694
 squaric acid, H-bonded antiferroelec., cluster form., NMR obs. 9-28628
 stibiotantalite type structure ferro- and antiferroelectrics, props. and crit. points 9-38460
 thiourea, dielec. const. and IR spectra in ferroelec. and antiferroelec. phases 9-33589
 thiourea, IR reflectivity study of ferroelec. and antiferroelec. phases, dielec. function model 9-33686
 BaMnF₄, spectroscopy, ferroelectric/ferromagnetic coupling, antiferroelectric props. 9-19845
 Ba₂MnReO₆, seignettomagnets with perovskite struct. 9-38459
 Bi complex oxides, antiferroelec. and ferroelec., pyrochlore struct., dielec. and structural study 9-38488
 KCN, antiferroelectric phase, 83K phase transition based on model Hamiltonian 9-15418
 (Li_{0.5}La_{0.5})Ba_{1-x}TiO₃, cryst. struct., dielec. and IR spectral meas. 9-46614
 LiNH₄SO₄, atomic struct. exam. 9-37678
 (NH₄)₂HAsO₄, hydrogen bonded, ⁷⁵As NQR study 9-38399
 NH₄H₂AsO₄, microhardness, expt. determ. 9-24603
 NH₄H₂AsO₄:Cr³⁺, antiferroelec. phase transition, EPR intensity and line-width meas. 9-4721
 NH₄H₂PO₄, ¹H spin-lattice relax. in paraelec. and antiferroelec. phases 9-33555
 NH₄H₂PO₄, microhardness, expt. determ. 9-24603
 NH₄H₂PO₄:VO²⁺, EPR of VO²⁺ ions in antiferroelec. cryst. 9-47329
 NaNO₂, complex dielectric constant, sinusoidal phase in ferroelectric material 9-11376
 NaNO₂, modulation of intermediate antiferroelectric phase 9-38462
 PLZT, Sn substituted, antiferroelectric ceramics research and their applications (Chinese) 9-33617
 Pb ternary oxides, antiferroelec., growth and props. 9-38461
 Pb₂CoReO₆, seignettomagnets with perovskite struct. 9-38459
 Pb₂CoWO₆, antiferroelectric substruct. 9-38489
 Pb₂CrO₅, thermal X-ray and dielec. investigations, antiferroelec. phase transition 9-47403
 Pb₂FeReO₆, seignettomagnets with perovskite struct. 9-38459
 Pb₂GeO₅, antiferroelectric, cryst. struct. 9-19233
 Pb₂GeO₅, single crystal, props., grown by hydrothermal method 9-11504
 Pb₂NiReO₆, seignettomagnets with perovskite struct. 9-38459
 4PbO.GeO₂, X-ray phase and thermal anal., new antiferroelectric 9-1744
 PbTi_{1-x}Zr_xO₃, low freq. vibrational modes and ferroelec. transitions 9-33637
 PbZrO₃ based ferroelec. ceramic, pressure-temp. phase diagrams 9-24273
 SbNO₄, ferro- and anti-ferroelec., crit. points and props. 9-38460
 Sr₂MnReO₆, seignettomagnets with perovskite struct. 9-38459

antiferroelectricity

- see also antiferroelectric materials*
 orthophosphates, dynamics of ferroelectric cryst. 9-37801
 phenomenological theory of antiferroelectric transition 9-4771
 vibronic theory, developments 9-33620
 CsH₂PO₄, ferroelec., press. induced antiferroelectricity 9-4774

antiferromagnetic Curie temperature *see Curie temperature***antiferromagnetic-ferromagnetic transitions *see ferromagnetic-antiferromagnetic transitions*****antiferromagnetic-paramagnetic transitions *see paramagnetic-antiferromagnetic transitions*****antiferromagnetic properties of substances**

- see also antiferromagnetism; magnetic semiconductors*
 alkaline earth transition metal ternary and quaternary oxides, ATO₃, ATi_{1-x}Ti_xO₃, and AZr_{1-x}Ti_xO₃, prep., mag. props. and struct. 9-15277
 1,3-bis(phenylene)-2-phenyl allyl benzene complex, free radical, EPR, antiferromag. long range ordering 9-47335
 copper dichloride dipyrindine, ground state wave function and superexchange interaction 9-42752

antiferromagnetic properties of substances continued

- copper dipyrindine dichloride, antiferromag. reson. below 1K 9-28619
 diammonium layer compound, Mn(NH₃)₂(CN)₂C₁₂H₁₀, mag. susceptibility and sp. ht. meas. down to antiferromagnetic state 9-7999
 diethylammonium manganese chloride, 20 spin diffusion, EPR linewidth meas. 9-47289
 dimethyl ammonium manganese trichloride, NMR for mag. ordered state at 3.6K 9-47340
 dimethylammonium manganese chloride, perovskite-type layer structure submillimetric-wave spectroscopy 9-33540
 dimethylammonium manganese tetrachloride, H-bonding, struct. transition, neutron diffr. study 9-42004
 itinerant electron antiferromagnet, effects of paramagnetic impurities on Neel temperature 9-4678
 praseodymium ethyl sulphate, one-dimensional X-Y model, hyperfine contrib. to specific heat 9-1678
 1,3-propanediammonium MnCl₄, 2-dimens. antiferromagnet, with dipolar broadening, spin diffusion, EPR obs. 9-38371
 quinolinium manganese (II) chloride monohydrate, crystal struct. and mag. susceptibility 9-19239
 rare earth amorphous alloys, random mag. anisotropy, antiferromag., Monte Carlo calcs. 9-33471
 rare earth molybdenum sulphides, R₁₂Mo₆S₈, low temp. magnetisation meas., and supercond. props. 9-8018
 rare earth orthovanadates, phase transitions and Jahn-Teller distortions 9-28548
 rare earth-gold intermetallics, RAu₂, mag. props., 4.2-300K 9-7972
 TMMC, effect of impurity spins on three-dimensional ordering 9-24159
 TMMC, Heisenberg antiferromagnet, magnetism in one dimension, mag. behaviour 9-28495
 BaCoF₄, low temp. magnon effects on polarisation 9-42905
 Ba₂CoReO₆, seignettomagnets with perovskite struct. 9-38459
 BaMnF₄, struct. and mag. transitions, magnon dispersion curves, nearest neighbour exchange consts. 9-42760
 BaNiF₄, low temp. magnon effects on polarisation 9-42905
 Ba₂NiF₆, obs. of short range order by optical birefringence 9-11318
 BaO-Fe₂O₃-B₂O₃ glass, Mossbauer study of struct. and mag. props. 9-47369
 Bi₂Ti₂Fe₂O₇, combined hyperfine interaction 9-28663
 Ca₃Fe₂Ge₂O₁₂, antiferromag. single crystal garnet, magnetostriction (Russian) 9-8027
 CdCr₂Se₄-ZnCr₂Se₄, single cryst., mag. props. 9-28526
 CaAl₂, Anderson lattice system, thermal expansion meas. 1.5 to 10K 9-37860
 CeAl₂, specific heat between 0.02 and 1K 9-1680
 CeSb, commensurate-commensurate transitions, devil's stairs theory 9-19740
 CoAl₂Ga_{2-x}O₄, mag. interactions, susceptibility obs., 4.2 to 300K 9-15294
 CoBr₂, magnon Raman, scatt. 9-15462
 CoBr₂·2H₂O, metamagnetic, relax. phenomena at phase transitions 9-24164
 CoRh₂Ga_{2-x}O₄, mag. interactions, susceptibility obs., 4.2-1000K 9-15293
 CoZn, complex, Co₂Zn_{1-x}(C₂H₅NO)₆(CPO₄)₂, dilute simple-cubic antiferromag., sp. ht. near crit. conc. 9-38336
 Co₂Zn_{1-x}Rh_xO₄ spinel, crit. conc. for long range mag. order, expt. evidence 9-47239
 Cr, antiferromagnetic spin-density-wave domain and size and behaviour, X-ray and neutron topography 9-42793
 Cr, antiferromagnetic transition, first order, crit. neutron scatt. obs. 9-33480
 Cr, deformation waves and spin density waves, electron diffr. obs. (Russian) 9-19721
 Cr, elec. resist. near Neel temp. 9-33278
 Cr, phase transition at T_N 9-4676
 Cr, single cryst., mag. hysteresis, neutron diffr. obs. 9-15327
 Cr, specific heat of strained and annealed samples 9-38331
 Cr, spin density wave Q vector, vel. depend. 9-4669
 Cr, spin relaxation of μ⁺-mesons (Russian) 9-8083
 Cr-Al, abnormal thermal cond., 5 to 100K 9-19573
 Cr-Al, effect of Al concentration and hydrostatic press. on Neel temp. 9-33482
 Cr-Al, elementary excitations, exchange stiffness const., inelastic neutron scatt. study 9-47294
 Cr-Fe, magnetically insensitive Invar-type alloys (Japanese) 9-8034
 Cr-Fe (0.6 at.%), antiferromag., anomalous press. effect on resist. minimum 9-15138
 Cr-Fe(2.8 at.%), antiferromag., meas. of incoherent elastic neutron scatt. cross section 9-19723
 Cr-Mn, order of mag. transitions in antiferromag. alloys 9-4677
 Cr-Mo, behaviour of mag. impurities 9-4672
 Cr-Rh, dil., hyperfine fields meas. 9-47056
 Cr-Sb alloy, dil., mag. phase diagram, elec. resist. and thermal expansion obs. 9-1669
 CrAs, anisotropy of compressibility 9-7648
 Cr₂BeO₄, magnetoferroelectricity, weak pyroelectric effect 9-42914
 (Cr_{1-x}Fe_x)₁₄Sb, interstitial occupancy, Cr:Fe distrib., X-ray and neutron diffr. study 9-42012
 Cr_{0.6}Mn_{0.4}, mag. moment, neutron diffr. study 9-33459
 Cr_{0.995}Mn_{0.005}, spin density wave Q vector, vel. depend. 9-4669
 Cr₂O₃, antiferromag. reson. and mech. of parallel magnetoelectric effect 9-47337
 Cr₂O₃, exchange parameters including temp. effects 9-24153
 CrPS₄, phys. props. and Li intercalates 9-19788
 CrTe, neutron diffr. at high press., mag. transition (Russian) 9-38326
 CsCoCl₃, Ising-like antiferromag., spin dynamics 9-42747
 CsCoCl₃, Ising-like antiferromag., instantaneous spin correlations 9-42746
 CsCoCl₃, spin wave spectrum 9-28514
 CsMnBr₃, triang. antiferromagnet, spin wave theory 9-7978
 CsMnBr₃·2D₂O, mag. phase diagram near bicrit. point 9-15302
 CsMnCl₃, mag. anisotropy measurement 9-11310
 CuCl₂, anhydrous, single cryst., mag. behaviour in low temp. ordered phase 9-7974
 CuCl₂N(C₂D₅), one-dimens. antiferromag., mag. excitation line-shape, field depend., neutron study 9-38314
 Cu(NO₃)₂·2/3H₂O, ¹H spin-lattice relax. time, 4.2K, 5-60 kOe 9-15371
 Cu_{2-x}Se, electric, thermal and magnetic props. investigation in low temp. phase (Croatian) 9-11299
 CuSeO₄·5H₂O, S=1/2 antiferromag. chain, proton relax. near saturation field 9-15370

antiferromagnetic properties of substances continued

- Dy, antiferromagnetic, thermal expansion, US attenuation anomalies 9-47319
 Dy, elec. resist. and mag. struct. near Neel point (*Russian*) 9-47074
 Dy-Sm alloys, elec. resist. singularities and mag. transitions (*Russian*) 9-47075
 Dy₂O₃SO₄, antiferromag., specific heat, 0.6 to 30K 9-33487
 Dy₂O₃SO₄, antiferromag., mag. props. and Zeeman effect meas. 9-33464
 DyPO₄, metamagnet, phase diagram, influence of internal strains 9-28544
 Er₂O₃SO₄, antiferromag., mag. props. 1.6 to 40K 9-33464
 Er₂O₃SO₄, antiferromag., specific heat, 0.6 to 30K 9-33487
 EuB₆, single and bulk polycryst., EPR, temp. and freq. depend. 9-28606
 EuFe₂Al₈, mag. ordered, mixed valency of Eu, X-ray, susceptibility and Mossbauer spectra studies 9-19728
 EuSb₂, cryst. struct. and antiferromag. props. 9-32973
 EuTe, optical absorpt. in high mag. field 9-28726
 EuTe, superexchange interaction parameters, many-electron model calc. 9-7988
 Fe-Cr, mag. props. of Fe, local coupling with spin modulation of matrix 9-15299
 Fe-Mn alloys, elasticity modulus anomaly and magnetoelastic effect (*Russian*) 9-28578
 Fe-Mn alloys, mag. susceptibility and conc. depend. of Neel point (*Russian*) 9-47279
 Fe-Rh, mag. phase transitions, triple point 9-1672
 Fe-Rh alloy, nonmag. and mag., band theory 9-37973
 Fe-Y(Th)(Zr), amorphous, charge transfer and mag. props., ⁵⁷Fe Mossbauer spectra 9-19719
 FeBO₃, antiferromag., optical absorpt. spectra, role of local mag. mode 9-28785
 FeBO₃, antiferromag., two magnon reson. Raman scatt. 9-33703
 FeBr₂Mn²⁺, layered antiferromag., infinity mode NMR study 9-38390
 FeBr₂MnBr₂, magnon modes and impurity spin reson. 9-15501
 FeCl₂, antiferromag. reson., 2-D Ising model interpretation 9-47323
 FeCl₂, electron-phonon coupling, Raman spectra change at antiferromagnetic ordering temp. 9-15451
 FeCl₂, in transverse mag. field, magnetoelastic coupling effect on mag. props. 9-28582
 FeCl₂, magnon-phonon hybridisation, inelastic neutron scatt. study 9-47272
 FeCl₂, metamagnet, one-magnon light scatt., effect of anisotropy 9-33678
 FeCl₂2H₂O, metamagnetic, resonant magnon-optical phonon coupling 9-28773
 FeCoCrO₄, Mossbauer study, cation distrib. and Neel temp. determ. 9-33571
 FeF₃, amorphous, characterisation by thermal, mag. and Mossbauer study 9-47282
 FeF₃, Mossbauer spectrum, effect of mag. hyperfine struct. at low temps. 9-28662
 FeF₃, thin film, optical absorpt. meas. 9-15546
 FeGe₂, antiferromagnet, de Haas-van Alphen effect 9-4505
 Fe_{1-x}Mn_x, elec. resist., anomalies in temp. depend. 9-23942
 FeNb₂O₆, low temp. Mossbauer exam. 9-28659
 Fe_{0.5}(Ni_{1-x}Mn_x)_{0.5}, antiferromag. ground state, elec. resist., anomalies in temp. depend. 9-23942
 Fe_{1-x}O, low-energy mag. excitation dispersion curves 9-4665
 α-Fe₂O₃, antiferromag., two magnon reson. Raman scatt. 9-33703
 α-Fe₂O₃, antiferromag. reson. in absence of external field, 150 and 320K (*Russian*) 9-4730
 α-Fe₂O₃, exchange parameters including temp. effects 9-24153
 Fe₂O₃, haematite, single domain, defect moment origin and props. 9-16438
 α-Fe₂O₃, hematite, weakly ferromag. domain struct., X-ray topography obs. 9-28551
 Fe₂O, non-stoichiometric, mag. struct., neutron diff. exam. 9-47377
 FePS₂ and FePSe₃, mag. props., NMR meas. 9-24223
 Fe₂S₃, ferrimagnetic, transition, mag., thermodynamic props., kinetics 9-47280
 GdAlO₃, ¹⁵⁵Gd excited states, determ. of nuclear parameters using Mossbauer effect 9-28646
 GdCu₂Si₂/Mo, point contact spectroscopy of magnons 9-38312
 β-Gd₂(MoO₄)₃, antiferromag., polarised ferroelec., ferroelastic, magnetothermodynamics 9-7996
 Gd₂O₃, C-phase, specific heat, 1.4 to 18K, antiferromag. ordering 9-38351
 Gd₂O₃SO₄, antiferromag., specific heat, 0.6 to 30K 9-33487
 Gd₂O₃SO₄, antiferromag., mag. props. 1.6 to 40K 9-33464
 Gd₂S₃, antiferromag. to ferromag. and semiconductor to metal transitions (*Russian*) 9-33485
 GdVO₄, ¹⁵⁵Gd excited states, determ. of nuclear parameters using Mossbauer effect 9-28646
 GdVO₄, hyperfine field and exchange interactions, Mossbauer meas. 9-47370
 H, atomic crystalline phase, ground state energy calc. (*Russian*) 9-19426
³He, solid, antiferromag. spin Hamiltonian with four spin interactions for BCC, lattice, mean field theory 9-1652
 Ho₂O₃SO₄, antiferromag., mag. props. and Zeeman effect meas. 9-33464
 Ho₂O₃SO₄, antiferromag., specific heat, 0.6 to 30K 9-33487
 HoSm elec. props. in temp. range near zero to 150K (*Russian*) 9-11098
 HoVO₃, at. and mag. struct., neutron diff. meas. 9-24142
 KCoF₃, single crystal, mag. susceptibility, ¹⁹F NMR and static measurements 9-11301
 KCuF₃, antiferromag., low-dimensional susceptibility 9-28513
 K₂Fe₄, Mossbauer study of mag. ordering 9-28655
 K₂FeF₃, one-dimensional antiferromag., neutron diff. and mag. meas. (*French*) 9-47241
 KMgF₃Ni, Co, emission from Ni-Ni and Ni-Co pairs, exchange coupling const. 9-33788
 K₂Mn_{1-x}Co_xF₄, mag. and neutron scatt. exam. 9-33466
 KMnF₃, antiferromagnetic resonance in strong mag. field (*Russian*) 9-8054
 KMnF₃, exciton line and magnon satellite in UV spectrum at high press. (*Russian*) 9-4517
 KMnF₃, mag. props. and struct. transitions, antiferromag. reson. meas. 9-8052
 K₂MnF₄, 2-dimens. antiferromagnet, with dipolar broadening, spin diffusion, EPR obs. 9-38371
 K₂Mn_{1-x}Fe_xF₄, layered antiferromag., anisotropy effects on mag. ordering, neutron diff. study 9-47254
 K₂Mn_{1-x}Fe_xF₄, mag. and neutron scatt. exam. 9-33466

antiferromagnetic properties of substances continued

- K₂Mn_{1-x}Fe_xF₄, mag. ordering, neutron scatt. expt. 9-42789
 KNiF₃, low anisotropy antiferromag., phase boundary crossover behaviour 9-38324
 K₂NiF₄, antiferromag., one-magnon light scatt., effect of anisotropy 9-33676
 K₂NiF₄, antiferromag., one-magnon light scatt. from spin-flop and paramag. regions, effect of anisotropy 9-33677
 (La_{1-x}Ce_x)Al₂, Kondo system, antiferromag., specific heat 9-24179
 LaV_{1-x}M_xO₃ (where M=Cr or Fe), solid solns., elec. and mag. props. 9-23967
 LiH, nuclear antiferromagnetism, dynamic nuclear polaris., NMR 9-1724
 LiH, nuclear antiferromagnetism studied by neutron diff. 9-11358
 Li₂NiP₃, mag. props. and ionic mobility, NMR mag. 9-24223
 γ-Mn-Cu, antiferromag. defect neutron scatt. study 9-47252
 Mn-Ni-Ti (Zr) systems, and mech. props. thermal expansion for different heat treatments (*Japanese*) 9-19123
 Mn-Ni-Ti(Zr), non-ferromagnetic Elinvar-type alloys 9-24566
 γ-Mn-Pd, antiferromag. defect neutron scatt. study 9-47252
 MnAs_{1-x}P_x, mag. and crystallographic anal. 9-47257
 MnAs_{1-x}P_x whiskers, thermoelectric power, 5 to 350K, phonon drag effects and mag. transitions 9-28363
 MnAs_{1-x}Sb_x, mag. and crystallographic anal. 9-47257
 Mn₂Cd_{1-x}(NH₃)₂Ni(CN)₄2C₆H₆, Hofmann type mixed cryst., mag. props. 9-4659
 MnCl₂2H₂O, magnetisation and mag. resonance 9-11349
 Mn_{1-x}Cr_xP, mag. susceptibility and transitions 9-47256
 MnCu, neutron scatt. near crit. comp., effects of stress and ageing 9-19722
 MnF₂, macroscopic quadrupole field meas. with SQUID magnetometer, order determ. 9-24140
 MnF₂, mag. anisotropy at OK 9-33473
 Mn₂Fe₂P, magnetisation, susceptibility and mag. transitions 9-47256
 Mn₂Ga, formation of DO₂₂ superstruct. and para-antiferromag. transition 9-19737
 Mn₂In, mag. susceptibility, X-ray and neutron diff. 9-11314
 Mn(Nb_{0.5}Ta_{0.5})₂O₆, spin flop magnet, four dimens. phase diagram and multicrit. phenomena 9-15304
 Mn₂Ni₂₇, generalised susceptibility, spin wave contrib., inelastic mag. neutron scatt. 9-47262
 MnO-B₂O₃, polycryst. cpds., mag. susceptibility and ¹¹B NMR 9-8056
 MnPS₂ and MnPSe₃, mag. props., NMR meas. 9-24223
 Mn₂Sb, hyperfine fields of ⁵¹V in several mag. phases 9-28650
 MnSe₂, IR lattice vibr., dielectric dispersion 9-28735
 Mn₂Zn_{1-x}P_x, antiferromag. spin flop crit. field 9-24218
 Mn₅₀Zn₄₀Fe₁₀ relationship between magnetic permeability and stoichiometry 9-42799
 NaCrS₂, antiferromag. semicond., Raman and far-IR spectra 9-47454
 Na₂VS₂, Na₂VSe₂, charge density waves, electron localisation 9-47038
 Nd-Y alloy, mag. character of stable and metastable phases 9-38329
 Ni complex, (Ni(C₂H₅NO)₆)(NO₃)₂, field induced level crossing and cryst. struct. 9-47070
 Ni₂B₂O₇, struct. and mag. transitions, light scatt. study 9-24308
 NiCl₂6H₂O, antiferromag., phase diagram, low temp. canted paramag. boundary, bicritical point 9-47282
 NiF₂, antiferromag. reson., Lagrange and nonequib. thermodynamics descriptions 9-15357
 Ni₂Mg_{1-x}(OH)₂, random magnet, AC susceptibility 9-47258
 Ni₂Mg_{1-x}(OH)₂, random magnet, magnetisation 9-24195
 NiO, antiferromag., one-magnon light scatt. from spin-flop and paramag. regions, effect of anisotropy 9-33677
 NiO, antiferromag., one-magnon light scatt., effect of anisotropy 9-33676
 NiO, antiferromag., two magnon reson. Raman scatt. 9-33703
 NiO:Fe, exchange anisotropy of Ni-ferrite precipitates 9-28520
 Ni(OH)₂, quasi-two-dimensional antiferromagnet, specific heat 9-11317
 NiPS₂, mag. props., NMR meas. 9-24223
 Ni_{1-x}Rh_xS₂, nonvolumic effect of Rh substitution on paramag. metal-antiferromag. nonmetal transition 9-28277
 NiS₂, antiferromag. metallic state, neutron diff. study 9-38325
 NiS₂, mag. torque curve 9-47305
 NiS₂, weak ferromagnet, galvanomagnetic effect 9-11148
 NiS₂Te_{1-y}, mag. susceptibility, correl. with metal-insulator transition data 9-24145
 Pb₂Fe₂O₈, IR absorpt., Mossbauer spectra, Neel temp., cryst. cell (*French*) 9-42759
 Pd,MnIn_{1-x}Sn_x-Cd, dil., Heusler alloy, hyperfine mag. field on Cd, TDPAC obs. 9-8075
 Pr₂C₃, cryst. struct., mag. struct. and props., 1.6 to 300K 9-11296
 Pt₂Fe, transport and mag. props. near Neel temp. 9-7976
 PuN, heat capacity, at low temps. 9-24168
 Rb-Co₂Mg_{1-x}F₄, random 2D antiferromag., neutron inelastic scatt. 9-28505
 RbFeF₃, antiferromag., Mossbauer study of mag. axis 9-4752
 RbMnCl₃, high-pressure cubic phase, mag. props. 9-47260
 RbMnF₃, antiferromag., mag. props. 9-8032
 RbMnF₃, antiferromag., spin-wave lifetimes calc. 9-7980
 RbMnF₃, triplet states, piezospectroscopy 9-38562
 RbNiCl₃, cryst., ³⁵Cl and ⁸⁷Rb NMR from 1.3K 9-42848
 Ru ternary and quaternary oxides, prep., cryst. struct. and mag. props. 9-14771
 α-Sm, low temp. phase transition (*Russian*) 9-32937
 SmAs, low temp. props. 9-28528
 SmBi, low temp. props. 9-28528
 SmP, low temp. props. 9-28528
 SmSb, low temp. props. 9-28528
 Sr₂CoReO₆, seignettomagnets with perovskite struct. 9-38459
 Sr(Fe_{0.76}W_{0.24})O₃, cryst. growth, mag. and Mossbauer studies 9-42743
 SrM₂CrO₄, M=La, Nd, mag. struct. determ. by neutron diff. (*French*) 9-28507
 Tb-Ho (50%), antiferromagnetic, thermal expansion, US attenuation anomalies 9-47319
 TbAsO₄, mag. ordered, neutron diff. study 9-47238
 TbBi, type II antiferromag., trigonal lattice distortion, temp. depend. 9-23732
 Tb₂O₃SO₄, antiferromag., mag. props. 1.6 to 40K 9-33464
 Tb₂O₃SO₄, antiferromag., specific heat, 0.6 to 30K 9-33487
 TbS₂, type II antiferromag., trigonal lattice distortion, temp. depend. 9-23732

antiferromagnetic properties of substances continued

- TbSe, type II antiferromag., trigonal lattice distortion, temp. depend. 9-23732
 TbTe, type II antiferromag., trigonal lattice distortion, temp. depend. 9-23732
 TiBe₂, itinerant antiferromag., mag. susceptibility and elec. cond. meas. 9-19726
 TiBe₂, itinerant antiferromagnetism, mag. susceptibility obs. 9-15288
 Tm₂O₄SO₄, antiferromag., specific heat, 0.6 to 30K 9-33487
 Tm₂O₄SO₄, antiferromag., mag. props. 1.6 to 40K 9-33464
 TmSe, intermediate valence state, resistivity of magnetically ordered ground state 9-1683
 UAs, anisotropic susceptibility 9-42754
 UN, magnetisation, in fields up to 40 T 9-33505
 UO₂, spin wave spectrum, mag. susceptibility, sp. ht. (*Russian*) 9-33470
 UO₂, temp. depend. of 5f to 6d_{5/2} absorption edge and intra-5f transitions 9-24314
 USb, collective elementary magnetic excitation, neutron inelastic scatt. obs. 9-24141
 USb, magnetisation, in fields up to 40 T 9-33505
 V₂O₃, insulating phase, mag. struct. 9-38305
 V₂O₃, insulating phase, realistic Hartree-Fock calc. 9-38306
 V₂O₃, pure and Cr doped, metal-insulator transition 9-37989
 V₂O_{3-x}, nonstoichiometric, microscopic mag. props., NMR and inelastic-spin-flip neutron scatt. 9-38323
 V₂O_{2n-1}, Magneli phases, sp. hts. 0.4 to 50K 9-42774
 Y-rare earth metal, mag. susceptibility, 4.2 to 300K, Neel temps. 9-19735
 YCrO₃, mag. circular dichroism and Faraday rotation in R-lines region 9-28725
 YCrO₃, mag. domain walls, ⁵³Cr NMR study 9-11327
 YFeO₃, parasitic ferrimagnetism 9-4703
 YV_{1-x}M_xO₃ (where M=Cr or Fe), solid solns., elec. and mag. props 9-23967
 YbAlO₃, and mag. ordering 9-8078
 YbFeO₃:Co, mag. struct. factors, neutron diff. study 9-47248

antiferromagnetic resonance

- copper dipyrindine dichloride, antiferromag. reson. below 1K 9-28619
 dimethylammonium manganese chloride, perovskite-type layer structure submillimetric-wave spectroscopy 9-33540
 easy plane antiferromagnets, mag. props. 9-1665
 Cr₂O₃, antiferromag. reson. and mech. of parallel magnetoelectric effect 9-47337
 FeBO₃, basal mag. anisotropy, antiferromag. reson. (*Russian*) 9-47338
 FeCl₂, antiferromag. reson., 2-D Ising model interpretation 9-47323
 FeF₂:Mn, mag. polariton, impurity mode enhancement and superradiance effects 9-28622
 α-Fe₂O₃, antiferromag. reson. in absence of external field, 150 and 320K (*Russian*) 9-4730
 KMnF₃, antiferromagnetic resonance in strong mag. field (*Russian*) 9-8054
 KMnF₃, mag. props. and struct. transitions, antiferromag. reson. meas. 9-8052
 MnCl₂·2H₂O, magnetisation and mag. resonance 9-11349
 Mn₂Zn_{1-x}F₂, antiferromag. spin flop crit. field 9-24218
 NiF₂, antiferromag. reson., Lagrange and nonequilib. thermodynamics descriptions 9-15357

antiferromagnetism

- see also antiferromagnetic properties of substances; exchange interactions (electron); metamagnetism*
 alloy, FCC, binary, on Ising system, sublattice magnetisation, tricrit. point, simulation 9-33491
 anisotropic antiferromagnet, phase transition, with external mag. field 9-11316
 anisotropic antiferromagnet mixture with different easy axes, theory 9-42717
 biaxial antiferromagnet, spin configuration in longitudinal mag. field (*Russian*) 9-7998
 birefringence of antiferromagnetic crystal, optical class lowering induced by longitudinal mag. field (*Russian*) 9-8127
 chain compound, Peierls distortion energy, exact limit, renormalisation calc. 9-4643
 chains of classical spins, weak ferromagnetism, antiferromag. even and odd chains 9-15268
 disordered binary alloy, mag., with mixed exchange interaction, crit. behaviour (*Russian*) 9-1675
 dynamical critical properties, using light scatt. as probe 9-15314
 easy plane type anisotropy antiferromagnets, specific props. 9-1665
 ferroelectric antiferromagnet, damping of spin waves and 'hard' excitation effect 9-28518
 ferroelectroantiferromagnetics, spin wave spectrum and exchange amplification of magnetoelectric correlation 9-38311
 ground state energy, renormalisation procedure 9-40486
 Heisenberg anisotropic antiferromag., spectrum and correlation functions 9-28499
 Heisenberg anisotropic linear chain, spectral density method 9-47222
 Heisenberg S=1/2 antiferromagnet, ground state props. 9-15274
 Heisenberg theory, spin wave exam. (*Dutch*) 9-1663
 intrinsic magneto-optical effects, phenomenological anal. 9-33679
 Ising antiferromagnet, finite field, second-order phase boundary, series investigation 9-42777
 Ising lattice, degeneracy at crit. mag. field and zero temp. 9-8007
 Ising model, disordered, thermodynamic pot., ferro- and antiferromagnetic bonds, mag. moment and entropy (*Russian*) 9-19714
 Ising model, Toulouse frustration effect 9-24167
 isotropic antiferromagnets, crit. dynamics using renormalisation group methods 9-8006
 itinerant electron antiferromag., localised mag. states 9-28500
 itinerant electron ferro- and antiferromagnetism, spin fluctuations 9-7961
 itinerant-electron antiferromagnet elec. resistivity near Neel temp. 9-42742
 localised model for systems with double-exchange coupling 9-38318
 low-dimensional susceptibility 9-28513
 macroscopic quadrupole field meas. with SQUID magnetometer, order determ. 9-24140
 magnetic susceptibilities in Heisenberg and Ising models 9-24185
 magnon and phonon damping, effect of intermediate state lifetime 9-24151
 magnon damping, influence of magnetoelectric interaction 9-28517
 magnon damping due to magnon-phonon interactions (*Russian*) 9-11305

antiferromagnetism continued

- metal antiferromag. critical resistivity, appl. to Dy 9-47077
 mixture of two antiferromag. with different easy axis, mag. props. 9-4660
 Mott-Hubbard insulator, one-dimens., charge transfer absorpt. 9-37958
 nuclear magnetisation, temp. dependence 9-33462
 one-dimensional, thermodynamically stable long-range order (*Russian*) 9-27946
 one-dimensional antiferromagnet, with antisymmetric exchange, Green's function theory 9-15290
 one-dimensional Heisenberg antiferromag., dynamic struct. factor 9-28497
 one-magnon light scatt. from antiferromag., effect of anisotropy 9-33676
 one-magnon light scatt. from metamagnetic phase effect of anisotropy 9-33678
 one-magnon light scatt. from spin-flop and paramag. regions, effect of anisotropy 9-33677
 Peierls antiferromagnet, and exciton ferromag., two-parameter Landau expansion 9-23907
 phase transitions in antiferromagnets with order parameters of dimension six and three 9-42762
 random ferromagnetic-antiferromagnetic alloy, elementary excitations 9-8001
 random ordered phase in site model, statistical theory 9-47218
 rare earth alloys, amorphous, study of hysteresis effects using Monte Carlo technique 9-1686
 scaling and multiplicative renormalising in solid state physics (*Hungarian*) 9-11289
 second-order phase transition, weakening of effect of fluctuation in order parameter near crit. point 9-15316
 semiconductor, conductive electron spectrum, influence of nonlinear spin waves 9-28270
 semiconductor, double exchange and small-polaron hopping 9-19591
 spin glass, antiferromagnetic clusters, mean-field approx., static props. 9-4689
 spin Hamiltonian with four spin interactions for BCC, lattice, mean field theory 9-1652
 spin-flop multicritical points in systems with random fields and in spin glasses 9-33495
 square-lattice Ising antiferromagnet, interface props. and transition temp. 9-42787
 surface, ortho to para H₂ conversion 9-34362
 surface structure, adatoms, electron state at high coverages 9-28400
 tetragonal XY-like antiferromagnet, multicritical behaviour, global phase diagrams 9-42779
 triangular antiferromagnet, spin wave theory 9-7978
 two-dimens. XY magnet and Heisenberg antiferromagnet, ground state anal. 9-42728
 uniaxial antiferromagnet, spin configuration in ferromag. phase, field and temp. depend. 9-38321

antihyperons *see hyperons***antimony**

- see also nuclei with*
 atom, excited state lifetimes, crossed at. electron beams obs. 9-790
 compressive stress-strain curves in single crystals, device (*French*) 9-47852
 current carrier concentration charge, under pressure (*Russian*) 9-7824
 electrode, thin film, pH sensitivity and electrode potential (*Japanese*) 9-39159
 electronic structure change with press., pseudopot. calcs. (*Russian*) 9-47006
 film, electroreflectance effects 9-43055
 film, initial stages of growth and orientation, TEM study 9-28237
 film growth mechanism, action of residual gases rel. to deposition conditions 9-23850
 ion source, high current, characts. 9-17561
 liquid, thermolec. power meas. 9-40591
 rhombohedral crystals, slip dislocations and slip systems 9-23617
 surface decoration, with epitaxial Bi condensates 9-28227
 surface relaxation in CESR, evidence of spin lattice character 9-28615
 whisker crystals, magnetoresist., size effects (*Russian*) 9-7821
 Bi-Sb, bicrystal rearrangement of grid of nonconformity dislocations on (111) interface during heating 9-28215
 Ge:Sb, amorphous, doping effects on Fermi level, electrical meas. 9-42546
 Ge:Sb, bolometer element, absorpt. spectra, bias depend. 9-30553
 n-Ge:Sb, fast electron irradi. at 77K, radiation defect changes by annealing at 220K 9-37737
 Ge:Sb, lattice thermal resist. due to bound state electrons 9-46850
 n-Ge:Sb,Cu, exactly compensated, static photocurrent-voltage characts. 9-38131
 n-Ge:Sb,Cu, exactly compensated, unipolar injection influence on photoconductivity 9-42592
 Ge:Sb crystals, purification by zone recrystallisation with temp. gradient 9-4916
 Ni-Si:Sb, implanted dopant redistrib. after silicide form., appl. to ohmic contacts 9-37729
 Pd-Si:Sb, implanted dopant redistrib. after silicide form., appl. to ohmic contacts 9-37729
 Pt-Si:Sb, implanted dopant redistrib. after silicide form., appl. to ohmic contacts 9-37729
 Sb I, ratio of oscillator strengths for 217.6 and 231.1 nm lines (*Russian*) 9-31457
 Sb-Hg, quadrupole interaction, time differential perturbed ang. correl. and nucl. orientation 9-24250
 Sb+Ar²⁺(Cl⁺), vacancy sharing between K and L shells in 3dσ mol. orbital 9-22807
 SbI, ²D state radiative lifetimes 9-3381
 SbII, ³P, ³D state radiative lifetimes 9-3381
¹²¹Sb, A=121, 123, elec. and mag. hfs. 9-10224
 n-Si:Sb, arbitrary doping profiles produced by MBE 9-7617
 Si:Sb, bound excitons and bound multiexciton complexes for shallow donors, luminesc. meas. 9-24363
 Si:Sb, in solar cell struct., heavily doped, dopant striation, SEM 9-39312
 Si:Sb, ion implantation combined with vacuum deposition of Si 9-47631
 Si:Sb, ion implanted, redistrib. of dopants by pulsed laser annealing 9-7620
 Si:Sb, ion-implanted, thermally assisted Xe-flash annealing, Rutherford backscatt. meas. 9-10881

antimony continued

- Si-Sb, vacuum deposition combined with ion implantation (*Japanese*) 9-28005
 Si-Sb wafers, laser annealing, Rutherford backscatt., optical, and TEM obs. 9-1445
 SnO₂/Sb, transparent cond. films, hydrolysis deposition, elec. and optical props. 9-43144
 SnO₂/Sb, X, X = Fe, Cu, S, CVD thin film, resist. temp. coeff. 9-38198
 SnO₂/Sb film, DC sputtered, correspondence between Sb content and targets 9-23847

antimony alloys

see also *antimony compounds*

- Babbitt grade Bk-2Sh, improvement in antifriction layer props. by impulse discharge (*Russian*) 9-1917
 steel, austenitic, Kh17N13M3T, activation characts. of rupture, 630-730°C, Sb and Nb microalloying effects (*Russian*) 9-5033
 Bi-Sb, conditions for dendritic crystallisation, accompanying rapid cooling (*Russian*) 9-34020
 Bi-Sb, magnetoplasma waves in strong mag. fields at 300 GHz 9-38116
 Bi-Sb alloy film, elec. props. (*Russian*) 9-11245
 Bi-Sb mixed cryst., zone melting crystn. parameters (*German*) 9-43140
 Bi_{1-x}Sb_x, crystalline, vibrational, spectra, second order Raman scattering 9-47455
 n-Bi_{1-x}Sb_x, determ. carrier dispersion relation parameters 9-38107
 Bi_{1-x}Sb_x, epitaxial layers, effect of film thickness on elec. props. (*Russian*) 9-11244
 Bi_{1-x}Sb_x, epitaxial thin films, galvanomag. props. in semimetal and semicond. regions 9-11254
 Bi_{1-x}Sb_x, thin film, elec. props., composition variations (*Russian*) 9-7841
 Bi_{1-x}Sb_x, thin films, elec. props., 4.2-300K (*Russian*) 9-24087
 Cd-Sb, liq., thermoelec. power meas. 9-40591
 Co-Sb, dilute ferromagnetic alloy, resistivity and magnetoresist. anisotropy 9-11106
 Cr-Sb, dil., mag. phase diagram, elec. resist. and thermal expansion obs. 9-1669
 (Cr_{1-x}Fe_x)_{1-x}Sb, interstitial occupancy, Cr:Fe distrib., X-ray and neutron diff. study 9-42012
 Cu-Sb, liq., partial interference functions, short range chem. order effects 9-7541
 Cu-Sb solid solution, dil., FCC, intergranular solid shortness mechanism (*Russian*) 9-5032
 Cu₂Sb, formed by saturation of Cu grains with Sb, electron diffraction exam. of diffusion layer (*Russian*) 9-33119
 Fe-Cr-Sb, segregation of ¹²¹Sb, Mossbauer spectroscopy 9-47698
 Fe-Ni-Sb, segregation of ¹²¹Sb, Mossbauer spectroscopy 9-47698
 Fe-Sb, magnetic transition effect on alloying element solubility (*Japanese*) 9-42256
 Ge-Sb, eutectic alloy, exam. of morphology during solidification (*Russian*) 9-34022
 LaSb, lattice dynamics 9-37783
 Mn_{1-x}Sb_xSn_x, nuclear Zeeman effect, Mossbauer meas. 9-28654
 Pb-Sb, dil., US oscillations and dislocation unpinning in supercond. and normal states (*Russian*) 9-11648
 Pb-Sb, improvement in antifriction layer props. by impulse discharge, impulse discharge treatment (*Russian*) 9-1917
 Pb-Sb (1 wt %), highly averaged, fracture behaviour 9-8366
 Pb-Sb eutectic alloys, solidification in space environment 9-47671
 Pb_{1-x}Mn_xSb_{0.99}Sn_{0.01}, ¹¹⁹Sb Mossbauer study, compositional and heat treatment effects 9-42875
 PdMnSb, Pd₂MnSb, Heusler alloys, ¹²¹Sb mag. hyperfine struct., Mossbauer meas. 9-33580
 Pd₂MnSb_{1-x}Sb_x-Cd, dil., Heusler alloy, hyperfine mag. field on Cd, TDPAC obs. 9-8075
 PdSb, de Haas-van Alphen effect, Fermi surface 9-7773
 Pd₂Sb₂₅, ordered BCC phases at high temp. 9-32948
 PrSb, lattice dynamics 9-37783
 Se-Sb, liquid alloys, vapour phase effect on activity determ. (*German*) 9-43210
 U₃Ni₂Sb₄, and related compounds, X-ray diff. cryst. struct. determ. 9-42009
 USb, localised versus itinerant 5f electrons exam., reflectivity meas. 9-19905

antimony compounds

see also *antimony alloys*

- thiourea SbF₃, cryst. struct., single cryst. X-ray diff. study, influence of secondary binding (*French*) 9-32987
 [Sb₂F₇]²⁺[SbF₆]₂ and [SbF₄]⁻ ion containing cpds., ¹²¹Sb Mossbauer obs. of mixed oxidation state phase 9-28640
 (As₂S₃)_{0.55}(Sb₂S₃)_{0.45} vitreous film, dispersive charge transport, time-of-flight meas. 9-19594
 AsTeSb, chalcogenide glass, thin film crystallisation 9-7758
 Bi-Bi_{0.5}Sb_{0.5}Te system, stratified medium with artificial anisotropy, transverse cooling effect 9-28364
 Bi_{1-x}Sb_x, elec. resist., 1.8 to 77K, electron-phonon scatt. mechanism 9-15144
 Bi_{1-x}Sb_x, semicond., photoconductivity (*Russian*) 9-7857
 Bi_{0.5}Sb_{0.5}Te₃ film, effect of struct. on thermal cond. 9-28257
 Bi_{0.5}Sb_{0.5}Te_{0.05}, helicon dispersion, effect of slope of electron ellipsoids 9-28365
 Bi₂Te₃-Sb₂Te₃, Bi:Sb=1:2, 2:1, solid soln. deviation from stoichiometric cross section 9-43221
 Bi₂Te₃-Sb₂Te₃, plastically deformed by hot extrusion, diffusion meas. using micro-X-ray spectrum anal. 9-14954
 p-Bi₂Te₃-Sb₂Te₃ semiconducting solid solns., plastic deform. during hot extrusion 9-20143
 BiTeI-SbTeI, solid solns., phase diagrams, photocond., elec. props. 9-38125
 CeSb, mag. phase diagram for mag. field applied along <111> direction 9-33458
 Ga-In-Sb, ternary phase diagram, thermodynamic models of solidus and liquidus isotherms 9-24504
 InSbSe₃, cryst. prep. and props. 9-15601
 In_{0.5}Sb_{0.5}Se₃, cryst. prep. and props. 9-15601
 (Pb_{0.66}Sb_{0.34})₂SnS₃, garnet-like struct., synthetic, cryst. struct., X-ray diff. study 9-19217
 Sb-Ge-Se system glasses, thermal capacity, 80 to 300K 9-42272
 Sb_{1-x}Bi_xSi, mixed cryst., ferroelec. phase transition 9-33629
 SbCl₃ complex, with (1,3,5-triacetylbenzene), single cryst., X-ray cryst. struct. anal. 9-14761
 SbCl₃ liquid, X-ray and neutron diffraction study at 80°C 9-4230

antimony compounds continued

- SbCl₃, nuclear electric hexadecapole interactions of ¹²³Sb 9-1722
 SbN₂O₄, ferro- and anti-ferroelec., crit. points and props. 9-38460
 SbN₂O₄, anomalous photovoltaic effect and photocond. 9-38122
 SbN₂O₄, ferroelec., synthesis and hydrothermal growth 9-38731
 SbN₂O₄, ferroelectric, anomalous photovoltaic effect 9-7861
 Sb₂O₃, pyrochlore struct. and its relatives 9-14773
 Sb₂O₃, XPS, electronic struct. calcs. using scattered wave method 9-11502
 Sb₂O₃-Si-O, general features of reaction 9-11819
 Sb₂O₃, single crystals, X-ray cryst. struct. full matrix least squares refinement (*German*) 9-37665
 Sb₂(OH)₂(SO₄)₂·2H₂O, X-ray cryst. struct. determ. (*French*) 9-4274
 Sb₂O₃, polytype 2MA, ferroelectric, ferroelastic, Raman scattering and symmetry anal. 9-38550
 Sb₂O₃(OH)·H₂O, prep. and cryst. struct. (*German*) 9-32975
 Sb₂S₃, film, defect struct., electron microscope mode 9-28224
 Sb₂S₃ film, struct., influence of laser beam 9-7761
 Sb₂S₃, thin film, dielectric props. 9-15392
 Sb₂S₃ type chain crystals, ferroelec. phase transitions 9-33625
 SbSI, anomalous photovoltaic effect 9-38133
 SbSI, band gap photoreflectance spectra near ferroelec. transition 9-38559
 SbSI, central mode, microwave freqs. 9-19852
 SbSI crystal, interchain correlations and energy spectrum, Davydov splitting 9-28309
 SbSI, ferroelec., dielec. props. 9-38428
 SbSI, ferroelec. semicond., influence of internal fields on polarisation reversal process 9-38443
 SbSI, ferroelec. semicond. near phase transition, anomalies of photocond. 9-42579
 SbSI film, growth, effect of artificial nucleation centres 9-11032
 SbSI, nonlinear sound propagation in case of polarisation switching 9-27458
 SbSI, photoelectric current, modulated due to light intensity 9-19626
 SbSI, single- and poly-domain, complex permitt. and dielec. relax. losses 9-28699
 SbSI, tricrit. point, NQR under press. 9-38469
 SbSI-BiSi, solid solns., phase diagrams, photocond., elec. props. 9-38125
 Sb₂Se₃, monostable switching effect (*Russian*) 9-33316
 Sb₂Se₃ single crystals, phys. prop. anomalies, 400-450K (*German*) 9-38072
 SbTaO₄, ferroelec., synthesis and hydrothermal growth 9-38731

antineutrinos see *neutrinos*

antineutrons see *neutrons*

antinucleons see *nucleons*

antiphase boundaries

- alloys, ferromagnetic exam. of atomic ordering mech., when in mag. field (*Russian*) 9-11609
 electron microscopy, conf., Nancy, France (May 1978) (*French*) 9-41915
 energies, investig. methods, appl. to FCC metals (*French*) 9-42080
 two-dimensional lattice, ordered phase form. by elastic stress relax. at antiphase boundaries (*Russian*) 9-14817
 Au₄Mn, fully ordered, microstruct., high resolution electron microscopy 9-1439
 Au₄Mn, high resolution dark field electron microscopy exam. of ordering 9-7615
 Au₄Zn, ordered alloy, long-period antiphase boundary struct., growth mechanism 9-19262
 Ba ferrite compounds, microsyntactic intergrowth and cryst. defects, TEM obs. 9-10858
 CsCl type intermetallic compounds, correlation between dislocation character and operative slip system 9-10852
 Cu₂Au, elec. resistivity, temp. depend. 9-47078
 Cu₂MnAl, plastically deformed, domain struct., X-ray diff. and electron microscope obs. (*Russian*) 9-20110
 Fe₂MnAl, plastically deformed, domain struct., X-ray diff. and electron microscope obs. (*Russian*) 9-20110
 (NH₄)₂SO₄, mechanically twinned, orthorhombic, search for antiphase boundaries 9-37715
 Pb₃(PO₄)₂, ferroelastic phase, structure domains, electron microscope obs. 9-42078
 Ti-Al (14.4 at %), void form. and solute segregation under Ni ion irradiation 9-42122

antiphase domains

see also *antiphase boundaries*

- bytownite, quenched from 1723K, X-ray single cryst. struct. anal. and refinement 9-19193
 Au₂Zn, R₂-phase, long period domains, transmission, scanning and optical microscopy obs. 9-38801
 Cr₂Al₃, γ-phase, microstruct., transform. strains, TEM obs. 9-11614
 β-Ni-Ti, struct. changes during annealing, TEM and selected area diff. 9-34081

antiprotons see *protons*

antireflection coatings

- abrasion resistance characterisation test 9-14129
 absorption of weakly absorbing thin layer 9-11481
 camera flare rel. to internal finish, student examination project 9-25782
 chalcogenide glass Z 9-14063
 conference on optical coatings, Washington, USA (March 1978) 9-46028
 constant-thickness film formation on axially symmetrical substrate 9-27453
 interference coating production, new ideas 9-32098
 IR coating for high energy laser reflector and window 9-45951
 IR energy-efficient interference coatings 9-23087
 large optical components for high-power lasers, refl. and transmission meas. 9-44927
 laser damage resist. for pulsed CO₂ laser 9-45989
 laser damage thresholds of coatings for CO₂ laser components 9-14006
 laser focusing objectives, flare image danger reduction 9-22997
 laser optics, Shiva, system, thin film coatings technology 9-7135
 laser pulse damage rel. to index and substrate OH⁻ content 9-14016
 laser pulse damage resistance obs. of antireflection coated Ge:Ga 9-14020
 laser-damage thresholds, meas. and identification 9-45988
 multilayer antireflection coatings, all-dielec. Fabry-Perot interf. filters, optimisation parameters 9-41432
 multilayer film, intrinsic and thermal stress modelling and interferometry 9-14059
 multilayer interference filter, design and construction 9-46052
 optical coating adhesion characterisation pull-off tests 9-14128

antireflection coatings continued

- polymer antireflection coating of CdTe KO-6 optical ceramic components 9-27345
- polymer antireflection coatings of TiCl components 9-27346
- solar panel, low-cost, durable 9-14087
- synthesis by direct search method 9-10400
- total absorbing optical coatings using black metallic mirrors 9-3767
- vacuum UV coating technology 9-46030
- Al₂O₃ layer on Mo film, passivation against IR reflectance losses caused by oxidation 9-3758
- As₂S₃(Se₂) coating defects and impurities affecting damage threshold and absorbance 9-14065
- As₂S₃(Se₂) containing coatings, 10.6 μ laser damage obs. 9-14021
- BiF₃ thin films, optical props. 9-32005
- CeO₂-SiO₂(MgF₂), multilayer refractory oxide interf. coatings 9-7192
- Ge film black, solar selective absorber surface 9-29484
- InAs IR filter properties, operational characts. of antireflection coatings 9-14107
- NaF coating defects and impurities affecting damage threshold and absorbance 9-14065
- PbF₂, laser damage resistant antirefl. coatings for 16 μ m region 9-31963
- Si₃N₄ layer on Mo film, passivation against IR reflectance losses caused by oxidation 9-3758
- SiO₂ layer on Mo film, passivation against IR reflectance losses caused by oxidation 9-3758
- SiO₂-TiO₂ antireflection coatings, 1064 nm 150 ps laser pulse damage rel. to barrier layering and smoothness 9-14018
- SiO₂-TiO₂ stack reflector and antireflection coating, 1064 nm 180 ps laser pulse damage 9-14017
- TiCl component antireflection coating 9-27346
- ZnS-MgF₂ mixtures, triple-layer broad band antireflection coatings 9-32011
- ZnS-MgF₂/MgF₂ double-layer antireflection coatings, transmittance meas. 9-36967

aperture cards *see microforms***API gravity** *see density***apodisation** *see acoustic imaging; optical images***apparatus** *see instrumentation; instruments***apparent porosity** *see porosity***appearance potential** *see ionisation potential***appearance potential spectra**

- Auger electron AFS, extended fine struct. analysis 9-28863
- extended fine struct. anal., use of Fourier transforms 9-43066
- geometrically induced structure on SXAPS and Auger electron appearance potential spectra 9-38695
- inert gases, temp. effects on appearance potentials of gas phase field ions 9-19978
- steel, low alloy, Mn determ. by AES and APS 9-48001
- surface analysis, spectroscopic methods, review (*Chinese*) 9-34414
- Ag vapour, field ion appearance potential spectroscopy, temp. effects 9-19978
- FeC₂⁺, electron impact appearance pot. in dissoc. of Fe(CO)₅ 9-34281
- Fe(CO)₅, electron impact appearance pots. for ion fragments, mass spectra obs. 9-34281
- Ni (001), geometrically induced structure in SXAPS and Auger electron appearance potential spectra 9-38695
- NiTi, search for electronic phase transition, soft X-ray appearance potential spectra 9-24391
- Yb, 4f states, soft X-ray appearance pot. spectra 9-47551

appearance potential spectroscopy

No entries

Appleton layer *see ionosphere***appliances, domestic** *see domestic appliances***applied mechanics** *see mechanics***approximation theory**

- see also function approximation; interpolation; least squares approximations*
- education, acoustical propag. in ocean, appl. of parabolic approx. 9-25794
- heat exchangers, parallel and counter-flow, weighted residuals method and modal control 9-3898
- mathematical approximations in physical systes, rules and useful appl. (*Hungarian*) 9-25783
- meteorological fields approx. by polynomials 9-29831
- periodic solution of $d^2x/dt^2 = -V(x)$, approx. value determ. for period 9-8802

apr *see acoustic paramagnetic resonance***APT** *see problem oriented languages***APW calculations**

- local potential problems, improved Pauli Hamiltonian 9-19499
- metals, neutron mag. form factors, magnetisation densities, APW wave-function calcs. 9-47243
- one-dimensional disordered system, average density of states, augmented space method 9-28265
- transition metal carbides, generalised susceptibilities, electronically driven phonon anomalies APW calcs. 9-42208
- transition metal carbides and borides, electronic structures calc. in conjunction with X-ray photoelectron spectroscopy (*Japanese*) 9-15074
- transition metal compounds, electronically driven lattice instabilities, role of p-d hybridisation 9-7669
- Nb, quasiparticle velocity, anisotropic many-body effects 9-33223
- Nb₃Al(Ga)(Si)(Ge)(Sn), electronic struct. calcs. 9-47005
- Ni, paramag., generalised Wannier functions to fit MAPW band struct. 9-19509
- Pb, band structure, and electron-phonon interaction, supercond. transition temp. determ. 9-19512
- Si, band structure selfconsistently determined with X_a potentials using MAPW method 9-33227
- TaN, metastable FCC, band struct. calc. 9-33231
- TiH₂, electronic density of states and tetragonal distortion, APW calc. 9-37986
- V, X-ray band spectra calcs. 9-33860
- V₃Al(Ga)(Si)(Ge)(Sn) electronic struct. calcs. 9-47005
- VO, energy band spectrum, APW and Green's function method calcs. 9-7783
- W, semi-infinite cryst., secondary electron emission, obs. of electronic struct. 9-33871

arc discharges *see arcs (electric)***arc lamps**

- light and water exposure apparatus 9-15914
- power source, highly regulated, for H and D lamps for UV spectrometry 9-40629
- VUV light source, transfer standard, low-current AR arc with MgF₂ window 9-35856
- Xe arc lamp versatility 9-23036
- Xe lamp spectral radiation density, 400 to 1000 nm obs. 9-14072

arc welding*see also welding equipment*

- heat flux and current density distrib. in heat spot of arc discharge (*Russian*) 9-14625
- metal arc welds, chevron cracking, initiation and propagation 9-38981
- plasma appl., using surface wave microwave excitation structures 9-19059
- plasma flow effect on weld pool obs., using basic- and cellulose-coated electrodes 9-7496
- shielding technique development, torches with ring nozzles operation modelling 9-7497
- steel, brittle transition temp. comparison of arc, gas-pressure and friction-pressure welded alloy by hardness measurements (*Japanese*) 9-11691

archaeology

- Aegean Bronze Age dating without radiocarbon 9-26202
- ancient Japanese roofing tiles, characterisation by ⁵⁷Fe Mossbauer spectroscopy 9-26191
- clay tablets, records of barley harvest dates in ancient Mesopotamia 9-5597
- ESR dating, appl. to archaeological materials from Greek Petralona cave 9-26094
- flint artefacts, ancient heat treatment identification by ESR spectroscopy 9-12831
- Indian culture, ¹⁴C dating of samples 9-40650
- inscribed jars found at Thebes, inconsistencies in comp. and provenance studies 9-26197
- Jomon pattern pottery from Japanese Taishaku valley, thermoluminescent dating 9-26196
- lunar megalithic sites in Britain, reconsideration 9-8854
- malachite from patinas of ancient bronze objects, stable ¹³C/¹²C and ¹⁸O/¹⁶O ratios 9-26194
- Mycenaean pottery from Megiddo, X-ray photoelectron spectroscopic analysis 9-29421
- Nahal Zin, Israel, sites, U series dating of travertine 9-34781
- Nottingham clay tobacco pipes, chronological groups, chemical analysis 9-29422
- obsidian source identification by thermoluminescence 9-26195
- radiocarbon chronology and calibration of Late Minoan IB 9-26200
- radiocarbon dates from Akrotiri, Thera 9-26201
- radiocarbon dating discrepancies illustrated using Egyptian and Aegean samples 9-26199
- sourcing method based on U, Th determ. in obsidian 9-2239
- Tampan Palaeolithic tools, Malaya, age from Toba Tuff K-Ar dating 9-16427
- Terra Sigillata from La Peniche, Switzerland, chem. comp., mineralogy and porosity 9-26198
- thermoluminescence dating of zircon sand 9-33847
- underground cavities, geoelectric dipolar techniques appl. 9-16687

architectural acoustics*see also anechoic chambers; echo; noise abatement; reverberation*

- audio-visual design and room acoustics for board room 9-37092
- auditorium syllabic intelligibility, computer evaluation (*French*) 9-37095
- building services design, roles of noise control and environmental engineering 9-23144
- cinema and sound stage acoustics (*Russian*) 9-18609
- cinemas, motion picture sound reproduction improvement methods (*Russian*) 9-10430
- concert hall, acoustical conditions preferred for ensemble 9-14161
- concert halls, designing for performers 9-41516
- concert halls, synthetic sound fields, effects of early multiple reflections on subjective preference judgements 9-41517
- concert halls and auditoria, tailoring acoustic response using electro-acoustic methods 9-32137
- corrugated surface, effective absorption coeff. 9-32119
- diffuse sound field around objects in a reverberant room (*Japanese*) 9-1030
- echo and reverberation generation, electronic ccts. (*German*) 9-32138
- enclosure, 2-dimens., stationary sound field, continuous obs. (*Japanese*) 9-32143
- floors, comparison between methods for impact noise testing 9-46111
- frequency analyzer for room quality meas. for HiFi (*German*) 9-46140
- Gulbenkian Great Hall, Lisbon, acoustic design of auditorium 9-14162
- Gulbenkian Great Hall, Lisbon, acoustic investigations 9-14163
- hall, improvement of acoustics (*French*) 9-37089
- halls, sound amplifying systems, model (*French*) 9-37090
- housing, classes of acoustical comfort, measurement and control methods 9-23143
- Joseph Haydn concert halls, room acoustics and orchestral sound (*German*) 9-18631
- listening room, reverberation time and reproduced sound definition 9-18606
- multipurpose hall with variable reverberation units and movable partition, design (*Japanese*) 9-37093
- noise control at the design stage of buildings, mechanical services and equipment selection 9-18598
- open plan offices, comparison of NIC' and Δ dB A rating schemes for speech privacy 9-3854
- open plan offices, use of Articulation Index to evaluate acoustical privacy 9-32140
- open plan spaces, technique for sound pulse transmission anal. 9-23151
- partitions, statistical energy anal. for sound insulation 9-23129
- room acoustics and subjective sound perception, computer simulation (*Polish*) 9-7258
- rooms, field anal. by finite element method (*Japanese*) 9-27465
- shielding effect of noise barriers in open-plan offices, industrial halls 9-18610
- sound absorption factors in enclosed space (*Spanish*) 9-3856
- sound diffusion systems, fundamentals calc. (*Spanish*) 9-3855
- spherical enclosure, uniformly absorbing, effect of surface roughness on reverberation time 9-14160

architectural acoustics continued

- steady-state sound in an enclosure with diffusely reflecting boundary 9-14159
- structural noise and vibration problem solution by statistical methods 9-23126
- studio acoustic design using scale models 9-3857
- studios, acoustic design using scale models 9-10429
- studios, acoustic treatment using modular panels, computer calcs. of reverberation time (*Spanish*) 9-32141
- talk studios and listening rooms for BBC 9-37091
- theatrical sound effect for cine films (*Spanish*) 9-41550
- transmission loss prediction for building elements 9-32139
- unsymmetrical enclosures, LF resonances 9-18605
- wall systems, design for desired STC ratings 9-18608
- Westphalen Hall, Dortmund, equipment for intelligible and uniform sound production (*German*) 9-1029

architectural CAD

- studios, acoustic treatment using modular panels, computer calcs. of reverberation time (*Spanish*) 9-32141

architectural computer aided design *see architectural CAD***architecture**

- see also building; civil engineering*
- aerodynamic wakes of surface-mounted cubes 9-12183
- education, architects, physics course description 9-25779
- Physical Sciences Building, Washington State University 9-21499
- stress calc. in arched roof with curved longitudinal edges (*German*) 9-23217

arcing *see arcs (electric)***arcing, switches** *see circuit-breaking arcs***arcs (electric)**

- see also arc lamps; arc welding; circuit-breaking arcs*
- ablation stabilised arcs, theory 9-37561
- air blast arc charactrs., depend. on electrode position 9-23470
- atomic processes, absolute spectral intensity meas. technique and other applications (*Croatian*) 9-10707
- cathode region, easily ionised admixture effects calcs. 9-14633
- cathode spots of the first kind, erosion rate resistivity and thermal cond. depend., explosive model 9-14630
- coaxial plasmatron, Cu electrode degradation by arc spot, thermal shock and surface cracks 9-14629
- cold cathode low press. arc retrograde motion in strong mag. field, theory 9-27858
- cylindrically symmetric arcs, radial radiative energy flux distrib. 9-14623
- DC arc, anode spot temp., buffer cpd. effect 9-48029
- DC arc, vaporization processes, thermochem. reagents effect (*German*) 9-48030
- DC arc in supersonic nozzle flow, appl. to gas blast circuit breaker 9-23469
- diagnostic of unipolar arc 9-1357
- DITE Tokamak, arcing investigation 9-658
- electrical conductivity and temp. distrib. in insulating channels 9-23401
- electron density determ. by IR laser transmission meas. 9-7491
- electron injection into dense Hg or Ar, cathode spot simulation expt. 9-1364
- erosion and aggregate condition near discharge, cellular structure effects (*Russian*) 9-37557
- exploding wire, structural inhomogeneity and MHD sausage instability, arc chains, grain size and annealing 9-41904
- field ion emission, into arc plasma, current density eqn. 9-43108
- glow discharge, normal, stability, rel. to transition to arc 9-10740
- graphite, unipolar arc damage in hot, dense D plasma 9-3235
- heat flux and current density distrib. in heat spot of arc discharge (*Russian*) 9-14625
- high-current, low/intermediate press. arc, anode sheath and pot. drop 9-41901
- high-current arc, positive anode pot. drop 9-41902
- high-current free-burning arc, single-dimens. model 9-1366
- hollow cathode, through-flow arc mode 9-27837
- hollow cathode arc with fully ionized dense plasma, V-I charactrs. and other props. 9-14627
- inert gas, low-voltage, ionis. mechanism 9-27852
- low pressure, electrical noise in longitudinal mag. field (*Russian*) 9-10730
- matrix effect on arc temperature and electron pressure 9-37565
- metal vapour arc in air, electrode damage 9-23472
- narrow slit problems, 1-dimensional 2-zone theory extended (*German*) 9-41890
- nozzle gas blast flows with arc heating 9-46502
- plasma induced, electromotive forces 9-1356
- plasma magnetohydrodynamics, anal. (*Russian*) 9-32754
- plasma motion in flat and labyrinth channel, velocity calc. 9-4121
- positive point to plane discharge, determ. of basic quantities during glow to arc transition 9-32837
- radial arc expansion, dynamics 9-19108
- spark gap resistance in arcs with semimetallic cathodes 9-23471
- spectral-line shapes, in high-press. arcs, Ti+Hg, and In+Hg 9-3412
- steel, stainless, unipolar arc damage in hot, dense D plasma 9-3235
- surface, insulation as affected by immobile high-current discharge and arc resist. 9-37563
- thermoelectric charactrs. in porous channel 9-32835
- Tokamak wall, model of unipolar arc 9-657
- voltage across low-current vac. arc 9-19100
- Ar arc, plasma parameters determ. by laser scatt. 9-32812
- Ar arc discharge atomic excitation, effect of ion conversion (*Russian*) 9-10731
- Ar, atom-atom collisions effect on thermal equilb., model 9-1360
- Ar III, in pulsed arc plasma, ξ factor determ. 9-4116
- Ar plasma, viscosity determ. by stabilised elec. arc. 9-41873
- Ar, vacuum arc discharge, lasing action 9-18402
- C electrode damage, and current densities 9-23468
- C plasma stream condensation, with RF pot., diamond-like film deposition 9-15612
- C⁺, vacuum arc source 9-21853
- Cd electrode, evaporation rate from cathode spot in vacuum arcs 9-37566
- Cu arc, fluctuating, diagnostics using spectral-image photographs (*Japanese*) 9-41896
- Fe electrode, evaporation rate from cathode spot in vacuum arcs 9-37566
- H arc, laser Thomson scatt., ion temp. determ. 9-23453
- H₂-Ar arc, H_a(D_a) Stark broadening obs. 9-36582

arcs (electric) continued

- He, arc plasma Stark profile, heavy-particle temp. 9-46484
- Kr-(He) arc, wall-stabilised, atm. press. 9-46503
- Mo, unipolar arc damage in hot, dense D plasma 9-3235
- N₂ arc, plasma parameters determ. by laser scatt. 9-32812
- Nb, unipolar arc damage in hot, dense D plasma 9-3235
- Ni, unipolar arc damage in hot, dense D plasma 9-3235
- O⁺, spectra in pure O arc plasma, 2000-9000 Å, 9000K 9-32750
- SF₆ arc discharge, decomposition products for SF₆ with H₂O and organic gas contaminants 9-10743
- Ta, unipolar arc damage in hot, dense D plasma 9-3235
- W, unipolar arc damage in hot, dense D plasma 9-3235
- Zn electrode, evaporation rate from cathode spot in vacuum arcs 9-37566

area measurement

- Brunauer, Emmett and Taylor surface area meas. apparatus 9-35666
- calorimetric determination of surface area, modified Harkins and Jura procedure 9-35667
- cerebral slices from rat brain, area changes during prep. 9-25166
- powders, surface area measurement using Knudsen diffusional flow of gas 9-40536

argon*see also nuclei with*

- adsorption, of first layer on graphite, 55 to 62K 9-28197
- arc, plasma parameters determ. by laser scatt. 9-32812
- arc discharge, atom-atom collisions effect on thermal equilb., model 9-1360
- arc discharge atomic excitation, effect of ion conversion (*Russian*) 9-10731
- atom, 1s2s3p⁴P_{3/2}⁰-state, relativistic effects and config. mixing 9-45640
- atom, autoionising levels excited by heavy ion impact 9-13804
- atom, collision processes, photoionisation mass spectra obs. 9-31479
- atom, electron elastic scatt., phaseshift anal. of ang. distrib. 9-22833
- atom, electron impact excitation, continuous spectrum radiation mechanism 9-3395
- atom, electron impact ionis., calc. for 3s² subshell 9-31700
- atom, electron-photon coincidence obs., reson. lines, polarisation correls. 9-31697
- atom, fluoresc. following slow electron impact, 380-710 nm 9-22646
- atom, Koopmans' ionis. pot., relax. correction 9-18308
- atom, L-shell, X-ray emission spectra prod. by 0.3-3 keV electron impact, line intensities 9-45666
- atom, M-shell photoionis., many-body interactions 9-10081
- atom, multiply excited, inner level X-ray emission spectra, line widths and Auger transition rates 9-36575
- atom, Paschen (1s) reson. state, decay mechanism and kinetics 9-27021
- atom, photoionis. from excited states 9-10078
- atom, photoionisation, correl. satellites and subshell cross-sections, electron spectrosc. obs. 9-31485
- atom, polarisation effects in photoionisation (*Russian*) 9-3420
- atom, props., calculation from optimised potential model 9-6895
- atom, single-K multiple L-shell vacancy prod. in ion collisions, X-ray spectra 9-22809
- atom, valence shell photoelectron spectrum, CI calcs. 9-31419
- atom+H⁺, ang. and energy distrib. of ejected electrons 9-31668
- atom-ice (solid ammonia) surface impact, 2.4 keV, secondary electron emission from H⁺(H₂O), and H⁺(NH₃)_n 9-15580
- atomic electron scattering, 20-300 eV, total cross sections 9-36778
- atomic excited states collision radiative destruction in glow discharge 9-3528
- atomic positron scatt., elastic, diffusion and annihilation cross sections 9-36769
- atomic structure, Hartree-Fock electron density, kinetic energy functional 9-26879
- Auger electron emission from ion-solid collision (*French*) 9-33876
- collision induced light scatt., three- and four-body spectra 9-18260
- condensed, luminescence decay under α - and β -particle excitation 9-38678
- DC discharge plasma parametric instabilities near lower hybrid frequency (*Japanese*) 9-7450
- discharge, pulsed, weakly ionised, neutrals effect, interferometric obs. 9-27854
- discharge sudden contraction, effect of gas heating 9-27859
- electron drift and diffusion, Monte Carlo simulation 9-7441
- electron drift velocity, density dependence, high press., quantum mech. theory 9-1285
- electron transport coeff. calc. in counting gas mixtures 9-32727
- entrapment in Ni based powders, determination of content by vacuum fusion tech. 9-5193
- equation of state, perturbed-hard-sphere, applicable to sub- and supercritical temps. 9-19350
- field ion appearance potential spectroscopy, temp. effects 9-19978
- flame, Na-seeded H₂-O₂-Ar, population inversion, two-photon laser excitation 9-34307
- fluid, light scatt., collision-induced, line-shape theory and mol. dynamics 9-41921
- fluoromethane+Ar, vibr. time depend. on equilb. and vibr. temps. (*Russian*) 9-27071
- free molecule flow and interdiffusion, through porous glass 9-32658
- galactic abundance from Ar/O and Ar/Cl ratios in planetary nebulae 9-5887
- galactic centre, Ar overabundance from forbidden Ar II emission obs. 9-48922
- gas, diffusion of Na vapour, diffusion coeffs. meas. by Stefan method 9-41785
- gas, laser-induced breakdown wavelength depend. meas. of threshold 9-41895
- gas, partly ionised, viscosity calc., simplified expressions 9-18983
- gas, Rayleigh scatt. props., nephelometer meas. 9-29865
- gas, supersonic radiation waves generated by CO₂ laser radiation 9-10593
- gas, thermally excited density fluctuations, neutron scatt. 9-23392
- gases, high press., laser spark, breakdown and radiation supported shock waves 9-32791
- HF discharge, excited atoms and metastable state densities meas. 9-14606
- HF torch discharge, spectral diagnostics 9-14607
- high-frequency discharge, spectral parameters meas. (*Russian*) 9-10742
- hydrocarbon vapour mixtures, electron drift velocity meas. 9-41079

argon continued

Incoloy 800, thin wall tubing, creep-rupture testing in steam under constant and cyclic load 9-47774
ion laser, CW 250 W output 9-18440
ion laser, He, Ne, impurity effects, ignition enhancement and instability suppression 9-13948
ion laser, high power problems 9-31944
ion laser, mode-locked pulses, second-order intensity correl., two-quantum photoeffect 9-10332
ionisation, energy dependence of W for alpha particles 9-6999
ionisation, expt. results on W -values for heavy particles 9-7000
ionisation chamber dosimetry, Ar/propane, mixed X-ray/neutron fields 9-20682
ionised gas behind shock wave, elec. cond. 9-10592
ionised gas flow, quasi-steady laminar boundary layers 9-10544
ions, spectral classification in θ -pinch plasma 9-6896
isoelectronic series, Koopmans' ionis. pot., virial scaling corrections 9-45655
jet, supersonic, electron beam-excited, continuous VUV emission spectrum origins 9-6964
laser, high-power CW, resonator configs. for mode selection 9-10327
liquid, backflow of quasiparticles in classical system 9-27614
liquid, elastic modulus and stress relaxation 9-19304
liquid, high-field electronic conduction obs. 9-4587
liquid, kinetic model, dynamic struct. factor 9-10768
liquid, radial distrib. function, quasi-crystalline model of liqs. 9-19135
liquid, specific heat determ. in tunnel theory 9-33095
liquid, variational eqn. of state and entropy 9-28070
liquid, velocity autocorrelation function and freq. spectrum 9-27892
liquid, velocity of second meas. and thermodynamic stability (*Russian*) 9-4374
liquid ionisation chamber media, review of physical props. 9-41071
liquid orthobaric density, 100 to 120K 9-35679
low-pressure gas discharges, model 9-37560
optical detonation threshold, press. depend., rel. to air 9-23438
pair polarisability determ. from collision induced light scatt. spectrum 9-13678
Penning mixtures, statistics of gas gain 9-45535
permeability and diffusion in polyvinyl fluoride and polyvinylidene fluoride, glass transition obs. 9-32919
plasma, dense, complex refractive index 9-23397
plasma, electrostatic well accumulation of multicharged ions in mag. mirror plasma by electron cyclotron reson. 9-32804
plasma, negative plasma potentials produced by supplemental electron emission 9-41861
plasma, parametric excitation of backward ion cyclotron wave with a pump in the lower hybrid range 9-37490
plasma, shock compressed, radn. emission (*Russian*) 9-37554
plasma, shock-compressed optical props. 9-23426
plasma, stationary striations as bifurcation phenomenon 9-32767
plasma, thermodynamic functions, composition, and elec. cond., calc. method 9-32738
plasma, viscosity determ. by stabilised elec. arc. 9-41873
plasma jet, electron temp. and density determ. 9-41875
plasma jet, heat transfer and hydrodynamic struct. 9-14521
plasma source in TM₀₁₀ cavity, for soln. anal. 9-48032
plasma spectroscopy, inductively coupled, development, technique and appls. 9-35839
plasma trap for magnetic flux, loop probe meas. 9-14621
positive column, in transverse mag. field, plasma parameter diagnostics 9-19103
purification, portable laboratory equipment (*Polish*) 9-12781
shock waves in partially ionised gas 9-14550
slow positron annihilation and momentum transfer rates 9-22828
solid, electronic struct. of self-trapped excitons 9-19525
solid, energy loss of 0.5 to 2 MeV ⁴He ions, from backscattering meas. 9-4346
solid, H₂ and D₂ CoM freq. matrix shifts calc. 9-6969
solid, phonon freqs., lattice heat capacities, and Debye charact. temps. 9-10905
solid-liquid transition, and mech. props., modified cell theory 9-23703
spark in focused laser beam, and continuous optical discharge, numerical study 9-14632
sublimation temp. determination at very low pressures, equation of state (*Croatian*) 9-28094
superheated liquid, nucleation rates 9-23741
thermal transpiration, theory and expt. comparison, molecular and transition flow 9-32579
triple point temp. determ. by calorimetry 9-12806
vacuum arc discharge, lasing action 9-18402
van der Waals interaction with Al I, line broadening and shifts 9-6912
in Venus lower atmosphere, isotopic abundance results from Pioneer Venus 9-48720
 W -value determ. for α -particles 9-39518
 Z -discharge, in low pressure gas, formation of current layer (*Japanese*) 9-37570
AR XI, O I like ion, solar emission lines density depend. 9-40165
Ar⁺N⁺(O⁺), electron emission, double differential cross sections, Auger spectra 9-45684
Al+TiF, rot. excitation, M-conserving approx. 9-3546
Ar, (²P₂) and (³P₀) states, quenching mechanisms and rate consts. 9-13801
Ar II, line-continuum interference effect in Lorentzian wings 9-18147
Ar II, spectral line breadth due to electron impact, UV spectra 9-22661
Ar II, transition probabilities, lifetimes, intermediate coupling semiempirical calcs. 9-789
Ar II, transition probabilities and level lifetimes calc. 9-26935
Ar III, CW laser, short wavelength multiline performance 9-926
Ar III, in pulsed arc plasma, ξ factor determ. 9-4116
Ar XV, 2s2p(³P₀)-2s²(¹S₀) transition probabilities, CI calcs. 9-36544
Ar⁺, acceleration by intense relativistic electron beam in spatially periodic mag. field (*Russian*) 9-10255
Ar⁺, Ar²⁺, relative confinement efficiencies in quadrupole ion storage trap 9-2869
Ar⁺, beam metastable fraction determ., by W surface impact, secondary electron obs. 9-28873
Ar⁺ lasers, freq. stabilisation by saturated absorption in external ¹²⁷I₂ cells 9-22965
Ar⁺, upper laser levels collisional excitation and de-excitation, rate coeffs. 9-7112
Ar⁺, prod. from RF sources. 9-18070

argon continued

Ar²⁺, Lamb shift, elec. field quenching time of flight method 9-13674
Ar²⁺, beam metastable fraction determ., by W surface impact, secondary electron obs. 9-28873
Ar²⁺, dissociative recombination in Ar+N₂ early afterglow 9-34305
Ar²⁺, mobility in parent gas 9-7439
Ar-H₂ arc, H₂(D₂) Stark broadening obs. 9-36582
Ar-He, heat of mixing, 2-15 bar (*French*) 9-7436
Ar-He plasma, thermal diffusion factors, binary mixture hypothesis 9-27749
Ar-He plasma, thermal diffusion factor, 2000-4000K, binary mixture hypothesis 9-32743
Ar-He plasma, thermal diffusion of neutral species in plasma jet, 2000-4000K 9-32742
Ar-He rarefied mixture in supersonic nozzle and jet, longit. translational nonequilibrium 9-27678
Ar-He(Kr)(Ne), solubility in Ar, and related functions, three-body forces 9-10776
Ar-methane, gas diffusion of Cs atoms, by reson. ionis. spectrosc. 9-18984
Ar-NO, thermal cond. Senfiteben effect meas. 9-18985
Ar-Ne mixture, thermal conductivity, 400-1500K 9-18987
Ar-Xe mixture, microwave absorption, collision-induced 9-22626
Ar-Xe-tetrachloromethane excimer discharge laser 9-13957
Ar+Ar, isotropic intermolecular forces evaluation using semi-empirical approach 9-36726
Ar+Ar⁺(Ne⁺), outer s-subshell vacancy production 9-18275
Ar+Ar(He)(Ne), dispersion interaction, series coeffs., variation method 9-3518
Ar+BaCl, intermultiplet energy transfer 9-27063
Ar+BaCl(C^{II}), collisional quenching, laser induced fluoresc. decay meas. 9-27075
Ar+CO, intermol. pot. energy surfaces from electron gas model, ang., distance, and vibr. depend. 9-3520
Ar+CO spin transfer reaction, CO triplet state form. (*French*) 9-34289
Ar+CO₂(N₂), repulsive pot. energy surface, approx. calc. and differential scatt. expt., comparison 9-22788
Ar+Cl⁻(Br⁻), total electron detachment cross sections, near threshold energies 9-3555
Ar+Cl⁺(I⁺), 20 MeV, electron loss cross sections, pot. model data anal. 9-27082
Ar+D⁺(O⁺)(Si⁺)(C⁺), electron capture to continuum states, forward ejected electron spectra 9-45831
Ar+H₂O+SO₂, condensation nuclei form., ion polarity and age depend. 9-39220
Ar+H⁺, charge transfer to H(n=2), mixed parity elec.-dipole oscillations 9-31678
Ar+H⁺, K-electron capture, cross section scaling, high energy 9-41236
Ar+HCl, rot. excitation, quasiclassical close coupling approx. 9-27068
Ar+HCl, spectral line shift of vibr.-rot. lines, press. shift 9-18237
Ar+HCl(O₂), shock-heated, collision induced dissociation 9-34290
Ar+HF, rot. relax. of high rot. levels at 1 torr press. 9-10181
Ar+H(H⁺), 0.5 MeV H(H⁺) ionisation comparison 9-41230
Ar+He, ²S and ³S assoc. and Penning ionisation cross sections vel. depend. 9-3551
Ar+He, Penning ionis. of Ar, He in (²S) state 9-41228
Ar+Hg, spectral line broadening of Hg in UV, interaction pot. 9-26937
Ar+LiH, rot. transition cross-section, 0.8 eV 9-36742
Ar+methane compressed-liquid dielectric const., derived excess vol. 9-11377
Ar+N₂, bimol. and three body quenching, reson. state ¹P₁, ³P₁ and excimer Ar atoms 9-3540
Ar+N₂, cross sectional factorization expressions, close coupling input tested in sudden approximation 9-43571
Ar+N₂, N₂ molecule, formation of C³Π_u and B³Π_g in early afterglow 9-34305
Ar+N₂, rot. inelastic collision cross section, centrifugally decoupled exponential distorted wave approx. 9-842
Ar+N⁺, charge exchange, 1-3 keV, N⁺(³P) and (¹D) states 9-36760
Ar+N²⁺, electron capture, product ion energy loss spectra 9-36762
Ar+Na, Na two-photon transition broadened by Ar impact 9-22681
Ar+Na, scatt. cross-section, thermal energy, interaction pot. for Na(³2P) 9-27060
Ar+Na₂, collision induced dissociation rate, vibr. distrib. depend. 9-22791
Ar+Ne, fluoresc. spectra, mol. bands, 0.1 to 6 atm., 3000-8200 Å 9-3394
Ar+Ne⁺, (n=1, 2, 3, 4), energy spectra of electrons produced 9-45822
Ar+OCS, rot. lines, collisional broadening 9-18267
Ar+one-electron ion, sum-rule Born cross sections, excitation and ionis. contribs. 9-22812
Ar+SF₆, mol. vibrational-translational energy transfer, mass spectrometric meas. 9-36739
Ar+S(Cl), branching ratio dependence on projectile velocity and nuclear charge 9-31475
Ar+Xe²⁺, charge transfer from ground and metastable states 9-31677
Ar+(Ar)(He), 100-550 keV, 3s vacancy production 9-13809
Ar⁺+H₂, a²_g-b²_g continuum emission excitation 9-41200
Ar⁺+H₂O, reaction rate consts., product distrib., ICR obs. 9-8428
Ar⁺+O₂(N₂)(NO)(CO₂), reaction kinetics, mass spectrometer with selective introduction drift tube (*French*) 9-11839
Ar²⁺+Ar, radiative charge transfer coeffs. 9-7010
Ar²⁺+Sn(Sb)(Xe), vacancy sharing between K and L shells in 3d₅ mol. orbital 9-22807
Ar²⁺+inert gas atom (z=1-8), radiative and non-radiative deexcitation after electron capture 9-7008
Ar₂, emission spectra, VUV region 9-31543
Ar₂, short range interactions between two rare gas atoms 9-26888
Ar₂⁺, dimer ions, electronic struct., chem. binding 9-13176
Ar₂⁺, electronic struct., pot. energy curves, spectroscopic consts. 9-18114
Ar₂⁺, mobility and clustering reaction in Ar 9-10628
Ar(³P₂)+N₂(C³Π_u) excitation transfer cross section, radiative lifetimes, in N₂ laser transitions 9-27246
Ar(³P₂)+F-containing molts., rate consts. for ArF⁺ formation 9-24731
⁴⁰Ar concentrations in silicic crust and atmosphere, rel. to form. from upper mantle 9-44153
⁴⁰Ar/³⁶Ar trapped in Cretaceous deep-sea basalts 9-16423
⁴⁰Ar/³⁹Ar systematics, temp. and pressure effects 9-44178
Ar₂⁺ excimer, electron-beam excited, time-resolved fluoresc. spectra 9-813
Ar*(³P)+Co₂(X'¹Σ_g⁺), T-R and T-V energy transfer, collisional energy depend. 9-18262

argon continued

- Ar⁺(3p⁴p₁) + Ar(¹S₀), collisional population transfer rate coeffs., 300K 9-10177
Ar(3p⁵, 4p) and (3p⁵, 4p²) states, radiative lifetimes, two-body deactivation rate consts. 9-10068
Br + Br + Ar, photoinduced recombination, numerical simulation 9-16018
CO₂ + He(Ar), rot. relax. rates and cross sections 9-848
CS₂-Ar gas binary diffusion coeff. obs. (*Japanese*) 9-10627
⁴⁰Ca(n,α)³⁷Ar, system for meas. total body Ca in man 9-25083
Cr-SiO, Ar⁺, implantation effects on elec. props. of film 9-11239
Cs + Ar, optical pumping, spectral line shape (*Spanish*) 9-22662
CsI-Hg-Ar discharge, high-pres., temp. and plasma comp. determ. 9-10709
D-Ar mixture, effect of Ar admixture on plasma temp. 9-37446
D₂O + Ar, energy transfer isotope effect, rate consts. 9-8422
F₂-Ar mixtures, electron attachment rate to F₂, elec. cond. meas. 9-7019
H + inert gas atom, interaction pot. from electron gas model 9-31637
H⁺ + He(Ar), charge exchange, differential cross sections 9-7006
H₂-Ar, liq.-vapor equil. 83 to 141K, to 52 MPa 9-42226
HCN compact CW laser, output increased by He, Ar, air and O₂ buffer gases 9-10293
HCl, Ar-perturbed rot. linewidths, temp. depend. 9-45766
HCl-Kr(Ar), pot. energy surface determ. from rot. line broadening data 9-13784
He-Ar, van der Waals pot. determ. 9-10167
He-Ar high voltage hollow cathode discharge, new Kr II CW laser lines new Ar II CW laser lines 9-13947
He-Ar mixture, mass separation with rot. plasma 9-13842
He-Ar mixtures, US vel. meas., phase separation 9-27738
He + Ar, van der Waals pot., from crossed at.-mol. thermal beams scat. 9-27053
He + Ar + polyatomic fluorides, VUV spark emission spectra 9-3457
³He-Ar, direct nuclear pumped lasers using ³He(n,p)³H reaction 9-31863
He⁺+Ar(Kr)(Xe), elastic scat., repulsive rainbows and optical pots. 9-840
He*(1s2s,³S) + Ar, Penning ionis., discrete-continuum states coupling 9-10193
NH₃-N₂(H₂)(Ne)(Ar)(Kr)(Xe), as R(1,1) vibr-rot. line parameters, ν₂ band, using CO₂ laser light 9-3444
NH₃+NH₃(He)(Ar)(N₂)(O₂), ν₂ state vibr. relax., laser induced vibr. fluoresc. obs. 9-18269
Ne-Ar, electronic relax. cascades in Wannier and Frenkel type exciton states 9-33759
Ne-Ar, luminesc. in vacuum UV 9-15519
O₂-H₂-Ar flame, atm. press., Na(³P) lifetime obs. 9-39149
Rb⁺, ionic mobility in Ar, Kr and Xe, interaction pot. determ. 9-18991
Si-Ar, ion implantation, high fluence retention 9-23627
Si-Ar, ion implantation damage, annealing, comparison with Si:Ne and Si:Kr 9-10867
Si-Ar, ion implanted, amorphous, epitaxial regrowth 9-10868
n-Si-Ar, single cryst., ion implantation, positron annihilation meas. 9-15555
Sr-Ar, press. effect on Sr 4607 Å reson. line shape width, and shift 9-22653
Sr(³S) + Ar, Sr(¹P) collisional excitation in nonreson. laser field, four-state model 9-10191
Ti-Ar, Ti line shape in Ar gas, collisional redistrib. of near-reson. rad. 9-31469
UF₆ admixture effect on N₂ and Ar excited state lifetimes 9-10281
Xe + Ar(He)(Ne)(Kr), thermal cond., 800 to 2000K from Wassiljewa's expression 9-27736

argon compounds

- ArBr, B(1/2)-A(1/2) system, emission spectra 9-6934
ArC⁺, pot. energy curves calcs. 9-45651
ArF, discharge laser, operating characs. 9-22937
ArF, UV preionised transverse discharge laser, theoretical model 9-22938
ArF⁺, selected valence-electron split-shell MO calc., ground state props. 9-22585
ArF₂, ab initio diatomics in mols. pot. surface, spin-orbit coupling 9-3519
Ar₂F excimer laser, electronic structure, pot. energy curves, radiative transition probabilities, quantum mech. calcs. 9-10284
ArF*, Ar₂F*, kinetics of proton-excited Ar-F₂ mixtures, time-resolved and time-integrated spectra 9-36883
ArF* formation from Ar(³P_{2,0}) reactions from F-containing mols. 9-24731
ArF* laser, electron beam pumped, dominant formation and quenching processes 9-938
Ar₂H(H⁺), excited and ground state struct. energies and binding energy, vibr. modes, LCAO-SCF-MO calc. 9-3608
ArO, in doped inert gas matrix, photoluminesc. 9-31579

arithmetic (digital) see digital arithmetic

armouring (cables) see cable sheathing

aromatic compounds see organic compounds

arrays (antenna) see antenna arrays

arsenic

see also nuclei with

- Aegean Sea, Cu, As and Hg conc. determ. 9-2292
amorphous, electronic struct. of even-ring network model 9-23884
amorphous, low temp. thermal cond. and sp. ht. 9-28161
amorphous, struct. models 9-37628
amorphous, thermally generated paramagnetism 9-19720
amorphous solid dielectric loss meas. by submillimetric waveguide laser 9-33603
atmosphere quantitative analysis of aerosols 9-12179
atom, rel. oscill. strengths, 193.8 and 197.3 nm lines 9-791
diffusion in p-Si monocryst., Henry const., temp. depend., 1448 to 1523K 9-42399
doping of amorphous tetrahedrally bonded semicond., mechanism, gap density of states 9-19545
oxide:As films, thermal stress effects on roughening 9-23813
phonon dispersion curves, of α-phase, neutron scat. study 9-42178
rhombohedral crystals, slip dislocations and slip systems 9-23617
rhombohedral nucl. quadrupole spin-lattice relax. 9-15373
thermopower and thermal cond. from 8K down to 0.3K 9-19610
As₂O₆, high temp. Raman band contours, vibr. anal. 9-10116
³³As, L-shell X-ray prod. by H(He) ion bombardment 9-47548
⁷⁵As, slowing down of atoms/ions with KE ≤ 5 eV by inert gases 9-31650
Ge:As, interaction of muonium with atoms 9-11373

arsenic continued

- Ge_{1-x}Si_x:Ga,As, interimpurity radiative recombination, composition depend. 9-11465
He-As CW laser, excitation mechanism 9-3685
Ni-Si:As, implanted dopant redistrib. after silicide form., appl. to ohmic contacts 9-37729
PbTe:As, ion implanted, magneto-optical expts. (*German*) 9-28848
Pd-Si:As, implanted dopant redistrib. after silicide form., appl. to ohmic contacts 9-37729
Pt-Si:As, implanted dopant redistrib. after silicide form., appl. to ohmic contacts 9-37729
Se:As, amorphous, pure and doped, photoelectronic preps. in glass transition region 9-4583
Si:As, amorphous, appl. of EXAFS methods for struct. determ. 9-37624
Si:As, amorphous, field effect and thermoelectric power 9-33289
Si:As, bound excitons and bound multiexciton complexes for shallow donors, luminesc. meas. 9-24363
Si:As, implanted As redistrib. during annealing in oxidising ambient, carrier distrib. meas. 9-19275
Si:As, ion implanted, anomalous diffusion of As 9-14842
Si:As, ion implanted, redistrib. of dopants by pulsed laser annealing 9-7620
Si:As, ion-implanted, dislocation loops and etch pits, X-ray diffr. and TEM obs. 9-42068
Si:As, ion-implanted, thermally assisted Xe-flash annealing, Rutherford backscatt. meas. 9-10881
Si:As, laser annealing, channelling, optical obs., and resist. meas. 9-1444
Si:As, oxidation-enhanced diffusion of impurities 9-46840
Si:As, SIMS, energy distrib. of sputtered ions 9-38706
Si:As wafers, laser annealing, Rutherford backscatt., optical, and TEM obs. 9-1445
ZnSe:As, defect struct., Hall effect and Zn self-diffusion meas. 9-1427

arsenic alloys

see also arsenic compounds

- Cr:As, anisotropy of compressibility 9-7648

arsenic compounds

see also arsenic alloys

- inorganic As in freshwater environment, stability and solubility theoretical aspects 9-16553
bis-catenary-poly(methylarsenic), one-dimensional homonuclear molecular systems, nature of energy gap 9-11063
trans-polyacetylene, and AsF₅ doped, EPR 9-42835
salt toxic effect on activated sludge micro-organisms (*Chinese*) 9-24919
Ag-As-Se system glasses, soln. rate 9-43456
Ag-As-Te system, vitrification region, physicochem. props. 9-41960
Al-As₂Se₃-Al, photographic process based on electrochem. reactions (*Russian*) 9-6213
As-S, glassy film optical props., photostimulated effects and hologram recording 9-27215
As-S chalcogenide glassy semiconductors, induced anisotropy 9-32013
As-S film, amorphous, photo-induced dynamical changes in refr. index 9-28705
As-S glasses, spectral variation of SKβ emission with S content 9-8209
As-S-I system glasses, IR transmission spectra, structure-chem. comp. 9-42974
As-S-Te, vitreous semiconductor, photoconductivity (*Russian*) 9-11172
As-S-Te, vitrification, density and elec. cond. measurements 9-7645
As-Se, glassy, surface phenomena, gas adsorption effects on elec. props. 9-42621
As-Se amorphous film, optical props. change under high-power light pulse action 9-47534
As-Se and As-Se-Te glasses, effect of Ag electrodiffusion on volt-ampere characteristics 9-7869
As-Se films, chalcogenide vitreous semiconductors, reversible photoinduced changes in optical, physicochem. and contact props. 9-24378
As-Se-S-Ge chalcogenide glass films, appls. to passive optical waveguide components 9-37048
As-Te system glasses, DC and AC cond., thermo-EMF, 140 to 350K 9-42549
As-Te-Cu system glasses, elec. cond. and thermo-EMF 9-42540
AsCl₃, low temp. struct. study (*French*) 9-32968
AsF, molecular constants determ. from b¹Σ⁺-X²Σ⁺ transition, nonlinear least squares procedure 9-798
AsF₃ doped polyacetylene, cond. and Hall effect 9-28353
AsF₃ intercalated in graphite, first stage, to synthesis of first stage graphite salt C₈AsF₆ 9-24738
AsF₃-intercalated graphite, mag. spin susceptibility, density of states at Fermi energy 9-7966
As₂Ge₁₀Te₉₀ glass, cond. and dielec. const. from 77 to 383K and from DC freq. to 3 MHz 9-23964
AsH₃, monitoring using Fourier IR technique 9-16106
AsO₄³⁻, in mixed crystals, EPR central peak dynamics 9-33523
As₂O₃, amorphous, network dynamics, vibr. band splittings 9-42199
As₂S₃, amorphous, AC cond. magnitude and variation (*French*) 9-47095
As₂S₃, amorphous, acousto-induced struct. change, Brillouin scat. meas. 9-27928
As₂S₃, amorphous, optical detection of ESR 9-38408
As₂S₃, amorphous, time-resolved photolum., spectrosc. 9-24360
As₂S₃, amorphous, US attenuation obs. 9-46756
As₂S₃, amorphous, ultrasonic velocity, 1.5 to 296K 9-37764
As₂S₃, amorphous, XPS, electronic struct. calcs. using scattered wave method 9-11502
As₂S₃ amorphous films, meas. of photoinduced transformations by optical waveguiding 9-43050
As₂S₃, antireflection coating for KCl, design, prep. and performance 9-14063
As₂S₃ coating defects and impurities affecting damage threshold and absorbance 9-14065
As₂S₃ containing coatings, 10.6 μ laser damage obs. 9-14021
As₂S₃, cryst. and glassy, two-photon spectrum at room temp. 9-24334
As₂S₃ crystal, polarisation anal. of Raman spectrum 9-47461
As₂S₃, D-centres, microscopic model (*Russian*) 9-46654
As₂S₃, determination of stoichiometric discontinuity, using US velocity 9-5242
As₂S₃ film, strain induced anisotropy, ellipsometer and reflector meas. 9-33856
As₂S₃ film on KCl, strain-induced refractivity anisotropy, 10.6 μ ellipsometric obs. 9-14064
As₂S₃ film optical constants, wedged-film meas. 9-14066
As₂S₃ focusing diffraction grating with const. spacing 9-23096

arsenic compounds continued

- As₂S₃, network dynamics, vibr. band splittings 9-42199
 a-As₂S₃, photodesactivation, direct positive imaging 9-17544
 As₂S₃ polyethersulphone sandwich ribbon fibre for coupling high refractive index integrated optics 9-32089
 As₂S₃, rain erosion mechanisms 9-34154
 As₂S₃ thin films for integrated optics, photodetector elements, relief-diffraction gratings 9-32094
 As₂S₃-Ag, light sensitivity for high exposure densities (*Russian*) 9-6212
 As₂S₃-PbS glasses, structural props. 9-27925
 As₂S₃-Si isotype amorphous-crystalline heterojunctions, electrophys. props. 9-24063
 As₂S₃, electronic struct. and vertical electron affinities, INDO-type ASMO SCF calcs. 9-31402
 As₂S₃, vibrational spectra, effect of temp. and press. on phonons 9-37776
 As₂S₃, electronic struct. and vertical electron affinities, INDO-type ASMO SCF calcs. 9-31402
 (As₂S₃)_{1-x}(PbS)_x, high field effects 9-42553
 (As₂S₃)_{0.55}(Sb₂S₃)_{0.45} vitreous film, dispersive charge transport, time-of-flight meas. 9-19594
 As₂S₃Se_{0.34}, X-ray photoelectron spectra, electron binding energy, effect of Ag alloying 9-11499
 As₂S₃(Se₃), amorphous, network dynamics, vibr. band splittings 9-42199
 As₂S₃(Se₃), dispersion curve calc. 9-7659
 As₂S₃(Se₃) evaporated films, optical absorpt. and thermally induced effects 9-42989
 As₂S₃(Se₃) evaporated films, struct. and thermally induced effects 9-41963
 As₂Se₃, amorphous, AC cond. magnitude and variation (*French*) 9-47095
 As₂Se₃, amorphous, electron and hole transport, charge defect model 9-15162
 As₂Se₃, amorphous, laser radiation induced struct. changes, electron microdiff. obs. 9-10874
 As₂Se₃, amorphous, ultrasonic velocity, 1.5 to 296K 9-37764
 As₂Se₃, and As_{1-x}Se_x, amorphous, struct. models 9-37628
 As₂Se₃ coating defects and impurities affecting damage threshold and absorptance 9-14065
 As₂Se₃ containing coatings, 10.6 μ laser damage obs. 9-14021
 As₂Se₃, D-centres, microscopic model (*Russian*) 9-46654
 As₂Se₃ film, strain induced anisotropy, ellipsometer and reflector meas. 9-33856
 As₂Se₃ film on KCl, strain-induced refractivity anisotropy, 10.6 μ ellipsometric obs. 9-14064
 As₂Se₃, liquid, struct., investigation using neutron diff. meas. 9-23514
 As₂Se₃-Ag, amorphous, doping effect of gap states and elec. cond., dielec. relax. and DC cond. meas. 9-47098
 As₂Se₃-Ti, hole transport, photoluminesc. and photoinduced ESR 9-8183
 As₂Se₃-GeSe_x-SnSe_x (x=1,2), exam. of Sn valency and physical props. 9-4753
 As₂Se₃, electronic struct. and vertical electron affinities, INDO-type ASMO SCF calcs. 9-31402
 As₂Se₃, electronic struct. and vertical electron affinities, INDO-type ASMO SCF calcs. 9-31402
 As₂Te₃, chalcogenide glass film, charge screening length 9-23974
 As₂Te₃, D-centres, microscopic model (*Russian*) 9-46654
 (As₂Te₃)_{1-x}Ge_x, amorphous, AC cond. magnitude and variation (*French*) 9-47095
 AsTeS₃(Se_x)(Sb_x)(Bi_x), chalcogenide glass, thin film crystallisation 9-7758
 As₃₀Te₄₈Si₁₂Ge₁₀, chalcogenide glass film, charge screening length 9-23974
 Ge-As-Se films, light irradiat., heat treatment rel. to optical props. (*Russian*) 9-4858
 Ge-As-Te glass, between metal electrodes, contact props. determ. 9-7908
 Ge-Te-As glass, local struct., ¹¹⁹Sn Mossbauer obs. 9-41968
 Ge₃₀As₁₇Te₃₀Se₂₃, antireflection coating for KCl, design, prep. and performance 9-14063
 (MnTe)_{1-x}(As₂Te₃), solid solns., thermoelec. props. 9-42567
 Se-As₂Se₃ film, evaporated, thickness, substrate temp. effects 9-15610
 Se-As₂Se₃ system glasses, vibr. spectra and partial vols. of components 9-42973
 Se-Ge-As, chalcogenide glass, self-diffusion, investigation using radioactive tracers 9-23770
 Si₁₂Ge₁₀As₃₀Te₄₈ chalcogenide glass, switching in thin layers with semiconductor electrodes 9-4586
 Si₁₂Te₄₈As₃₀Ge₁₀-Au, Schottky barrier props. 9-7897
 Te₃₀As₁₆Si₁₇Ge₇P₁ amorphous film, electroluminescence from on state 9-8188
 Tl₃AsSe noncollinear acousto-optic tunable filter, operation at 10 μm 9-41434

art

- Ambrosian picture gallery, Milan, Settala astrolabe collection (*Italian*) 9-35132
 colour, primaries as used in physics and art, for teaching 9-35464

articulation (speech) see speech**artificial hearts see artificial organs****artificial kidneys see artificial organs****artificial limbs**

- above-knee prosthesis, polycentric knee-ankle mechanism 9-48379
 arms, muscle- and externally-powered, comparative frequency of use (*German*) 9-12030
 electrocutaneous tracking, evaluation of sensory feedback codes 9-25004
 femoral stress and strain calc., finite element method (*German*) 9-2089
 hand, myoelectrically controlled, with sense of touch 9-12035
 hand, myoelectrically operated with dynamic control, practical trial (*German*) 9-12029
 hand, myoelectrically operated with dynamic control (*German*) 9-8571
 knee, mobility, stability and stress 9-12032
 knee simulator requirements and prototype trials (*German*) 9-8578
 optoelectronic two-component spirit-level for whole-arm prostheses (*German*) 9-8572
 upper extremity prosthesis online control based on EMG signal identification using microprocessor hardware 9-2166

artificial organs

see also prosthetics

- bioengineering, international conf., Cape Town, S.Africa (April 1977) 9-20695
 blood damage by artificial part-hearts and pumps, dwell minimisation model (*German*) 9-16345
 blood intermittent pump with linear motor drive (*German*) 9-5401

artificial organs continued

- blood membrane oxygenator effectiveness 9-48365
 blood oxygenator, membrane flat-plate type, CO₂ transfer 9-25154
 blood purification methods and portable kidney machines (*German*) 9-5405
 dialyser, development of a portable system 9-44055
 dialysis at home, tap-water purification (*German*) 9-2160
 dialysis systems, recirculating, assessment of mathematical theory and appl. (*German*) 9-39601
 ear, IEC, proposal for audiometric zero 9-12039
 exchange unit, effect of flow channel thickness on surface-induced blood damage 9-39439
 haemodialyser, Casson fluids flow in non-circular ducts 9-20563
 haemofiltration control system (*German*) 9-5403
 haemofiltration experiments and application limits (*German*) 9-5402
 haemofiltration treatment, chronically intermittent, principles and results (*German*) 9-5404
 haemoperfusion, large agarose beads, prep., props. and appls. 9-16349
 heart, bench test technique 9-48366
 heart, simulation of fluid dynamics (*Japanese*) 9-43954
 heart and assisted circulation apparatus, hydrodynamic test bench rigs 9-48372
 heart designs compared 9-48367
 heart experiments with animals, data acquisition and monitoring system (*German*) 9-8582
 heart operation and monitoring system (*German*) 9-8583
 heart-lung machine two-circuit thermocontrol device 9-48374
 insulin/glucose transfer regulation for diabetics, user programmable system (*French*) 9-39614
 kidney, blood filtration efficiency of Nuclepore Membrane Filter obs., in dog, with pore-size 0.6 μ 9-44051
 kidney construction for solution mixing, heating and degassing (*German*) 9-2161
 kidney dialysis exchange model reliability tests (*German*) 9-2165
 liver, blood filtration efficiency of Nuclepore Membrane Filter obs., in dog, with pore-size 0.6 μ 9-44051
 liver support, detoxifying enzymes bound to artificial carriers, extracorporeal application 9-25160
 liver support, protein-bound metabolite adsorbent equilibrium props. 9-20709
 liver support, protein-bound substance removal kinetics 9-20710
 lung tissue simulation, O₂ exchange in silicon rubber capillaries 9-44060
 membrane oxygenator using dimethylpolysiloxane rubber reinforced film 9-48373
 neonatal pulmonary assist membrane oxygenator 9-25159
 oxygenator, bubble, blood damage test standardisation (*German*) 9-2158
 oxygenator, capillary membrane, semiautomatic fabrication 9-20711
 oxygenator, membrane envelope type, capacity improvement (*German*) 9-2157
 oxygenator gas transfer performance test standardisation (*German*) 9-2159
 pancreas programmed control technology (*German*) 9-16346
 polyurethane artificial ventricle construction with seamless interior (*German*) 9-8581
 quality health care and cost containment, conf., Washington, USA (Mar.-Apr. 1978) 9-39333
 silicone rubber biomaterial, filler free, radiation chemical and physical evaluation 9-39608

artificial satellites

- AE-C, low-energy electrons obs. in S polar cusp during 1977, September 21 geomag. storm 9-35076
 altimetry, algorithm for subsatellite point position vector length determ. 9-29869
 altitude control by two-stage force gyroscopes (*Russian*) 9-30458
 Anik 1 data collection development program, environmental data 9-39867
 Applications Explorers, Heat Capacity Mapping Mission 9-5640
 Astronomical Netherlands Satellite, orbit prediction 9-21139
 ATS-6, substorm-assoc. energetic ions injections obs. in and near synchronous altitude 9-35075
 ATS-6 satellite radio beacon, meas. at Ootacamund, India rel. to electron density 9-48611
 AUREOLE 2 satellite, numerical study of the RF mass spectrom. 9-2470
 cable-connected satellites in Earth orbit, mag. force effect on motion 9-44347
 charging at geosynchronous orbit during eclipse 9-16792
 charging phenomena, positive ion beam system development for charge ejection 9-12379
 climatological satellite, SEOS, design 9-29965
 COS-B, ESA extraterrestrial gamma radiation obs. project (*German*) 9-21151
 differential photoelectric charging of nonconducting surfaces in space 9-25439
 disc in rarefied plasma flow, external mag. field effect on wake electrostatic field struct. 9-10648
 DMSP-F2, cusplike electron precip. regions obs. during 1977, September 19 to 21 event 9-35056
 Earth's resources and environment obs., satellite meas. capabilities 9-5654
 Earth artificial satellites motion, relativistic effects 9-2465
 Earth observation from space, review 9-34983
 Earth satellite, near-circ. orbit dispersion 9-44349
 Earth survey, orbit determination 9-25442
 energy conversion, Conf., San Diego, CA, USA (Aug 1978) 9-48038
 environmental data collection with Geostationary Operational Environmental Satellite 9-29977
 ETS-II, radiowave propag. expt. facility (*Japanese*) 9-2471
 European Space Agency satellite, programmes and projects 9-12377
 EXOS-B, magnetospheric research satellite, instrumentation 9-48649
 flexible damped satellites, Liapunov stability anal., comparative study 9-37148
 geodesy, accuracy of satellite-derived geopotential models 9-25183
 geodesy, Great Britain triangulation geocentric positioning via satellite Doppler techniques 9-29695
 geodetic satellites, ocean tides mapping computer simulation 9-39880
 geodetic satellites, trends and prospects for crustal movement meas. 9-29738
 geodetic satellites, twin probes method 9-25443

artificial satellites continued

- Geos 3, radar altimeter data rel. to large-scale Gulf Stream frontal study 9-5488
 GEOS-1, keV plasma expt. early results 9-35068
 GEOS-1, magnetosphere electron density and temp. meas. by mutual impedance expt. 9-35071
 GEOS-1, magnetosphere plasma density and temp. multi-expt. determ. 9-35074
 GEOS-1, magnetosphere plasma resons. on-line tracking for electron density small-scale struct. 9-35073
 GEOS-1, magnetosphere thermal/suprathermal plasmas obs. by S-302 expt. 9-35070
 GEOS-1, mass spectrometer obs. of magnetospheric ion comp. dynamics 9-35069
 GEOS-1, obs. of substorm-assoc. particle flux vars. (L=6 to 8) 9-35067
 GEOS-1, relaxation sounder meas. of magnetosphere plasma density 9-35072
 GEOS-1, substorm-assoc. energetic ions injections obs. in and near synchronous altitude 9-35075
 GEOS-1 and magnetosphere physics advances (conference, Innsbruck, Austria, 1978) 9-35066
 GEOS-1 mission, review 9-29971
 GEOS-1 wave experiment 9-25444
 geostationary, libration points rel. to position of Earth's mass centre 9-21156
 geostationary satellite signals, mid-latit. ionospheric scintillation at 137 MHz 9-25388
 Geosynchronous Earth Orbiters operational meteorological satellite for regional remote imaging 9-5727
 HEAO 2 satellite (Einstein Observatory), successful launch 9-44333
 HEAO mission 9-5730
 HEAO-A 9-25445
 HEAO-B X-ray Observatory 9-25446
 High Energy Astronomy Observatory (HEAO) programme 9-44368
 Hills method appl. to orbit construction (Russian) 9-40067
 Intelsat V, solar array design and development 9-48135
 Intercoms-10, Langmuir probe expts. results (German) 9-2469
 International Ultraviolet Explorer (IUE), new era in UV astronomy 9-48671
 ionosphere sounding, satellite gyroharmonic reson. obs. interpretation 9-48614
 Ionosphere Sounding Satellite, data analysis of topside sounding mission (Japanese) 9-16750
 Ionosphere Sounding Satellite, operation planning and data analysis ground support system (Japanese) 9-16799
 IR sky simulation 9-29975
 ISEE-1 and -2, results of meas. on magnetosphere 9-29935
 Kosmos 782 biosatellite, HZE particle radiation studies 9-16778
 KYOKKO (EXOS-A), ionospheric and auroral research satellite, instrumentation 9-48648
 LANDSAT and SEASAT oceanographic data acquisition 9-12309
 Landsat imagery, use in land system classification of Jordan 9-2388
 LANDSAT imagery and synthetic aperture radar combination 9-5650
 Landsat MSS points location on maps, methods and accuracy 9-2389
 Landsat multispectral scanner for mapping and land-use classification 9-35017
 Landsat satellite programme for remote sensing of the Earth (French) 9-40058
 laser tracking data, ray tracing evaluation of refraction errors 9-8588
 Low Earth Orbiters operational meteorological satellite for global remote imaging 9-5727
 low-altitude, appl. of altitude control techniques 9-25441
 low-eccentricity Earth satellite at critical inclination, orbital motion 9-12388
 luni-solar perturbations in extended phase space representation of Vinti problem 9-35101
 magnetic damper, asymptotic theory (Russian) 9-30496
 meteorological satellites, operation and apps. 9-29967
 meteorological satellites development, new trends 9-29964
 Meteosat, weather and communications satellite 9-16790
 Meteosat system, organizational aspects (French) 9-29969
 Meteosat water vapour channel, near insight into troposphere 9-25292
 Molniya 1, radiation doses meas. in magnetosphere 9-8774
 motion around a source whose luminosity changes 9-12394
 NASA astrophysics activity 9-5729
 navigation and position location, conf., San Diego, CA, USA, Nov. (1978) 9-25374
 Navigation Technology Satellite-2, Ni-H₂ battery appl., first-year operating experiences 9-48107
 Navy navigation satellite system TRANSIT, on-board computer 9-29978
 near-circular Earth satellite orbits, element perturbation 9-21165
 near-Earth satellite laser ranging for geocentric gravitational constant determ. 9-34724
 NIMBUS-7, global atmosphere pollution monitor 9-21149
 Nimbus-7 satellite remote sensing equipment 9-25437
 NOAA 5, atmospheric picture anal. 9-8713
 NTS-2, solar cells radiation damage obs., GaAs and Si 9-48134
 ocean-related imagery, apps. programme 9-5681
 operational environmental satellite system, next phase planning, USA 9-5728
 optimum launching trajectory of an Earth satellite (Chinese) 9-40056
 orbit determination accuracies, satellite to satellite tracking 9-25451
 orbit stability in restricted three-body problem 9-21162
 orbital perturbations due to Earth radiation, new albedo model 9-21020
 orbital theory, apps. of Pfafl's equations of motion 9-12386
 orbits, resonance effects of geopotential, simple layer model 9-16364
 orbitation determ. of unstabilized weakly perturbed satellite 9-8809
 periaipsis passage for bitangential turn of path by given angle, anal. 9-34340
 periodic oscillations in plane of elliptical orbit 9-8810
 planetary zero angle approx. of orientation (Russian) 9-12381
 Polar Orbiting Lunar Observatory (POLO), appl. to lunar volatile emissions detect. 9-44385
 radionavigation onboard orbit determ., algorithm 9-25450
 resonance due to solar radiation pressure 9-25456
 Salyut-6, photographic investigation of ionospheric D- and F-regions (French) 9-40059
 satellite, geodesy, appl. to GRIM 2 gravit. pot. model determ. and evaluation (French) 9-8587
 Seasat-A, ocean waves detect. and direction meas. via microwave radars 9-5685

artificial satellites continued

- SEASAT-A, remote sensing, synthetic aperture radar appl., technology trends 9-5655
 SEASAT-A, satellite scatterometer data regional integration, validation and appl. 9-5680
 simulation of the infrared astronomical satellite (IRAS) telescope system 9-29976
 Skyнет, system-generated EM pulse response, spontaneous discharges, electron charging effect 9-25432
 Skyнет, system-generated EM pulse testing with exploding-wire photon 9-25433
 solar battery panel mounting, optimal ang. determ. 9-39291
 solar power, Europe base-load electricity supply appl. 9-39288
 solar power, thermal analysis 9-48094
 solar power satellite, technical considerations 9-34425
 solar power satellites, output power variations, evaluation 9-29455
 solar power satellites using microwave link, developments 9-24891
 solar power station, review 9-8984
 space shuttle, space telescope planned astronomical studies 9-21183
 space solar electric power plants 9-39281
 Spacelab, high rate data handling in space and on ground, multiplexing system 9-21138
 stabiliser system with 2-stage suspension, dynamics (Russian) 9-32222
 stability, aerodynamic effects (French) 9-21159
 stability limits for satellite motion 9-21163
 TAIYO (Japanese) 9-25431
 telecommunication, solar cell arrays appl., rigid, fold-out array prototype development 9-48137
 Tiros-N, meteorological monitoring satellite 9-29973
 tracking, data relay satellite system, NASA, exp. data transmission appl. 9-21131
 trajectories, appl. to oceanic tide semidiurnal wave and Moon secular accel. calc. (French) 9-8634
 UK-6 satellite, computer command system 9-25440
 US Navy navigation satellites, mean elements for 1974-6 period 9-48642
 VLB1 using geostationary satellite link 9-29968
 X-ray astronomy satellites and missions 9-8793
 X-ray satellite availability for obs. of burst sources 9-40297
- asbestos**
 fibres, particulate analysis, aspects of specimen prep. and a limitations of precision by SEM and TEM 9-17574
 polyorganosiloxane-asbestos composites, high-temp. transitions 9-38802
- asdic** *see sonar*
- aspherical lenses**
see also aberrations
 bi-aspherical objective lens for Philips video long play system 9-46026
 Bragg diffraction imaging, aspect ratio restoration by holographic lenses 9-46122
 computationally directed axisymmetric aspheric figuring 9-23105
 continuous zoom forward-looking IR optical system design and implementation 9-23046
 diamond turning at large optical manufacturer, aspheric surface generation 9-23101
 diamond turning of optics, past, present and future 9-23100
 forward-looking IR system improvement by aspheric elements 9-23048
 forward-looking IR type optical system design programs 9-23047
 geodesic lenses for integrated optical circuits, signal spectral analysis appl. 9-27437
 high aperture lens, for laser plasma compression expt. 9-14076
 one-dimensional Fourier hologram line data recording scheme (Russian) 9-22912
 plastic optics, components 9-32010
 polishing of aspherical surfaces with ring polisher 9-41465
 scanning gauge for surface form meas., spherical and aspherical 9-32100
 SHIVA laser optical component manufacture and testing 9-22980
 surface testing, interferometer optical system modification 9-7236
- association**
see also association of liquids; associative ionisation
 anthracene and dianthracene, phase equilib. in photocondensation (Russian) 9-7561
 biopolymers, assoc.-dissoc. phenomena, review 9-11884
 carboxylic acid dimer, Fermi reson. 9-31501
 dimethyl ether, HCl, gas-phase Raman spectra, profile of stretching vibr. 9-45728
 disperse systems, powdered Pt electrode 9-11830
 formic acid, dimerisation energy, ab initio calcs., distortion energy effects 9-10022
 gas phase self-association theory 9-29347
 graphite intercalation by HNO₃, chemistry 9-43564
 graphite-TiCl₃ intercalation (German) 9-43562
 inert gas dimers, Gordon-Kim intermol. force model 9-45781
 ion (H₂O)_n+H₂O=ion(H₂O)_{n+1}, standard free energies of reaction 9-34348
 nylon 6, influence of monomer and water diluents on mech. relax. 9-4993
 polyimide, influence of monomer and water diluents on mech. relax. 9-4993
 propionic acid, homogeneous nucleation in associated vapour 9-10933
 rare earth niobates, pyrochlore structure, synthesis and props., 9-11533
 recombination, in steady supersonic flow, in devices for laser isotope separation 9-31717
 rhodamine 6G, aggregation, modulation Stark spectrosc. obs. 9-27030
 sulphonyl compounds, H-bonding by methyl groups, Raman spectra obs. 9-24320
 Ar₂⁺, mobility and clustering reaction in Ar 9-10628
 ArF₂⁺, Ar₂F⁺, kinetics of proton-excited Ar-F₂ mixtures, time-resolved and time-integrated spectra 9-36883
 BaO, association with N₂O₄=2NO₂=2NO+O₂ system, 350-650K (Russian) 9-20363
 BeAl₂O₄, chrysoberyl, kinetics and mechanism of formation, in presence of V₂O₅ 9-11535
 CO₂, liq. and gas, state of aggregation effect on 1-4 μm absorpt. bands intensities 9-27042
 Cs⁺+Cs, mol. ion form. rate, from mobility meas. 9-34299
 H+H, interstellar, H₂ form. on grain surfaces 9-21367
 HF oligomers, Gibbs free energies, gas. equilib., ab initio calc. 9-20456
 Hg₂, photoassociated, collision-induced predissoc. with Hg 9-31626
 KF, KCl and KI, monomers and dimers, Ar matrix-isolated, IR spectra, vibr. assignments and calcs. 9-45718

association continued

- KrF*, Kr₂F*, kinetics of proton-excited KrF₂ mixtures, time-resolved and time-integrated spectra 9-36883
 N, assoc. on metal catalyst surface, chemical energy accommodation, flow reactor obs. 9-24816
 N₂⁺+N₂, three-body ion-neutral assoc. reactions, saturation 9-39134
 N₂⁺+N₂+He—N₄⁺+He, ternary assoc., selected ion flow tube obs. 9-39128
 NO₂-N₂O gaseous system, self-association theory 9-29347
 Na₂+He(Ne)(Ar), collision induced dissoc. rate, vibr. distrib. depend. 9-22791
 O₂⁺+O₂, three-body ion-neutral assoc. reactions, saturation 9-39134
 Pb(Zr,Ti)O₃, synthesis from cryochem. mixtures, chem. reacts. in sublimation drying 9-11538
 RbF, RbCl and RbI, monomers and dimers, Ar matrix-isolated, IR spectra, vibr. assignments and calcs. 9-45718
 TlBr₃-graphite intercalation (*German*) 9-43563

association factor (liquids) *see association of liquids*

association of gases *see association*

association of liquids

see also colloids

- acetic acid-carbon tetrachloride, US absorption, coupled dimerisation cyclisation reaction (*French*) 9-42148
 acridine, methanol soln., edge excitation red shift, excited state proton association 9-18228
 anisole, in cyclohexane-ethanol mixtures, UV spectra, solvent effect 9-22770
 binary alloy melts, assoc., liquidus curve calcs. (*German*) 9-20352
 t-butanol and -d, deuteration effect on self-assoc., dielectric polariz. meas. 9-28672
 chlorophyll a-water interaction, NMR obs. in CCl₄ and trichloromethane 9-34501
 cholesterol, in carbon tetrachloride, self-assoc., IR absorbance 9-47920
 ethyl p-methoxybenzylidene aminocinnamate, dimer, mesogenic, intermol. interactions 9-46564
 ionic equilibria in water and mol. dynamics of pure liqs. using high-pressure Raman spectroscopy 9-24301
 metal ethoxide ethanol system, thermodynamic anal. of ion-ion association, conductance meas. 9-29386
 methanol-d, H-bonded in soln., ν_2 (OD) band 9-18183
 micellar solutions, fluoresce. quenching rel. to aggregation numbers 9-34364
 p-n-pentyl-p'-cyanobiphenyl, nematic liq. cryst., Raman depolariz. ratios, order parameters 9-28733
 phenetole, in cyclohexane-ethanol mixtures, UV spectra, solvent effect 9-22770
 phenol, in cyclohexane ethanol mixtures, UV absorption, solvent effects 9-22767
 phenol-cyclohexane (-ether), UV spectra, solvent effects, matrix rank anal., species determ. 9-22768
 phenol-organic solvent mixtures, UV spectra, solvent effects 9-22769
 phenols, substituted, in cyclohexane-ethanol mixtures, UV spectra, solvent effect 9-22770
 pivalic acid(-d₃), liq. and soln., Raman assignments, CH₃ rot. barrier, dimerisation 9-26991
 pivalic anhydride, liq. and soln., Raman assignments, CH₃ rot. barrier, dimerisation 9-26991
 PMMA, stereoregular, assoc. 9-11793
 polymer, synthetic, solns., assoc., quantitative evaluation, review 9-10773
 polymer solutions, order, conf., Midland, USA, (Aug 1973) 9-10769
 polypropylene, optical activity rel. to ordered aggregation 9-11899
 rhodamine 6G, in glycerine-water solns., anti-Stokes fluoresc., conc. quenching 9-24349
 tetramethylammonium chloride solns., aq. and methanolic, Raman spectra 9-28750
 water-formic acid (acetic acid)(propionic acid)(n-butyric acid), PMR relax. obs., mol. assoc. 9-33553
 CO₂, liq. and gas, state of aggregation effect on 1-4 μ m absorpt. bands intensities 9-27042
 D₂SO₄, pure, IR and Raman spectra in liq. state, assignments and cryst. spectra comparison (*French*) 9-33699
 FeCl₃, nonaq. solns., solvent-solute interactions, Mossbauer investig. of equil. consts. 9-1729
 Fe(NO₃)₃, aq. soln., Fe (III) hydration shells, X-ray diffr. 9-29337
 HCl in DMSO-H₂O soln., ion assoc., US absorpt. obs. 9-23513
 HNO₃-H₂O, liq. and glass, mol. assoc., ion pairs, Raman obs. 9-28749
 H₂SO₄, pure, IR and Raman spectra in liq. state, assignments and cryst. spectra comparison (*French*) 9-33699
 Mg-Sn, melt, assoc., liquidus curve calcs. (*German*) 9-20352
 Mg(NO₃)₂, aq. soln., ionic coordination by X-ray diffr. 9-29338
 Sc₂(SO₄)₃+Al₂(SO₄)₃ aq. solns., complex form. reacts., kinetics, US relax. investig. 9-1942
 ZrCl₄, cryst., melt, gas, Raman spectra interpretation (*German*) 9-28753

associative ionisation

- Ar, collision processes, photoionisation mass spectra obs. 9-31479
 Ca+Rydberg Ca**, collision cross sections, Ca₂⁺ pot. energy calcs. 9-27055
 Cs+Cs, nP, dD excited states, assoc. ionisation, state and thermal energy depend. (*Russian*) 9-5153
 H+H⁺ collisions, assoc. detachment process theory 9-44351
 H⁺+H⁺—H₂⁺—H₂⁺+e, 0.001 to 3 eV assoc. ionisation cross-sections meas. 9-3512
 He+Ar(Kr)(Xe), 2¹S and 2³S assoc. and Penning ionisation cross sections vel. depend. 9-3551
 He+He, (2³S) and (2¹S) metastable states, direct and assoc. ionisation rate consts. in afterglow, electron energy spectra 9-13812
 He*+D, Penning and assoc. ionis. with metastable He, 0.01 to 10 eV beams 9-27074
 He*(1s2s, ³S)+Ar, Penning ionis., discrete-continuum states coupling 9-10193
 He(2³S)+H(D), Penning and assoc. ionis. cross sections, vel. depend. 9-22815
 Na, ionisation and energy pooling in laser-excited vapour 9-795

astatine

see also nuclei with

At⁻, in KNO₃ soln., ion vel., carrier free 9-34318

astatine compounds

- AtO₃⁻, in KNO₃ soln., ion vel., carrier free 9-34318
 AtO₄⁻, in KNO₃ soln., ion vel., carrier free 9-34318

asteroids

- 1977 BA, approx. posn., improved elements and ephemeris (1979 Mch.-Apr.) 9-34904
 1977 UB (Chiron), past and future orbit calc. 9-35171
 1978 (18) 1, discovery of possible satellite of Melpomene 9-16870
 1979 BA, fast-moving object, discovery, precise positions, orbital elements and ephemeris 9-35177
 1979 ephemerides for minor planets 9-12422
 19791 BA, precise positions, orbital elements and ephemeris 9-40121
 absolute magnitudes for numbered asteroids 9-21219
 887 Alinda, light curves and rotation period for Amor object 9-44401
 Apollo-Amor objects, steady state distrib. of orbits 9-40118
 387 Aquitania, rotation period near 24 hours, problems 9-21220
 belt depletion by gravit. forces, numerical calc. of orbits 9-35173
 776 Berbericia, rotation period near 24 hours, problems 9-21220
 1580 Betulia, broadband visual and 10.6 μ photometry 9-2511
 1580 Betulia, UV photometry and polarimetry 9-2512
 1245 Calvia, photographic photometry, light curves, magnitudes 9-12418
 carbonaceous objects, capture by photoatmospheric drag rel. to Mars' satellites 9-40110
 Ceres, far IR obs., temp. determ. 9-12431
 comets origin from former asteroidal planet 9-16888
 349 Dembowska, rot. period and phase curve 9-35174
 337 Devosa, unusual object with triple extrema in photoelectric light curve, rot. period 9-40116
 early history, coalescence prevention by Jupiter 9-5774
 354 Eleonora, rot. period and phase curve 9-35174
 283 Emma, light curves and rot. period 9-16868
 eucrite parent body, size from melt/solid segregation numerical treatment 9-40144
 15 Eunomia, close approaches to SAO stars, prediction accuracy 9-30003
 624 Hektor, nature of Trojan object 9-35176
 532 Herculina satellite, age and lifetime 9-40122
 173 Ino, photometric vars., light curves and rot. period 9-16869
 IR (JHK) photometry, of meteorites and asteroids 9-2531
 Kirkwood, gaps, origin 9-16867
 393 Lampetia, long rotation period from photoelectric lightcurve 9-40120
 M-type, composition from optical polarimetry 9-40119
 18 Melpomene, occultation of SAO 114159; discovery of 1978 (18) 1 possible satellite 9-16870
 18 Melpomene, occultation of SAO 114159, photoelectric obs. 9-12420
 18 Melpomene, occultation of SAO 114159 on 1978 Dec. 11, revision obs. 9-12423
 minor planet circulars 4521-4548, precise posns., elements, ephemerides, new nos. and names 9-2514
 minor planet circulars 4549-4582, precise posns., elements, ephemerides, new nos. and names 9-12421
 Minor Planet Circulars 4583-4622, precise posns., elements, ephemerides and new nos. 9-16871
 Minor Planet Circulars 4623-4648, precise posns., elements, ephemerides and names 9-25538
 Minor Planet Circulars 4649-4688, precise posns., elements, ephemerides identifications and new nos. 9-35178
 128 Nemesis, long rotation period from photoelectric lightcurve 9-40120
 orbital characteristics, explanation based on restricted three-body problem 9-8874
 palaeoglaciacion due to solar radiation reduction (*French*) 9-34857
 49 Pales, photoelectric photometry and rotation period 9-44402
 Pallas, 1978 May 29 occultation of SAO 85009, diameter determ. 9-44400
 Pallas, ang. diameter from speckle interferometric meas. 9-35172
 55 Pandora, photometric vars., light curves and rot. period 9-16869
 photoelectric photometry of seven asteroids, rot. periods 9-35175
 positions of minor planets, (1977) 9-40117
 precise positions for 35 objects 9-8873
 resonance in the restricted problem of three bodies with short period perturbations in elliptic case 9-25455
 resonant asteroids motion, theory based on quasi-periodic solns. of restricted three-body problem (*Russian*) 9-48727
 taxonomy, five-class system 9-2510
 terminator configuration, rel. to dust electrostatic transport and surface denudation 9-35157
 thermal evolution, calc. 9-2501
 88 Thisbe, photoelectric photometry and rotation period 9-44402
 1685 Toro, orbital resonances with Earth and Venus 9-2513
 Trojan, three-dimens. motion 9-5773
 Trojan asteroids, orbital theory 9-12419
 92 Undina, photoelectric photometry and rotation period 9-44402
 Vesta, ang. diameter from speckle interferometric meas. 9-35172
 Fe meteorites parent bodies, interpretation of age distrib. from cosmic ray produced nuclides 9-30015

astigmatism *see aberrations*

astrobiology *see extraterrestrial life*

astrometry

- 1979 BA, fast-moving object, discovery and precise positions, (1979 January 23 to 31) 9-35177
 1979 BA, precise positions, (1979, February 28 and March 4) 9-40121
 ADS 9537 (BV Draconis and BW Draconis), ang. separation and position angle 9-35296
 α Aquilae (Altair), 1941-77 astrometric obs. 9-12470
 asteroids, precise positions, (1977) 9-40117
 asteroids, precise positions for 35 objects 9-8873
 astrophysical plates, reduction model 9-44334
 azimuth alterations, influence on absolute right ascension calcs. (*Russian*) 9-35134
 binary stars, visual obs. 9-35303
 binary stars ang. separation meas. by speckle interferometry 9-40215
 Cagliari VZT obs. of polar latitude variations (*Italian*) 9-21153
 α Canis Majoris (Sirius), astrometric study rel. to distance and components masses 9-5858
 β Capricorni, triple star, fundamental parameters from occultation astrometry and spectroscopy 9-40216
 celestial mechanics and astrometry, book 9-12384
 CL4 optical counterpart, accurate position 9-17116
 CL 4, radio source, optical identification and optical position 9-21453
 Comet Fujikawa (1978n), precise positions, (1978, October 11 to 16) 9-5779
 Comet Kowal (1979a), precise positions, (1979 February 1) 9-35195

astrometry continued

- Comet Kowal (1979a), precise positions 1979 Jan., orbital elements, ephemeris 9-25549
- Comet Meier (1978f), precise position, orbital elements, ephemeris and magnitude law 9-5781
- Comet Meier (1978f), precise position, total visual magnitude estimate, 1978 Nov. 9-5789
- Comet Meier (1978f), precise posn. and visual mag. estimate (1978 Nov.) 9-5784
- coordinate measurements using phase and fringe freq., tropospheric limitations 9-44375
- Deimos, photographic positional obs. with Ukrainian Academy 400 mm astrograph (*Russian*) 9-44395
- diurnal latitude vars. spectra based on obs. at Gor'kii 9-35100
- dMe-stars, multiplicity 9-44544
- double stars, new discoveries at Nice, 15th series (*French*) 9-35304
- double stars, Nice obs. of 267 objects (*French*) 9-44531
- 15 Eunomia, close approaches to SAO stars, prediction accuracy 9-30003
- FK4, corrections based on photographic posns. of Venus 9-8851
- FKSZ stars, meridian circle obs. at Kiev University Observatory, (1972 to 1975) (*Russian*) 9-44336
- G139-29, perturb. from rectilinear motion, astrometric red dwarf binary system with subluminoous component 9-8910
- Galilean satellites, astrometric obs. in (1977) 9-48728
- Greenwich Obs. Time and Latitude Service, Time Report (January-March 1978) 9-25453
- GX 339-4, variable X-ray source identification with faint blue object 9-40294
- lunar occultations during 1943-74, anal., rel. to Brown's theory, FK4 right ascension system and Watt's charts corrections 9-48696
- lunar position computation algorithm 9-25452
- major planets, positions determ. with Odessa meridian circle, (1974 to 1975) (*Russian*) 9-44394
- Mars, ephemerides and position, 1975 to 1976, additional information (*French*) 9-44392
- Mars, photographic positional obs. with Ukrainian Academy 400 mm astrograph (*Russian*) 9-44395
- Mars, photographic zenith tube obs. during 1975 and 1978 oppositions 9-40109
- Mars, positions (1975-6), Paris Astrolabe obs., corrections (*French*) 9-44393
- 18 Melpomene, occultation of SAO 114159 on 1978 Dec. 11, revision obs. 9-12423
- Merate Observatory, time and latit. results of astrolabe obs. (1977) 9-40061
- Mercury, right ascension determ. from radio obs. (*Russian*) 9-21213
- minor planet circulars 4521-4548, precise posns. for asteroids and 16 comets 9-2514
- minor planet circulars 4549-4582, precise posns. for asteroids and five comets 9-12421
- Minor Planet Circulars 4583-4622, precise posns. for asteroids and 14 comets 9-16871
- Minor Planet Circulars 4623-4648, precise posns. for asteroids and three comets 9-25538
- Minor Planet Circulars 4649-4688, precise posns. for asteroids and 11 comets 9-35178
- multiple stars, visual obs. 9-35303
- MXB 1659-29, burst source identification with faint blue object 9-40294
- nearby stars, search for unseen and sub-stellar companions 9-30092
- Nova Vulpeculae 1979, posn., magnitudes, spectrum and photometry 9-48818
- Nova Vulpeculae 1979, precise position and spectroscopic obs. 9-48820
- novae, astrometric posns. and identifications for old classical and recurrent objects 9-21315
- Palomar Schmidt plates, astrometric reduction, least squares prediction appl. 9-40082
- parallaxes and Astrometric Satellite 9-30051
- Periodic Comet Chernykh (1977), precise positions for 1977 Sept. 9-25546
- Periodic Comet Daniel (1979b), recovery on 1979 Feb. 2, precise position, ephemeris 9-30013
- Periodic Comet Denning-Fujikawa (1978n), precise positions, (1978, October 28 and November 2) 9-5780
- Periodic Comet Kowal 2 (1979a), precise positions, (1979, February 1 to 28) 9-40140
- Periodic Comet Kowal 2 (1979a), precise positions (1979, March 1 to 28) 9-48739
- photographic astrometry against bright daylight sky, theory and appl. 9-8797
- planetary nebulae in M31 (Andromeda galaxy), astrometric catalogue 9-40087
- planets, phase corrections to position obs. 9-8861
- positional astronomy and astro-navigation computing, new approach using pocket calculator, book 9-12383
- QSOs, optically selected, accurate positions 9-9022
- radio source near YY Herculis, precise position 9-35274
- radiosources, flat spectrum, optical identification of complete sample 9-5911
- Saturn, time of Earth 1966 passage through ring plane 9-35186
- SMC stars, Herschel catalogue rel. to CPD 9-44337
- stars, absolute right ascensions catalogue deduction for whole sky from high latit. obs. (*Russian*) 9-16801
- stellar absolute right ascension meas. (*Russian*) 9-12382
- stellar perturbation analysis 9-44379
- stellar position, magnitude and colour index meas. from astronomical photographs, automated technique 9-21194
- Sun annular eclipse, 1976, April 29, photographic obs. for ephemeris time correction determ. (*German*) 9-44335
- Tokyo Astronomical Obs., Time and Latitude Bulletins (October-December 1977) 9-5736
- transatlantic long base line interferometry at 10680 MHz 9-48390
- trigonometric parallaxes, proper motions, magnitudes and colours for 44 stars 9-35235
- trigonometric parallaxes of 14 stars 9-5808
- Universal Time observations, short period terms anal. (*Chinese*) 9-8589
- UV excess object, variable, discovery and precise position 9-40280
- variable emission-line star in core of M15, spectrum, photometry and position 9-5840
- Venus, positional observations at Ukrainian Main Astronomical Observatory, (1972) (*Russian*) 9-44390

astrometry continued

- visual binary stars, astrometric obs. rel. to gravit. const. var. (*Russian*) 9-44537
- visual double stars, photographic measures 9-17024
- visual double stars, southern, measures 9-21360
- VLBI using geostationary satellite link 9-29968
- astronautics** see *space research*
- astronomical catalogues**
see also *astrometry*
- bright galaxies, integrated magnitude and colours in UVB system, second catalogue 9-12509
- 4C radiosources clustering, statistical analysis 9-5761
- cometary orbits, third edition 9-40092
- compact radiosources in galactic centre, data for 74 objects 9-21430
- diffuse objects and planetary nebula in galactic centre direction (*French*) 9-21434
- dwarf stars, M-type, in South Galactic Pole direction, catalogue of 282 objects 9-5762
- ESO/Uppsala survey of ESO (B) Atlas of southern sky, sixth list containing 3162 objects 9-8850
- extragalactic objects catalogues statistical anal., QSOs and Lick galaxy counts correl. 9-25700
- FK4, corrections based on photographic posns. of Venus 9-8851
- galactic clusters observed in three colours, catalogue and distances 9-40089
- galactic plane radio survey at 4.875 GHz, list of 1186 sources 9-21431
- galaxies in Abell 2255, red shifts 9-40276
- Herbig-Haro objects, new, list 9-5763
- LMC OB and supergiant stars, deep objective prism survey catalogue 9-40090
- luminous stars in Milky Way, supergiants and O-type stars catalogue 9-40183
- lunar transient phenomena, catalogue of observations, 1178-1977 period 9-21208
- Morphological Catalogue of Galaxies, distrib. homogeneity (*Russian*) 9-8849
- NGC 5617, open cluster, photoelec. and photographic photometry of member stars 9-17032
- NGC 5662, open cluster, photoelec. and photographic photometry of member stars 9-17032
- open clusters, transit tables for star numbering, magnetic tape 9-44573
- paired galaxies, classification into groups differing in phys. and kinematic props. 9-21443
- pairs and triplets of galaxy clusters, list of 68 pairs and 21 triplets 9-35408
- planetary nebulae in M31 (Andromeda galaxy), astrometric catalogue 9-40087
- QSOs in Tololo deep survey, apparent red shift cut-off unreal 9-12539
- radiosources near North Celestial Pole, deep survey at 4.85 GHz 9-12536
- red degenerates, eleventh list 9-25596
- red stars survey in 30 Doradus region of LMC, list of 298 stars 9-48794
- SAO proper motions (*French*) 9-30089
- SKYMAP: a new catalogue of stellar data 9-35151
- SMC, atlas of variable stars, clusters, emission regions and supergiant stars, book 9-44619
- SMC probable members and foreground stars, additional tests 9-40091
- SMC stars, Herschel catalogue rel. to CPD 9-44337
- solar neighbourhood C and M-type stars 9-16946
- spectroscopic binary systems orbital elements, seventh catalogue 9-16843
- star clusters in M33, list of 58 candidates 9-9002
- stars, absolute right ascensions catalogue deduction for whole sky from high latit. obs. (*Russian*) 9-16801
- stars, UV fluxes, S2/68 obs. of 31215 objects 9-8852
- stellar H₂O masers, catalogue of 82 objects 9-8909
- sunspots, photoheliographic results and general catalogue, (1968 to 1971) 9-2487
- supernova remnants, galactic, systematic search for optical nebulosity 9-29998
- Tr 22, open cluster, photoelec. and photographic photometry of member stars 9-17032
- trigonometric parallaxes, proper motions, magnitudes and colours for 44 stars 9-35235
- UBVRIJLMNH photoelectric photometric catalogue on mag. tape 9-16842
- 17W list from 610 to 1415 MHz obs. of Abell 1367 cluster of galaxies 9-35401
- 20W sources in Hercules supercluster 9-44625
- Westerbork 610 MHz sources counts and spectral index distrib. 9-44630
- X-ray sources, fourth Uhuru catalogue 9-40088
- Zwicky catalogue selection effects and intercluster dust tests 9-9012
- astronomical ephemerides**
- 1977, observer's handbook of Royal Astronomical Society of Canada 9-8796
- 1977 BA, approx. posn., improved elements and ephemeris (1979 Mch.-Apr.) 9-34904
- 1979, general ephemerides (*French*) 9-40062
- 1979 BA, fast-moving object, discovery and ephemeris, (1979, February 16 to March 28) 9-35177
- 1979 BA, orbital elements and ephemeris, (1979, March 18 to June 16) 9-40121
- Comet Bradfield (1978a), parabolic orbital elements and ephemeris, (1978, October 29 to 1979 January 27) 9-2524
- Comet Kowal (1979a), ephemeris, (1979, February 16 to March 28) 9-35195
- Comet Kowal (1979a), ephemeris for 1979 Jan.-March 9-25549
- Comet Machholz (1978), ephemeris for 1978 Nov.-1979 Feb. 9-5785
- Comet Meier (1978f), ephemeris for 1978 Nov.-1979 May period 9-5789
- Comet Meier (1978f), precise position, orbital elements, ephemeris and magnitude law 9-5781
- Comet Seargent (1978m), continuation ephemeris for 1978 Nov.-Dec. period 9-5782
- Comet Seargent (1978m), ephemeris extension and magnitude estimate 9-44416
- comets, minor planet circulars 4521-4548 ephemerides for four objects 9-2514
- Leda (Jupiter XIII), orbit and ephemeris for 1974-2000 period 9-8875
- Mars, ephemerides and position, 1975 to 1976, additional information (*French*) 9-44392
- minor planet circulars 4521-4548, ephemerides for 11 asteroids 9-2514

astronomical ephemerides continued

- minor planet circulars 4549-4582, ephemerides for five asteroids 9-12421
- Minor Planet Circulars 4583-4622, ephemerides for 25 asteroids and four comets 9-16871
- Minor Planet Circulars 4623-4648, ephemerides for nine asteroids 9-25538
- Minor Planet Circulars 4649-4688, ephemerides for 41 asteroids and eight comets 9-35178
- minor planets, 1979 ephemerides 9-12422
- Moon, occultations during 1943-74, anal., rel. to Brown's theory, FK4 right ascension system and Watt's charts corrections 9-48696
- Periodic Comet Daniel (1979b), ephemeris for 1979 Feb.-Apr. 9-30013
- Periodic Comet Denning-Fujikawa (1978n), ephemeris, (1978 November 8 to 1979, January 27) 9-5780
- Periodic Comet Jackson-Neujmin (1978q), recovery, and ephemeris for 1978 Nov.-1979 Feb. period 9-12435
- Periodic Comet Kowal 2 (1979a), elliptical elements and ephemeris, (1979, March 28 to June 16) 9-40140
- Periodic Comet Kowal 2 (1979a), improved orbital elements and ephemeris (1979, May 7 to July 6) 9-48739
- planetary satellites, ephemerides representation by Chebyshev polynomials (*Russian*) 9-16800
- Pluto, opposition on 1979 April 8, satellite confirmation opportunity 9-44409
- solar position computation procedure 9-5734
- 4 U 1538-52, eclipsing X-ray source, corrections to ephemeris and revised period 9-25760
- visual double stars, rectilinear trajectories calc. (*French*) 9-17023

astronomical instruments

- see also *astronomical observations; astronomical techniques; astronomical telescopes; radiotelescopes*
- astrolabes, Settala collection in Ambrosian picture gallery, Milan (*Italian*) 9-35132
- balloon-borne equipment, data communications 9-16793
- Bent Crystal Spectrometer for solar X-ray spectroscopy 9-25489
- birefringent filters, transmission expression derivation 9-18522
- BUSS, echelle and SEC-vidicon for balloon-borne UV spectroscopy 9-25482
- cavity pyrheliometer, total solar optical irradiance meas. 9-35130
- computerized differential photometer for Geneva, seven colour system 9-48682
- conference on nuclear power systems, Washington, USA (1978) 9-41045
- coronal photometer, automatic, 5303 Å emission line photoelectric meas. 9-12454
- cosmic-ray stations global network, appl. as spectrographic instrument set 9-12404
- diffraction mountings, conical and classical, for XUV gratings 9-3780
- dispersion-removing radiometer, obs. tests on PSR 1913+16 binary pulsar 9-35142
- doublet system resolution, random speckle structure model and expt. (*Russian*) 9-7082
- drift chamber detector, performance figures, γ -ray astronomy appl. 9-48674
- EAS detectors, pulse profiles studies 9-25421
- EUV instrumentation 9-25484
- Fabry-Perot interferometer and solar obs. 9-44378
- Faint Object Camera calibration 9-25479
- Faint Object Camera on Space Telescope 9-25478
- Faint Object Spectrograph for Space Telescope 9-25483
- far IR polarimeter for balloon astronomy 9-35094
- FAUST, far UV camera on Spacelab 9-25476
- focusing Fe line crystal spectrometer for Spacelab 9-25500
- Fourier interferometer for IR line emission obs. of molecular clouds (*Italian*) 9-48679
- gamma-ray instrumentation, for low and medium energy ranges 9-25492
- gamma-ray spectrometer with various shaped scintillators, for gamma-ray spatial pattern anal. 9-16831
- gas scintillation counter X-ray spectrometer performance figures astronomy appl. 9-48673
- gas scintillation proportional counter, large-area focusing, for X-ray astronomy 9-25494
- gas scintillation proportional counter for first Spacelab mission 9-25488
- gas scintillation proportional large area counter, X-ray astronomy appl. 9-45556
- gratings for UV space instrumentation, comprehensive analysis 9-8839
- gravitational-wave antenna, small, cryogenic, meas. at 1.5K 9-21646
- hard X-ray camera for study of gamma ray burst sources 9-25502
- hard X-ray experiment for long-duration balloon flights 9-25493
- Harriot, Thomas, 1560-1621, biography, astronomical instruments and obs. 9-35512
- HEAO 2 satellite (Einstein Observatory), successful launch 9-44333
- HEAO-B X-ray Observatory 9-25446
- high speed photometer of Asiago Observatory 9-25505
- image intensifier with fibre optic plates (*Russian*) 9-40079
- image sensors, electronic, for ground-based astronomy 9-35135
- IR detectors, for Sunyaev-Zeldovich effect obs. in millimetric region 9-25765
- IR sensors, long-wave, for astronomical obs., ground calibration 9-5749
- IR space sensors, low-background large-aperture, meas. facility for evaluation 9-21125
- IR space sensors, low-background large-aperture, meas. facility for evaluation 9-21126
- IR spatial interferometer, space-borne, exposure time 9-35131
- LAMAR X-ray facility for high sensitivity obs. 9-25497
- laser ranging systems, space appl. 9-40081
- low-temperature narrow-bandpass interference filter construction 9-32049
- magneto-optical filter, for solar vel. fields meas. 9-25507
- modulating antiscintillator for low and medium energy gamma-ray telescope (*Russian*) 9-16832
- modulation collimator, X-ray imaging device 9-25510
- monochromatic imaging using filters, slitless (multislit) spectrograph, and interferometers, appl. to Io Na cloud 9-8840
- multi-anode microchannel arrays for detector systems 9-25480
- MWPC, for cosmic drift X-ray imaging 9-41063
- MWPC, high press., for X-ray astronomy 9-5748
- nuclear emulsion type BA-2, pulsed electric field effect on cosmic ray detection 9-26829
- optical beam-splitter of variable ratio 9-40078
- plane analemmic dials 9-16834
- polarimeter, near IR, of Hatfield Polytechnic Observatory, design 9-2482

astronomical instruments continued

- position sensitive detectors in X-ray astronomy 9-25496
- prototype Nb gravitational radiation antenna, microwave parametric accelerometers 9-44841
- reflecting all-sky cameras, design 9-40074
- RETICON spectrophotometer at Cima Ekar Observatory (*Italian*) 9-21190
- scanning Fabry-Perot interferometer for balloon-borne astrophysical obs. 9-35092
- scanning Fabry-Perot interferometer for far IR balloon astronomy 9-35093
- sealed position sensitive hard X-ray detector having large drift region for all sky camera with high angular resolution 9-48675
- secondary electron conduction image tube, WX-32193, features 9-35137
- single photon X-ray detection with a CDD image sensor 9-35836
- soft X-ray imaging experiments with CCD 9-35138
- solar neutrino radiochemical detectors, internal contamination backgrounds 9-16827
- solar neutrinos detectors, cosmic ray neutrinos ^{37}Ar prod. rate estimate 9-16837
- solar simulator calibration photometer 9-26103
- solar ultraviolet Doppler camera 9-25485
- Solar X-ray imaging techniques, past and future, review 9-25495
- solar X-ray spectrograph, cylindrical-crystal, design and characteristics 9-29990
- space astronomy, new instrumentation, conference (Tel Aviv, 7-18 June 1977) 9-25473
- Spacelab, payload data path from user input (on-board) to user output (laboratory) 9-21137
- Spacelab Instrument Pointing Subsystem 9-25447
- spectral energy standard, for stellar absolute spectrophotometry (*Russian*) 9-44372
- spectrometer, Fabry-Perot, piezoelectric scanning nonlinearities 9-6183
- spectrum expander for multichannel filter spectrometers 9-35790
- sundial at National Maritime Museum, Greenwich 9-40080
- Terskol Peak telescope and electrophotometer, apparatus function and atmosphere monochromatic extinction coeffs. (*Russian*) 9-44246
- transmission grating efficiencies for wavelengths between 5.4 Å and 44.8 Å 9-40077
- two-dimensional buffer store based on a multichannel amplitude analyzer for neutrino detect. 9-26838
- UTEX, integrated UV and X-ray astronomy facility on Spacelab 9-25475
- UV stellar spectroscopy, spaceborne instrumentation 9-25518
- VNG-derived frequency reference, adapting for astronomy 9-35139
- Voyager Cosmic Ray Experiment, telescopes, electron energy meas., pulse height analysers 9-48643
- wedge-sensitometer for photographic photometry (*Japanese*) 9-44373
- Wollaston prism as convergent light beam splitter 9-14092
- X-ray and γ -ray spectrometers on Prognostic satellites 9-21127
- X-ray and gamma-ray remote sensing spectrometers, data analysis system for planetary mission appl. 9-12411
- X-ray imaging scintillation detectors, design 9-25511
- X-ray optical systems, construction and appls. 9-17582
- X-ray polarimeter, mosaic graphite, on OSO-8 satellite, design, preliminary results 9-25490
- X-ray polarimeter, Thomson-scatt., satellite-borne, for solar obs. 9-25491
- X-ray transmission gratings, aberrations, testing 9-25508
- X-ray transmission gratings, expt. and theoretical props. 9-25509
- XUV spectroheliometer on SMM 9-25487
- Ge:Be photoconductive detectors for obs. from space platform, 30-55 micron 9-5754
- Ge:Ga photoconductive detectors for obs. from space platform, 50-120 micron 9-5754

astronomical observations

- see also *gamma-ray astronomical observations; infrared astronomical observations; radioastronomical observations; ultraviolet astronomical observations; visible astronomical observations; X-ray astronomical observations*
- AO 0235+164, BL Lacertae object, UBVI photographic magnitude obs. during flare 9-25724
- UX Arietis, co-ordinated UV, optical and radio obs. of RS Canum Venaticorum binary 9-16963
- cosmic ray anomalous ^4He component, solar latit. and radial depend. 9-35080
- cosmic ray intensity diurnal variation, two approaches to study 9-29953
- cosmic ray large air showers, Cherenkov radiation image reconstruction 9-25420
- cosmic rays, abundances of elements in $26 \leq Z \leq 30$ interval 9-40044
- V1500 Cygni (Nova 1975), spectrum and heavy element abundances 9-21295
- Cygnus X-2, X-ray and optical obs., (1973 to 1977) 9-30148
- EAS, detectors pulse profiles studies 9-25421
- Fairall-9 (ESO 113-IG 45), extreme Seyfert galaxy, IR and visible photometry 9-25720
- G 307.1+1.2, G 309.7+1.7, low-latit. radio galaxies, optical and radio obs. 9-12535
- gravitational radiation, Munich-Frascati expt., final negative results 9-8830
- gravitational waves, meas. at 1.5K with small cryogenic antenna 9-21646
- H 2155-304 optical candidate, spectrophotometric obs. 9-25761
- HD 175305, red horizontal branch star in general field, spectroscopic and photometric anal. 9-40189
- HR 1099, co-ordinated UV, optical and radio obs. of RS Canum Venaticorum binary 9-16963
- interplanetary magnetic field, large-scale struct. between 1 and 0.3 AU during Helios 1 primary mission 9-29962
- interplanetary magnetic field structures between 0.3 and 1 a.u., two-spacecraft obs. comparison 9-25429
- interplanetary magnetic fields and flows between 1 and 0.3 AU during Helios 1 primary mission 9-29963
- Jupiter, electron propag. out of solar equatorial plane, Pioneer 11 obs. 9-40123
- Jupiter, magnetosphere, high β plasma in dynamic current sheet 9-16872
- King's College Observatory, Nova Scotia, and Joseph Everett 9-34
- LP 790-29 mag. degenerate with heavily blanketed energy distrib., obs. 9-5815
- M51 system, photometric study 9-30125
- M83, UBV surface photometry of bright southern spiral galaxy 9-44598

astronomical observations continued

- Markarian 295, 296, 297, spectroscopic and 21 cm line investigations 9-44608
- Markarian 296, clumpy irregular galaxy, spectroscopic and 21 cm line investigations 9-44608
- multiple stars, discovery and observation 9-44541
- multispectral scanning sensor system digital simulation 9-29997
- NGC 2110, X-ray/radiogalaxy, elliptical morphology questioned 9-21426
- PG 1413+01, white dwarf-red dwarf eclipsing binary, photometry and spectral types 9-8944
- VV Puppis, circular polarimetry in active state and evidence for two accreting poles 9-48854
- QSOs, high-redshift emission-line spectra and emitting regions props. 9-21458
- Sculptor dwarf spheroidal galaxy, abundance vars. on giant branch rel. to ω Centauri anomaly 9-5904
- solar flare, 1973, September 5, pre-onset morphology 9-40169
- solar flare energetic particle events from same active region, p/α enhancement 9-40151
- solar spectrum, 300 to 900 nm, Fe I lines interpretation using precise oscillator strengths 9-40155
- solar wind, proton temp. heliocentric gradient from Pioneer 10 obs. 9-40052
- V711 Tauri (HR 1099), 1977-1978 photometry before radio outburst 9-21337
- 47 Tucanae stars, N anomaly anal. 9-48867
- Ursa Minor dwarf spheroidal galaxy, abundance vars. on giant branch rel. to ω Centauri anomaly 9-5904
- Venus, dayside ion comp. dynamic effects, Pioneer obs. of ionosphere 9-48703
- Venus, dayside ion composition, Pioneer meas. of ionosphere 9-48702
- Venus, electron temp. and densities, Pioneer Orbiter meas. of ionosphere 9-48705
- Venus, Pioneer orbiter cloud photopolarimeter investigation 9-48713
- Venus, Pioneer Venus magnetic field meas. on dayside ionosphere 9-48700
- Venus, plasma waves, solar wind interaction, Pioneer electric field meas. 9-48701
- Venus, thermal structure and major ion comp. of ionosphere, Venus Orbiter retarding potential analyzer obs. 9-48704
- Venus, thermosphere, comp. meas., temp. profile and homopause altitude 9-48707
- Venus, upper atmosphere neutral composition, Pioneer quadrupole mass spectrometer obs. 9-48708
- Venus atmosphere structure up to 110 km, Pioneer Venus entry probes preliminary results 9-48715
- Venus clouds, particle size distrib. meas. 9-48717
- Venus clouds, Pioneer-Venus nephelometer expt. preliminary results 9-48716
- Venus lower atmosphere composition, anal. by gas chromatography 9-48721
- Venus lower atmosphere composition, preliminary results from Pioneer Venus 9-48720
- zodiacal light, colour and polarization from UV to near IR, rocket-borne obs. 9-48737

astronomical observatories

- Asiago Observatory, high speed photometer 9-25505
- Görnergrat, TIRGO project (*Italian*) 9-48678
- IR sites, water vapour data 9-21181
- Northern Cross Observatory, new receivers for radiotelescope (*Italian*) 9-2478
- public viewing observations, USA and Chile 9-21182

astronomical spectra

- see also *atmospheric spectra*; *stellar spectra*
- 0241+62, nearby quasar, radio spectrum 9-25752
- 2 A 1102+384 (Markarian 421=B2 1101+38), soft X-ray flux discovery 9-25721
- A non 0945-30, intermediate luminosity X-ray galaxy, X-ray and optical spectra 9-2578
- Abell 2142, spectroscopic obs. of X-ray cluster (40 1556+27) 9-48940
- absorption spectra of QSOs and BL Lacertae objects, origin 9-5894
- Ariel 0620-00, transient source, X-ray spectra obs. with Bragg crystal spectrometer 9-12542
- B2 1225+31, high-luminosity quasar, H emission line intensity ratios 9-25748
- B2 quasars, radio spectral props. 9-44632
- background radiation spectrum, cosmological significance of obs. (*Italian*) 9-48972
- 3C 178, H I absorption within radiogalaxy 9-5910
- 4C sources with steep radio spectra, Westerbork obs. 9-35414
- Carafe group of galaxies, spectroscopic and photographic obs. of peculiar galaxies 9-35387
- Cassiopeia A, radio spectrum evolution 9-30104
- cD galaxies in poor clusters, photometry, spectra and redshifts 9-48907
- cD galaxies in poor clusters, radial vel. meas. 9-8994
- CG sources, 100 MeV, very high energy gamma-ray emission search 9-40293
- clusters of galaxies, intracluster relativistic electrons hard X-ray spectra and gas heating 9-25735
- clusters of galaxies, OSO 8 X-ray spectra discussion 9-25734
- clusters of galaxies, X-ray spectra in 2-20 keV range, OSO 8 obs. 9-5908
- comet, artificial, solar radiation interaction and gas and dust emission 9-16887
- Comet Bennett (1970 II), emission features, coma comp. 9-16884
- Comet Bennett (1970 II), $O(^1D)$ and H_2O^+ brightness profiles 9-35192
- Comet Seargent (1978m), UV spectrum 9-44413
- comets, CO and CO^+ bands intensities reson. fluores. calc. 9-35191
- compact radio source at galactic centre 9-21422
- Compton scattering at nonzero particle fluxes, radiation and relativistic electrons spectra 9-8825
- Comptonization of X-rays by low-temperature electrons, rel. to X-ray sources spectra 9-35108
- cosmic microwave background, Sunyaev-Zel'dovich effect in millimetric region 9-25765
- 3CR, radio galaxies, spectrophotometry spectral energy distrib. 9-21413
- Crab Nebula, emission-line spectra of condensations 9-35327
- Cygnus Loop, far UV emission line spectrum, C depletion in interstellar medium 9-21398

astronomical spectra continued

- Cygnus X-2, spectroscopic obs., orbital period, spectral-type var., X-ray heating 9-9036
- Cygnus X-3, X-ray Fe line emission meas. with Bragg crystal spectrometer 9-12544
- dark clouds, H I 21 cm line obs. 9-21393
- diffuse interstellar lines 9-21401
- diffuse soft X-rays from H I deficient region in Hercules, O VII emission line obs. 9-25759
- emission-line, galaxies and active radio-emitting nuclei, red and IR spectral obs. (*French*) 9-48815
- equivalent widths meas. criterion 9-35141
- ESA/NASA ASSESS II Mission, far IR spectroscopy (*Italian*) 9-48687
- Fairall 9 and Fairall 51, spectrophotometry, Seyfert 1 class galaxies 9-17076
- filaments surrounding RR Pictoris (Nova 1925), spectrophotometry, abundances, ionization 9-40194
- formaldehyde, ^{18}O isotope, 4389 MHz obs. 9-44591
- G286.8-0.5, nonthermal radio source in front of Carina Nebula, SNR 9-35355
- galactic centre, 4 to 8 micron spectrum 9-48922
- galactic centre, formaldehyde ^{13}C isotope detect. 9-25680
- galactic centre, positron annihilation gamma radiation spectrum 9-44309
- galactic disc, bremsstrahlung gamma radiation emissivity and local interstellar electron spectrum 9-25417
- galactic H I spectra analysis 9-44605
- galactic H II regions, O III 51.8 μm forbidden emission line obs. 9-25685
- galaxies, absorption features radial gradients rel. to metallicity 9-40254
- galaxies, small, accurate 21 cm H I spectra 9-35382
- galaxies, southern, strong emission line spectra, characts. 9-21432
- galaxies in Abell 2255, red shifts 9-40276
- Galilean satellites, near IR spectra rel. to surface composition 9-35180
- gamma rays, medium energy, from galactic centre region, obs. 9-9030
- gamma-ray line astronomy, review 9-44641
- GB2 1400 MHz survey, radio spectra of flat-spectrum sources 9-44628
- He 2-111, planetary nebulae, giant halo with very high vels. discovery 9-25691
- interplanetary scintillations, radio source size influence 9-25545
- interstellar 10 and 20 μm absorpt. bands, comparison with Nogoya meteorite IR spectrum. 9-48741
- interstellar absorption bands in O, B and A stars, polarized intensities 9-8915
- interstellar absorption lines, fine struct. levels population ratios 9-35351
- interstellar C II, line emission rel. to Cl chemistry and H ionisation 9-40245
- interstellar C II region, narrow radio recomb. lines prod. around X-ray source 9-8972
- interstellar clouds, spectral line widths rel. to vel. fields 9-12398
- interstellar cyanodiacetylene (HC_3N), J=2-1 transition detect. 9-25692
- interstellar dense cloud complexes, H I lines Zeeman splitting rel. to mag. fields determ. 9-5757
- interstellar diffuse absorption bands, origin, transition metal ions in oxide grains 9-30101
- interstellar gas properties from spectral line surveys 9-5879
- interstellar H_2 , rot. transitions rel. to hot gases cooling 9-12505
- interstellar ice, 45 μm signature possible identification in Orion 9-17068
- interstellar medium, 3.3 to 3.4 μm absorpt. and organic grains upper limit 9-21397
- interstellar methanol in Orion A, two new transitions obs. 9-25667
- interstellar methyl alcohol, obs. 9-25666
- interstellar NH_3 , nonmetastable levels obs. 9-25665
- interstellar NH_3 absorpt. in Sagittarius B2 direction 9-35341
- interstellar resonance absorptions, polarisation reversals by small grains 9-2564
- interstellar submillimetric lines, possible detect. via laser heterodyne techniques 9-44377
- Io, absorpt. bands in near IR spectrum 9-5776
- Io, spectrum, S-containing mixtures and surface albedo 9-40127
- Io, visible spectrum, search for new features 9-35185
- Io Na cloud, obs. rel. to Jupiter magnetosphere thermal electron density 9-40133
- IR source, obscured, in NGC 2264, spectrophotometric anal. and model 9-21370
- IR spectroscopy, future objectives (*Italian*) 9-48686
- Jupiter, absorption band profiles and reflectivities during 1976 opposition 9-40124
- Jupiter, decametric radio emission, dynamic spectra (*Japanese*) 9-8877
- Jupiter, IR and visible spectrum, C/H ratio 9-48729
- Jupiter, NH_3 abundance from 2 μm spectrum 9-35182
- Jupiter, spectrum between 10 and 13 μm , Jovian $^{15}N/^{14}N$ ratio estimate 9-8876
- Jupiter, thermal profiles and NH_3 distrib. from IR spectral meas. 9-40126
- Leonid meteors, spectral analysis 9-16890
- line broadening by photon interaction with new field and red shifts 9-48663
- LMC, interstellar 4428 Å feature 9-35335
- LMC X-2, spectrogram confirms optical counterpart 9-21463
- M15, globular cluster, core, $H\alpha$ and continuum obs. 9-17031
- M16, O III 5007 Å forbidden line profiles from core of H II region 9-8976
- M17 (Omega Nebula), O III 51.8 μm forbidden emission line obs. 9-25685
- M17 SW, obscured IR point source spectroscopic anal. 9-48878
- M32-1, planetary nebula in M32, spectrophotometry and filter photometry 9-25664
- M82, Ne II 12.8 micron emission obs. and galactic dynamics 9-17082
- M82 nucleus, $\lambda 6$ cm formaldehyde absorpt. detect. 9-17088
- M82 nucleus, Brackett-line obs. 9-25704
- M87/Virgo cluster X-ray source spectrum, 1.1 keV Fe line emission discovery 9-25758
- Markarian 296, clumpy irregular galaxy, spectroscopic and 21 cm line investigations 9-44608
- Markarian 359, peculiar emission line spectrum 9-17075
- Markarian 421, BL Lacertae object, X-ray spectrum index vars. 9-48921
- Mars, near IR spectral reflectance, surface comp. determ. 9-21216
- meteors, spectral line excitation in faint trains 9-35197
- microwave background radiation, temp. and spectrum rel. to universe origin 9-25770
- mm wavelength spectral lines detectability from planetary atms. 9-5769

astronomical spectra continued

- molecular spectra, predicted radioastronomical freqs. accuracy, determ. from OH spectrum 9-48666
 Monoceros R2, IR obs. of CO line 9-25654
 MR 2251-178, X-ray QSO, spectrophotometric obs. 9-17122
 N-type galaxies, optical spectra 9-40258
 NGC 1275, Seyfert galaxy, nucleus, emission line intensities rel. to gas and radio source structs. (*Russian*) 9-48936
 NGC 2623, interacting galaxy, H I absorpt. and emission obs. 9-17087
 NGC 2715, 5033, 5055, rot. curves and orientation parameters 9-12517
 NGC 281, H II region, CO and H₂O spectra rel. to shock-induced star form. 9-25688
 NGC 2997, late-type galaxy, spectrum, rot. and mass 9-21409
 NGC 3242, UV emission lines, Copernicus obs. of planetary nebula 9-12501
 NGC 3556, edge-on galaxy, multi-freq. radio continuum study, spectral index distrib. 9-44607
 NGC 4378, anemic SA galaxy, spectrum, photometry and extended rot. curve 9-8990
 NGC 6221 and NGC 7213, optical spectrophotometry of X-ray galaxies 9-35377
 NGC 6357A, O III 51.8 μ m forbidden emission line obs. 9-25685
 NGC 6745, peculiar ring-like galaxy, struct. (*Russian*) 9-25732
 NGC 6888, emission nebula, forbidden N II/H α ratio 9-8964
 NGC 7027, S IV and Ne II IR emission line obs. of planetary nebula 9-21400
 NGC 7293, Helix Nebula, O III 5007 \AA forbidden line splitting 9-25694
 NGC 7662, Ne IV forbidden $^2D_{5/2}$ - 4S lines obs. in UV spectrum of planetary nebula 9-48896
 NGC 931, interacting Seyfert galaxy, struct. and spectra 9-25716
 Omega Nebula (M17), O I 63 μ m forbidden emission line obs. 9-25684
 OQ 208 (Markarian 668), radio spectrum 9-12531
 Orion Molecular Cloud, HCN, HNC and HCO⁺ J=3-2 lines detect. 9-25669
 Orion Nebula, Fabry-Perot high-resolution O I 8446 \AA mapping 9-35344
 Orion Nebula, H₂ 2.121 μ m emission line vel. and width meas. 9-17061
 Orion Nebula, near IR Fourier spectroscopy of weak lines 9-35328
 Orion Nebula, O I 63 μ m forbidden emission line obs. 9-25684
 Orion Nebula, O III 51.8 μ m forbidden emission line obs. 9-25685
 O Persei, X-ray spectra, binary model 9-25757
 PG 0026+129, L α /H β /Pa ratio following IUE UV obs. of quasar 9-12537
 PK 181+1.1, new weak planetary nebula near galactic anticentre, spectrum and radial rel. 9-17049
 PK 60-7^o1, nebula around FG Sagittae, spectrophotometric study 9-40240
 PKS 0237-23, absorption redshift of QSO 9-35417
 PKS 0528-250, abundances in absorbing material towards QSO 9-40288
 PKS 0537-286, high-z QSO with extreme Lyman continuum cutoff 9-12538
 PKS 0735+178, BL Lacertae object, spectrum, multiple components in z=0.424 absorpt. system 9-25707
 planetary nebulae, 10 micron props. obs. 9-48879
 planetary nebulae, C IV 1550 \AA lines fluxes meas. and C abundances 9-17051
 planetary nebulae, central stars temps. determ. from O III/O II line ratios 9-2565
 planetary nebulae, emission line fluxes in truncated composite shell models 9-25677
 planetary nebulae, emission line intensities for small ang. size moderate excitation nebulae 9-21407
 planetary nebulae, EUV spectra of young objects 9-35336
 planetary nebulae, OH emission search 9-48787
 Pluto, image tube spectra, 6800-9000 \AA , search for possible atm., methane upper limit 9-16880
 pulsars, gamma-ray spectra 9-30083
 pulsars, spectra and flux densities in 61-1420 MHz range for 9 objects 9-12487
 Puppis, A Fe X and XIV forbidden line emission 9-44580
 Q 2204-408, IUE UV spectrum of high redshift radio-quiet quasar 9-35424
 QSO absorbing regions, extended Lyman α emission obs. 9-44631
 QSOs, absorption lines shortward of L α emission, redshifts, origin in moving H I clouds 9-9025
 QSOs, high-redshift emission-line spectra and emitting regions props. 9-21458
 quasar, absorption spectra and Wu states, plasma-laser star model 9-48950
 quasar 0933+733, redshift determ. from low dispersion objective prism plates 9-2485
 quasar redshift determ. from low dispersion objective prism plates 9-2485
 quasars, absorpt. line systems, wind driven shell model 9-21461
 quasars, broad lines rel. to gas cloud containment by particle flux 9-8820
 quasars, continuous and emission-line spectra and relationship with Seyfert galaxies 9-2571
 quasars, distance determ. to absorbing clouds 9-35421
 quasars, emission line clouds, radiation pressure-driven Rayleigh-Taylor instability 9-35419
 quasars, emission spectra and radio struct. relations 9-40290
 quasars, H I Lyman α /Balmer β intensity ratio interpretation 9-35418
 quasars absorption line problem, optically selected high-redshift objects spectrophotometry 9-25746
 quasars absorption lines and galaxy Faraday rotation (*Russian*) 9-40273
 quasars PG 0026+129 and 3C 273, optical and IR spectrophotometry 9-17123
 quasi-stellar objects, low-redshift, spectra, absorpt. lines obs. 9-21459
 radio source near refl. nebula NGC 7023, non-thermal spectrum 9-17048
 radio sources, compact in bright galaxies; ang. sizes and spectral indices from VLBI 9-48943
 radio sources, peculiar, in Abell 1367 galaxy cluster, Westerbork obs. and spectral indices 9-2574
 radio sources, variable, with flat spectra, identified with supernovae stellar remnants 9-17117
 radio sources, spectroscopic identification of three southern PKS sources 9-25744
 radio sources nonlinear spectra, rel. to relativistic electrons accel. in plasma turbulent reactors 9-8824
 redistribution of scattered radiation by collisions in nonimpact region of spectral line profile 9-35109

astronomical spectra continued

- resonant X-ray lines, freq. redistrib. and radiation diffusion, Voigt profile, thermalisation length (*Russian*) 9-5747
 Saturn, deuterated methane obs. in 5 μ m spectrum 9-25543
 Saturn, origin of Lyman-alpha emission from rings vicinity 9-12430
 Saturn atmosphere, acetylene detect. using IUE satellite 9-48731
 Saturn D-ring methane 890 nm band obs. 9-44407
 SC 0627-544, Fe XXV and Fe XXVI emission lines in X-ray spectrum 9-48941
 Schwarzschild black hole, absorpt. and emission spectra, computational methods, cross sections 9-2558
 Scorpius X-1, extended X-ray obs. with Bragg crystal spectrometer 9-12543
 Seyfert 1 galaxies, forbidden line emission suppression 9-35358
 Seyfert 1 galaxies and QSOs, Fe II permitted emission, excitation mechanism 9-21412
 Seyfert galaxies, continuous and emission-line spectra and relationship with quasars 9-2571
 Seyfert galaxies, exploratory obs. of gas near nuclei 9-48906
 Seyfert galaxies, H I spectra and distrib. survey 9-8988
 Seyfert galaxies, IR emission obs. 9-17083
 Seyfert galaxies, type I, nuclei props., UV emission, colour index (*French*) 9-48923
 Seyfert galaxy nuclei, absolute spectrophotometry 9-12508
 Sh 2-158 (NGC 7538), bright high excitation galactic nebula, morphology, excitation and kinematics 9-40241
 Sharpless 88A-B and 106, compact H II regions, optical obs. 9-8969
 silicates, emission and extinction in 4-14 μ m range 9-44581
 SN 1006 optical remnant, peculiar spectrum obs. 9-21371
 star formation regions, IR spectroscopy of assoc. lineless objects 9-44586
 supernova remnant candidates in M33 central region, forbidden S II emission 9-21402
 supernova remnant with broad optical emission lines near NGC 4449 irregular galaxy 9-17057
 supernova remnants, Fe X and XIV forbidden line emission 9-44580
 supernova remnants in M33, spectra, element abundances 9-35354
 Tololo quasars, follow up visible spectroscopy for five candidates 9-17125
 Triton, image tube spectra, 6800-9000 \AA , search for possible atm., methane upper limit 9-16880
 variable compact object discovery in Perseus, bright blue N-galaxy, photometry and spectrum 9-12524
 Venus, CO₂ line Doppler shift rel. to retrograde winds possible periodic vars. 9-25530
 Venus, CS₂ as candidate for 3150 \AA band 9-40108
 Venus, H Lyman α emission rel. to exosphere temp. day-to-night var. 9-35164
 Venus nightglow spectrum, O₂(C³ Δ_u to a¹ Δ_g) 9-16856
 Venus UV spectroscopy, initial results from Pioneer Venus orbiter 9-48711
 VV 8, galaxy, spectrum rel. to rot., mass and surface brightness obs. (*Russian*) 9-48937
 W51, O III 51.8 μ m forbidden emission line obs. 9-25685
 X-ray sources, ANS obs. of intensity and spectral vars. 9-17127
 X-ray spectra restoration 9-25515
 zodiacal light, search at 1550 \AA , and 1550 to 4200 \AA spectrum 9-16882
 III Zw 2, quasar, spectrophotometry of assoc. galaxies and nebulosity, redshifts 9-21460
 II Zw 40, dwarf galaxy, line and continuum radio spectra 9-8992
 Zwicky compact galaxies, spectroscopic survey 9-17074
 CO, interstellar, obs. in young cluster (IC 5146) 9-48881
 CO interstellar emission intensity rel. to H I absorption column density 9-35319
 CO line profiles for dark molecular clouds 9-5877
 CO line radiation transfer in collapsing dark cloud, Monte Carlo method appl. 9-44357
 Fe II permitted emission in Seyfert 1 galaxies and QSOs, obs. 9-35361
 Fe II permitted lines in spectra of type I Seyferts and quasars 9-44602
 Fe VI, forbidden emission under nebular conditions 9-8970
 H I, galactic, high angular resolution emission spectra, self absorpt. and other chars. 9-35350
 H I absorption at intermediate galactic latit., aperture synthesis obs. 9-12503
 H I absorption from CL 4, compact radiosource 9-48944
 H I Lyman α formation in expanding spherical nebulae with dust 9-8975
 H I Lyman α line formation in expanding spherical planetary nebula 9-30110
 H II regions, electron temps. determ. from radio recomb. line obs. at 22 GHz 9-35334
 H II regions, giant, extragalactic, vel. dispersions from H α line widths 9-44606
 H II regions, H I absorption profiles towards 11 galactic sources 9-12499
 H II regions, spectrophotometry from 4 to 8 μ m of compact regions 9-35321
 H₂ (4,0) and (3,0) S(1) lines, absorption strengths 9-16852
 H₂, interstellar, reson. fluoresc. with Lyman α 9-8821
 H₂O maser emission from NGC 4945 galaxy 9-40271
 H₂O masers located near Herbig-Haro objects, discoveries 9-21369
 He H⁺, formation and destruction in gaseous nebulae, assoc. IR emission line spectrum 9-44589
 He I, rate coeff. for 2S - 2P transition electron impact excitation 9-48664
 Io, Na I, Ca I, Fe I, and Mg I emission lines in spectrum 9-21223
 NGC 1499, H II region nebula parameters determ. from decimetre wavelength obs. (*Ukrainian*) 9-40243
 NH₃, interstellar emission line in Orion, 23 GHz obs. 9-30109
 O I 7990 \AA and 11287 \AA branching ratios, astron. appl. 9-41134
 O II and S II forbidden lines as determinant of reddening and electron density 9-30114
 OH maser sources near galactic centre, systematic search at 1612 MHz 9-35415
 OH masers, type I, positions, polarisation, nearby H₂O masers, radio and IR props. 9-25671
 OH, radical, microwave spectra, search possibilities 9-26972

astronomical spectroscopy see astronomical spectra; spectroscopy

astronomical techniques

- see also astrometry; radioastronomical techniques
 abundance determ. using reddening-independent stellar characts. 9-5898
 adaptive optics, rubber mirrors to compensate for atm. aberrations, book contrib. 9-35150

astronomical techniques continued

- Ap stars, line identifications, new wavelength lists 9-16967
astrometric plate reduction, least squares prediction appl. 9-40082
astrometric search for unseen stellar and sub-stellar companions to nearby stars and the possibility of their detection 9-30092
atmosphere modulation transfer function, estimation via coherence interferometer (*Russian*) 9-16715
binary stars, reflection effects evaluation, generalised approach 9-25631
RS Canum Venaticorum systems, detect. technique using X-ray emission 9-21345
Cherenkov radiation from large air showers, image reconstruction 9-25420
chondritic meteorites chemical anal. scheme, appl. to Cocklebirdy 9-2483
circumstellar dust envelopes, calc. of eclipse light curves and fringe visibilities 9-35234
close binary systems, polarimetric determ. of revolution directions and spatial orientations 9-35309
colour astrophotography, slide and print developing 9-29996
convolution of cometary brightness profiles by circular diaphragms 9-12433
cool stars, effective temps; ang. dias. and reddening determ. from 1 to 5 μ m flux curves 9-44458
coordinate measurements using phase and fringe freq., tropospheric limitations 9-44375
cosmic ray intensity diurnal variation, two approaches to study 9-29953
cosmochrometry, appl. of Ti^{3+}/Ti^{4+} ratios in Allende meteorite 9-12437
crater size-freq. data presentation and analysis, standard techniques 9-44387
detection of stellar systems by lunar occultations 9-44542
dynamical astronomy numerical simulation, new Runge-Kutta algorithms 9-12387
eclipsing binary stars, soln. of light curve by Kopal's iterative process 9-35310
eclipsing variable stars, light curves Fourier analysis, appls. to eccentric orbits 9-25630
eclipsing variable stars Fourier anal., B_{nm}^q integrals explicit expression 9-35298
eclipsing variables, Fourier anal. of light curves, geometric elements soln. 9-25634
eclipsing variables, Fourier anal. of light curves, photometric perturbs. for partial eclipses 9-25635
eclipsing variables, Fourier anal. of light curves 9-25632
eclipsing variables, Fourier anal. of light curves 9-25633
eclipsing variables, Fourier anal. of light curves 9-30088
eclipsing variables, Fourier analysis of light curves 9-8946
eclipsing variables, Fourier analysis of light curves 9-8945
elliptical galaxies, ang. size determ., 2-D Fourier transform technique 9-35373
energy method in stellar stability problem 9-35239
EUV spectra and solar atmosphere plasma diagnostics 9-30050
EUV spectroscopic method for electron density determ. in stellar atms. 9-16836
extragalactic distance scale, tertiary distance indicators 9-25708
Fourier analysis of eclipsing variable light curves for partial phases 9-21350
Fourier analysis of the light curves of W Uma-type stars 9-21349
Fourier transforms of data sampled in unequally spaced segments 9-35140
frequency analysis of low-amplitude δ Scuti stars 9-35276
frequency analysis of low-amplitude δ Scuti stars 9-35275
fringe visibility intensities, uniquely related to brightness distrib. 9-8842
galactic reddening determ. 9-5875
galaxies ages, determ. from N/O ratio 9-25728
galaxies H I spectra, line calibration using small galaxies obs. 9-35382
galaxy clusters, mass density and gravitational potential estimation 9-12529
galaxy mass distrib. models, regularization method (*Russian*) 9-12507
galaxy models, numerical orbit computation algorithms comparison 9-12497
gamma rays in 10^{11} - 10^{14} eV range using atmospheric Cherenkov technique 9-25422
gamma-ray spatial pattern anal. via spectrometer with various shaped scintillators 9-16831
gamma-ray telescope on satellite, axis orientation determ. 9-2479
gravitational experiments, search for relativistic effects on Earth artificial satellites motion 9-2465
Hubble constant determination, Type I supernovae appl. 9-40304
image enhancement of solar corona photographs 9-16841
information processing of astronomical negatives, using thick-film holograms 9-48690
interstellar magnetic fields, determ. in dense cloud complexes via Zeeman splitting obs. 9-5757
interstellar medium, temp. and density determ. from fine struct. levels population ratios 9-35351
interstellar shock waves, vel. determ. from high vel. H I absorpt. features 9-48891
interstellar submillimetric lines, possible detect. via laser heterodyne techniques 9-44377
inverse multiple scatt., approx. models, limb darkening and phase curves 9-44388
IR measurements at liquid He temperatures (*German*) 9-5760
IR multiple freq. sounding of anomalous clouds in Jupiter's atmosphere 9-2515
IR speckle interferometry, appl. to accreting young stars ang. dimensions determ. 9-44482
laser mass spectrometry, for element anal. of extraterrestrial samples 9-16717
life in planetary soils, chemical-biological search possibilities 9-40176
luminosity calibrations from trigonometric parallaxes, practical improvement method 9-40083
lunar soils, volatile trace elements determ. by RNAA 9-44276
lunar surface gravimetric surveying process optimization 9-8846
lunar volatile emissions, detect. techniques 9-44385
Mars surface topography, photometric study method 9-25537
masses of giant molecular cloud complexes, estimation method 9-5888
maximum entropy spectral analysis, model data anal. situation study 9-8843
maximum-entropy image processing in gamma-ray astronomy 9-48684
metal abundance determ. in late-type stars, new method 9-12405
metallicity determ. for K-type giants, problems 9-44474

astronomical techniques continued

- meteorites, velocity meas. by radar technique (*Spanish*) 9-5759
multicolour photometric systems, early-type stars synthetic UVB colours and temp. scale 9-16933
multiple star discovery techniques and spectroscopic meas. 9-44540
neutrino astronomy, high energy, possible point sources 9-2484
novae, spectrophotometric estimate of electron density in rapidly rot. accretion discs 9-16968
numerical integration of stellar orbits 9-21361
objective prism radial velocities, of NGC 3114 open cluster (*French*) 9-48868
optical interferometry of solar phenomena 9-44378
optical surface control, Hartmann method, use of splines 9-35149
orbit computation, semi-analytical method (*Chinese*) 9-8798
parameter estimation, via appl. of likelihood ratio 9-44374
period-finding technique, Fortran IV computer program 9-21195
photographic amplification of faint astronomical images 9-16839
photographic method optimisation in astronomical obs. (*Russian*) 9-35144
photographic stellar spectra recording 9-16956
photon position determination using microchannel plates, X-ray imaging for HEAO-B 9-45555
physical systems instabilities, variational principles for complex eigenvalues 9-21527
planetary atmosphere studies by occultations, wavelength depend. of turbulence effects on refr. angles 9-48697
planetary atmospheres, light scatt. process meas. via laser beam (*Russian*) 9-44365
planetary nebulae central stars, temps. determ. from nebulae ionic abundance ratios 9-2565
planetary surface elemental anal. via orbital gamma-ray spectroscopy 9-12412
planets surface shape determ. from limb photographs by spacecraft 9-8845
plasma electron temp. and density diagnosis 9-5793
plate processing, two-dimensional digital filtering techniques 9-16835
positional astronomy and astro-navigation computing, new approach using pocket calculator, book 9-12383
projection blink comparison, appl. to nova searching 9-12407
radar observations of meteorites Moon and planets (*Spanish*) 9-5759
radiative transfer, exponential integrals A-transform determ. 9-35114
Rayleigh atmosphere single-scatt. albedo, determ. from polarisation meas. 9-35117
selenographic coords. determ. of ALSEPs using RATAN-600 equipment (*Russian*) 9-25517
SNR hydrodynamical evolution, analytical methods 9-5885
solar corona, density determ. from Fe IX lines 9-44429
solar corona and comet details enhancement, digital image processing 9-25516
solar flare energy disposition by non-thermal electrons, indirect determ. 9-25581
solar flare protons, identification from accompanying EM emission 9-12443
solar force-free constant α mag. fields, determ. from magnetograph data 9-12445
solar neutrino experiments, appl. to cosmological hypothesis testing 9-16918
solar neutrinos measurement, cosmic ray neutrinos ^{37}Ar prod. rate estimate 9-16837
solar rotation meas. using nonradial p-mode oscils. 9-29994
solar speckle interferometry calibration, atm.-lens MTF changes 9-2370
solar X-ray images, quantitative interpretation by filter ratio anal. 9-40085
solar X-ray imaging techniques, past and future, review 9-25495
solar X-ray photographs anal. and interpretation, filter ratio method 9-40086
space astronomy, planned studies from space shuttle telescope 9-21183
space-time experiments, potential of an orbiting interferometer 9-35624
speckle interferometric meas. of ang. diameters of asteroids Vesta and Pallas 9-35172
speckle interferometry, image restoration by least squares method 9-25514
speckle interferometry, two-point, astron. appls. and disadvantages (*Russian*) 9-16840
speckle interferometry bandwidth extension using simple optical system 9-26114
spectral line equivalent widths meas. criterion 9-35141
spectral line profile correction for instrumental influence, numerical methods 9-35148
spectrometer, Fabry-Perot, piezoelectric scanning nonlinearities 9-6183
spectrophotometric identification of late type binaries in open clusters 9-44548
spectroscopic binary member of visual double, mass determ. method (*French*) 9-44549
spectroscopy, review 9-12408
spiral galaxies surface photometry, computerised data reduction system, (appl. to NGC 157) 9-40264
star simulator lightguide test instrument and method 9-27422
stellar absolute spectrophotometry, spectral energy standard (*Russian*) 9-44372
stellar broadband linear polarimetry, zero polarisation standards list 9-40187
stellar convection parameters, meas. technique 9-21273
stellar disc brightness distrib. determ. from photoelec. obs. of lunar occultations 9-35146
stellar image sharpening, real-time phase correction 9-12410
stellar images, atmospherically degraded, restoration using complex spectral ratios 9-29854
stellar light curve analysis, by automated Fourier techniques 9-17020
stellar magnitude, colour index and position meas. from astronomical photographs, automated technique 9-21194
stellar models, tidally distorted, small oscils., Roche coordinates appl., second-order terms effect 9-44462
stellar perturbation analysis 9-44379
stellar photometry in auroral zone, UVB obs. at geographic latit. $69^{\circ}22'$ north 9-44376
stellar pulsations, period determination using phase dispersion minimisation 9-5756
stellar secondary spectrophotometric standards, obs. in 5840-10800 Å range 9-29995
stellar speckle interferometry, two aperture pupil plane 9-35145

astronomical techniques continued

- stellar speckle interferometry data processing method 9-12409
- stellar spectral line analysis, effect of waves 9-44465
- stellar spectrophotometry, accuracy anal. 9-21193
- submillimetre waves and applications, conference, Guildford, England (1978) 9-31916
- submillimetric multicolour photometry and calibration 9-35143
- superconducting superheated granules as X-ray and γ -ray imaging detectors 9-25504
- taxonomy, appl. to Virgo galaxy cluster area morphological study (French) 9-35400
- transformation-elimination technique for soln. of perturbed Hamiltonian systems 9-44346
- UBV stellar photometry from N. Norway during auroral activity, technique and results 9-40084
- UV astrophysical studies from space vehicles 9-25519
- variable star radius determ. by Wesselink method, appl. to nonradially oscill. star 9-48824
- wavelength calibration of low dispersion objective prism plates, quasar redshift determ. 9-2485
- Wolf-Rayet stars, faint, photometry by u'ubv' system 9-40200
- Wollaston prism as convergent light beam splitter 9-14092
- X-ray spectra restoration 9-25515
- X-rays diffuse component, separation method using growth curves 9-25512
- C stars, C and N isotope ratios from spectral analysis 9-30057
- Li, Be, B, isoelectronic sequences, ionization equilib. balance, solar and stellar atms. appl. 9-36587
- N III lines for solar diagnostics 9-30031
- ZnS:⁶⁰Sr, continuously acting luminous solid for photoelec. meas. over 300-800 nm range 9-3757

astronomical telescopes

- see also radiotelescopes*
- azimuth alterations, influence on absolute right ascension calcs. (Russian) 9-35134
- AZT-24, design formulas for construction elements 9-35133
- balloon-borne 102 cm telescope and Palermo four-colour far IR (Italian) 9-48688
- Cassegrainian 40 cm reflector, qualitative and quantitative examination (Japanese) 9-44366
- diffraction figure calc. by Fourier transform. (French) 9-48672
- double scatter telescope for medium energy gamma ray astronomy from a satellite 9-48676
- drift chamber telescope for gamma-ray astronomy 9-21185
- Faint Object Spectrograph for Space Telescope 9-25483
- Faint Object Telescope for far UV spectrophotometry of galaxies and quasars 9-25481
- far IR focal plane array, test facility 9-5755
- gamma-ray telescope, low and medium energy, modulating anticollimator (Russian) 9-16832
- gamma-ray telescope on satellite, axis orientation determ. 9-2479
- grid telescope for imaging hard X-rays 9-25501
- HEAO-B X-ray Observatory 9-25446
- HEAO-B X-ray telescope, focal plane transport assembly controls 9-48677
- imaging double Compton telescope for balloon obs. of MeV gamma radiation 9-25503
- imaging soft X-ray telescope for Spacelab 9-25498
- IR, cryogenically cooled sensors, calibration in space, AFGL expts. 9-5753
- IR Astronomical Satellite Telescope, focal plane design 9-5750
- Keplerian, magnifying power meas. method 9-18497
- Large Azimuth Telescope penetrative power determ. 9-48681
- Large Azimuthal Telescope, 6 m, test results using Hartmann method with stars 9-8838
- Large Azimuthal Telescope mirror blank fabrication facilities 9-14123
- Large Azimuthal Telescope primary mirror, glass blank quality 9-29991
- Large Azimuthal Telescope program control system 9-16829
- metal mirrors, Al, Ni and Au surfaces, EUV reflection efficiencies 9-14073
- Michelson stellar interferometer for binary star obs. 9-44370
- MISO low energy γ -ray telescope 9-25472
- multiple mirror telescope, design (Norwegian) 9-40072
- optical surface control, Hartmann method, use of splines 9-35149
- optics, computer modelling 9-8836
- optics, quick Hartmann method 9-8837
- resolution, physical and geometrical optics explanation (Spanish) 9-40075
- Schmidt folded telescope for deep photographic survey from Spacelab 9-25474
- Schmidt-Cassegrain system, optical figuring 9-46025
- Shuttle IR Telescope Facility, detector performance conditions 9-5752
- Shuttle IR Telescope Facility, focal plane design 9-5750
- small-aperture wide-field, for optical IR sky survey appl. 9-21198
- solar limb motion, expt. verification of atm. turbulence inertial model 9-5614
- Space Telescope, image sensors performance, planning 9-35136
- Space Telescope, NASA plans (German) 9-16828
- Space Telescope 9-25477
- space telescope on space shuttle planned astronomical studies 9-21183
- stellar image sharpening, real-time phase correction 9-12410
- TIRGO project (Italian) 9-48678
- UK Schmidt Telescope, obs. 9-48680
- Wolter type I telescope for rocket appl., X-ray optical props. 9-25499
- Wynne telescope with FAUST, far UV camera on Spacelab 9-25476
- X-ray multiple-grid telescopes, diff. effects 9-44367
- X-ray optics, surface roughness meas., by X-ray scattering and differential interference contrast microscopy 9-30410

astronomy *see astronomy and astrophysics***astronomy and astrophysics**

- see also astronomical catalogues; astronomical instruments; astronomical observations; astronomical observatories; astronomical spectra; clusters of galaxies; cosmology; extraterrestrial life; galaxies; gamma-ray astronomy; infrared astronomy; intergalactic matter; interplanetary matter; interstellar magnetic fields; intercalations; radioastronomy; solar system; stars; ultraviolet astronomy; X-ray astronomy*
- aether drag and radiation press. in dispersive medium 9-35124
- anisotropic explosion of rotating, self-gravitating uniform spheroids, astrophysical appls. 9-8822
- annual review, 18th volume 9-5733

astronomy and astrophysics continued

- Astronomical Soc. of Pacific, Park City summer meeting (1978 June 21-23) 9-21201
- axions, astrophys. constraints on axion mass and number of quark flavours 9-36009
- axions and Higgs particles, astrophysical mass bounds 9-5745
- Bondi accretion, linear stability problem 9-44359
- book, discovering astronomy 9-8855
- celestial masers physics, review 9-21455
- cosmic systems charge polarisation, appl. to stars and universe 9-48771
- Coulomb excitation functions, numerical calc. of limiting props. 9-9604
- crater size-freq. data presentation and analysis, standard techniques 9-44387
- data growth, anal. 9-21202
- education, use of line-of-sight transparency 9-35508
- education at Florida's Brevard Community College 9-12557
- educational courses, new approaches 9-3
- experimental nuclear astrophysics, review 9-25471
- experimental nuclear astrophysics, review book contrib. 9-22161
- handbook for Southern Africa (1979) 9-30164
- Harriot, Thomas, 1560-1621, biography, astronomical instruments and obs. 9-35512
- High Energy Astronomy Observatory (HEAO) programme 9-44368
- High Energy Astronomy Observatory Program, mission 9-5730
- hydrodynamics, Rayleigh-Taylor instability of self-similar spherical expansion 9-8823
- hydromagnetic surface waves, props. and astrophysical appls. 9-25462
- ions, proton excitation approximations, erratum and extension 9-35118
- Italian Astronomical Soc., 20th meeting (Frascati, 7-10 Oct. 1976) (Italian) 9-21199
- Italian Astronomical Soc., 21st. meeting (Bologna, 20-23 Oct. 1977) (Italian) 9-21200
- Jacobi's virial eqn. soln. for celestial bodies 9-8832
- Jeans, Sir James Hopwood (1877-1946) 9-35
- Lambert, Johann Heinrich, 1728-1777, biography (German) 9-17174
- lunar megalithic sites in Britain, reconsideration 9-8854
- magnetic dynamo α -effect, determ. for slow and fast rot. 9-40069
- matter at high temperatures, comp. and adiabatic index 9-44354
- methane, ν_4 fundamental band strength, line-intensity meas. 9-22700
- MHD kinks in nonresistive plasma, astrophys. appl. 9-27763
- NASA astrophysics activity 9-5729
- neutrino-free β -decay theory, new aspects 9-13254
- non-thermal emission mechanisms 9-48667
- nonlinear astrophysical dynamos, multiple period dynamo wave oscills. and solar cycle modulations 9-16813
- nuclear partition functions 9-21167
- nuclear synthesis, cluster aspects 9-5744
- observer's handbook of Royal Astronomical Society of Canada, (1979) 9-8796
- particles accelerated by Alfvén waves, distrib. function self-similar solns. 9-32757
- phoenix of nature, fire and evolutionary cosmology in Wright and Kant 9-5764
- physical systems instabilities, variational principles for complex eigenvalues 9-21527
- plasma astrophysics 9-16820
- plasma magnetoparametric instabilities, appl. to Crab nebula 9-8829
- plasma second harmonic emission, head-on approximation 9-41803
- precession matrix based on IAU (1976) system of astronomical constants 9-48653
- pseudoscalar bosons rule in astrophysics (French) 9-44361
- rotating fluids, convective modes and convective stability 9-16818
- selections from 1977 Comments on Modern Physics, book 9-30181
- self-gravitating gas-particle suspension, magneto-gravitational instability, with conduction 9-29989
- shock waves, post-collisional propag. and amplification (Russian) 9-44360
- singularities in general relativity theory 9-35591
- solar neutrino astrophysics, review 9-16917
- spin-orbit resonance, mathematical aspects 9-12389
- strongly coupled classical plasmas in laser fusion and astrophysics, review 9-10634
- synchrotron sources, boundary effects and circular polarisation 9-48668
- tachyons interaction with gravity, rel. to cosmology and black holes 9-25839
- theoretical physics and astrophysics, book 9-44363
- wave propagation, gravit. instability, rot. and streaming effects 9-37293
- white holes, optical appearance 9-21323
- CH⁺, electron impact excitation, rot. transitions 9-41244
- Fe I, excited levels measured lifetimes compared with calcs. from oscillator strengths 9-36586
- Fe I, precision oscillator strengths from levels $a^5F_{1,3}$ and $a^5D_{0,4}$, comparison 9-36584
- Fe I transition from levels $a^5F_{1,3}$, relative oscillator strengths precision meas. 9-36585
- Fe I transitions from levels $a^5D_{0,4}$, relative oscillator strengths precision meas. 9-36583
- Fe VI, forbidden emission under nebular conditions 9-8970
- H⁺ + H collisions, assoc. detachment process theory 9-44351
- He like ions Z=12-19, $1s^2 \ ^1S_0$ - $1s3p \ ^1P_1$ lines satellites obs. in laser 9-22640
- HeH⁺, electron impact excitation, rot. transitions 9-41244
- N IV, dipole lengths, dipole vels. and transition probabilities 9-35113
- O V, O VI, dipole lengths, dipole vels. and transition probabilities 9-35113
- YO, A² Π -X² Σ^+ and B² Σ^+ -X² Σ^+ systems, Fourier transform spectroscopy anal. 9-22718

astronomy computing

- see also computerised instrumentation*
- colliding particles in gravitational field, numerical simulations 9-16802
- galaxies, flat disc, retrograde stars effect on global bar-forming mode 9-21411
- lunar data, logical searching, FORTRAN program incorporating Boolean search capabilities 9-2491
- lunar position computation algorithm 9-25452
- lunar surface elemental composition, analytical determ. from Apollo X-ray and γ -ray spectrometer data 9-2495
- optical surface control, Hartmann method, use of splines 9-35149
- optics, computer modelling 9-8836
- period-finding technique, Fortran IV computer program 9-21195
- planets around multiple stars, computer simulations 9-2559

astronomy computing continued

- positional astronomy and astro-navigation computing, new approach using pocket calculator, book 9-12383
- radiative transfer exponential integrals, Λ -transform determ. 9-35114
- solar position computation procedure 9-5734
- spiral galaxies surface photometry, computerised data reduction system, (appl. to NGC 157) 9-40264
- stellar magnitude, colour index and position meas. from astronomical photographs, automated technique 9-21194

astrophysics computing

see also computerised instrumentation

- massive stars presupernova evolution 9-16930
- maximum entropy spectral analysis, model data anal. situation study 9-8843
- multispectral scanning sensor system digital simulation 9-29997
- optical depth, integral of Voigt function 9-25468
- Poisson's eqn. numerical soln. for flattened centrally condensed objects, stellar models 9-35110
- protostellar clouds evolution, three dims. dynamics 9-16929
- spectral line equivalent widths meas. criterion 9-35141
- stellar atmosphere, expanding, radiative transfer by Feautrier method 9-25593
- stellar bar, dynamics, computer model 9-30093
- stellar speckle interferometry data processing method 9-12409
- swirling particle fluids, computer studies, evolution of planetary-type bodies 9-35121

asynchronous electric machines see asynchronous machines**asynchronous generators**

- wave power generation, from randomly varying input 9-48081

asynchronous machines

see also asynchronous generators

- slotted boundary machine field soln., conformal transformation and integral methods 9-41272

atmosphere, solar see solar atmosphere**atmosphere, terrestrial** see terrestrial atmosphere**atmosphere, upper** see upper atmosphere**atmospheric acoustics**

- explosion waves, vibrational relaxation effects on atmos. attenuation and rise times 9-7244
- infrasound, natural, ten years obs. and appl. to lower thermosphere investigation 9-21089
- infrasound observations of circulation vars. during stratospheric warmings 9-2339
- infrasound originating near mountainous regions in Colorado 9-20946
- minimized sonic boom waveforms, subjective loudness 9-16221
- N-wave sonic booms, subjective loudness tests 9-16220
- noise attenuation over an absorbing terrain, theoretical models comparison, aircraft noise appl. 9-18572
- propagation in nonhomogeneous ducts, acoustic energy flux 9-7243
- propagation over hard ground for distances under 200 ft, exp. study, community noise appl. 9-18600
- reflection from the ground, theoretical model 9-18573
- shock formation in unsteady flow 9-37351
- sodar and aircraft simultaneous meas. of turbulence 9-20923
- sound attenuation, air-to-ground propag., effects of temp., humidity gradients 9-1019
- sounding and meas. of diffusion in freely convective boundary layer 9-34966
- temperature structure parameter profiles meas. by acoustic sounder 9-21049
- turbulence effects on interference of sound waves above finite impedance boundary 9-41493
- typhoons, detection and appl. of associated acoustic waves (Chinese) 9-34996

atmospheric boundary layer

- advection dominated flows, finite element anal., book contrib. 9-34934
- air flow above sea surface, eddies transfer rate investigation (Russian) 9-16578
- air-sea interface, CO₂ flux meas., eddy correl. method 9-25303
- subtropical Atlantic surface atm. and oceanic circulation patterns assoc. with Subsaharan weather anomalies 9-5587
- baroclinic planetary boundary layer above sea, parameterisation (Russian) 9-16576
- bulk transfer velocity to and from natural and artificial surfaces 9-25302
- climates, book 9-8682
- cold-air advective conditions, lake moderating effects on surface temps. 9-25299
- convective layer over sea, turbulence meas. by instrumented aircraft 9-12214
- diffusion in freely convective boundary layer, meas. by acoustic sounding 9-34966
- dispersion from elevated point source 9-12245
- dispersion from elevated source in convective layer 9-12246
- diurnal wind var., diffusion eqn., theory 9-48540
- drag coefficient vars. for air flow above water waves 9-44232
- dry season in steppe of S.W.Africa (German) 9-34923
- dynamics, IR radiation effects 9-39815
- electrode effect, obs. at mountain station 9-25307
- equatorial region circulation, boundary layer zonal wind soln. 9-29821
- escarpment wind profile 9-12217
- evolution and nocturnal inversion dispersal 9-25295
- evolution and nocturnal inversion dispersal 9-25296
- flow over two-dimensional obstruction, description by parabolic partial differential equations (Italian) 9-20956
- flow over water during stable conditions, Eulerian and Lagrangian time scales 9-25300
- forecasting of average air temp., underlying ocean surface influence 9-29827
- gamma radiation field of seawater and atm. surface layer rel. to cosmic ray neutrons (Russian) 9-39746
- geostrophic balance of horizontally periodic motions 9-39824
- heat and momentum transfers under strong stability 9-16584
- humidity characts. rel. to atm. total H₂O vapour content 9-39836
- humidity diurnal variation over continents, absorpt. in hygroscopic soil layer 9-29825
- jet drops from bubbles bursting in seawater, ejection height rel. to organic material 9-39727
- lee waves generated by isolated islands, three-dims. patterns, satellite obs. 9-44230

atmospheric boundary layer continued

- liquid phase mass transfer coeffs. at natural air-water interfaces 9-20922
- low-level air flow in central valley, Maui, Hawaii 9-20929
- marine aerosols influx into atmosphere, influence of coastal-zone physical and meteorological conditions 9-29818
- marine atmosphere, elec. field short-period fluctuations 9-39816
- marine atmosphere diurnal kinetic photochemistry 9-48549
- moist, finite element model, eqns. 9-5585
- moist, finite element model, soln. method 9-5586
- ocean cold film calc. from diurnal temp. vars. 9-20855
- optical scintillometer, large-aperture, fine calibration, optical estimate of turbulence inner scale 9-21026
- tropical Pacific, coupled air-sea model 9-16581
- parameterization technique 9-29830
- particle sources over Australia 9-20907
- plume dispersion from ground level sources, simulation 9-12231
- point heat source, natural convection in rotating environment 9-10445
- pollutant dispersion in stratified layer, numerical simulations 9-12251
- pollutants deposition velocities over water 9-8683
- prediction of atmospheric flows on nested grids 9-44240
- radiation balance over water surface 9-20889
- scatter channel for ELOS optical communications system, scattering from marine aerosols 9-29862
- sea breeze, numerical results, truncation errors 9-10447
- sea salt quantitative meas. over N.Atlantic 9-16624
- sensible heat advection, local and regional components 9-20942
- similarity functions for H₂O vapour in unstable layer 9-25293
- soil erosion, wind tunnel simulation, effects on fine dust production 9-20834
- soil gas fluxes determination, chamber methods numerical evaluation 9-16700
- stably stratified planetary boundary layer, model study 9-34909
- streamwise turbulence vertical coherence inside and above model plant canopy 9-25297
- structure evolution over oceanic and continental sites (French) 9-25294
- structure of axisymm. vortex, lower boundary condition effect 9-25298
- subtidal sea level fluctuations, rel. to atm. forcing, North Carolina coast 9-16498
- surface contamination, air conc. and horizontal fluxes estimation 9-5599
- surface layer over Poona, temp. field 9-48544
- surface layer turbulent flows 9-39838
- temperature profile, microwave radiometer, for indirect determ. 9-25369
- terrestrial surface features effects, instrumented aircraft meas. 9-39808
- thermally forced planetary waves 9-34910
- transport and diffusion in near wake regions of surface-mounted cubes 9-12183
- tropical, circulation over Arabian Sea during summer monsoon, flow field anal. 9-44231
- turbulence characteristics 9-16628
- turbulence in surface and planetary layers at unstable stratification (Russian) 9-34900
- turbulent advection, scalar spectrum model 9-32474
- turbulent kinetic energy downward transport over plant canopies 9-25301
- turbulent layer development above sea during generation of surface waves (Russian) 9-16476
- turbulent penetrative-convection planforms, laboratory obs. 9-48550
- turbulent stratified flow, vel. profile (Russian) 9-10601
- urban environment, meteorological obs. 9-25312
- urban layer, numerical simulation of air flow over flat terrain 9-48554
- urban-rural canopy analysis, surface heat flux/temp. model 9-20945
- visibility rel. to surface wind at Gutersloh, Germany, smoke pollution effects 9-29853
- wind drag coefficients for marine regime, shipboard evaluations 9-5494
- CO₂ flux meas., eddy correl. method 9-25303
- CO₂ meas., fast response sensor design, for eddy correl. flux meas. 9-5622
- H₂ conc. in near-surface air and dissolved in seawater, tropical N.Atlantic 9-39729
- ⁸¹Kr, latitudinal distrib. in atm. surface layer over ocean (Russian) 9-39813
- O₃ nocturnal maxima, vertical mixing of remnant daytime boundary layer 9-5547
- S compounds conc. in remote continental and oceanic areas 9-20983

atmospheric chemistry

see also atmospheric composition

- aurora, type-B, obs. and interpretation of spectra and rapid time vars. 9-40001
- auroral substorms, morphology of N and NO 9-48607
- chemiluminescent reaction, of ozone and olefins, in stratospheric ozonometer (French) 9-48574
- chlorofluoromethane effects on stratospheric O₃ (German) 9-20959
- chlorofluoromethane negative ion products, in 0-10 eV near-monoenergetic electron impact 9-41245
- D- and E-region, metallic species, chemistry, problems 9-35035
- D-region, ion composition models, unified reaction scheme 9-5704
- D-region, positive ion chemical scheme for electron density profile 9-40007
- D-region, recent advances 9-8751
- dispersion of chemically reacting plume 9-34453
- fluorocarbons, lifetime determ. methods 9-20920
- freons, tropospheric photodissoc. rates from solar 1950-2150 Å radiation ground level meas. 9-2345
- haloalkyl peroxyxynitrate, form., FTIR obs., rel. to stratospheric chem. 9-34283
- halocarbon and N₂O destruction by siliceous land surfaces 9-12168
- halocarbon lifetimes and conc. distrib. using two-dims. tropospheric model 9-12180
- human influence 9-12206
- ionosphere, D and F region ionisation rel. to mesosphere NO concs. 9-8651
- ionosphere, equatorial, modelling of H₂ gas release effects 9-16741
- ionospheric F₂-layer, implications of dynamical effect for dissoc. recomb. rate 9-12340
- marine atmosphere diurnal kinetic photochemistry 9-48549
- mesopause region, ion-clustering during winter anomaly, temp. and NO density vars. effect 9-21087
- photochemical pollutants day of weak vars. in St. Louis, USA 9-20988
- photochemical pollution during summer 1976 in Greater London 9-16648
- photochemical smog, fresh emissions, admixing effects 9-12237
- photochemistry and dynamics of the ozone layer 9-5590

atmospheric chemistry continued

- photolysis, flash, in time and frequency domains, chemical behaviour obs. 9-39874
 photosmog inhibitors, O atom reaction rate constants 9-12185
 positive ions, photodissociation, 3500-8600 Å 9-24763
 recent advances, review 9-12204
 second-order reactions, in turbulent fluid, model, appl. to atm. plumes 9-20350
 second-order reactions, in turbulent fluid, model, formulation and validation 9-20349
 stratosphere, highly excited metastable O₃ rel. to photochemistry and heat balance 9-44225
 stratosphere, NOHSO₄ and NOHS₂O₇ identification in aerosols, rel. to N oxides pollutants removal 9-39795
 stratosphere, photochemistry, orbital simulator using superpress. balloon 9-29966
 stratosphere F chemistry, comparison between theory and meas. 9-16568
 stratosphere photochemistry model, O₃ calcs. uncertainty 9-16567
 stratospheric photochemistry, computer simulation 9-21481
 thermosphere, disturbed, N₂ anharmonic mols. vibr. relaxation rel. to NO conc. 9-12322
 thermosphere, ionic reactions rate coeffs., AE satellite meas. 9-48594
 trihalonitromethanes, mol. dissoc. lifetime in atmosphere 9-22720
 trihalonitrosomethanes, mol. dissoc. lifetime in atmosphere 9-22720
 troposphere, solar UV flux meas., O(¹D) photoprod. rate determ. 9-12197
 upper atmosphere, odd N prod. by meteoroids 9-2404
 urban kinetic chemical calculations with altered source conditions 9-16560
 Al hydration, in vap. phase, rel. to upper atmosphere chemiluminesc. 9-29362
 CH⁺, form. in upper atmosphere following trimethylaluminum high altitude release 9-48591
 Cl+formaldehyde, rate const., 200-500K 9-39133
 Cl+formaldehyde-HCl+HCO, stratospheric O₃ decreased sensitivity to Cl perturbations 9-12190
 Cl+methane, reaction rate const., stratospheric modelling appl. 9-20345
 ClONO₂, photolysis products, very-low press. meas. 9-29376
 ClOO+NO, reaction in stratosphere 9-34889
 HOCl, photodissoc. cross-sections rel. to prospects as atmospheric Cl reservoir 9-12207
 HOCl, UV spectrum, stratospheric lifetime rel. to photodissoc. 9-36661
 HO₂NO₂, stratospheric, UV and IR absorpt. cross sections rel. to photodissoc. loss 9-13733
 HO₂NO₂, thermal decay kinetics 9-5135
 N fixation in instantaneous linear discharges, variable energy input effect 9-20952
 N(²D)+O₂ as source of O(¹D) atoms in aurorae 9-35028
 NO oxidation to NO₂ in power plant chimney plume 9-12178
 NO+N ⁴(S) state reaction rate, discharge flow and photolysis reson. fluoresc. method 9-5142
 N₂O, decomposition over particulate matter 9-16014
 O I 6300 Å airglow rel. to O atoms creation and destruction 9-8735
 O quenching coeff. by molecular collision, optical meas. 9-2419
 O remote sensing in mesosphere and lower thermosphere, two-photon lidar technique 9-39869
 O⁺ collisions with O₂ and N₂, reaction rates 9-16726
 O⁺+N₂(O₂), reaction rates, 300-900K 9-8434
 O₃ column density effect on radiative-photochemical relaxation 9-16592
 O₃-precursor relationships in Sydney airshed 9-34880
 O₃+OH-HO₂+O₂, reaction rate const., 238-357K 9-47902
 O(¹S) production indirect mechanism in aurora 9-48597
 O(¹S) source in aurora, energy transfer from excited N₂ and O₂ 9-48598
 O₂(¹Σ) airglow, gravity waves interaction theory 9-29918
 O₂⁺O₂, reactions with CO₂, O₃ and methane rel. to stratospheric ion chemistry 9-2343
 O₂⁺O₃, reactions with H₂O and methane rel. to stratospheric ion chemistry 9-2343
 S compounds transform. and removal, time-dependent diffusion model 9-20972
 S compounds wet removal from atmosphere 9-2363
 SO₂, aerosol-catalysed oxidation, expt. under atm. conditions 9-1941
 SO₂, atmospheric transport and conversion to sulphates 9-16654
 SO₂, oxidation, precursor effects, rel. to air pollution 9-1960
 SO₂, oxidation by O₂ and O₃ in aq. soln., kinetics, rel. to atm. rate processes 9-20905
 SO₂ pollution long-distance transport, numerical model 9-44238
 SO₂, reversible washout by rain, improved model 9-2364
 SO₂, vertical distrib., influence of clouds and rain, one-dimens. model 9-20982
 SO₂+H₂O+O₂(N₂)(Ar), condensation nuclei form., ion polarity and age depend. 9-39220
 SO₄²⁻, maritime atm. aerosols, sources over N. Atlantic Ocean 9-20904

atmospheric composition

- see also *atmospheric chemistry; atmospheric structure*
 acetylene, ambient concs. and ratios to other hydrocarbons 9-12182
 acid precipitation at Ithaca, New York, comp. and air masses origin 9-16655
 aerosol, produced by α-particles, evolution of <0.02 micron particles (French) 9-43640
 aerosol mass loadings evaluation from multispectral extinction data 9-12221
 aerosol particles and trace gases meas. in St. Louis area 9-16600
 aerosol samples, simulated, Be content by proton scatt. anal. 9-5217
 aerosol sources identification in St. Louis area using factor anal. 9-12200
 aerosols, charged, occurrence before earthquakes 9-16407
 aerosols, erroneous elemental mass-size functions from high vol. impactor 9-20997
 aerosols, Hg, As and Br quantitative analysis 9-12179
 aerosols in W. Africa, brush fires influence (French) 9-34883
 aldehydes in air, gas chromatography 9-12284
 carbon tetrafluoride, atmospheric content meas. 9-34927
 D-region, ion composition models, unified reaction scheme 9-5704
 D-region, negative ions effect on Thomson scatt. in presence of electron heating 9-16739
 D-region, NO prod. rel. to winds and electron densities time vars. correl. 9-25389
 D-region, obs. and chem., recent advances 9-8751
 D-region, positive ion chemical scheme for H⁺.(H₂O)_n abundance profile 9-40007

atmospheric composition continued

- Dobson O₃ spectrophotometer calcs., generalized treatment of particulate scatt. 9-12267
 electrochemical concentration cell ozonesonde, performance characts. 9-21039
 energy deposition in a gaseous mixture 9-25380
 enhanced CO₂ greenhouse effect, compensation for reduced solar luminosity on early Earth 9-39865
 F-region, high latit., Fe⁺ ions distrib. 9-16736
 fluorocarbon mixing and photolysis, tropospheric mixing ratios 9-12181
 fluorocarbons, lifetime determ. methods 9-20920
 halocarbons, global budget analysis 9-34881
 historical atm. comp. and climate from gas parameters meas. on Greenland ice cores 9-8681
 ionosphere, comp. vars. due to solar EUV flux changes, calcs. 9-44293
 ionosphere, electron density models, review 9-48617
 ionosphere, electron prod. and loss rates, satellite meas. 9-35047
 ionosphere, H⁺ distribution in equatorial anomaly, empirical model 9-8768
 ionosphere, O⁺/n_e relative densities at 170 km for specific heliogeophysical conditions 9-12332
 ionosphere, relative ion comp. model at midlatits. 9-21094
 ionosphere, topside, O⁺ to H⁺ transitions level height rel. to very low dispersion whistlers 9-44301
 ionosphere equatorial bubbles, ion comp. changes from topside sounder obs. 9-16737
 laser beam detection of atmos. constituents, review (French) 9-34952
 magnetosheath bursts of predominantly medium nuclei, Imp 8 obs. (1974 February 16) 9-29937
 magnetosphere, lower, ion comp. from Intercoms-10 Langmuir probe expts. (German) 9-2469
 magnetosphere ion composition dynamics, GEOS mass spectrometer obs. 9-35069
 marine aerosols influx into atmosphere, influence of coastal-zone physiogeographic conditions 9-29818
 marine atmosphere, trace elements in size separated aerosols 9-20989
 marine atmosphere, trace metal concs. 9-44199
 mesopause region, ion-clustering during winter anomaly, temp. and NO density vars. effect 9-21087
 mesosphere NO concentration, geomag. control from simultaneous D and F regions ionisation meas. 9-8651
 methane in stratosphere at several latitudes in 0-35 km altitudes 9-34894
 minor species meteorological control of lower stratosphere 9-12171
 neutral atmosphere, O₂ seasonal vars. rel. to E-region ionisation 9-12331
 neutral upper atmosphere, components density vars. semi-empirical models 9-21085
 precipitation, trace constituents chemical anal. in global baseline samples 9-16566
 sea salt quantitative meas. over N. Atlantic 9-16624
 stratosphere, aerosol meas., southern hemisphere, time vars., rel. to 1974-75 volcanic eruptions 9-48551
 stratosphere, emission spectrum, balloon-borne far IR Michelson interferometer meas. 9-39870
 stratosphere, lower, H₂O and O₃ conc., far IR spectroscopy, quantitative anal. 9-39790
 stratosphere, minor gases determ. using occultation technique (Russian) 9-25342
 stratosphere, O₃, conc. obs. by XeCl excimer laser radar 9-16681
 stratosphere, O₃ conc. meas. at sunrise and sunset (French) 9-48535
 stratosphere, O₃ meas. with ozonometer using chemiluminescent reaction of ozone and olefins (French) 9-48574
 stratosphere, thermal response to O₃ fluctuations 9-39797
 stratosphere, trace constituents, in situ meas. 9-8676
 stratosphere aerosol layer, simulated lidar return from one-dimensional model 9-44247
 stratosphere water vapour, meas. via balloon-borne IR instrument 9-8718
 Teheran atmosphere, Pb conc. 9-21011
 tetraalkyllead, natural source 9-2367
 thermosphere, disturbed, NO conc. rel. to anharmonic N₂ mols. vibr. relaxation 9-12322
 thermosphere, global comp. and temp. empirical models during quiet times compared with ESRO 4 data 9-8732
 thermosphere, N densities at high altitudes 9-16729
 thermosphere, NO daytime conc. 9-2408
 thermosphere, O concs. rel. to nighttime F₂-layer height 9-8745
 thermosphere constituents, density vars. rel. to eddy diffusion coeff. global models determ. 9-21086
 trace constituents by IR spectra, altitude distrib. technique 9-34985
 trace gas sinks in Sahara 9-34888
 trace metals concentrations, meas. in Antarctic snows (1914 to 1974) 9-34867
 troposphere, O₃ distrib., evidence for higher background values, comment 9-39801
 troposphere, O₃ distrib. meas. with airborne laser absorpt. spectrometer 9-2344
 UK, trace elements survey, 1977 results 9-20960
 upper atmosphere, general review 9-39997
 upper atmosphere, neutral comp. vars. rel. to negative ionospheric storms numerical simulation 9-25393
 upper atmosphere, odd N prod. by meteoroids 9-2404
 upper atmosphere, UV extinction meas. of O₂ density 9-2406
 vehicle generated air pollutants, correl. study 9-21012
 volatile elements enrichment by volcanic activity, Augustine volcano example 9-39796
 volcanoes airborne particle and gas emissions, meas. 9-2203
 Washington, D.C., chemical element balances and pollution sources 9-12174
 water vapour contamination of Lyman-α ion chambers 9-8731
⁴⁰Ar concentrations in sialic crust and atmosphere, rel. to form. from upper mantle 9-44153
 Br/Pb ratios in atmospheric particulate matter over Perth, W. Australia, 1971-6 var. 9-34455
 CH⁺ in upper atmosphere, obs. following trimethylaluminum high altitude release 9-48591
 CO abundance meas. method (Russian) 9-25343
 CO near highways, line source dispersion models, comparison 9-12247
 CO₂ climate and society, IIASA conf. (Laxenburg, Austria, 1978 February 21-24) 9-8679
 CO₂ content rel. to temp. changes since 1665, statistical study 9-8680
 CO₂, form. from fossil fuel combustion in atm., effect on climate 9-2359
 CO₂ increase in ocean water masses, direct obs. 9-34854

atmospheric composition continued

- CO₂ increase rel. to Mesozoic greenhouse and climatic warming 9-20963
 CO₂ meas., fast response sensor design, for eddy correl. flux meas. 9-5622
 CO₂ problem, increase from fossil fuel combustion 9-16623
 CO₂ recent trends of ¹³C/¹²C ratio, rel. to tree ring studies 9-25311
¹³C/¹²C ratio variations in Pinus longaeva (bristlecone pine) cellulose during the last millennium 9-44217
¹⁴C meas. on submerged forest floating chronologies, rel. to atm. ¹⁴C vars. 9-48563
¹⁴C temporal fluctuations 9-5591
¹⁴C/¹³C/¹²C vars., Bermuda coral 200 yr. record 9-16570
 Cl particulate distrib. in Houston-Galveston area 9-12252
 H₂O₂ evaporation from seawater, major source of atm. B 9-2293
 H₂O vertical distrib. in stratosphere, UV fluorescence meas. 9-34891
 HOCl as inert atmospheric Cl reservoir, prospects 9-12207
 HO₂NO₂, gas phase, in stratosphere, UV and IR absorpt. cross sections 9-13733
 H₂S in N. equatorial Atlantic rel. to global S cycle 9-12165
 HT, HTO, concs. rel. to water vertical transport in stratosphere 9-2347
 He⁺ in thermosphere, Atmosphere Explorer-C abundances rel. to solar EUV flux 9-16919
 Hg, average future content of air in European Economic Community 9-8687
 N oxides and ammonia, atmospheric cycles 9-48562
 NO mixing ratios near stratopause, chemiluminescent meas. 9-34893
 NO₂, atmospheric content from aircraft-borne spectrophotometry (*Russian*) 9-34903
 NO₂ in stratosphere during Antarctic winter 9-34892
 N₂O, rates of evolution from N fertilised soil 9-16656
 N₂O, soil gas fluxes determ. by chamber methods, numerical evaluation 9-16700
 Na layer in mesosphere, extra-terrestrial source, evidence 9-12191
 NaOH₂⁺(H₂O)_n(NaOH)_m cluster in stratosphere 9-34895
 O remote sensing in mesosphere and lower thermosphere, two-photon lidar technique 9-39869
 O₃, atmospheric content from aircraft-borne spectrophotometry (*Russian*) 9-34903
 O₃ column density effect on radiative-photochemical relaxation 9-16592
 O₃ concentrations meas., UV photometric standards interagency comparison 9-35000
 O₃ concs. and meteorology in 1975 in Tel-Aviv 9-12172
 O₃ content, natural fluctuations 9-29819
 O₃ depletion, uncertainty in calcs. from stratospheric photochemistry model 9-16567
 O₃ during summer rel. to winter rain in San Francisco Bay Area 9-12224
 O₃ meas. over snow surfaces 9-12281
 O₃, nighttime conc. from OH nightglow obs. 9-5698
 O₃ nocturnal maxima, vertical mixing of remnant daytime boundary layer 9-5547
 O₃ observations for 1978 January 4 to March 31 period (*French, Flemish*) 9-5561
 O₃ problem, reassessment of stratospheric models 9-5553
 O₃ total content, monthly averages corrls. with solar activity vars. 9-16571
 O₃ total content estimation from UV radiance meas., aerosol effects 9-8662
 O₃ total content vars. rel. to general circulation 9-44233
 O₃ vars. rel. to 11-yr. solar cycle 9-12189
 OH, submicron airglow bands corrl. studies during Spacelab simulation 9-25381
¹⁸O/¹⁶O ratio in precipitation over KFA Jülich, (1974-1978) (*German*) 9-12227
²¹⁰Pb fluxes, determ. from soil profiles 9-2346
 S pollutants in atm., conf., Dubrovnik, Yugoslavia (Sept. 1977) 9-20965
 SO₂ conc., urban built-up area, Japan 9-21006
 SO₂ over E. United States, regional residence time 9-16651

atmospheric density see atmospheric pressure and density

atmospheric disturbances see atmospheric movements; thunderstorms

atmospheric duct see atmospheric electromagnetic wave propagation

atmospheric dynamics see atmospheric movements

atmospheric electricity

see also atmospheric electromagnetic wave propagation; atmospheric ionisation; atmospheric; aurora; electrojets; ionosphere; lightning; thunderstorms

aerosols, charged, occurrence before earthquakes 9-16407
 American Meteorological Soc. Conf. (Issaquah, Wash., 1978 July-Aug.) 9-5551

auroral effect on fair weather electric field 9-44285

auroral forms, observed characts. rel. to elec. fields 9-8738

auroral substorm absorption events, at low auroral latits., apparent equatorward propag. 9-8769

auroral substorm expansion phase, ionospheric currents and elec. field vars. assoc. with absorpt. spikes 9-35039

auroral zone, elec. currents induction in Alaska pipeline 9-39645

Birkeland currents, TRIAD satellite obs. 9-16755

cloud electrification in axisymmetric time-dependent model 9-16594
 clouds, electrical and microphysical meas. in maritime and urban environments 9-12173

clouds, electrical charges fate in evaporating droplets 9-48559
 conductivity, rel. to small ions recomb. and attachment to aerosol particles 9-39817

dayside polar cusp, ionospheric and field-aligned currents relationship 9-35058

dayside south polar cusp, field-aligned currents rel. to interplanetary mag. field 9-35059

E-layer formation, unified theory, neutral wind and elec. field effects 9-5710

E-region, nighttime electric fields and conductivity rel. to magnetosphere-ionosphere-atmosphere coupling 9-35034

EAS and radiowaves produced from secondary electrons in geoelectric field, 10 kHz-10 MHz 9-21118

Elk Mountain, Wyoming, electrification expts. 9-16595

ionosphere, cleft currents determined from magnetic and electric fields 9-35036

ionosphere, collision frequencies, recomb. coeffs., rel. to resistivity of semi-conductors and metals 9-8742

ionosphere, current collection by long wire in near-Earth orbit 9-25438

ionosphere, electrostatic waves obs. in unstable polar cap 9-29927

atmospheric electricity continued

- ionosphere, global scale electrodynamic coupling of auroral and equatorial dynamo regions 9-44297
 ionosphere, high-latit., elec. cond. determ. from auroral electrons 9-12334
 ionosphere, lunar semi-diurnal elec. field rel. to total electron content lunar var. 9-21100
 ionosphere, two-layer current model for geomag. crochert 9-44300
 ionosphere and magnetosphere, adiabatic potential transitions properties in polar regions 9-5713
 ionosphere electrostatic field structure in wake of disc, external mag. field effect 9-10648
 ionosphere moving current systems, EM induction in Earth 9-16370
 magnetosphere, anomalous resist. in geomag. tail region 9-12353
 magnetosphere, convection elec. field model based on Explorer 45 obs. 9-12350
 magnetosphere, GEOS-1 meas. of electric and magnetic wave fields and cold plasma parameters 9-48620
 magnetosphere, large-scale elec. field, from VLF chorus dynamic spectrum 9-8775
 magnetosphere, mag. storm elec. fields meas. by GEOS-1 keV plasma expt. 9-35068
 magnetosphere, quasistatic elec. fields meas. between 3-7 R_E 9-29942
 magnetosphere, substorm-assoc. particle-flux vars. due to drift in geoelectric field 9-35067
 magnetosphere electric fields and convection, role of particle precipitation 9-25400
 magnetosphere tail plasma sheet, convection elec. field rel. to electron transport 9-25408
 magnetosphere-ionosphere current loops during polar magnetic substorm 9-8776
 magnetotail, current system rel. to energy transfer in magnetosphere substorm 9-12343
 magnetotail, distant, lower-hybrid-drift wave turbulence 9-25399
 magnetotail, substorm assoc. current changes 9-12347
 magnetotail magnetic current sheets, effect of press. anisotropy on equilibrium 9-12354
 marine atmosphere, elec. field short-period fluctuations 9-39816
 midlatitude electric fields at ionospheric heights, magnetospheric effect 9-2433
 mountain station, electrode effect obs. 9-25307
 passive probe for free atmosphere electric field meas. 9-8710
 plasmasphere, nighttime, substorm elec. fields detect. by whistler obs. 9-40009
 point-discharge currents, meas. via portable instrument using junction FETs 9-39972
 potential gradient, slow vars. and short-period pulsations of magnetospheric origin 9-12188
 riming electrification as a charge generation mechanism in thunderstorms 9-34917
 S_q variation currents, day to day variability over Europe 9-44299
 Schumann resonances, elec. vertical component obs. by stratosphere balloon 9-44221
 spruce budworm visible glow as UFO explanation 9-16361
 S_q vars. at low latitudes during magnetic storms 9-25402
 stratosphere, solar flare modification of elec. fields, direct evidence 9-48553
 vertical component, obs. in Arctic Ocean at North Pole-22 drifting station (*Russian*) 9-48537

atmospheric electromagnetic wave propagation

see also atmospheric light propagation; ionospheric electromagnetic wave propagation; magnetospheric electromagnetic wave propagation; tropospheric electromagnetic wave propagation

ATS-6 satellite radio beacon, meas. at Ootacamund, India rel. to electron density 9-48611

direct solar radiation spectral distrib. 9-12268

Earth-ionosphere cavity, Schumann resonance problem, convergence of zonal harmonic series 9-2348

ELF coherent radiation, search at Crab pulsar freq., upper limit 9-16728

ELF field strength meas. in Connecticut in 1975, summary 9-48557

ETS-II, radiowave propag. expt. facility (*Japanese*) 9-2471

geomagnetic atoms effects, variation during low solar activity (*Japanese*) 9-40032

global daily radiation estimation for any surface 9-39805

HF radio meteor echoes duration rel. to dense trains deionisation 9-5697
 incoherent scatter results for co-ordinated special intervals at St. Santin (France) 9-2416

LF band, noise field and skywave propag. 9-5708

LF/VLF propag. below nonuniform isotropic ionosphere 9-44224

mesosphere, LF radio wave absorpt. temp., seasonal variation 9-48602

mesosphere, LF radio wave absorpt. variations, press. and temp. depend. 9-44282

mesosphere, VHF radar scatt. and vertical vels. meas. at temp. latits. 9-16572

mesosphere incoherent scatter spectrum, ion component meas. in 60 to 90 km region over Areibo 9-16569

nonlinear self-distortion in magnetoplasma 9-40031

nonspherical extinction and absorption efficiencies 9-7074

radar return from radar-acoustic sounding system, refractive turbulence effect 9-39821

radiative transfer, inverse problems method in transport and filter theory 9-29920

radio meteor wind meas. over Atlanta 9-2411

radiowave propagation problems, soln. using parabolic equations and transformation operators method 9-36816

radiowave scattering theory appl. to radio meteor obs. 9-5696

radiowaves, delay fluctuations with scale sizes >1 km, obs. with radio interferometer array 9-8675

radiowaves produced from secondary electrons in geoelectric field, 10 kHz-10 MHz during EAS 9-21118

rain-scatter interference between satellite, terrestrial communications systems (*Japanese*) 9-16612

random EM wave field in magnetoplasma, anal. of six component meas. 9-27782

refractive index microstructure and scintillation fading meas. in tropical region 9-16629

refractivity and temp.-humidity cospectrum 9-39819

scattering by turbulent flows in wake of artificial satellites 9-8730

Schumann resonances, elec. vertical component obs. by stratosphere balloon 9-44221

soft particles scattering, Mie series appl. 9-36824

atmospheric electromagnetic wave propagation continued

- solar radiation absorpt. by O_2 and O_3 , heating rate parameterization, 15-120 km altitude 9-39798
- solar radiation intraregional vars. in E United States 9-39804
- solar radiation transmission, Monte Carlo simulation (*Russian*) 9-12265
- spectral distribution of global and diffuse solar radiation 9-44229
- stratosphere, LF radio wave absorpt. variations, press. and temp. depend. 9-44282
- transmittance of inhomogeneous atm., interpolation method for rapid calc. (*Russian*) 9-29850
- upper atmosphere, incoherent scattering, physical processes (*Portuguese*) 9-2417
- Urbana Meteor Radar observations during GRMWSP/CTOP periods 9-2412
- UV extinction meas. of O_2 density 9-2406
- VHF radar obs. of stratosphere, specular reflection 9-39822
- Zenneck surface wave, excitation by vertical aperture 9-39820

atmospheric electron precipitation

- see also aurora; radiation belts
- auroral arcs, precip. primary electrons and bremsstrahlung X-rays, satellite correlated obs. 9-35029
- auroral electrons, mechanisms for discrete aurora 9-8737
- auroral electrons, pitch angle and energy distrib., ESRO 4 satellite obs. 9-29921
- auroral electrons, pulsations harmonic anal. 9-8736
- auroral electrons, spatial distrib. rel. to high-latit. ionosphere cond. 9-12334
- auroral intensity and electron flux, in situ rocket meas. 9-39998
- auroral radio absorption obs. by riometers rel. to 10-80 keV electron precip. at geosynchronous orbit 9-48606
- auroral secondary electrons spectrum at low altitudes, collisionless effects 9-40008
- auroral spectrum vars. at latit. of polar cleft 9-25384
- auroral substorms, morphology of N and NO 9-48607
- cusplike electron precipitation regions during 1977, September 19 to 21 event, DMSP-F2 obs. 9-35056
- diffuse auroral precipitation mechanisms 9-12327
- diffuse auroral zone, form. and dynamics of polar edge of ionospheric trough 9-8743
- energetic particles precipitation during baylike disturbance of mid-latit. D-region, radio obs. 9-12333
- energy selective precipitation of inner zone electrons 9-2428
- ionosphere, energetic electron efflux, caused by plasma jet injection from rocket (*Russian*) 9-5701
- ionosphere energetic electron fluxes, mid-latit. modulation theory 9-12335
- low energy electrons, precip. rel. to ionosphere electron content asymmetry 9-21097
- low-energy electrons in S polar cusp, AE-C obs. during 1977, September 21 geomag. storm 9-35076
- magnetosphere, role of precip. in convection 9-25400
- magnetosphere dayside cusp region, electron precip. and spectra 9-12352
- mid-latitude charged particle precipitation, optical evidence 9-44291
- pitch angle diffusion, instabilities rel. to pulsating aurora 3 Hz modulation 9-25391
- polar auroras and electron precip. 9-29932
- relativistic electron precipitation and resonance with ion cyclotron waves 9-8758
- substorms, satellite obs. of impulsive bremsstrahlung X-ray events, electron precip. 9-2438
- thermosphere, dynamics at high latit., magnetospheric convection effects 9-8733
- X-rays from low latitude nighttime atmosphere, HEAO-1 obs. 9-44283

atmospheric energetics see atmospheric movements**atmospheric humidity**

- see also hygrometers
- 100 GHz to 1 THz atmospheric emission and absorption meas. 9-34980
- aerosols, in moist atmosphere, equilib. sizes and size spectra (*Russian*) 9-12194
- artificial clouds form. possibilities and methods 9-29823
- astronomical IR sites, water vapour data 9-21181
- Bahrain, discomfort index based on wet-bulb temps. 9-20964
- boundary layer humidity charact. rel. to atm. total H_2O vapour content 9-39836
- circulation associated with cold front, moist case 9-2334
- cirrus clouds, ice content determ. from radiative props. in NOAA 4 VTPR channels 9-39853
- cloudy atmosphere integral humidity determ., by remote sensing method (*Russian*) 9-5635
- cloudy atmosphere moisture content determ., long-range, by thermal radi-omission meas. (*Russian*) 9-5637
- diurnal variation, harmonic anal. (*Rumanian*) 9-21009
- diurnal variation over continents, absorpt. in hygroscopic soil layer 9-29825
- droplet growth rel. to condensation coeff. (*Russian*) 9-34901
- electrical and electronic equipment operating climatic conditions in Rumania, classification (*Rumanian*) 9-44242
- hydrologic cycle, climatic sensitivity, numerical model 9-8654
- ice crystals, props. rel. to atmospheric halos 9-2373
- IR attenuation by H_2O vapour, hygrometer meas. 9-34943
- IR transmission rel. to precipitable H_2O at Gornergrat Obs., Switzerland 9-34941
- measurement, from effects on IR and microwave propag., optimization of conditions from effects on IR and microwave propag., optimization of conditions (*Russian*) 9-34898
- moisture budget and cumulus friction in tropical wave-CISK 9-16580
- nonconvective condensation, parameterization scheme, cloud water content prediction 9-12215
- precipitable water, computation from upper air data 9-34886
- precipitable water vapour determ. from surface meteorology and IR hygrometer meas. (*Italian*) 9-48587
- radiowave refractivity and temp.-humidity cospectrum 9-39819
- relative humidity rel. to cloud coverage and condensation in wave model 9-34911
- relative humidity rel. to opacity index (*Spanish*) 9-29856
- sound attenuation, air-to-ground propag., effects of temp., humidity gradients 9-1019
- St. Louis downwind plume, thermodynamic props. and aerosol patterns 9-16603
- stratification, effect on conditions for free convection (*Russian*) 9-10562

atmospheric humidity continued

- stratosphere, lower, frost-point hygrometer for horizontal soundings 9-21048
- stratosphere, water vertical transport rel. to atmosphere HT and HTO 9-2347
- stratosphere water vapour, meas. via balloon-borne IR instrument 9-8718
- transport of water vapour in atmosphere, rel. to water balance of S.America 9-29820
- troposphere humidity, new insight with Meteosat water vapour channel 9-25292
- Tsumeb, S.W.Africa, boundary layer profiles for dry season in steppe (*German*) 9-34923
- water content and turbidity in Thailand, calc. 9-5580
- H_2O dimer, props., influence on tropic meteorology 9-2349
- SO_4^{2-} aerosol particles size depend. on relative humidity 9-20906

atmospheric ionisation

- see also atmospheric radioactivity; ionosphere
- auroral F-region ionosphere form. role. of neutral winds and particle precip. 9-44296
- critical ionization vel., Spacelab expt. 9-44289
- D-region, effects from cosmic X-ray sources 9-35048
- D-region, mid-latit., ionisation due to energetic particles precip. during baylike disturbance 9-12333
- D-region, positive ion chemical scheme for electron density and comp. 9-40007
- D-region, time vars. in winds and electron densities at Saskatoon, Canada 9-25389
- diffuse auroral zone, form. and dynamics of polar edge of ionospheric trough 9-8743
- E_s -layer, ionisation irregularities rel. to Langmuir wave propag. and enhanced plasma line 9-29928
- E-layer, auroral, seasonal vars. 9-8746
- E-region, ion production function from meteor particles 9-12336
- E-region ionisation effect of neutral atmosphere seasonal vars. 9-12331
- equatorial ionosphere, phase scintillation of 40 MHz signals rel. to ionisation irregularities 9-44303
- F-region, ion convection and midlatit. ionisation trough form. 9-2429
- F-region, winter high-latitude, 300 km altitude, AE-C thermal plasma obs. 9-16740
- ionosphere, cond. functions during solar flare rel. to model for geomag. crochet 9-44300
- ionosphere, daytime positive storm effects at middle latits., prod. by travelling atmospheric disturbances 9-25394
- ionosphere, equatorial, modelling of H_2 gas release effects 9-16741
- ionosphere, ionisation density fluctuations rel. to SHF refr. scatt. and scintillations 9-48615
- ionosphere, plasma density changes rel. to radio waves self-action, nonstationary theory (*Russian*) 9-48604
- ionosphere D and F regions, simultaneous ionisation meas. rel. to mesosphere NO concs. 9-8651
- ionosphere equatorial bubbles, topside sounder obs. 9-16737
- ionosphere F_1 -layer, dynamical effect obs. 9-12340
- ionosphere negative storms, plasma density vars. simulation using neutral comp. data 9-25393
- ionosphere photoelectrons, Coulomb-collision induced trapping by geomag. field 9-8739
- magnetosphere, doubly charged ions comp. and origin from GEOS mass spectrometer obs. 9-35069
- mesosphere, meas. of ion component of incoherent scatter spectrum in 60 to 90 km region 9-16569
- meteor trains deionisation rel. to HF radio echoes duration 9-5697
- meteor wakes, excitation of ionic lines and mol. bands 9-29919
- meteoric ionization rel. to LF radiowave absorpt. events 9-48608
- meteors, ionization curve length and vaporization altitude var. with speed 9-21232
- mountain station, electrode effect obs. 9-25307
- night-time E-region, mid-latit., ionisation by charged particle precip. 9-44291
- photoionization peaks, photoelectron flux in ionosphere 9-16738
- positive corona discharge time lag obs. 9-27849
- small ions, recomb. rates and attachment to aerosol particles 9-39817
- solar flare protons effects, stratospheric elec. fields modification 9-48553
- summertime atmospheric ion obs. by travelling coaxial counters 9-25310
- He^+ escape fluxes from polar ionospheres, calcs. 9-35037
- He^+ in thermosphere, Atmosphere Explorer-C abundances rel. to solar EUV flux 9-16919
- $NaOH_2^+(H_2O)_n(NaOH)_m$ cluster in stratosphere 9-34895
- O_2^- , in ionosphere, effects on EM wave propag. 9-8762

atmospheric light propagation

- adaptive optics, atmospheric compensation, book contrib. 9-31972
- adaptive optics, book 9-31921
- adaptive optics in astronomy, rubber mirrors to compensate for atm. aberrations, book contrib. 9-35150
- adaptive optics in high energy laser systems, book contrib. 9-31971
- aerosol concentration deduction from 1.06 μm lidar meas. 9-25323
- aerosol extinction coeff. from outgoing solar radiation meas. in O_2 0.76 μm band (*Russian*) 9-8690
- Ambartsumyan's function for a cloudless atmosphere in the case of isotropic scattering (*Russian*) 9-39850
- amplitude phase distortions correction of wave propag. in turbulent atm., efficiency 9-27178
- astronomical image degradation, contrib. of lower atmospheric layers, use of photodiode array 9-21019
- brightening of disperse media, role of laser fluctuations 9-41405
- circumsolar radiation, single and multiple scatt. contribs. 9-25325
- cloudy atmosphere, IR radiation flux approximation 9-39854
- degradation of electrooptical system performance 9-34940
- differential absorption lidar system sensitivity with heterodyne reception 9-27310
- diffuse solar radiation field in cloud layer (*Russian*) 9-29851
- dispersive particle sizes, from scattering and polarization meas. (*Russian*) 9-34950
- dye laser, high energy pulsed, for atm. sounding 9-39868
- extinction, monochromatic coeffs. determ. from spectrophotometric obs. of Terskol Peak (*Russian*) 9-44246
- extinction and absorpt., effects of particulate complex refr. index and size distribns. 9-29849
- extinction at 10.6 μm CO_2 laser wavelength, from meteorological records 9-39848

atmospheric light propagation continued

- fluctuating signal, detector threshold and saturation effects on statistics 9-31803
 fog hole boring with pulsed high-energy lasers 9-16662
 halos, forms and relation to ice crystals 9-2373
 haze microstruct. and refr. index from scatt. light polarisation characts. (Russian) 9-29852
 image resolution through atmospheric turbulence 9-36855
 imaging and optical communication through atmospheric turbulence, book contrib. 9-34960
 inverse multiple scatt., approx. models, limb darkening and phase curves 9-44388
 IR attenuation by H₂O vapour, hygrometer meas. 9-34943
 IR propag. over long atm. paths, instrumentation 9-39875
 IR transmission through turbid atmosphere (Russian) 9-34947
 laser beam, atmospherically degraded, higher-order propag. statistics, recording process effect 9-14004
 laser beam, detection effects on statistics of intensity fluctuations 9-16672
 laser beam, scatt. coeff. as function of visibility and wavelength, empirical formula 9-34944
 laser beam, thermal self-action over path in medium moving at variable vel., expt. and numerical simulation 9-32003
 laser beam propagation in atmosphere, book 9-34955
 laser beam propagation in turbulent atm., spectral expansion soln. method 9-18350
 laser beam vertical propagation through troposphere 9-39851
 laser beam wandering in turbulent atm., error probability in binary signal reception 9-10337
 laser beam wandering in turbulent atm., fluctuation power probability density distrib. 9-10336
 laser beam wave case and remote sensing, book contrib. 9-34959
 laser blue-green pulsed propagation through fog 9-39846
 laser irradiation intensity fluctuations, influence of transmitting aperture diff. size and turbulence 9-45906
 laser radiation nonlinear propagation in corundum particle aerosol 9-23033
 laser radiation strong intensity fluctuations, similarity relations and expt. verification, book contrib. 9-34958
 laser transmission, anomalous effects during August, 1976 at Farnborough, England 9-39862
 lens MTF changes, solar speckle interferometry calibration 9-2370
 lidar equation for inhomogeneous atm., double-scatt. approx. 9-29855
 lidar return, simulated, from one-dimensional stratospheric aerosol model 9-44247
 lidar returns, interpretation problems with single-wavelength transmissometers 9-21054
 lidar returns from clouds, double scatt. contrib. 9-5615
 long-path light absorption cell meas., automation, optical alignment 9-17491
 modulated wave propag. in turbulent atm., correlation functions and freq. spectrum 9-34954
 noctilucent clouds, circularly polarised light detect. 9-48568
 optical scintillometer, large-aperture, fine calibration, optical estimate of turbulence inner scale 9-21026
 partial tracking optical heterodyne receiver arrays, operating in turbulent atm. 9-41345
 particle size distrib. remote sensing, Rayleigh-Gans-Born approx. 9-27174
 phase adaptation by nonlinear techniques, optical propag. distortion compensation, book contrib. 9-31973
 polydispersion, forward scatt. corrections for optical extinction meas. 9-7075
 polydispersion, moments determ. of size distrib. function in scatt. 9-18347
 pulse diffusion in densely distributed scatterers 9-3632
 reflection, climatic effects of albedo sudden change 9-44241
 reflection optical radiation echo signal temporal broadening by atmospheric turbulence, anal. 9-8693
 refraction, interactive computer graphics applied to visual image transmission 9-8689
 satellite laser tracking data, ray tracing evaluation of refraction errors 9-8588
 scatter channel for ELOS optical communications system, scattering from marine aerosols 9-29862
 scattering of middle UV radiation from an internal source, Monte Carlo model 9-12263
 scintillometer, finite aperture, for profiling wind and refr. index struct. parameter 9-25331
 sea spray and coastal aerosol effects on transmission 9-39861
 short-exposure imaging through turbulence, wavefront distortion 9-41336
 solar 1950-2150 Å radiation, ground level meas. using NH₃ actinometry 9-2345
 stellar images, atmospherically degraded, restoration using complex spectral ratios 9-29854
 stellar speckle pattern statistics, photon counting techniques 9-25324
 thermal blooming in atmosphere, book contrib. 9-34961
 transfer through horizontally non-uniform scattering cloud layer (Russian) 9-25326
 transmittance of inhomogeneous atm., interpolation method for rapid calc. (Russian) 9-29850
 transparency from ground actinometric meas. 9-39859
 turbulence and intermittency, Kolmogoroff's theory, laser beam propag. expt. 9-7368
 turbulence chamber for optical transmission expt., characterisation by thermal method 9-25330
 turbulence inertial model, expt. verification from solar limb motion 9-5614
 turbulent atmosphere, displacement spectra of light beam gravity centres (Russian) 9-3631
 turbulent medium, classical theory of wave propag. book contrib. 9-34956
 turbulent medium, modern theories, book contrib. 9-34957
 UV communication based on molecular and aerosol scattering in atmosphere 9-3736
 visibility definition weaknesses in atm. expts. 9-8688
 water droplets, small, weakly absorbing, motion in bounded laser beam 9-12269
 water vapour absorption, LOWTRAN 3B predictions 9-44245
 water vapour absorption in 8 to 13 µm spectral region for different atmospheric conditions 9-39855

atmospheric light propagation continued

- wavelength selection for transhorizon optical communication 9-7088
 wind velocity lidar meas. by spatial filtering 9-29901
 CO₂ laser radiation influence on liquid drop cloud medium, dissipation 9-39858
 CO₂ laser radiation reson. absorpt., atm. NH₃ conc. determ. on long path 9-29904
 H Lyman α reson. emission, obs. during 1973 June 30 solar eclipse 9-8901
 HO₂NO₂, gas phase, in stratosphere, UV and IR absorpt. cross section 9-13733
atmospheric measuring apparatus
 see also air pollution detection and control; ionospheric measuring apparatus; meteorological instruments
 100 GHz to 1 THz atmospheric emission and absorption meas. 9-34980
 acoustic sounder, temp. struct. parameter profiles meas. 9-21049
 actinometric radiosondes comparison during GATE-74 period 9-29906
 aurora, weakly luminous artificial events, optical equipment 9-21075
 cine and television high-resolution obs. of noctilucent clouds 9-39891
 differential absorption lidar system sensitivity with heterodyne reception 9-27310
 digital image system for atmospheric research 9-39873
 electrochemical concentration cell ozonesonde, performance characteristics 9-21039
 electron registration instrument in MeV range 9-5645
 electron spectrometers for the study of artificially injected particles during the ARAKS experiments 9-21143
 EXOS-B, magnetospheric research satellite, instrumentation 9-48649
 Fourier interferometric spectrometer system 9-34979
 French meteor radar facility 9-2386
 Funk net pyradiometers for shipboard net radiation meas. 9-21055
 GEOS-1 keV plasma expt., early results 9-35068
 GEOS-1 wave experiment 9-25444
 HF radioemission during ARAKS expt., ground-based equipment 9-21078
 holocamera for particulate studies 9-22919
 ice nucleation, study of different modes 9-48530
 insulation meas., Si-cell based sunstation system 9-5582
 interferometer, balloon-borne far IR Michelson, for stratospheric emission spectrum obs. 9-39870
 interferometer, for atmospheric modulation transfer function estimation (Russian) 9-16715
 ion analyzers for DC electric field and ion temp. meas. 9-21147
 IR hygrometer, meas. of attenuation by atm. H₂O vapour 9-34943
 IR multidetector spectrometer for atm. temp. sounding 9-25365
 IR propag. over long atm. paths, instrumentation 9-39875
 IR radiometer, balloon-borne, for stratosphere water vapour meas. 9-8718
 Langmuir probe expts. on Intercosmos-10 satellite, results (German) 9-2469
 lasers for long path monitoring of ambient gases 9-16682
 Lyman- α ion chambers, water vapour contamination 9-8731
 meteor wind radar, semiautomatic display and photographic recording system 9-8712
 Meteosat water vapour channel, near insight into troposphere 9-25292
 microwave radio refractometer, expendable, lightweight, construction and performance 9-8708
 microwave radiometer, for indirect determ. of atmospheric boundary layer temp. profile 9-25369
 nephelometer, meas. of Rayleigh scatt. props. of aerosols and gases 9-29865
 Nimbus-7 satellite remote sensing equipment 9-25437
 Nucleopore filters, anomalous filtration of solid particles 9-12283
 objective sensor placement for sampling regional turbidity 9-5626
 optical observation systems for the ARAKS experiment 9-21073
 optical particle counters, field comparison 9-12279
 optical scintillometer, finite aperture, for profiling wind and refr. index struct. parameter 9-25331
 passive probe for free atmosphere electric field meas. 9-8710
 photometer, 2972 Å, for rocket studies of aurora 9-25334
 photometer for Li release tracking, upper atm. daytime neutral winds obs. 9-39871
 Photozavv modulation photometer for artificial aurorae/airglow 9-21076
 pollution analyser using Harwell 6000 series electronics 9-5649
 portable instrument for point-discharge currents meas. using junction FETs 9-39972
 radio meter wind facility at Christchurch, New Zealand 9-2387
 RF mass spectrometer, numerical study of the AUREOLE 2 satellite spectrom. 9-2470
 SERBE, low-energy (1-16 keV) electron spectrometer 9-21145
 Space Experiments with Particle Accelerators (SEPAC), program for first Spacelab mission 9-48650
 spectrograph, fisheye field 9-8698
 STARE: a new radar auroral backscatter experiment in northern Scandinavia 9-39977
 stratospheric ozonometer, using chemiluminescent reaction of ozone and olefins (French) 9-48574
 stratospheric tethered balloon system, feasibility study (Italian) 9-44251
 testing instrum., standardisation and determ. of dynamic errors 9-8714
 turbulence chamber for optical transmission expt., characterisation by thermal method 9-25330
 turbulence meas. instrumentation, on aircraft, for boundary layer obs. 9-12214
 USSR Hydrometeorological Service, automation of data collection and processing 9-34994
 UV photometric standards for atmospheric O₃ concs. meas., interagency comparison 9-35000
 wide-angle electron detector 9-21144
 CO₂ sensor, fast response, for eddy correl. flux meas. 9-5622
atmospheric measuring instruments see atmospheric measuring apparatus
atmospheric motion see atmospheric movements
atmospheric movements
 see also atmospheric turbulence; wind
 air flow above sea surface, eddies transfer rate investigation (Russian) 9-16578
 air masses producing acid precipitation at Ithaca, New York, origin and trajectories 9-16655
 airflow, diffusion and momentum flux patterns in high mountain valleys 9-5544
 Alfvén wave at ATS 6, soln. with finite ionospheric conductivity 9-12346

atmospheric movements continued

- Arakawa-Schubert convective parameterization scheme appl. 9-16587
auroral forms, observed characts. rel. to shear processes and elec. fields 9-8738
auroral infrasonic waves and the auroral electrojet 9-35023
baroclinic models, growth rate and vertical propag. of initial error 9-16620
baroclinic nonlinear waves life cycles 9-2332
baroclinic planetary boundary layer above sea, heat and moisture fluxes parameterisation (*Russian*) 9-16576
baroclinic unstable wave vertical scale, rel. to eddy heat flux parameterisation 9-5563
baroclinic zonal flow, stability of stationary Rossby wave 9-39794
billows, gravity and geostrophic waves, exact solns. 9-34908
blocking anticyclones, further remarks 9-20958
boundary layer, advection dominated flows, finite element anal., book contrib. 9-34934
boundary layer dynamics, IR radiation effects 9-39815
boundary layer parameterization technique 9-29830
circulation above mountains in central Asia, orographic effects (*Russian*) 9-34899
circulation associated with cold front, moist case 9-2334
clouds influence on atm. dynamics (*Russian*) 9-8653
convection caused by rejected waste energy 9-12169
cumulus convection in shear flow—three-dimensional numerical experiments 9-34915
daytime magnetopause, ISEE obs. of flux transfer events 9-44306
diffusion coefficients deduced from closing times of helicopter-produced clearings in fog 9-39810
diffusion parameters from balloon obs. (*Italian*) 9-21067
diffusion problems soln., pseudo-spectral and orthogonal collocation method 9-12170
dusty buoyant thermal with vortex ring 9-48561
dynamic model of the mesosphere and lower thermosphere 9-48592
E₃-layer clouds over Japan, drift vectors from sky-wave backscatter obs. 9-44298
E₃-layer, Langmuir wave propag. and enhanced plasma line 9-29928
E-region drift above Ibadan 9-5711
emissions over urban area sources, transport 9-12184
energy-balanced discrete models of atmospheric process dynamics 9-39828
equatorial stratopause, planetary wave disturbances 9-5557
equatorial waves in upper stratosphere and mesosphere, rel. to zonal wind semiannual oscill. 9-5575
F-region, high latit., Fe⁺ distrib. rel. to upward plasma transport 9-16736
F-region, high latit., gravity waves obs. using fixed freq. sounding 9-25390
F-region, travelling disturbances, frequency of occurrence over Waltair, India 9-40011
flow over two-dimensional obstruction, steady-state, description by parabolic partial differential equations (*Italian*) 9-20956
GATE C-scale triangle, mass and energy budgets rel. to weather 9-16583
general circulation rel. to total O₃ vars. 9-44233
global energy budget, annual cycle of available pot. energy, variability 9-20909
gravity wave-critical level interaction, nonlinear model 9-1205
gravity waves and travelling ionospheric disturbances (TIDs), Hooke perturbation formula testing 9-40005
gravity waves generated in region of solar terminator, role in E₃-layers form. 9-12337
gravity waves in upper atmosphere, obs. via O₂(¹Σ) airglow, theory 9-29918
ground level trajectory of diffusing cloud, wind vector turning effect 9-12232
heat transport parameterization in midlatits., large-scale stationary waves and Ferrel cell 9-16618
hydrocarbons, assoc. with airborne particles, dispersion and transport 9-20990
Indian Ocean, equatorial currents during NE monsoon 9-2270
W Indian Ocean, METEOSAT obs. of low-level airflow 9-44222
interlatitudinal angular momentum exchange 9-39834
internal gravity waves in accelerating shear flow 9-32628
internal gravity waves momentum flux and orographic scatt. 9-8663
internal solitary waves, obs. 9-8656
intertropical convergence zone, Indian Ocean basin cloud clusters seasonal migration 9-29822
ionosphere, equatorial spread-F irregularities drifting patches rel. to spatial reson. mechanism 9-21095
ionosphere, gravity waves rel. to radio waves phase path changes 9-35043
ionosphere, S. hemisphere gravity wave obs. using total electron content technique 9-21096
ionosphere, travelling (wave) disturbances of absorpt. near 100 km height 9-25392
ionosphere, travelling disturbances determ. by Faraday rot. modulation 9-21101
ionosphere F₁-layer, dynamical effect obs. 9-12340
ionosphere moving current systems, EM induction in Earth 9-16370
ionosphere travelling disturbance, vel. meas. by auroral zone incoherent scatter radar 9-48610
ionosphere travelling disturbances, wave-normal depression and disturbance amplitude height depend. 9-40006
ionospheric drift meas. geomagnetic storm effects of mesopause wind 9-35025
jet stream, fronts and wave disturbances compared with Gulf Stream 9-2268
jet stream as source of medium scale thermospheric gravity waves, exptl. study 9-21088
Lagrangian-mean flow, exact theory of nonlinear waves 9-37331
lee waves generated by isolated islands, three-dimens. patterns, satellite obs. 9-44230
linear lee waves reson. characts. in three-layer atm. 9-44228
long waves in inviscid compressible isothermal atmosphere 9-29811
lower atmosphere, movements rel. to atmosphere total O₃ content natural fluctuations 9-29819
magnetosheath, plasma flow states rel. to energetic plasma ions 9-21106
magnetosphere, adiabatic plasma convection in tail plasma sheet 9-25408
magnetosphere, anomalous resist. in geomag. tail region 9-12353
magnetosphere, dynamics of protons trapped in geomag. field 9-16756
magnetosphere, electrostatic waves rel. to electron density small scale struct. 9-35073

atmospheric movements continued

- magnetosphere, particle streaming obs. by GEOS-1 keV plasma expt. 9-35068
magnetosphere, plasma dynamics in mag. field laboratory simulation 9-16757
magnetosphere, plasma mantle dynamics rel. to plasma sheet form. 9-40022
magnetosphere convection, role of particle precip. 9-25400
magnetosphere dayside cleft, convection direction rel. to mag. field perturbations 9-40023
magnetosphere dayside cusp region, plasma flow props. 9-12352
magnetosphere particles drift, tracking from GEOS-1 plasma density meas. 9-35072
magnetosphere source movements assoc. with IPDP pulsations 9-25404
magnetotail magnetic current sheets, effect of press. anisotropy on equilib. struct. 9-12354
marine aerosols influx into atmosphere, influence of coastal-zone physiogeographic conditions 9-29818
mesosphere internal gravity waves, propag. range (*Russian*) 9-16575
mesosphere vertical velocities, first VHF radar meas. at temperate latits. 9-16572
MHD wave propagation, in presence of rot. and variable mag. field 9-40024
MHD waves, long-period, synchronous obs. on ATS-6 satellite and at Earth surface 9-12345
mixing during pollution incident, acoustic and temp. meas. 9-12234
monsoon circulation dynamics 9-5559
monsoon depression September, 1976, at Masirah, Oman, movements 9-8669
neutral thermosphere dynamic behaviour, effects of turbopause height and exospheric temp. vars. 9-21085
normal mode initialisation technique, variational nonlinear, atm. gravity waves appl. 9-5584
numerical models of dynamic processes, time integration step (*Russian*) 9-16573
ocean-atmosphere system, interannual variability 9-2330
Pasquill stability classification for coastal site 9-16610
planetary waves and zonal flows instability, two-layer model on sphere 9-44226
pollutant concs., deposition vs. transport effects in industrial area 9-12243
pollutants long-range transport, meteorological aspects 9-20969
pollutants long-range transport, meteorology 9-20966
pollutants long-range transport, OECD study assessment 9-20967
pollutants long-range transport modelling, OECD study 9-20970
pollution pseudospectral dispersion model, inter grid sources representation 9-12259
prediction of atmospheric flows on nested grids 9-44240
protonosphere, plasma flux rel. to positive ionospheric storms worldwide distrib. 9-44290
quasi-geostrophic equation, stationary solns. with nonlinear boundary conditions 9-48529
quasi-geostrophic approximation, large scale flow, Ekman layer effects 9-2355
quasi-geostrophic models, horizontal boundary condition 9-5576
Rossby wave flow, finite-amplitude stability 9-16579
Sahel region, general and regional circulation effects on climate (*French*) 9-20962
sea breeze numerical model, heat convection parameterization 9-12223
shallow water equations, soln., partly-implicit time-differencing scheme 9-20910
solitary Rossby waves in zonal shear flows, interactions 9-7379
spectrum analysis of motions 9-20957
spherical movements of viscous incompressible fluids, meteorological model 9-16598
stationary perturbations, statistical-dynamical model 9-2333
storm splitting and simulation of right- and left-moving storms 9-16591
stratosphere, inertial waves, obs. 9-12216
stratosphere, lower, circulation appl. in five-day average air temp. forecasting technique 9-29817
stratosphere, lower, trajectory slopes, countergradient heat fluxes and mixing by waves 9-2340
stratosphere, mean flow vacillations, role of wave transience and dissipation 9-5577
stratosphere, meridional shear and spherical geometry effects on long waves 9-12212
stratosphere, water vertical transport rel. to atmosphere HT and HTO 9-2347
stratosphere transport, one-dimensional parameterisation using ⁹⁵Zr data from Chinese thermonuclear explosions 9-2342
sulphate concs. in New York State, summertime trajectory analysis 9-34882
sulphates in Canadian air, long-range transport 9-16561
summer large scale convective system over Tsinghai-Tibetan plateau, annulus simulation meas. 9-16616
thermally forced planetary waves, assoc. boundary layers 9-34910
thermosphere, dynamics at high latits., magnetospheric convection effects 9-8733
thermosphere, gravity wave generation, propag. and dissipation 9-2405
thermosphere, large-scale waves, obs. during mag. storms 9-35021
thermosphere, lower, dynamics, incoherent scatt. radar technique appl. 9-8734
thermosphere, neutral winds above Millstone Hill, 1970 to 1971, rel. to global circulation 9-39996
thermosphere structure and dynamics rel. to tides and diffusion waves 9-35026
topside, transport eqns. for low speed thermal proton flows 9-44304
tracer simulation using a global general circulation model: results from a midlatitude instantaneous source experiment 9-34907
travelling disturbances, as explanation for daytime positive storm effects at middle latits. 9-25394
tropical boundary layer, circulation over Arabian Sea during summer monsoon, flow field anal. 9-44231
tropical wave-CISK with a moisture budget and cumulus friction 9-16580
troposphere, synoptic and mesoscale movements rel. to Kansas City flash flood (1977, September 12) 9-25291
troposphere, thermal balance in low latits. in zonal circulation model 9-25316
troposphere circulation in equatorial latits., contrib. to theory 9-29821
tropospheric circulation, solar cycle influences 9-34919

atmospheric movements continued

- uniform potential vorticity flow, wave interactions and turbulence theory 9-8655
- uniform potential vorticity flow, wave interactions model 9-12196
- upper atmosphere, general review 9-39997
- urban mixed layer, persistent horizontal rolls revealed by dual-Doppler radar 9-12203
- urban mixing layer, mesoscale perturb. on airflow 9-16602
- vertical inhomogeneous currents predictability (*Russian*) 9-29809
- vortices in rotating stratified fluids, theory 9-39814
- vorticity and divergence, appl. to dynamical meteorology 9-12226
- water vapour transport in atmosphere, rel. to water balance of S.America 9-29820
- wave model, cloud coverage rel. to humidity and condensation 9-34911
- wave motions and daily neon winds, 52-110 km altitude, at midlatits. 9-5565
- wave system nonlinearities, forced packet-scale motions 9-2331
- wavenumber-frequency anal. of 500 mb geopotential at 50°N 9-5578
- waves in equatorial stratosphere, effect on SW monsoon 9-8664
- waves of long- and synoptic-scale, growth and decay in mid-troposphere 9-39793
- winter orographic storms, precipitation-forced circulations 9-34912
- zonally averaged circulation, 15-125 km altitude region 9-5564
- H⁺ field-aligned downward vels. at mid-latitudes 9-40015
- H₂O dimer, props., influence on tropic meteorology 9-2349
- O₂⁺, ionosphere and plasmasphere prod. and upward transport to magnetosphere 9-35069
- O₃ layer, photochemistry and dynamics 9-5590
- O₃ transport in St. Louis area 9-16650
- S compounds long term region patterns in Europe 9-20973
- SO₂, atmospheric transport and conversion to sulphates 9-16654
- SO₂ pollution long-distance transport, numerical model 9-44238

atmospheric noise *see* **atmospherics****atmospheric optics**

- see also* **airglow**; **atmospheric light propagation**; **sky brightness**; **sunlight**; **twilight**
- aerosols, polydisperse, Rayleigh-Gans approx. appl. to light scatt. 9-44249
- circumhorizontal arc, obs. in central Texas, USA 9-39847
- effects of marine environment METEOR project 9-8695
- halos, forms and relation to ice crystals 9-2373
- haze, light scattering, statistical model (*Russian*) 9-34946
- laser beam attenuation at mountain altitudes by fog and clouds (*Russian*) 9-48566
- laser beam detection of atmos. constituents, review (*French*) 9-34952
- low light and thermal imaging systems, atmospheric effects 9-39860
- maritime coastal haze, optical properties (*Russian*) 9-25327
- mean twilight at zenith and scatt. coeff. height var., statistical anal. (*Russian*) 9-16666
- meteorological physics, recent developments, review 9-25313
- modulation transfer function, estimation via coherence interferometer (*Russian*) 9-16715
- Mt. Majdanak (1976 June-July), atmospheric extinction and night sky brightness (*Russian*) 9-39856
- opacity rel. to relative humidity (*Spanish*) 9-29856
- particle size determ. using spectra attenuation data considering light dispersion (*Russian*) 9-34981
- stratosphere, aerosol optical thickness meas. at Adelaide (35°S) 9-44248
- submillimetre waves and applications, conference, Guildford, England (1978) 9-31916
- trace constituents by IR spectra, altitude distrib. technique 9-34985
- turbidity, solar noon at Edmonton, in Canada 9-29858
- turbulence characteristics meas. under convective conditions, optical methods (*Russian*) 9-16577
- twilight in Sun's meridian, single- and multiple-scattered light dependencies, on air dispersion factor (*Russian*) 9-5612
- UV solar radiation photometric obs. with Sun near horizon (*Russian*) 9-8691
- visibility, correct spectral weighting 9-21017
- visibility at Bombay Airport during 1974-75 and 1975-76 winters 9-21018
- visibility rel. to surface wind at Gutersloh, Germany, smoke pollution effects 9-29853
- visibility statistics rectification 9-5610
- visibility temporal vars. beside motorway, England 9-39852

atmospheric pollution *see* **air pollution****atmospheric precipitation**

- see also* **atmospheric electron precipitation**; **atmospheric proton precipitation**; **ice**; **rain**; **snow**
- acid precipitation at Ithaca, New York, origin of air masses 9-16655
- S.America, water balance rel. to water vapour transport in atmosphere 9-29820
- attenuation and cross polarisation meas. at 20 GHz, ATS-6 satellite and radar system 9-20912
- attenuation studies from meas. of ATS-6 20/30 GHz beacon signals 9-20911
- auroral particles, precip. rel. to auroral forms observed characts. 9-8738
- auroral particles, precip. rel. to N I (²D) 5200 Å emission 9-21090
- auroral particles precipitation, influence of ring current and plasma sheet drift instabilities 9-12351
- cloud microphysics, precip. initiation in updraughts, seeding 9-20924
- El Tatio geothermal field, N.Chile, meteoric and thermal waters isotopic comp. 9-16525
- flash floods, American National Weather Service (NWS) warning and disaster preparedness program 9-25289
- graupel development, numerical simulation 9-5573
- Great Lakes, precip. rel. to W. Lake Michigan shoreline erosion 9-5542
- hail nuclei determ. in clouds by radar and radiometric combined meas. (*Russian*) 9-12195
- hail probability rel. to radar echo heights, South African Highveld 9-20925
- hail size sorting in three-dimens. updraught, rel. to hail suppression 9-20926
- hail suppression, crop protection, involvement of society 9-8677
- hailstone size determ. from dents in cold-rolled Al sheet 9-39890
- central Hungary, precipitation amounts, steelworks effects 9-20943
- isotope geochemistry rel. to climatic change, 230000 to 100000 BP, speleothem results 9-2234
- Kennedy Space Center, unusual lightning flash 9-20953

atmospheric precipitation continued

- meteoric precipitation rel. to D/H ratio in speleothem fluid inclusions 9-44201
 - meteorological physics, recent developments, review 9-25313
 - particle precipitation, role in auroral F-region ionosphere form. 9-44296
 - particle precipitation during near-steady state conditions, comparison with aurora and ionosphere parameters 9-40000
 - particulate conc. changes during precipitation, field studies 9-12167
 - pluvia activity, increase following Earth albedo sudden change 9-44241
 - pollution from coal-fired power plants, effects on cloud and precip. processes 9-20933
 - precipitable water vapour determ. from surface meteorology and IR hygrometer meas. (*Italian*) 9-48587
 - Ralston Creek hourly precipitation model 9-16542
 - snow, accuracy of water equivalent meas. with standard densitometer 9-29796
 - trace constituents in global baseline precip. samples, chemical anal. 9-16566
 - Tromsø, Norway, intensive precip., 1965-73 period (*German*) 9-16609
 - water table var. on Gdansk coast rel. to precipitation (*Polish*) 9-25281
 - winter orographic storms, precipitation-forced circulations 9-34912
 - ¹⁸O/¹⁶O ratio in precipitation over KFA Julich, (1974-1978) (*German*) 9-12227
 - S compounds wet removal from atmosphere 9-2363
 - S isotopic composition in precipitation within Great Lakes Basin 9-16625
 - SO₂ and SO₄²⁻, dry and wet removal from atmosphere 9-2361
- atmospheric pressure** *see* **atmospheric pressure and density**
- atmospheric pressure and density**
- 500 mbar level periodicity, Sun-weather effect, coincident turbulent processes 9-44219
 - air density variations at 435 km altitude from Skylab 1 orbital elements 9-5694
 - cyclones, pressure drop reduction using deswirler 9-12176
 - diurnal variation, harmonic anal. (*Rumanian*) 9-21009
 - easterly perturbation intensification under westerly trough influence, India 1975 Feb. 9-48548
 - education, gas pressure gauge for student expt., mol. weight determ. by law of atm. 9-25795
 - exosphere, geomagnetic density and temp. effect propag. 9-48593
 - ionosphere, density vars. due to solar EUV flux changes, calcs. 9-44293
 - ionosphere, O⁺/n_e relative densities at 170 km for specific heliogeophysical conditions 9-12332
 - ionosphere, plasma density changes rel. to radio waves self-action, nonstationary theory (*Russian*) 9-48604
 - ionosphere, principal ions relative densities at midlatits. 9-21094
 - ionosphere E-region, latit., geomag. storms effect on electron density 9-44294
 - ionosphere electron density in S hemisphere middle latits., Universal Time effect model 9-25396
 - ionosphere negative storms, plasma density vars. simulation using neutral comp. data 9-25393
 - magnetosphere, electron density and temp. meas. by GEOS-1 mutual impedance expt. 9-35071
 - magnetosphere electron density, small scale struct. from plasma resonances on-line tracking 9-35073
 - magnetosphere plasma density, GEOS-1 relaxation sounder meas. 9-35072
 - magnetosphere plasma density and temperature, GEOS-1 multi-expt. determ. 9-35074
 - magnetosphere tail plasma sheet, press. anisotropy due to adiabatic plasma convection 9-25408
 - magnetotail, press. anisotropy effect on mag. current sheets equilib. struct. 9-12354
 - mesosphere, Arctic, vertical temp. and density patterns anal. as gravity waves 9-16622
 - mesosphere, LF radio wave absorpt. variations, press. and temp. depend. 9-44282
 - neutral upper atmosphere, components density vars. semi-empirical models 9-21085
 - pressure field during geomagnetic disturbances, geographical dependence of solar-atmospheric connections 9-25315
 - sea surface, press. drifting buoy, development 9-5661
 - stratosphere, 10 mbar geopot. height vars. rel. to solar activity 9-29824
 - stratosphere, LF radio wave absorpt. variations, press. and temp. depend. 9-44282
 - thermosphere, neutral densities and winds above Millstone Hill, mathematical model and results 9-39995
 - thermosphere constituents, density vars. rel. to eddy diffusion coeff. global models determ. 9-21086
 - troposphere, sensor for constant-level balloon expt., boundary layer to 100 mbar level 9-21047
 - upper atmosphere, energy balance, importance of IR radiation 9-8729
 - O₂ A band differential absorpt. lidar meas., for pressure height and vertical temp. profiles 9-39904
- atmospheric propagation** *see* **atmospheric electromagnetic wave propagation**
- atmospheric proton precipitation**
- see also* **aurora**; **radiation belts**
 - auroral protons, precip. rel. to auroral E-layer seasonal vars. 9-8746
 - diffuse auroral precipitation mechanisms 9-12327
 - thermosphere, dynamics at high latits., magnetospheric convection effects 9-8733
- atmospheric radiation**
- see also* **aurora**
 - aerosol particles influence on warming of urban and rural atm. 9-16671
 - aerosol-scattered radiation, effect on O₃ photodissociation 9-2371
 - American Meteorological Soc., third conf. (Davis, California, 1978 June 28-30) 9-5611
 - aurorae, optical emission height profiles of medium intensity 9-40002
 - auroral arcs, precip. primary electrons and bremsstrahlung X-rays, satellite correlated obs. 9-35029
 - balance of radiation over water surface 9-20889
 - boundary layer, IR radiation effects on dynamics 9-39815
 - cirrus clouds, radiative props. in NOAA 4 VTPR channels rel. to satellite exploration 9-39853
 - cloudy atmosphere, IR radiation flux approximation 9-39854
 - cloudy atmosphere, radiative transfer model, solar radiation and cloud struct. 9-21016
 - daily scattered radiation totals variability over European USSR 9-29861
 - diffuse radiation, models with aerosols and common absorbing gases, data sets 9-44235

atmospheric radiation continued

- direct solar radiation and diffuse radiation calcs. from synoptic weather obs. (*German*) 9-34925
- direct solar radiation spectral distrib. 9-12268
- ELF coherent radiation, search at Crab pulsar freq., upper limit 9-16728
- EUV dayglow, obs. by He gas absorpt. cell 9-12326
- finite plane parallel atmos., polarisation studies, F_N method 9-40070
- insolation absorption and thermal excitation of atmospheric tides 9-34890
- insolation meas., Si-cell based sunstation system 9-5582
- ionosphere VLF emission, mid-latit. modulation theory 9-12335
- IR, evaluation of flux over Atlantic Ocean (*Portuguese*) 9-2372
- IR anomalous absorption, temp. dependence 9-34951
- IR attenuation through low atmosphere (*Italian*) 9-48567
- IR emission obs. at balloon altitudes 9-16669
- IR radiative transfer model, comparison of obs. and calcs. 9-2369
- IR sky temp. computation and surface temp. comparison 9-34953
- irradiance at Table Mountain, California 1926-1977, meas. 9-29816
- isotropically scattering semi-infinite medium, diffusely reflected radiation intensity (*Russian*) 9-34948
- kilometric radiation polarization, Voyager 1 and 2 direct meas. 9-12373
- lightning return streamer, EM radiation 9-8652
- long-wave radiation meas., comparison of actinometric radiosondes during GATE-74 period 9-29906
- longwave radiation from cloudless skies, comparison of meas. and calc. 9-44250
- magnetosphere chorus and hiss observed by GEOS, automatic recognition using coherence function 9-44307
- net radiation meas. from shipboard Funk net pyrrometers 9-21055
- Peru, two-parameter statistical model of daily irradiation (*French*) 9-29812
- pollution, radiative effect, latitudinally depend. radiation calcs. with clouds 9-34942
- radiative transfer, nonisothermal inhomogeneous layers, exiting monochromatic intensity 9-37139
- radio emission, aircraft meas., temp. height profile determ. (*Russian*) 9-16574
- spectral global and diffuse radiation and atm. aerosols, pyranometer meas. errors 9-21050
- spectral irradiance in middle UV and visible at Durban, S.Africa 9-12264
- St. Louis metropolitan area, net radiation budget 9-12266
- stratosphere, aerosol optical props. and size distrib. effects on heating rates 9-12222
- submillimetre waves and applications, conference, Guildford, England (1978) 9-31916
- Thailand radiation climate, calcs. from routine meteorological data 9-29814
- thermosphere, nighttime, energy balance 9-35022
- total solar radiation, cooling tower plume effects, obs. 9-12177
- tropics, total atmospheric emissivities 9-29859
- troposphere, IR fluxes meas., by radiometric soundings, parametric law derivation (*French*) 9-25358
- troposphere, thermal balance in low latits. in zonal circulation model 9-25316
- upper atmosphere, energy balance, importance of IR radiation 9-8729
- upper atmosphere, IR radiation from mol. vibr.-rot. transitions 9-5695
- UV albedo obs., by TAIYO satellite (*Japanese*) 9-44281
- X-rays, separation from primary diffuse X-ray component using growth curves 9-25512
- X-rays from low latitude nighttime atmosphere, HEAO-1 obs. 9-44283
- N_2^+ 427.8 nm emission, obs. rel. to mid-latit. charged particle precip. 9-44291
- O II forbidden line emission, 7320-7330 Å, intensity ratio and centre wavelengths 9-44284

atmospheric radioactivity

- see also fallout
- aerosol, laminar flow in cylindrical tube, conc. distrib. of free and attached Rn and Tn decay products 9-29412
- BWR power plant stack effluent inert gas nuclide monitor 9-3255
- diurnal variation, harmonic anal. (*Rumanian*) 9-21009
- gaseous release monitoring and γ spectrometric analysis (*French*) 9-3259
- mountain station, soil emanations rel. to atmospheric electrode effect 9-25307
- neutron skyshine from nucl. facilities (*Japanese*) 9-18054
- nuclear power plant vent-air monitoring by nuclide-specific detection system 9-3249
- nuclear power stations, radioactive emissions, heat emissions, other environmental effects 9-22491
- Ontario Hydro nuclear power plant stack effluent monitoring 9-3254
- radioactive fallout water deactivation using sorption props. of clinoptilolite, vermiculite, bentonite 9-43995
- radioactive releases from nuclear installations, eval. of accidental atmos. discharges 9-39529
- radionuclide concentration determ. in ground level air 9-24927
- radionuclide influences on ice formation in clouds 9-48530
- release to atmosphere, calc. of consequences with TIRION-4 code 9-29494
- skyshine dose due to gamma-rays from nucl. power plant (*Japanese*) 9-29917
- stack effluent monitor in-place testing 9-3257
- stack release radioactivity monitoring with digital processing 9-3253
- West German nuclear power plant airborne radioactive release control 9-13549
- $^{14}CO_2$ meas. in Karlsruhe Reprocessing Plant exhaust air 9-3231
- ^{137}Cs , time variation of low concentrations in rain water 9-43994
- ^{131}I in nuclear power plant gaseous discharge, cumulative meas. (*Russian*) 9-3224
- $^{131}I_2$, $CH_3^{131}I$, airborne, diffusion coeffs. 9-2142
- ^{85}Kr , latitudinal distrib. in atm. surface layer over ocean (*Russian*) 9-39813
- ^{85}Kr , radioactive pollution in atmos., Warsaw 1975 to 1977, meas. methods 9-34458
- ^{210}Pb fluxes, determ. from soil profiles 9-2346
- ^{210}Pb , time variation of low concentrations in rain water 9-43994
- Pu laboratory stack monitoring, computerised system 9-3256
- ^{90}Sr , time variation of low concentrations in rain water 9-43994

atmospheric spectra

see also atmospheric optics

- 100 GHz to 1 THz atmospheric emission and absorption meas. 9-34980

atmospheric spectra continued

- absorption line parameters, AFGL, compilation update 9-21013
- aeronomical reference spectrum for solar UV below 2000 Å 9-25379
- aerosol mass loadings evaluation from multispectral extinction data 9-12221
- atmospherics spectrum, effects of return stroke lightning current and vel. 9-25306
- Auger processes and photoelectron spectra formation 9-2403
- aurora, type-B, obs. and interpretation of spectra and rapid time vars. 9-40001
- auroral secondary electrons spectrum at low altitudes, collisionless effects 9-40008
- auroral spectrum vars. at latit. of polar cleft 9-25384
- cirrus clouds, radiative props. in NOAA 4 VTPR channels rel. to satellite exploration 9-39853
- clouds, particle size distrib. from spaceborne line spectrum imagery, theory 9-5613
- direct visible spectra and aerosol optical depths at urban and rural locations during summer 1975 at Milwaukee, meas. 9-29857
- Dobson O_3 spectrophotometer calcs., generalized treatment of particulate scatt. 9-12267
- electron spectra in magnetosphere dayside cusp region, hard spectrum population 9-12352
- far IR atmospheric emission and absorption spectrum calc. program 9-35020
- gamma rays, medium energy, spectrum meas. 9-9030
- geomagnetic pulsations observed on ATS-6 satellite and at Earth surface, spectral-temporal characts. 9-12345
- global and diffuse radiation and atm. aerosols, pyranometer meas. errors 9-21050
- ionosphere, predawn, conjugate photoelectrons, rocket obs. 9-29931
- IR scanning radiometer data interpretation 9-30541
- irradiance in middle UV and visible at Durban, S.Africa 9-12264
- mesosphere incoherent scatter spectrum, ion component meas. in 60 to 90 km region over Arecibo 9-16569
- meteor wakes, excitation of ionic lines and mol. bands 9-29919
- molecular transmission in surface atmosphere (*Russian*) 9-34949
- motions, spectrum analysis in dynamic meteorology 9-20957
- photoabsorption spectra of trihalonitrosomethane and trihalonitromethanes 9-22720
- solar radiation, global and diffuse, spectral distrib. 9-44229
- Spacelab launch conditions for absorption spectroscopy (*French*) 9-8791
- spectrophotometry using compact spectrometer 9-2396
- stratosphere, emission spectrum, balloon-borne far IR Michelson interferometer meas. 9-39870
- stratosphere, lower, H_2O and O_3 conc., far IR spectroscopy, quantitative anal. 9-39790
- stratospheric far IR emission, balloon-borne obs. 9-34896
- submillimetric-wave interferometric spectrometry 9-34979
- superthermal electron spectra in auroral E-layer, rel. to plasma lines meas. 9-25386
- Toronto, city light pollution and night sky spectra 9-16668
- trace constituents by IR spectra, altitude distrib. technique 9-34985
- UV extinction meas. of O_2 density 9-2406
- VHF double-peaked spectra at negative Doppler shifts in the morning sector of radio aurora 9-40014
- water cluster interpretation of IR water vapour continuum, comments 9-12262
- water vapour absorption in 8 to 13 μm spectral region for different atmospheric conditions 9-39855
- 0.1, 63 μm emission as cooling mechanism in thermosphere and ionosphere 9-16732
- Al hydration, in vap. phase, rel. to upper atmosphere chemiluminesc. 9-29362
- CH^+ in upper atmosphere, obs. following trimethylaluminium high altitude release 9-48591
- FNO_2 , UV photoabsorption spectrum 9-10123
- HNO_3 vapour line parameters meas. by CO laser transmittance 9-26976
- H_2O mesospheric vapour line at 22.2351 GHz, hyperfine structure 9-8666
- H_2O , narrowing of collision shape of mol. absorpt. line in powerful laser field 9-29860
- MgO , wavelengths and relative intensities of IR bands 9-2407
- $N I(^2D)$ 5200 Å emission, prod. in auroral zone 9-21090
- N_2^+ 427.8 nm emission, obs. rel. to mid-latit. charged particle precip. 9-44291
- NH_3 , photoacoustic spectroscopy at 9 μm , 10 μm $^{12}C^{16}O_2$ laser wavelengths 9-21014
- NH_3 , remote atmospheric sensing by multiphoton sequential photodissociative excitation 9-48199
- NO 5.3 μm emission, effect of thermosphere N_2 anharmonic mols. vibr. relaxation 9-12322
- NO , absorpt. characts. of γ -0 band 9-39845
- NO_2 , continuum emission in aurora 9-2422
- O I, red line luminesc. amplification by radiowave anomalous absorpt. (*Russian*) 9-29925
- O I 557.7 nm forbidden line emission structure in airglow 9-35027
- O I 6300 Å line meas. of $O(^1D)$ quenching coeff. by molecular collision, optical meas. 9-2419
- O I 6300 Å nightglow, Doppler shifts rel. to thermosphere midlatit. winds at 105°W and 79°W 9-16727
- O I 7990 Å branching ratio, lab. study, rel. to airglow and auroral emissions 9-775
- O I and N I forbidden lines emission in nightglow, historical review 9-5699
- O I green line (5577 Å) in nightglow 9-48596
- O II forbidden line emission, 7320-7330 Å, intensity ratio and centre wavelengths 9-44284
- O_2 A band differential absorpt. lidar meas., using ruby lidar and stimulated Raman scatt. 9-39904
- O_2 A-band in nightglow 9-48596
- O_2 emission from atom recomb. 9-31576
- O_2 , Schumann-Runge bands, predissoc. linewidths and oscill. strengths, vibr. level depend. 9-45735
- OH (8-3) Meinel band in nightglow 9-48596
- OH Meinel bands intensity var. in nightglow at Poona, rel. to O_3 conc. 9-5698
- OH, submicron airglow bands correl. studies during Spacelab simulation 9-25381
- SO_2 , IR absorption spectra (*Russian*) 9-25328
- SO_2 , long-path automatic monitoring using diode laser system 9-29892

atmospheric structure

- see also *atmospheric composition*
 boundary layer evolution and nocturnal inversion dispersal 9-25296
 boundary layer evolution and nocturnal inversion dispersal 9-25295
 boundary layer structure evolution over oceanic and continental sites (French) 9-25294
 boundary layer structure of axisymm. vortex, lower boundary condition effect 9-25298
 clouds influence on atm. dynamics (Russian) 9-8653
 cusplike electron precipitation regions during 1977, September 19 to 21 event, DMSP-F2 obs. 9-35056
 diffuse auroral zone, form, and dynamics of polar edge of ionospheric trough 9-8743
 E₂-layer over Japan, cloud struct., movement, diurnal and seasonal vars. 9-44298
 E₂-layer, ionisation irregularities rel. to Langmuir wave propag. and enhanced plasma line 9-29928
 E₂-layer studies and latit. regularities (Russian) 9-8749
 E-region tilts, results from reflected radio waves arrival direction 9-25387
 F₂-layer, hmF₂, NmF₂, high-latit. behaviour along noon-midnight meridian under quiet conditions 9-40004
 F-region, high latit., Fe⁺ ions distrib. 9-16736
 F-region, nighttime, distortion prod. by plasmasphere substorm elec. fields 9-40009
 F-region, nighttime equatorial, coexistence of km and m scale irregularities, radar and scintillation obs. 9-2427
 inhomogeneous troposphere model, microwave ducting anal. 9-39818
 intertropical convergence zone, Indian Ocean basin cloud clusters, features 9-29822
 inversions, time dependent behaviour in different climatic regions 9-20908
 ionosphere, D and F region ionisation rel. to mesosphere NO concs. 9-8651
 ionosphere, equatorial spread-F irregularities drifting patches rel. to spatial reson. mechanism 9-21095
 ionosphere, high-latit., morphology rel. to aurora and particle precip. 9-40000
 ionosphere, horizontal struct. of scintillation-producing irregularities in southern mid-latits. 9-12339
 ionosphere, ionisation density fluctuations rel. to SHF refr. scatt. and scintillations 9-48615
 ionosphere, parameters rel. to radiowave magnetoionic components lateral deviations during vertical sounding 9-8747
 ionosphere, topside, O⁺ to H⁺ transitions level height rel. to very low dispersion whistlers 9-44301
 ionosphere, upper, small-scale stratification, influence of strong radio wave with amplitude modulation 9-12330
 ionosphere discrete and homogeneously structured irregularities, radio waves diffr. 9-48612
 ionosphere electron content in S.Atlantic geomag. anomaly region, east-west asymmetry 9-21097
 ionosphere electron density in S hemisphere middle latits., Universal Time effect model 9-25396
 ionosphere electron density trough, Intercosmos-10 Langmuir probe expts. results (German) 9-2469
 ionosphere equatorial bubbles, topside sounder obs. 9-16737
 ionosphere irregularities, mid-latit., geometry from geostationary satellite signals scintillation 9-25388
 ionosphere travelling disturbances, wave-normal depression and disturbance amplitude height depend. 9-40006
 magnetosphere dayside cleft, mag. field perturbations rel. to interplanetary mag. field 9-40023
 magnetosphere dayside cusp region, plasma props. 9-12352
 magnetosphere electron density, small scale struct. from plasma resons. on-line tracking 9-35073
 magnetosphere morning sector, auroral electron discontinuity location meas. by Molniya-1 satellite 9-8778
 magnetosphere physics, review 9-12356
 magnetosphere plasma sheet, form. resulting from plasma mantle dynamics 9-40022
 magnetosphere regions, thermal/suprathermal plasmas obs. by GEOS-1 S-302 expt. 9-35070
 magnetosphere S polar cusp, low energy electrons obs. by AE-C during 1977, September 21 geomag. storm 9-35076
 plasmasphere, thermal struct. and plasmapause positions 9-12329
 solar terminator, gravity waves generation rel. to E₂-layers form. 9-12337
 thermosphere structure and dynamics rel. to tides and diffusion waves 9-35026
 travelling ionospheric disturbances and gravity waves, obs. at S. hemisphere mid-latit. station 9-21096
 tropopause, height vars. rel. to atmosphere total O₃ content natural fluctuations 9-29819
 troposphere, synoptic and mesoscale struct. rel. to Kansas City flash flood (1977, September 12) 9-25291
 troposphere synoptic features in satellite picture, anal. 9-8713
 troposphere velocities and irregularities, VHF radar studies using spaced antenna techniques 9-16701
 turbopause eddy diffusion coefficient, semi-theoretical global based on satellite data 9-21086
 turbopause height variations, appl. to neutral atmosphere semi-empirical models 9-21085
 upper atmosphere, general review 9-39997

atmospheric techniques

- see also *air pollution detection and control; geophysical equipment; ionospheric measuring apparatus; ionospheric techniques; meteorological instruments*
 acoustic Doppler and angle of arrival wind detect., comparison with direct meas. 9-39884
 air temperature, five-day average, forecasting, combined technique improvement 9-29817
 anemometer and lidar meas. of wind vel., comparison 9-39885
 artificial clouds form. possibilities and methods 9-29823
 balloon appl., hot-air, mile-long 9-48583
 chamber methods for soil gas fluxes determ., numerical evaluation 9-16700
 cirrus clouds satellite exploration, radiative props. in NOAA 4 VTPR channels 9-39853
 cloud motion estimation, Fourier phase difference technique 9-21046

atmospheric techniques continued

- clouds and atm. phenomena, integrated automatic processing of obs. data 9-29907
 cloudy atmosphere moisture content determ., long-range, by thermal radiation emiss. meas. (Russian) 9-5637
 cloudy atmosphere remote sensing, integral humidity, integral moisture temperature and height of drop cloud phase determ. (Russian) 9-5635
 computer graphics analysis of atm. refr., visual image transmission 9-8689
 cyclones, pressure drop reduction using deswirler 9-12176
 diffusion in freely convective boundary layer, meas. by acoustic sounding 9-34966
 diffusion parameters from balloon obs. (Italian) 9-21067
 diffusion problems soln., pseudo-spectral and orthogonal collocation method 9-12170
 dimensional analysis and power laws limitations 9-25333
 direct solar radiation and diffuse radiation calcs. from synoptic weather obs. (German) 9-34925
 dye laser, high energy pulsed, for atm. sounding 9-39868
 electron echoes, from conjugate regions of magnetosphere, distrib., Araki expt. (Russian) 9-40019
 fluorocarbons, lifetime determ. methods 9-20920
 fog meas. on motorways 9-16608
 gravity waves in upper atmosphere, obs. via O₂(¹²) airglow, theory 9-29918
 hailstone size determ. from dents in cold-rolled Al sheet 9-39890
 hydrometeorological information, optimum conversion to digital form 9-29903
 ice nuclei conc. meas., filtration theory appl. 9-39887
 incoherent scatter radar technique appl. to lower thermospheric dynamics 9-8734
 IR attenuation by H₂O vapour, hygrometer meas. 9-34943
 IR fluxes meas. by radiometric soundings, parametric law derivation (French) 9-25358
 IR scanning radiometer data interpretation 9-30541
 iterative methods for treating multiple radiowave scattering 9-8709
 laser absorption spectroscopy, airborne, troposphere O₃ distrib. meas. 9-2344
 laser beam detection of atmos. constituents, review (French) 9-34952
 liquid drop cloud medium dissipation by CO₂ laser radiation 9-39858
 magnetosphere chorus and hiss observed by GEOS, automatic recognition using coherence function 9-44307
 magnetosphere electron density, small scale struct. from plasma resons. on-line tracking 9-35073
 magnetosphere relaxation sounding by GEOS-1, plasma density results 9-35072
 mask correlation spectrophotometry, long horizontal path appls. 9-12277
 mesosphere neutral winds, incoherent scatter spectrum meas. in 60 to 90 km region 9-16569
 meteorological physics, recent developments, review 9-25313
 meteorological satellite visible and IR image data, computer processing 9-29864
 meteorology inverse problems, estimation theory appls. 9-35018
 microwave link rain attenuation, year and worst-month rain rate distrib. estimation method 9-5648
 modulation transfer function, estimation via coherence interferometry (Russian) 9-16715
 nitrate detection in aerosol particles using nitron 9-12280
 normal mode initialisation technique, variational nonlinear, atm. gravity waves appl. 9-5584
 occultation technique for stratosphere minor gases determ. (Russian) 9-25342
 oil polluted sea surface, atmosphere-ocean system apparent contrast 9-25265
 optical remote sensing of turbulence, comparison with simultaneous thermal meas. 9-34965
 particle size determ. using spectra attenuation data (Russian) 9-34981
 photolysis, flash, in time and frequency domains, chemical behaviour obs. 9-39874
 photometric systems, comparison at observatories in Arecibo and Staragora 9-48575
 point-discharge currents, meas. via portable instrument using junction FETs 9-39972
 precipitable water vapour determ. from surface meteorology and IR hygrometer meas. (Italian) 9-48587
 propeller anemometer and thermistor meas., meas. interpretation (French) 9-16708
 radar and radiometric combined meas. for hail nuclei determ. in clouds (Russian) 9-12195
 radar measurement of snowfall, accuracy assessment 9-12316
 radio meteorology in Switzerland (French) 9-25319
 satellite picture, synoptic features anal. 9-8713
 sea-surface wind stress determination using SEASAT-A microwave scatterometer, algorithm 9-39883
 solar 1950-2150 Å radiation, ground level meas. using NH₃ actinometry 9-2345
 stratosphere, trace constituents, in situ meas. 9-8676
 stratosphere transport, one-dimensional parametrisation using ⁹⁵Zr data from Chinese thermonuclear explosions 9-2342
 stratospheric composition, IR meas. radiometer, H₂O vapour profile 9-8718
 stratospheric O₃ layer obs. by XeCl excimer laser radar 9-16681
 temperature and humidity meas. methods (French) 9-12318
 temperature corrections for Menaka-II meteorological rocket payload 9-5558
 temperature rel. to geographic latit., correl. charts construction by graphical method 9-29905
 thermal balance meas. by radiation pressure on satellite microaccelerometer 9-2380
 thermosphere, mathematical model for neutral winds deduction, uncertainties results 9-39995
 thunderstorms, severe, forecasting and effects on society 9-5560
 trace constituents by IR spectra, altitude distrib. technique 9-34985
 triple-Doppler radar obs. of convective storm 9-39886
 troposphere velocities and irregularities, VHF radar studies using spaced antenna techniques 9-16701
 turbulence characteristics meas. under convective conditions, optical and meteorological methods (Russian) 9-16577
 typhoons, detection and appl. of associated acoustic waves (Chinese) 9-34996
 VHF detection finder studies of lightning 9-20928

atmospheric techniques continued

- weather forecasting via oceanographic buoys, electronics and telemetry evolution 9-5659
 wind field in frontal system, determ. from single-Doppler radar 9-21057
 wind measurements, using OMEGA radiosonde, error estimation 9-29916
 wind speed and direction prediction, empirical eigenvector method (*German*) 9-34924
 wind speed freq. distrib. determ. for lowest 200 m 9-21052
 wind tunnel testing of flue gas dispersion 9-12282
 wind velocity lidar meas. by spatial filtering 9-29901
 CO abundance meas. method (*Russian*) 9-25343
 Li, release in upper atm. for daytime neutral winds obs., photometer detect. 9-39871
 O remote sensing in mesosphere and lower thermosphere, two-photon lidar technique 9-39869
 O₂ A band differential absorpt. lidar meas., using ruby lidar and stimulated Raman scatt. 9-39904
 O₃ meas. over snow surfaces 9-12281
 SO₂ density prediction for Tokyo, adaptive transformation network method 9-5609

atmospheric temperature

see also *atmospheric thermodynamics*

- aerosol particles influence on warming of urban and rural atm. 9-16671
 ancient Mesopotamia, barley harvest dates rel. to temp. 9-5597
 annual and semiannual oscils. in northern hemisphere 9-48545
 anomaly over European USSR, monthly forecasting 9-39830
 N.Atlantic region, temp. trend 1970-77 period, warming (*German*) 9-16640
 auroral E-region, electron temp. rel. to plasma line meas. 9-25386
 Australian region forecasts using Nimbus 6 temp. sounding 9-5550
 available potential energy concept 9-12218
 Bahrain, discomfort index based on wet-bulb temps. 9-20964
 Baikal-Amur region, climatic regionalization of estimated winter temps. 9-39842
 baroclinic instability, critical temp. gradient, eddies, climate model 9-5562
 baroclinic unstable wave vertical scale, rel. to eddy heat flux parameterisation 9-5563
 baroclinity over India in winter, rel. to western disturbances and jet streams 9-20914
 Bergen, Norway, annual av. temp. and climatic vars. (*Norwegian*) 9-39840
 boundary layer, terrestrial surface features effects, instrumented aircraft meas. 9-39808
 boundary layer evolution and nocturnal inversion dispersal 9-25296
 boundary layer evolution and nocturnal inversion dispersal 9-25295
 boundary layer structure evolution over oceanic and continental sites (*French*) 9-25294
 boundary layer temp. profile, microwave radiometer, for indirect determ. 9-25369
 Calgary, Alberta, temp. fields variability 9-5545
 catalogues of rainfall and temp. anomalies, 1891-1975, for European USSR, N.Kazakhstan, and W.Siberia 9-39826
 climatic change, long-term, prod. by fossil fuel usage, proposed space obs. 9-29844
 climatic temperature changes since 1665, statistical study of causative factors 9-8680
 clouds influence on atm. dynamics (*Russian*) 9-8653
 coastal zone, sea level air temp. correlations 9-12122
 cold-air advective conditions, lake moderating effects on surface temps. 9-25299
 Cologne, heat-electric power station effects (*German*) 9-20999
 D-region, temp. rel. to H⁺-(H₂O)₂ abundance profile 9-40007
 diurnal variation, harmonic anal. (*Rumanian*) 9-21009
 effect on underground temp. var. with depth and time 9-5463
 electrical and electronic equipment operating climatic conditions in Rumania, classification (*Rumanian*) 9-44242
 energy consumption effects on climate 9-29848
 energy use and climatic changes 9-29846
 enhanced CO₂ greenhouse effect, compensation for reduced solar luminosity on early Earth 9-39865
 exosphere, electron temp. meas., night time, 2500 km altitude 9-16730
 exosphere, geomagnetic density and temp. effect propag. 9-48593
 exosphere, temp. vars. appl. to neutral atmosphere semi-empirical models 9-21085
 exosphere temperature and thermosphere neutral winds above Millstone Hill, mathematical model 9-39995
 F-region, electron temperatures, theory and obs. 9-48618
 F-region, neutral temp. and zonal wind computed bounds during Joule heating 9-21084
 F-region temp., satellite meas. rel. to incoherent scatter radar results 9-2435
 five-day average air-temp. forecasting, combined technique improvement 9-29817
 forecasting of average air temp., underlying ocean surface influence 9-29827
 forecasting of sharp temp. drops in Ararat Valley using circulation indices 9-25317
 frost prone areas, Niagara fruit belt, defined by thermal imagery 9-25314
 geographic latit. rel. to temp., correl. charts construction by graphical method 9-29905
 heating rate parameterization, 15-120 km altitude, due to O₂ and O₃ absorpt. of solar radiation 9-39798
 heavy rain, anal. by potential pseudoequivalent temp. field (*Chinese*) 9-48532
 heavy rain, dynamical anal., potential pseudoequivalent temp. condition conservation (*Chinese*) 9-48533
 height profile determ. by aircraft meas. of outgoing radio emission (*Russian*) 9-16574
 hydrologic cycle, climatic sensitivity, numerical model 9-8654
 incoherent scatter results for co-ordinated special intervals at St. Santin (France) 9-2416
 inversions, time dependent behaviour in different climatic regions 9-20908
 ion temp. meas. using ion analyzers 9-21147
 ionosphere, electron densities and temps. from Intercosmos-10 Langmuir probe expts. (*German*) 9-2469
 ionosphere, electron temp. changes rel. to radio waves self-action, nonstationary theory (*Russian*) 9-48604

atmospheric temperature continued

- ionosphere, electron temp. meas. from satellite gyroharmonic reson. obs. 9-48614
 ionosphere, mid-latit. N₂⁺ 427.8 nm temp. rel. to emission height and origin 9-44291
 ionosphere, nighttime, O(1D) contrib. to heating 9-44288
 ionosphere, nonlinear stationary temp. domains 9-35052
 ionosphere, storm time auroral, anomalous transport coeffs. effect on thermal struct. 9-16743
 ionosphere, temp. vars. due to solar EUV flux changes, calcs. 9-44293
 ionosphere, topside, turbulent transport and heating of auroral plasma 9-35054
 ionosphere unstable polar cap, electron density and temp. rel. to electrostatic waves 9-29927
 IR anomalous absorption, temp. dependence 9-34951
 IR sky temp. computation and surface temp. comparison 9-34953
 lower atmosphere, O₃ temp. and wind obs. for 1978 January 4 to March 31 period (*French, Flemish*) 9-5561
 lower atmosphere, temp. corrections for Menaka-II meteorological rocket payload 9-5558
 magnetosphere, electron density and temp. meas. by GEOS-1 mutual impedance expt. 9-35071
 magnetosphere, lower, electron densities and temps. from Intercosmos-10 Langmuir probe expts. (*German*) 9-2469
 magnetosphere, thermal/suprathermal plasmas obs. by GEOS-1 S-302 expt. 9-35070
 magnetosphere plasma density and temperature, GEOS-1 multi-expt. determ. 9-35074
 mesopause region, ion-clustering during winter anomaly, temp. and NO density vars. effect 9-21087
 mesosphere, Arctic, vertical temp. and density patterns anal. as gravity waves 9-16622
 mesosphere, LF radio wave absorpt. temp., seasonal variation 9-48602
 mesosphere, LF radio wave absorpt. variations, press. and temp. depend. 9-44282
 mesosphere, temp. vars. rel. to solar mag. sector struct. 9-34905
 Mesozoic greenhouse and climatic warming 9-20963
 morning and evening temp. differences of cloud tops over tropical continents and oceans 9-12219
 Netherlands, winter temps. rel. to solar cycle 9-5596
 northern hemisphere, temp. trend to year 2000, prediction 9-16646
 ocean-atmosphere system, interannual variability 9-2330
 oceanic rainfall estimates, temp. correction 9-12220
 paleoclimatology, overview, and European air temp. trends (*German*) 9-16639
 palaeotemperature, parallel changes in species diversity, Lower Miocene, meas. by O isotope anal. 9-39866
 palaeotemperature series from last 700000 years, statistical study 9-5598
 palaeotemperatures, 230000 to 100000 BP, results from speleothems stable isotope geochemistry 9-2234
 plasmasphere, thermal struct. and plasmopause positions 9-12329
 profile retrieval with passive microwave sounder using Kalman-Bucy filters 9-21053
 radiative cooling by use of inverse greenhouse effect 9-25329
 radiowave refractivity and temp.-humidity cospectrum 9-39819
 remote IR satellite temp. profile retrieval 9-48586
 satellite determ. of temp. profile (*Hungarian*) 9-44218
 sound attenuation, air-to-ground propag., effects of temp., humidity gradients 9-1019
 spectra determ. from propeller anemometer and thermistor meas. (*French*) 9-16708
 St. Louis downwind plume, thermodynamic props. and aerosol patterns 9-16603
 stratosphere, aerosol optical props. and size distrib. effects on heating rates 9-12222
 stratosphere, LF radio wave absorpt. variations, press. and temp. depend. 9-44282
 stratosphere, lower, temperature vars. rel. to atmosphere total O₃ content natural fluctuations 9-29819
 stratosphere, recent temp. trends 9-29845
 stratosphere, seasonal climate, numerical simulation, zonal temp. and wind 9-5566
 stratosphere, thermal response to O₃ fluctuations 9-39797
 stratosphere and mesosphere, wind and temp. diurnal and semidiurnal oscils., rocket meas. 9-5556
 stratosphere warmings, influence on lower thermosphere natural infrared refl. 9-21089
 structure parameter profiles meas. by acoustic sounder 9-21049
 surface layer over Poona, temp. field 9-48544
 thermal history, CO₂ content rel. to thermodynamic balance 9-29847
 thermosphere, global comp. and temp. empirical models during quiet times compared with ESRO 4 data 9-8732
 thermosphere, large-scale waves, obs. during mag. storms 9-35021
 thermosphere, nighttime, energy balance 9-35022
 troposphere, equatorial, response to heat sources 9-29832
 troposphere, temp. anomalies, conjugate functions appl. in anal. and forecasting 9-39829
 Tsumeb, S.W.Africa, boundary layer profiles for dry season in steppe (*German*) 9-34923
 turbulence chamber for optical transmission expt., characterisation by thermal method 9-25330
 upper atmosphere, energy balance, importance of IR radiation 9-8729
 upper atmosphere, general review 9-39997
 urban mixing layer, mesoscale perturb. on airflow 9-16602
 urban-rural canopy analysis, surface heat flux/temp. model 9-20945
 O₂ A band differential absorpt. lidar meas., for pressure height and vertical temp. profiles 9-39904
 O₃ heating, induced antisymmetric tidal modes at equinox 9-35024
 O₂(Σ) airglow, temp. as gravity waves diagnostic 9-29918

atmospheric thermodynamics

see also *atmospheric temperature*

- available potential energy concept 9-12218
 boundary layer, terrestrial surface features effects, instrumented aircraft meas. 9-39808
 boundary layer evolution and nocturnal inversion dispersal 9-25296
 boundary layer evolution and nocturnal inversion dispersal 9-25295
 bulk transfer velocity to and from natural and artificial surfaces 9-25302
 closure conditions in Lilley-type inversion models 9-5589
 clouds influence on atm. dynamics (*Russian*) 9-8653

atmospheric thermodynamics continued

- condensation of water, thermodynamics of nucleation on charged centres 9-20955
- convection caused by rejected waste energy 9-12169
- convective instability and thermodynamic parameters of tropical atm., GATE obs. 9-39827
- convective instability in rotating gas, tornado model 9-27642
- convective vortex model, unsteady two-cell similarity soln. 9-16626
- cumulus transports in tropical wave composite during GATE 9-2336
- energy and enstrophy nonlinear cascades in two-dimens. spectral index 9-16619
- energy-balanced discrete models of atmospheric process dynamics 9-39828
- F-region Joule heating, zonal wind computed bounds 9-21084
- global climate, steady-state format 9-44244
- global energy budget, annual cycle of available pot. energy, variability 9-20909
- heat transport parameterization in midlatits., large-scale stationary waves and Ferrel cell 9-16618
- heat transport parameterization in midlatits., large-scale transient eddies 9-16617
- housing estate heat supply methods comparison (*Hungarian*) 9-2366
- hydrologic cycle, climatic sensitivity, numerical model 9-8654
- hydrostatic stability, influence on wind drag coeffs. for marine regime 9-5494
- inversions, time dependent behaviour in different climatic regions 9-20908
- ionosphere, cooling by 0.1, 63 μm emission, meas. 9-16732
- magnetosphere substorm, energy transfer 9-12343
- moist boundary layer, finite element model, eqns. 9-5585
- moist boundary layer, finite element model, soln. method 9-5586
- monsoon circulation dynamics 9-5559
- ocean-atmosphere interface, coupled energy transfer, turbulent and radiative 9-2290
- plasmaphere, Coulomb collision-induced photoelectron trapping by geomag. field 9-8739
- point heat source, natural convection in rotating environment 9-10445
- sensible heat advection, local and regional components 9-20942
- sensible heat flux determ. from propeller anemometer and thermistor meas. (*French*) 9-16708
- St. Louis downwind plume, thermodynamic props. and aerosol patterns 9-16603
- stationary perturbations, statistical-dynamical model 9-2333
- steady convection, two-dimens., in const. vertical shear, dynamical struct. 9-12209
- stratosphere, highly excited metastable O_3 rel. to photochemistry and heat balance 9-44225
- stratosphere, lower, trajectory slopes, countergradient heat fluxes and mixing by waves 9-2340
- stratosphere, seasonal climate, numerical simulation, energetics 9-5567
- surface layer over Poona, temp. field 9-48544
- thermal balance meas. by radiation pressure on satellite microaccelerometer 9-2380
- thermal history, CO_2 content rel. to thermodynamic balance 9-29847
- thermosphere, cooling by 0.1, 63 μm emission meas. 9-16732
- thermosphere, dynamics at high latits., magnetospheric convection effects 9-8733
- thermosphere, neutral winds seasonal vars., 1970 to 1971, rel. to high-latit. heating 9-39996
- thermosphere, nighttime, energy balance 9-35022
- tropical cumuli, props. and bulk thermodynamic effects 9-8657
- troposphere, equatorial, response to heat sources 9-29832
- troposphere, thermal balance in low latits. in zonal circulation model 9-25316
- waste heat release from nuclear power plant, convective cloud model appl. 9-34452

atmospheric turbulence

- acoustic interference effects above finite impedance boundary 9-41493
- advection, turbulent, scalar spectrum model 9-32474
- airflow, diffusion and momentum flux patterns in high mountain valley 9-5544
- amplitude phase distortions correction of wave propag. in turbulent atm., efficiency 9-27178
- astronomical image degradation, contrib. of lower atmospheric layers, use of photodiode array 9-21019
- baroclinic instability and turbulence rel. to circulation in atmosphere of Jupiter 9-40132
- boundary layer, characts. 9-16628
- boundary layer, turbulent penetrative-convection planforms, laboratory obs. 9-48550
- boundary layer development above sea during generation of surface waves (*Russian*) 9-16476
- boundary layer flow over water during stable conditions, Eulerian and Lagrangian time scales 9-25300
- boundary layer parameterization technique 9-29830
- boundary layer turbulent flows 9-39838
- bulk transfer velocity to and from natural and artificial surfaces 9-25302
- chemical reactions, second-order, in turbulent fluid, model, appl. to atm. plumes 9-20350
- chemical reactions, second-order, in turbulent fluid, model, formulation and validation 9-20349
- clear air turbulence and in cumulus clouds, vertical gust vels. and normal gravity vars. 9-48543
- closure conditions in Lilley-type inversion models 9-5589
- convective boundary layer over sea, turbulence meas. by instrumented aircraft 9-12214
- convective turbulence characteristics, investigation (*Russian*) 9-16577
- degradation of electrooptical system performance 9-34940
- diffusion, Sutton's formula criticised (*French*) 9-44223
- dispersion concentration valves, system for wind tunnel meas. 9-5191
- eddies, transfer rate in air flow above sea surface (*Russian*) 9-16578
- effects in cyclotron resonance of monochromatic whistlers 9-16759
- effects on radar return from radar-acoustic sounding system 9-39821
- EM waves scattering by turbulent flows in wake of artificial satellites 9-8730
- energy and enstrophy nonlinear cascades in two-dimens. spectral index 9-16619
- energy-balanced discrete models of atmospheric process dynamics 9-39828

atmospheric turbulence continued

- enstrophy transfer in two-dimens. turbulence, subgrid scale modelling 9-16586
- equatorial electrojet, radar obs. of two dimens. turbulence, nighttime type 1 waves 9-35038
- free convection, characts., lab. visualisation expt. 9-18888
- geostrophic balance of horizontally periodic motions 9-39824
- heat transport parameterization in midlatits., large-scale transient eddies 9-16617
- image resolution through atmospheric turbulence 9-36855
- imaging and optical communication through atmospheric turbulence, book contrib. 9-34960
- inertial model, expt. verification from solar limb motion 9-5614
- ionosphere, topside, turbulent transport and heating of auroral plasma 9-35054
- IR noise caused by turbulent flows, IR detector obs. 9-31799
- Kolmogoroff's theory of turbulence and intermittency, laser beam propagation expt. 9-7368
- laser beam propagation, detection effects on statistics of intensity fluctuations 9-16672
- laser beam propagation in atmosphere, book 9-34955
- laser beam propagation in turbulent atm., spectral expansion soln. method 9-18350
- laser beam wandering in turbulent atm., error probability in binary signal reception 9-10337
- laser beam wandering in turbulent atm., fluctuation power probability density distrib. 9-10336
- laser irradiation intensity fluctuations, influence of transmitting aperture diff. size and turbulence 9-45906
- laser radiation strong intensity fluctuations, similarity relations and expt. verification, book contrib. 9-34958
- lateral diffusion parameters vars. 9-20931
- light beam gravity centres displacement spectra (*Russian*) 9-3631
- lower atm., simultaneous meas. using sodar and aircraft 9-20923
- magnetotail, distant, lower-hybrid-drift wave turbulence 9-25399
- mesosphere vertical velocities, first VHF radar meas. at temperate latits. 9-16572
- modulated wave propag. in turbulent atm., correlation functions and freq. spectrum 9-34954
- moist boundary layer, finite element model, eqns. 9-5585
- moist boundary layer, finite element model, soln. method 9-5586
- optical heterodyne receiver arrays, partial tracking, operating in turbulent atm. 9-41345
- optical remote sensing, comparison with simultaneous thermal meas. 9-34965
- optical scintillometer, large-aperture, fine calibration, optical estimate of turbulence inner scale 9-21026
- optical transmission expt. using atm. turbulence chamber, characterisation by thermal method 9-25330
- optical wave propagation in turbulent medium, modern theories, book contrib. 9-34957
- overwater dissipation and drag coefficients for marine regime, shipboard evaluations 9-5494
- Pasquill stability classification for coastal site 9-16610
- phase adaptation by nonlinear techniques, optical propag. distortion compensation, book contrib. 9-31973
- plane wave scattering in inhomogeneous turbulence 9-39857
- plume monitoring, airborne sampling system 9-21027
- pollution distrib., aerodynamic aspects, test results and numerical solution (*German*) 9-8686
- reflection optical radiation echo signal temporal broadening by atmospheric turbulence, anal. 9-8693
- remote sensing, laser beam wave case, book contrib. 9-34959
- short-exposure imaging through turbulence, wavefront distortion 9-41336
- St. Louis downwind plume, thermodynamic props. and aerosol patterns 9-16603
- stably stratified shear flow, turbulence theory in buoyancy subrange 9-5568
- stellar speckle pattern statistics, photon counting techniques 9-25324
- stratified boundary layer, vel. profile (*Russian*) 9-10601
- stratosphere, turbulence and mean flow study by tracer balloons 9-8661
- streamwise turbulence vertical coherence inside and above model plant canopy 9-25297
- Sun-weather effects, coincident turbulent processes 9-44219
- surface and planetary layers at unstable stratification, vertical profiles (*Russian*) 9-34900
- surface layer over plant canopies, kinetic energy downward transport 9-25301
- surface layer over Poona, temp. field 9-48544
- temperature structure parameter profiles meas. by acoustic sounder 9-21049
- troposphere, refractivity turbulence struct. const., Sunset Radar obs. comparison with theoretical model 9-8673
- troposphere, turbulence scale rel. to scatter transmission path loss 9-48556
- turbopause eddy diffusion coefficient, semi-theoretical global models based on satellite data 9-21086
- typhoon characteristics over South China Sea 9-25309
- uniform potential vorticity flow, wave interactions and turbulence theory 9-8655
- urban environment, meteorological obs. 9-25312
- vertical inhomogeneous currents predictability (*Russian*) 9-29809
- vertical turbulent diffusion in a stably stratified fluid 9-16585
- wave propagation in turbulent medium, classical theory, book contrib. 9-34956

atmospheric wind see wind**atmospherics**

- see also *atmospheric electromagnetic wave propagation; whistlers*
- ELF waves assoc. with equatorial spread-F, satellite obs. 9-35051
- ELF/VLF ground-based obs. at high latitudes during GEOS-1 and ISEE-1 and -2 passes 9-29949
- ionosphere VLF emission, mid-latit. modulation theory 9-12335
- lightning, return stroke current and vel 9-25306
- magnetosphere chorus and hiss observed by GEOS, automatic recognition using coherence function 9-44307
- noise field in VLF band, observation time limits (*Spanish*) 9-16758
- premonsoon thunderstorms, integrated field intensity of atmospherics, Calcutta 9-39792
- pulsating gas flow, aeroacoustic charact. eval. method 9-46141
- sweepers modulation struct. in HF and VHF bands 9-5707

atmospherics continued

- VHF direction finder studies of lightning 9-20928
 VLF chorus dynamic spectrum, estimation of large-scale elec. field of magnetosphere 9-8775
 VLF chorus events dynamic spectrum 9-8770
 VLF emissions during mag. storms, ring current electrons intensity enhancements 9-2444
 VLF hiss, convective beam amplification 9-40029
 VLF meas. at San Miguel, Argentina, rel. to thunderstorms 9-39799
 VLF waves obs. by GEOS-1 9-29943

atom-atom collisions

- includes reactive collisions*
 degenerate atomic level perturbation by neutral particles 9-792
 differential and total scatt. cross sections using spectroscopic line shape anal. 9-36735
 discrete-continuum electronic states coupling, appl. to He+Ar 9-10193
 flame, rate constants for $A+X \rightleftharpoons A^+ + X^-$ and $AX+M \rightleftharpoons A^+ + X^- + M$ (A =metal, X =halogen, M =flame species) 9-34310
 form factors and cross sections for nl-n'l' direct collisional transitions 9-31636
 graphite, tritium effects, first wall controlled thermonuclear reactor conditions, simulation 9-647
 hot-atom collisional energy density function, stochastic calc. 9-29342
 isotope separation, atomic collisions, influence on resonant excitation selectivity 9-27098
 laser, high-intensity, multimode, dynamics theory 9-41363
 laser-induced radiative collisions, review 9-10196
 measurements of reaction rate consts., reliability criterion 9-8423
 momentum transfer phase factors, mol. integral evaluation with travelling GTO basis set 9-22778
 multi-crossed-beam method, differential cross-section meas. 9-45797
 multiplet mixing collisions, effect on near resonant light scatt. 9-6908
 O+O, O₂(c¹ Σ_u^- , C¹ Δ_u , A³ Σ_u^+) emission from at. recomb. 9-31576
 optical processes in close atomic collisions 9-13790
 oscillator strength sums, dynamic polarisabilities, one-term approximations 9-22782
 Rydberg atom+inert gas atom, ang. momentum mixing 9-10175
 Rydberg atom+Rydberg atom, ionisation cross-section calcs. 9-31664
 semiclassical theory for near adiabatic photon assisted mol. collisions 9-5141
 slow atomic particle collisions, quasiresonant processes 9-41216
 unified atom limit, adiabatic approx. for transitions between l=2 states 9-22781
 Ar atom excited states collision radiative destruction in glow discharge 9-3528
 Ar, autoionising levels excited by heavy ion impact 9-13804
 Ar, collision induced light scatt., three- and four-body spectra 9-18260
 Ar, pair polarisability determ. from collision induced light scatt. spectrum 9-13678
 Ar*(3p⁴p_{1/2}) + Ar(1S₀), collisional population transfer rate coeffs., 300K 9-10177
 Ar(3p², 4p) and (3p², 4p') states, radiative lifetimes, two-body deactivation rate consts. 9-10068
 Au+Xe, 4.7 MeV, u⁻¹, meas. of shape and absolute value of 1s σ excitation probability 9-13816
 Ba+Kr, collision induced dipole transition, elec. quadrupole transition, oscillator strengths 9-41128
 Ba*+Ba*, radiative collisional fluoresc. at sum freq. 9-18261
 Be+Be, polarisability and London coeff., ab initio variation perturbation calc. 9-13635
 Be+Mg, polarisability and London coeff., ab initio variation perturbation calc. 9-13635
 Br+Br+Ar, photoinduced recombination, numerical simulation 9-16018
 Ca+Rydberg Ca**, collision cross sections, Ca₂⁺ pot. energy calcs. 9-27055
 Cs inert gas, pot. energy curves, collision induced oscillator strengths 9-22659
 Cs, self-broadening of Doppler-free two-photon lines 9-41135
 Cs+Cs, Rydberg states collisional disalignment determ. by fluoresc. quantum beat damping 9-13789
 Cs+He(Ne)(Ar), optical pumping, spectral line shape (Spanish) 9-22662
 F+Xe, differential scatt. cross sections, crossed beam study, interaction pot. 9-3517
 H+Ar, 0.5 MeV H(H⁻) ionisation comparison 9-41230
 H+D, excitation transfer, thermal energy, dipole-dipole interaction 9-31666
 H+H, excitation transfer, thermal energy, dipole-dipole interaction 9-31666
 H+He, H Balmer- α fine struct. lines, anomalous shifts, in He-H₂ DC discharge 9-45677
 H+He, long and intermediate range interaction, model pot. calc. 9-22789
 H+Hg, differential cross sections, orbiting contribution 9-41221
 H+T, excitation transfer, thermal energy, dipole-dipole interaction 9-31666
 H(D)+Ar, differential collision cross sections, diffraction oscills., data anal. 9-22783
 H(1s) and (2s), electron loss in passing through inert gases 9-13805
 He (1S) and (2S), electron loss in passing through inert gases 9-13805
 He, electron and neutral collisions, Rydberg level transitions 9-45821
 He, light scattering spectra of gas, collision-induced scatt. 9-18137
 He+Ar, van der Waals pot., from crossed at.-mol. thermal beams scatt. 9-27053
 He+Ar(Kr)(Xe), 2S and 2S^{*} assoc. and Penning ionisation cross sections vel. depend. 9-3551
 He+Ar(N₂)(NO)(O₂)(N₂O)(CO₂), Penning ionisation of target mol., for He(2S) 9-41228
 He+Cs(Rb), interatomic pots., hyperfine shifts, diffusion coeffs., perturbation exchange theory 9-41220
 He+He, (2S) and (2S^{*}) metastable states, direct and assoc. ionisation rate consts. in afterglow, electron energy spectra 9-13812
 He+Ne, NE transitions, 1.52 μ m and 633 nm, mode crossing resonance shape 9-18163
 He+Ne, Ne disalignment collision cross sections of 2p_{1/2}, 2s_{1/2} levels, mode crossing determ. 9-18162
 He*, collisional transfer rates between excited levels 9-22793
 He*+D, Penning and assoc. ionis. with metastable He, 0.01 to 10 eV beams 9-27074
 He*+He, (*=excitation or charge), differential scatt. inversion procedure, symmetric exchange, classical, semiclassical theory 9-13802

atom-atom collisions continued

- He(2S), bi- and ter-mol. deexcitation reaction rate coeffs. meas. in afterglow 9-36748
 He(2S)+H(D), Penning and assoc. ionis. cross sections, vel. depend. 9-22815
 Hg+Ar, spectral line broadening of Hg in UV, interaction pot. 9-26937
 Hg+Zn(Cd), sensitized fluoresc., orientation and alignment transfers (French) 9-13808
 I, collision-induced 5P_{1/2}-5P_{3/2} radiative transition 9-31461
 I+Z (total Z \geq 100) adiabatic collision, inner shell X-ray prod., vacancy prod. 9-31675
 K atom, formation of electronically excited molecules by photorecomb. of 4P and 4S states (Russian) 9-3531
 K, resonance lines broadening and shift by noble gases 9-10070
 K+I chemi-ionisation, integral cross section calc. for two state model 9-18282
 K+I chemiionis. differential cross-section calc. for two-state model 9-18283
 K+Kr, differential cross-section meas. by multi-crossed-beam method 9-45797
 Kr plasma, of positive column, at. alignment, radiative lifetimes, collision cross sections 9-4203
 Kr+⁷⁵As, slowing down of atoms/ions with KE \leq 5 eV by inert gases 9-31650
 Kr+Kr(Xe), X-ray prod. cross sections for Kr L-shell vacancies 9-10190
 Kr₂⁺, VUV time resolved spectra, formation and decay kinetics 9-31544
 Li(2S), electron loss in passing through inert gases 9-13805
 Mg, reson. line, Hanle effect, density depend. 9-6917
 Mg+Mg, polarisability and London coeff., ab initio variation perturbation calc. 9-13635
 Na+He(Ar), collision broadening and shift of 3S-4D and 3S-5S lines 9-3406
 Na+He(Ne), Rydberg states, cross sections for collisional ang. momentum transfer 9-6997
 Na+inert gas atom, 4²D fine struct. transition 9-850
 Na+Ne(Ar)(Kr)(Xe)(N₂)(CO₂), fine struct. changing collisions, vel. depend. 9-22803
 Na₂, form., collision-produced diffuse violet emission band obs. 9-27026
 Ne+Kr slow collisions, four-state treatment of K-L vacancy sharing 9-45793
 Ne+Ne(He), population transfer from 2p levels (French) 9-851
⁵⁸Ni+p, K-shell X-ray photon proton coincidences, nucl. time delay 9-18281
 Rb, laser saturation spectra, collision broadened line struct. (Russian) 9-45678
 S(P)+N(S), NS(B²I) form. kinetics, chemilum. obs. 9-39151
 Si 3p²(¹D₂) state collisional quenching 9-22806
 Sr(¹S)+Ar, Sr(¹P) collisional excitation in nonreson. laser field, four-state model 9-10191
 Ti(³S_{1/2})+inert gas, long-range interaction, spectral line shifts and broadening 9-10174
 Xe+⁷⁵As, slowing down of atoms/ions with KE \leq 5 eV by inert gases 9-31650

atom-ion collisions

- includes reactive collisions*
see also charge exchange
 A²⁺+atom, electron capture cross section into arbitrary principal shell, approximation scheme 9-18287
 atom+H⁺(He²⁺), excitation functions rel. to ionisation (French) 9-31669
 Auger electrons in mol. ion+solid (gas) targets 9-45814
 CA(s)+B²⁺→A⁺+B²⁺(p), charge exchange, at term pseudointersection, level degeneracy effect 9-27084
 charge transfer, new integral eqn. calc. method 9-45832
 collision spectroscopy, book 9-27065
 electron capture, at. expansion method 9-45833
 electron loss cross section, asymptotic form 9-13807
 electron spin coupling in rot. frame, X-ray emission 9-36724
 exchange matrix elements with momentum transfer, impact-parameter formulation 9-31648
 heavy atom+⁴He²⁺-2.5 MeV, inner shell ionisation cross section 9-45825
 heavy ion+atom, double K-shell vacancy sharing 9-45809
 heavy ion+atom, K-vacancy production, universal scaling law 9-22811
 heavy ion+atom, outer shell electron emission, differential cross sections 9-45817
 heavy ion+atom (molecule), multiple electron loss cross sections meas. 9-45818
 heavy ion collision, K-shell vacancy sharing, variation-perturbation mol. model 9-31665
 heavy ion collisions, Doppler shift of continuum X-rays from quasimols. 9-22808
 heavy ion interactions with gases, measurement apparatus 9-31741
 heavy ions, critical two-centre distance, HFS relativistic calc. 9-22801
 heavy particles, stopping in gases, W-values expt. results 9-7000
 high-Rydberg state high-impact-velocity forward charge transfer as classical process 9-22824
 inert gas ion+atom electron transfer collisions, cross section meas. 9-5143
 inner-shell collisionally-induced excitation spectra, single electron description failure 9-45815
 inner-shell excitation in heavy ion collisions, variational method 9-31428
 inner-shell ionisation of quasimolecular system, perturbation theory 9-31667
 interference structure, He⁺+He optical emission interpretation 9-45816
 ion accelerator applications, outside nuclear physics (Polish) 9-40641
 ion beam pumped X-ray laser, progress report 9-45920
 ion-induced electron distributions, experimental resolution and background effects 9-36749
 ionisation or excitation, binary encounter approx. 9-22804
 ions, proton excitation approximations, erratum and extension 9-35118
 K-L and L-K vacancy sharing in highly asymmetric collisions 9-45812
 K-shell excitation absolute cross section, 0<Z<11, 40-600 keV 9-41231
 K-shell ionisation by Coulomb excitation, plane-wave Born-approx. 9-18272
 K-shell vacancy prod., impact parameter depend. 9-13803
 kinematic dipole model for the anisotropy of quasimolecular X-rays 9-13814
 lanthanide atom+H⁺, L-subshell ionisation cross-section, 150-400 keV 9-45665

atom-ion collisions continued

- M-subshell direct Coulomb ionisation, X-ray emission, PWBA calcs. 9-45664
 molecular orbital X-rays, scaling law derivation 9-18284
 molecular orbital X-rays from atomic and molecular impact on solid targets 9-36750
 multiple scattering in molecular gases, target at +energetic ion spatial correlation influence 9-27062
 nonadiabatic couplings for ionizing transitions and the determination of switching functions 9-22813
 one-electron ion + He(N)(Ar), sum-rule Born cross sections, excitation and ionis. contribs. 9-22812
 quasi molecular description, diabatic correl. diagrams 9-3525
 quasimolecules formed in heavy-ion collisions, high energy electron emission spectra 9-3554
 quasimolecules, superheavy, M-like X-ray transitions 9-6951
 radiative electron capture, photon ang. distrib., retardation effects 9-41234
 semiclassical approx. for inelastic collision 9-6989
 slow ion+atom collisions, coherent excitation and decay of autoionising states 9-45789
 superheavy quasimolecules, Bang Hansteen scaling rule, $K\alpha_1$ line anal. 9-10126
 X-ray polarisation 9-45810
 Ar+ $N^{2+}(O^+)$, electron emission, double differential cross sections, Auger spectra 9-45684
 Al+ $N^{2+}(O^{2+})(F^{2+})$, X-ray prod. and electron transfer cross-section 9-45790
 Ar, autoionising levels excited by heavy ion impact 9-13804
 Ar, energy dependence of W for alpha particles 9-6999
 Ar, single-K multiple L-shell vacancy prod. in ion collisions, X-ray spectra 9-22809
 Ar+ $Ar^{2+}(Ne^{2+})$, outer s-subshell vacancy production 9-18275
 Ar+ $C^{2+}(O^{4+})(Si^{2+})$, n=10,11,12, intense low energy autoionisation lines 9-31674
 Ar+ H^+ , ang. and energy distrib. of ejected electrons 9-31668
 Ar+ $Ar(He)$, 100-550 keV, 3s vacancy production 9-13809
 Ar+ H_2 , $a^2\Sigma_g^+ \rightarrow b^3\Sigma_u^+$ continuum emission excitation 9-41200
 Ar+ $Sn(Sb)(Xe)$, vacancy sharing between K and L shells in 3d σ mol. orbital 9-22807
 Au+ He^{2+} , L-shell ionis. probability, X-ray prod. 9-18276
 Au+ H^+ , atomic K-shell ionis., X-ray emission 9-18280
 Au+ He^{2+} , high energy ionis. probability, semiclassical approx. with relativistic Hartree-Fock function 9-6998
 B $^{2+}+He(C)(Ne)$, K-shell charge transfer cross sections, Bates-Born formalisms 9-45834
 Ba $^{2+}+ZZ$ 9-13811
 Ba $^{2+}+Ba$, 6p 2 p level lifetimes, depolaris. cross-sections, Hanle effect obs. 9-26943
 Be $^{2+}+He(Ne)$, charge transfer and excitation, differential cross sections, 2-5 keV 9-36764
 Br $^{2+}+He(Ne)(Ar)(Kr)$, total electron detachment cross sections, near threshold energies 9-3555
 C $^{2+}+H_2$, 0.1-13 keV electron capture cross-sections meas. 9-36761
 C $^{6+}+Ar$, electron capture to continuum states, forward ejected electron spectra 9-45831
 Ca+Ca $^{2+}$, collision cross sections, Ca $_2^+$ pot. energy calcs. 9-27055
 Ca+ H^+ , K X-ray production, 0.2-0.5 MeV, ionis. cross-section 9-31459
 Ca+ ZZ 9-13811
 Cd+ $H^+(He^{2+})$, L- and M-shell Auger electrons 9-27076
 Cl+ $He(Ne)(Ar)(Kr)$, total electron detachment cross sections, near threshold energies 9-3555
 Cl $^{4+}+Xe(Ar)$, 20 MeV, electron loss cross sections, pot. model data anal. 9-27082
 Cl $^{5+}+Ca(Sr)(Ti)$ thick targets, 30 MeV, near symmetry collisions, double-K-vacancy sharing 9-3391
 Cl $^{18+}+Cl(Ar)$, branching ratio dependence on projectile velocity and nuclear charge 9-31475
 Cl $^{18+}+Cu$, effect on projectile charact. X-rays and REC of target thickness 9-45662
 Cl $^{22+}+Cl(Ti)(Ni)$, K-shell ionization probability in energetic nearly symmetric heavy-ion collisions, 35 MeV 9-27078
 Cl $^{22+}+Sn(Sb)(Xe)$, vacancy sharing between K and L shells in 3d σ mol. orbital 9-22807
 $^{35}Cl^{18+}+atom$ (molecule), multiple electron loss cross sections meas. 9-45818
 Cr+ H^+ , K X-ray production, 0.2-0.5 MeV, ionis. cross-section 9-31459
 Cs $^{2+}+Cs$, mol. ion form. rate, from mobility meas. 9-34299
 Cu+ H^+ , atomic K-shell ionis., X-ray emission 9-18280
 D+ $H^+(D^+)(He^+)(Ne^+)(Ar^+)(Kr^+)$, reson. charge transfer from photoexcited donor state 9-22820
 D $^{18+}+Ar$, electron capture to continuum states, forward ejected electron spectra 9-45831
 Eu+ H^+ , atomic K-shell ionis., X-ray emission 9-18280
 F $^{8+}+He$, X-ray prod. cross sections resulting from electron capture and electron excitation of F $^{8+}$ ions 9-3557
 F $^{14+}+Ne$, MO X-ray prod. obs. 9-45663
 $^{19}F+Z$, Z=22 to 57, 2 to 28 MeV, prod. of target atom K-shell X-rays 9-18285
 Fe+ H^+ , K X-ray production, 0.2-0.5 MeV, ionis. cross-section 9-31459
 Fe $^{18+}+atom$ (molecule), multiple electron loss cross sections meas. 9-45818
 H, excited state electron and ion quantum scatt. cross sections, dipole approx. (Russian) 9-6996
 H, electron loss in passing through inert gases 9-13805
 H+ $B^{2+}(C^{2+})(O^{2+})$, excitation distrib. following electron capture 9-36763
 H+ $C^{2+}(He^{2+})$, ionis. cross sections 9-22805
 H+ H^+ collisions, assoc. detachment process theory 9-44351
 H+ H^+ , coupled state calc., charge transfer and direct ionis. 9-22810
 H+ H^+ , excitation, pseudostate expansions and second Born approx. 9-45796
 H+ H^+ , fast proton total electron capture cross section, fixed scattered approx. 9-22819
 H+ H^+ , quantum theory of ionisation in fast collisions 9-3553
 H+ $H^+(He^{2+})$, excitation, asymptotic cross-sections calcs. 9-18279
 H+ He^{2+} , excitation of H to n=2 state, cross-section calc. 9-41229
 H+highly stripped ions, energy gap and couplings at pseudocrossings 9-3526
 H+highly stripped ions, S-matrix construction 9-3527

atom-ion collisions continued

- H+proton, high-Rydberg state high-impact-velocity forward charge transfer as classical process 9-22824
 H+ Ar , 0.5 MeV $H(H^+)$ ionisation comparison 9-41230
 H+ $H^+ \rightarrow H(1S)+H_2$, level degeneracy effect on charge exchange at term pseudointersection 9-27084
 H+ N_2 (inert gas), charge transfer, ejected electron spectra 9-45828
 H+ H , charge transfer, variationally consistent approximation scheme 9-22825
 H+ $H(He)(Ar)$, K-electron capture, cross section scaling, high energy 9-41236
 H+ $He(C)(Ne)$, K-shell charge transfer cross sections, Bates-Born formalisms 9-45834
 H+ $S(K)(Ni)(Cu)(Ga)(Br)(Ag)(Cs)(W)$, 4 MeV beam-foil X-ray production cross-section 9-7003
 H $_2$ formation, reaction rates and chemical kinetics 9-17070
 H $_2^+ + He \rightarrow H + HeH^+$, product ion ang. distrib., quantum mech. impulse approx. calcs. 9-24727
 H $_2^+(H_3^+)+He$, Hadamard mass spectroscopy, mass spectra 9-30601
 H $_2^+(HeH^+)+C$ thin solid target, 50-300 keV, collisional at. physics using mol. projectiles 9-45813
 He, Glauber scatt. amplitude, numerical method in Lommel function 9-22795
 He $^-$, electron loss in passing through inert gases 9-13805
 He+ H_2^+ , endothermic reactive and vibr. inelastic collisions, pot. well effects 9-8430
 He+ H^+ , ang. and energy distrib. of ejected electrons 9-31668
 He+ H^+ , elastic scatt. and 2's and 2

excitation cross-sections 9-36747
 He+ He^+ , cross-section obs., 5 to 40 keV 9-45785
 He+ He^+ interactions, electronic forces 9-22790
 He+ $Li^+(C^+)(N^+)(Ne^+)(Na^+)(Mg^+)$, slow collision, ionis. obs. 9-10194
 He+multiply charged ions, electron capture and impact-ionis. cross sections, Monte Carlo calcs. 9-27083
 He+ He , charge transfer, appl. of atom-photon coincidence meas. 9-45829
 He+ He , electron loss cross section 9-27080
 He+ Ne , $2s^22p^2-2s^12p^3$ radiative transition in Ne III, UV spectra 9-6900
 He $^{2+}+He$, diatom. quasimolecule form., shielded-orbital model 9-10165
 He $^{2+}+He$, K-electron capture, cross section scaling, high energy 9-41236
 He $^{2+}+He$, two-electron excitation of quasimol. states 9-18274
 He $^{2+}+Li$, electron capture, ionis. cross section, low-vel. He $^+(3l)$ production, X-ray production 9-22822
 He $^+$, dissociation by Ne to form Ne $^+$ 9-45635
 $^4HeH^++He$, 1 keV, collision-induced dissoc., ro-vibr. assignments, proton spectra obs. 9-3556
 He(Ne,Ar,Kr,Ne $^{2+}$), (n=1, 2, 3, 4), energy spectra of electrons produced 9-45822
 H(n=2) excitation by ion impact, precision doubly differential cross section meas. 9-45811
 I $^{27+}+A$, Z ≥ 47 , inner shell X-ray prod., vacancy configurations and cross sections 9-13815
 I $^{27+}+Xe(Ar)$, 20 MeV, electron loss cross sections, pot. model data anal. 9-27082
 $^{127}I^{27+}+atom$ (molecule), multiple electron loss cross sections meas. 9-45818
 Kr plasma, of positive column, at. alignment, radiative lifetimes, collision cross sections 9-4203
 Kr+ $^{75}As^{2+}$, slowing down of atoms/ions with KE ≤ 5 eV by inert gases 9-31650
 Li ions, 65 to 500 keV, stopping power and straggling in H $_2$, He, CO $_2$, N $_2$, O $_2$, Ne, Ar, Kr, and Xe 9-3529
 Li $^{3+}+He(C)(Ne)$, K-shell charge transfer cross sections, Bates-Born formalisms 9-45834
 Mn+ H^+ , K X-ray production, 0.2-0.5 MeV, ionis. cross-section 9-31459
 N $^{2+}+H(He)$, 0.1-13 keV electron capture cross-sections meas. 9-36761
 N $^{2+}+He(Ne)(Ar)$, electron capture, product ion energy loss spectra 9-36762
 Na+ He^+ , 25-90 keV, fast beam form., He(2S) population 9-31740
 Na $^{2+}+Ne$, nonadiabatic transitions, effective ionisation cross-section calcs. 9-10195
 Ne III, ion impact excited, branching ratio method for quantum efficiency determ. of UV spectrometer 9-22848
 Ne IV, ion impact excited, branching ratio method for quantum efficiency determ. of UV spectrometer 9-22848
 Ne+ H^+ , ang. and energy distrib. of ejected electrons 9-31668
 Ne+ $He^+(Ne^+)$, coherent excitation and decay of autoionising states 9-45789
 Ne+ $He^+ \rightarrow HeI + Ne^+$, HeI3P polarisation 9-13813
 Ne+ Ne^+ , 2s vacancy prod., coupling state calcs. in mol. basis 9-13806
 Ne $^{2+}+He(Ne,Ar,Kr)$, (n=1, 2, 3, 4), energy spectra of electrons produced 9-45822
 Ne $^{2+}+inert$ gas atom (z=1-4), radiative and non-radiative deexcitation after electron capture 9-7008
 Ne $^{2+}+Ne(Ar)$, outer s-subshell vacancy production 9-18275
 Ni+Ni, 12-90 MeV, molecular orbital K X-rays ang. distrib. 9-10125
 Ni+Ni(Nb), Doppler shift of continuum X-rays from quasimols. 9-22808
 $^{28}Ni^{18+}+^{25}Mn(^{50}Sn)(^{82}Pb)$, 45, 94, and 138 MeV Ni inner shell vacancy production, impact parameter depend. 9-41130
 O+N $_2$, $^{(O^+)}(^{O^{2+}})$, rate coeffs. in thermosphere, AE satellite meas. 9-48594
 O $^{2+}+H_2$, 0.1-13 keV electron capture cross-sections meas. 9-36761
 O $^{18+}+He(Ar)(Ne)$, electron capture to continuum states, forward ejected electron spectra 9-45831
 Pb+Pb $^{2+}$, inner-shell ionisation of quasimolecular system, perturbation theory 9-31667
 ^{208}Pb , 1.4 to 5.9 MeV/u, K-shell ionisation cross-section meas. 9-31671
 Rb+ H^+ , atomic K-shell ionis., X-ray emission 9-18280
 S $^{2+}+Cl(Ar)$, branching ratio dependence on projectile velocity and nuclear charge 9-31475
 S $^{18+}+inert$ gas, electron promotion effects for small impact parameter 9-18278
 Se+ H^+ , K X-ray production, 0.2-0.5 MeV, ionis. cross-section 9-31459
 Si+ F^{2+} , q=3-9, Si K-shell ionis., electron transfer cross sections, solid targets 9-10192
 Si $^{18+}+Ar$, electron capture to continuum states, forward ejected electron spectra 9-45831
 Sr+ ZZ 9-13811

atom-ion collisions continued

Tb³⁺+O₃(SO₂²⁻)(SO₂), in H₂SO₄ soln.; electrochemilumesc. emitters quenching by electrolysis products 9-1794
Ti+H⁺, K X-ray production, 0.2-0.5 MeV, ionis. cross-section 9-31459
U⁺+U⁺, critical two-centre distance, HFS relativistic calc. 9-22801
²³⁸U⁺+Z, Z=6 to 92, 3.6 to 5.9 MeV/amu K-vacancy prod. 9-31672
V+H⁺, K X-ray production, 0.2-0.5 MeV, ionis. cross-section 9-31459
Xe+⁷⁵Asⁿ⁺, slowing down of atoms/ions with KE≤5 eV by inert gases 9-31650
Xe+Xe⁺, 0.3-1.2 MeV, multiple N- and M-shell excitation, inelastic energy loss meas. 9-852
¹³²Xe, 1.4 to 5.9 MeV/u, K-shell ionisation cross-section meas. 9-31671
Zn+H⁺(He⁺), L- and M-shell Auger electrons 9-27076

atom-molecule collisions

see also atom-molecule reactions; molecular rotational-vibrational energy transfer
alkali halide+inert gas, inelastic scatt., short-lived complex form. 9-13796
atom+diatom collisions, reorientation cross section calc., distorted wave and Bernstein Kramers approx. 9-843
atom+symmetric top, rot. excitation, IOS approx. calcs. 9-45801
atom+symmetric top, rot. inelastic collisions, physical anal. 9-6991
classical theory of collisional entropy production 9-10162
CS approximation, total angular momentum labeled, inadequacies 9-22777
degenerate atomic level perturbation by neutral particles 9-792
differential and total scatt. cross sections using spectroscopic line shape anal. 9-36735
inelastic molecular collisions appl. of non-interger Bessel uniform approx. 9-36733
internal degrees of freedom collisional excitation, statistical model 9-45803
molecular orbital X-rays from atomic and molecular impact on solid targets 9-36750
polar molecule+high Rydberg atom, l-changing collision 9-10185
polyatomic molecule+atom, many body approach 9-31645
semiclassical collision theory, non-integer Bessel uniform approx. 9-36730
spectral line broadening, semiclassical straight line vs. curved trajectories 9-45765
Ar, (²P₂) and (³P₀) states, quenching mechanisms and rate consts. 9-13801
Ar+CO₂(N₂), repulsive pot. energy surface, approx. calc. and differential scatt. expt., comparison 9-22788
Ar+N₂, bimol. and three body quenching, reson. state ¹P₁, ³P₁ and excimer Ar atoms 9-3540
Ar+N₂, cross sectional factorization expressions, close coupling input tested in sudden approximation 9-43571
Ar+N₂, rot. inelastic collision cross section, centrifugally decoupled exponential distorted wave approx. 9-842
Ar(²P₂)+N₂(C³Π_u) excitation transfer cross section, radiative lifetimes, in N₂ laser, transitions 9-27246
BaCl+Ar(He)(N₂), intermultiplet energy transfer 9-27063
BaCl(C²Π_{1/2})+He(Ar)(N₂), collisional quenching, laser induced fluoresc. decay meas. 9-27075
Ba(⁴P_{1/2})+¹²C¹⁸O(¹³CO₂), electronic-vibr. energy transfer, temp. depend. meas. 9-10136
Cd(¹P₁) excited state quenching by mols., cross sections, chem., phys. exit channels 9-779
D+H₂, pot. surface, isotropic part determ. 9-36729
F(²P_{1/2})+H₂, quenching, classical path calcs. 9-22800
F+H₂, electronic-rot. energy transfer, for F(²P) 9-36740
F+H₂+hν, reactive scatt. and inelastic collision in laser field, semiclassical calc. 9-47948
H+CO, total different collision cross section meas., interstellar gas clouds appl. 9-45786
H+H₂, cross sectional factorization expressions, close coupling input tested in sudden approximation 9-43571
H+H₂, excited states quenching in glow discharge 9-7001
H+H₂, interstellar collisions rel. to hot gases cooling by H₂ 9-12505
H+H₂ excited states relax. in glow discharge (French) 9-849
H+methane, differential collision cross sections, diffraction oscills., data anal. 9-22783
p-H₂+⁴He, vibr. relax., 50-2000K, coupled channel, coupled states and effective pot. methods comparison 9-6995
H₂+He potential surfaces, SCF and MRD-CI calcs. 9-10172
H₂+He(²S₁), isotope effects, 77 to 300K 9-36752
HCl+Ar, rot. excitation, quasiclassical close coupling approx. 9-27068
HCl+He, mag. transitions, initial-l labelled CS approx. computations 9-3552
H₂⁺(HeH⁺)+C thin solid target, 50-300 keV, collisional at. physics using mol. projectiles 9-45813
He, excited state formation from He₂⁺ in afterglow, theory 9-22802
He+Ar(N₂)(NO)(O₂)(CO₂), Penning ionisation of target mol., for He(²S) 9-41228
He+CO₂, anisotropic intermol. pot. for differential scatt. cross-section 9-13788
He+CO₂, repulsive pot. energy surface, approx. calc. and differential scatt. expt., comparison 9-22788
He+H₂, formation of polarised H-atoms in ionising collisions (Russian) 9-7002
He+HF(DF)(HCl)(DCI), cross sectional factorization expressions, close coupling input tested in sudden approximation 9-43571
He+N₂(O₂)(CO)(NO), anisotropic intermol. pots., crossed beam expts. 9-31639
He+NH₃(formaldehyde), rot. excitation, IOS approx. calcs. 9-45801
He(²S), bi- and ter-mol. deexcitation reaction rate coeffs. meas. in afterglow 9-36748
He(²S)+molecule collisions, exit channels rate consts. 9-13800
He(²S) and ²S₁+H₂(D₂), Penning, rearrangement and total ionis. cross sections, vel. depend. 9-22816
H₂, photoassociated, collision-induced predissoc. with Hg 9-31626
Hg(⁶P₁)+(⁶P₂)+CO(NO), electronic-vibr. energy transfer collision, IR obs. 9-45716
I(²P_{1/2})+n-iodopropane (iodoethane), quenching rate coeff., in UV photolysis of n-iodopropane (iodoethane) 9-11799
I⁺+H₂O(D₂O)(HDO), ⁵P_{1/2} electronic to vibr. energy transfer, quenching and time resolved IR fluoresc. 9-3537
K+N₂(CO), anisotropic of the repulsive intermolecular potential from rotationally inelastic scattering 9-41226

atom-molecule collisions continued

K(⁴S)+CO→K(⁴P)+CO, differential cross section meas. by atom-photon coincidence techniques 9-31673
K(⁴S)+N₂→K(⁴P)+N₂, differential cross section meas. by atom-photon coincidence techniques 9-31673
Kr+carbon tetrachloride, differential elastic scatt. cross-section 9-45784
Kr(²P₂), quenching mechanisms and rate consts. 9-13801
Li ions, 65 to 500 keV, stopping power and straggling in H₂, He, CO₂, N₂, O₂, Ne, Ar, Kr, and Xe 9-3529
Li+H₂, inelastic collision, ab initio pot. energy surface 9-10055
LiF+inert gas atom, interaction anisotropy, Van der Waals forces 9-6985
NF(a¹Δ)+Bi, near-reson. electronic energy transfer, rate const. and cross-section meas. 9-18273
NO+Ne(Ar)(N₂)(H₂)(CO), E²Σ⁺ and B²Δ states fluoresc. collisional deactivation 9-6965
N₂O+inert gas ion, mol. ionis., emission obs. 9-31707
Na+CO(NO)(CO₂)(C₂H₂)(CH₄), total cross sections 9-27064
Na+N₂, higher Na s and manifold states deactivation cross sections 9-10176
Na+Ne(Ar)(Kr)(Xe)(N₂)(CO₂), fine struct. changing collisions, vel. depend. 9-22803
O+N₂, quenching of O(¹D) state, at 300K, semiclassical study 9-45823
O₂+Na(K)(Cs), negative ion pair form., total cross sections 9-3550
O(¹D)+O₂→O(³P)+O₂(b²Σ⁺), energy transfer during O₂ photodissoc. 9-11810
O(¹D₂)+N₂O, chemical-ionisation mass spectrometry branching ratio measurements in N₂O/He mixtures 9-47905
O(²D₂), prod. by O₃ photolysis, collisional deactivation 9-20384
SO₂+He, Penning ionis. due to He(²S), SO₂⁺ fluoresc. 9-13758
Si 3p²(¹D₂) state collisional quenching 9-22806
Ti+N₂, Hg sensitised fluoresc., quenching 9-22643
Xe(²P₂), quenching mechanisms and rate consts. 9-13801

atom-molecule reactions

see also atom-molecule collisions
ethylene+H=ethyl radical, pot. energy surface, analytic function 9-11779
final state energy distributions for exoergic reactions 9-5131
flame, rate constants for A+X→A⁺+X⁻ and AX+M→A⁺+X⁻+M (A=metal, X=halogen, M=flame species) 9-34310
ion pair form., vibr. energy depend. 9-34287
ionic reaction products, laser induced fluoresc. detect. and characterisation 9-1978
measurements of reaction rate consts., reliability criterion 9-8423
metastable reaction products, laser induced fluoresc. detect. and characterisation 9-1978
methyl bromide+K→KBr+CH₃, yields, crossed mol. beam study 9-34293
methyl bromide+Rb→RbBr+CH₃, yields, crossed mol. beam study 9-34293
monothioformate anion, protonation site, ab initio SCF calc. 9-47894
rates, classical and near classical, for dissoci. and exchange 9-11778
reversible chemical reactions involving H atoms, formation rates and lifetimes of intermediate complexes 9-15956
semiclassical theory for near adiabatic photon assisted mol. collisions 9-5141
vibrationally excited molecule-atom reactions, rel. to high power lasers 9-5155
XY+Z→X+YZ, three-body Coulomb interaction, adiabatic representation 9-31640
AlF+O, matrix reaction, OAIF IR spectrum (German) 9-11785
Ar+CO spin transfer reaction, CO triplet state form. (French) 9-34289
B+N₂O, chemiluminesc. reaction, vibr. state distrib. 9-20354
B+O₂, chemiluminesc. reaction, vibr. state distrib. 9-20354
Ba+CCl₄→BaCl₂+CCl₂(A), chemiluminesc. spectrum and ang. distrib. obs. 9-15962
Be+FH→BeF+H, collinear, pot. energy surface study 9-11782
Be(²P₂)+methane, reaction, ab initio MO calcs. 9-8431
Br+HI→HBr+I, thermal rate const., 220-400K, H/D isotope effect 9-47906
Br+NO→Br+NO₂, reaction rate const., mass spectrometric determ. 9-34288
Br₂+H(d)→HBr(DBr)+Br, reactive cross-section, collision energy depend. obs. 9-11784
C+N₂O→CN+NO, chemiluminesc., CN(A²Π_u) vibr. distrib. 9-39152
C+PbO→CO+Pb, chemiluminesc. from gas phase reaction 9-8426
CO+O on Rh surface, Langmuir-Hinshelwood reaction 9-47965
CS₂+O, reactive scatt. in supersonic at. beam 9-36753
Cd(²P_{1/2})(¹P₁)+H₂(HD)(D₂) reacts., CdH(CdD) yields, quenching cross sections 9-1948
Cl+DI→DCl+I, thermal rate const., 220-400K, H/D isotope effect 9-47906
Cl+formaldehyde, rate const., 200-500K 9-39133
Cl+methane, reaction rate const., stratospheric modelling appl. 9-20345
Cl+NO₂, ClONO prod., FT IR obs. 9-8427
Cl₂+O, reactive scatt. in supersonic at. beam 9-36754
Cs+UF₆, ion pair form. and atom abstraction reactions 9-1946
Cu+F₂(NF₃)(SF₆), photon yields, chemi- and photo-luminesc. 9-5157
D₂O+Ar, energy transfer isotope effect, rate consts. 9-8422
F+H₂, in pulsed HF chem. laser evolution, irreversible thermodynamic anal. 9-31887
F+H₂, reaction quantum dynamics, reson. model, transition state props. 9-11781
F+H₂+hν, reactive scatt. and inelastic collision in laser field, semiclassical calc. 9-47948
GaF+O matrix reaction, OGaF IR spectrum 9-11787
H+CH₃→H₂+CH₃, transition state, UHF method in INDO approx, 9-43578
H+ClO₂→OH+ClO, primary energy disposal, laser-induced fluoresc. 9-24726
H+H₂, 3-dimens. exchange reaction, surprisal theory, quantum dynamics 9-15964
H+H₂, collinear, collision-induced dissoci., quantum mech. probabilities calcs. 9-20359
H+H₂, collinear exchange reaction, quantum dynamics, surprisal theory 9-6988
H+H₂, collinear exchange reaction, unified statistical model 9-34295
H+H₂, H₂ dynamics, on accurate H₂ pot. surface 9-5139
H+H₂(HD)(D₂), exchange reaction rate consts. meas., vibr. effects 9-5134

atom-molecule reactions continued

- H+H₂→H₂+H, classical three-body problem. calcs., effective reaction cross section (*Russian*) 9-39144
 H+NO₂→OH+NO, primary energy disposal, laser-induced fluoresce. 9-24726
 H₂+F, in pulsed HF chem. laser, kinetic modelling, rot. nonequilib. 9-36888
 H₂⁺+He→H+HeH⁺, product ion ang. distrib., quantum mech. impulse approx. calcs. 9-24727
 HCl+Ar, shock-heated, collision induced dissoci. 9-34290
 HN₃+F, production of NF*(a¹Δ and b¹Σ⁺) 9-11770
 He+H₂⁺, endothermic reactive and vibr. inelastic collisions, pot. well effects 9-8430
 He+NH₃, rot. excitation rate consts., semiclassical method 9-3538
 He(2¹S and 2³S)+H₂(D₂), Penning, rearrangement and total ionis. cross sections, vel. depend. 9-22816
 Hg+N₂, 6(³P₀)→6(³P₁) excitation, double modulation obs. 9-27072
 I(²P_{1/2}) energy transfer and reactive collisions, laser pumping possibility 9-949
 K+Br₂(Cl₂), electron transfer crossed beam reaction, energy and ang. differential cross section 9-20358
 K+HCl, ion pair form., energy loss spectra 9-34286
 KrF+He(Ne)(Xe)(NF₃), quenching rate consts. meas. 9-24718
 KrF*+Ar(Kr)+Ar(Kr), recomb. rate consts., 300 to 800K, appl. to KrF* laser efficiency 9-45930
 Kr(P₁)+H₂O, decomposition, OH(A²Σ⁺) internal energy distrib. 9-10183
 N+NO, ⁴(S) state reaction rate, discharge flow and photolysis reson. fluoresce. method 9-5142
 N+S₂Cl₂, NS(B²Π) form. kinetics, chemilum. obs. 9-39151
 N₂H₄+H on Titan, gas phase reaction el. to N₂ atmosphere evolution 9-30005
 NH₃(ND₃)+Hg, photosensitised luminesc., phase shift anal. 9-15966
 NO₂+N→N₂O+O, crossed beam study, produce ang. distrib. 9-34311
 Na+N₂, collision broadening and shift of 3S-4D and 3S-5S lines 9-3406
 O+Cl₂O, reaction rate const. 9-20344
 O+dimethylamine, reactive roots, identification 9-39129
 O+I₂(CS₂)(OCS), crossed-beam investigation of translational energy 9-5145
 O₂+Ar, shock-heated, collision induced dissoci. 9-34290
 O₂+N(²D) as source of O(¹D) atoms in aurorae 9-35028
 O(¹D)+haloalkanes, deactivation reactions, absolute rate consts. determ. 9-11783
 Pb+F₂, chemiluminesc. spectrum of PbF 9-24742
 S₂Cl₂+alkali metal, matrix reaction, examination by laser excitation 9-5148
 S₂Cl₂+alkali metal, matrix reaction, S₂Cl absorpt. spectrum 9-5149
 Sn+CH₃-(n-C₃H₇)-(CCL₄), crossed beam mol. kinetics, SnI and SnCl recoil vel. spectra 9-1947
 Sr+HF→SrF+H, product state distrib., reagent orientation and rot. effect 9-20361
 T+H₂O, energetic reactions, hard sphere excitation functions 9-1963
 Xe+Br₂→XeBr*+Br, rot. polaris. in chemiluminesc. 9-8432
 Zn(g)+H₂O(g)=ZnO(s)+H₂(g), standard Gibbs free energy of reaction 9-11815

atom probe field ion microscopy

- atoms, direct obs., application to ultra-fine processing (*Japanese*) 9-7532
 dilute alloys, time of flight atom-probe FIM exam. of surface segregation 9-19437
 imaging atom probe mass spectroscopy, appl. to surface struct. anal. 9-23818
 magnetic sector atom-probe FIM with retarding potential analyser 9-12895
 Cr surface reactive, field ion microscope and atom probe obs. 9-29410
 Ga, field ion microscopy using mag.-sector atom probe, ionisation characts. 9-43106
 Mo, atomic structure of grain boundaries 9-33003
 Ru surface, clean, oxidation, atom probe anal. of oxide films 9-47797
 W, ion implantation, ⁴He⁺ range profile and ⁴He diffusivity meas. 9-33022
 W-Th, atomic structure of grain boundaries 9-33003

atom-surface impact

- see also sputtering
 adsorbed layers, gas atom scattering, hard sphere theory (*Russian*) 9-38704
 adsorption, selective, correlation of intensity features with at.-surface pot. Fourier components 9-15013
 alkali halide, band struct. of selectively adsorbed atoms 9-28399
 classical scattering, rainbow peaks, energy depend. 9-43085
 eikonal model modification for gas-surface interaction (*Russian*) 9-33883
 elastic scattering, effective potential theory 9-43084
 gas/solid surface collisions, vel. depend. of ang. distrib., interaction pot. effect 9-11491
 graphite, He scattering, bound state reson. and inelastic effects 9-28876
 graphite, tritium effects, first wall controlled thermonuclear reactor conditions, simulation 9-647
 hard corrugated surface, one phonon scatt. of atoms 9-47577
 low energy atom scattering, appl. of soln. to Schrodinger eqn. for scatt. from hard corrugated wall 9-40404
 model surface, classical scatt. of atoms 9-28877
 neutral atom elastic and inelastic scatt. by corrugated hard wall 9-46899
 organic luminophores, luminesc. under action of atomic H (*Russian*) 9-8177
 rainbow structure, energy spectra, surface temp. influence, in-plane scatt., 2- and 3-dimens. 9-38699
 sudden approximation accuracy, coupled channel calcs. for scatt. 9-4873
 Ag (111) plane, specular refl. of He beams, Debye-Waller factor and surface Debye temp. 9-47580
 Ar-ice (solid NH₃) impact, 2.4 keV, secondary electron emission from H⁺(H₂O)_n and H⁺(NH₃)_n 9-15580
 Cu (001), inelastic scatt. of He atoms, 20K 9-8222
 Cu surface, conditions for total refl. of low-energy atoms 9-19958
 H, in H₂ oscillator, unexcited transition freq. determ. 9-2749
 LiF (001), He scatt., sudden approximation accuracy, coupled channel calcs. 9-4873
 LiF type surface, He scatt., selective adsorption intensities, attractive corrugated wall model 9-28874
 Mo, refl. of metastable He atoms, O₂ adsorption effects 9-11493
 NaF, He atom scatt., Debye Waller effects 9-8218

atom-surface impact continued

- Ni (100), clean and chalcogen-covered, electron ejection by metastable He atom impact 9-8217
 Ni surface, mech. for reflection of protons at kilovolt energies 9-8215
 Si (111) 7×7, He at. beam diffr. obs. 9-33165
 W (110), Ne scatt., sudden approximation accuracy, coupled channel calcs. 9-4873
 W surface, clean and CO covered, He metastable atom bombard., secondary electron emission 9-47581

atomic absorption spectroscopy

- acetylene flame, Na and MgO concs. meas., saturation vs. absorption spectroscopy 9-29425
 advances and problems 9-39240
 aerosol, monodisperse, quantitative analysis using IR differential absorpt. analysis 9-24931
 alkaline earth elements, determ., buffer action of La and Sr, mechanism (*Russian*) 9-29441
 analytical physico-chem. methods, characts. (*French*) 9-48033
 automated trace analysis using injection method 9-34382
 calibration algorithm for improved accuracy 9-39233
 cathode preparation, electroplating method 9-43655
 electrodeless discharge lamps, pulsed RF excited, for at. absorpt. and at. fluoresc. spectrosc. 9-21816
 electrothermal graphite braid atomiser use 9-34377
 flame, improvements in methods for trace element analysis 9-16066
 flame atomic absorption spectrometer, multielement, time multiplex multiple slit type 9-40617
 graphite furnace, electrothermal atomisation 9-24852
 graphite furnace atomic absorption spectrometry, heating rates effects 9-39224
 high-purity substances, analysis methods 9-39241
 interference by lithium salt mol. absorption in C tube atomiser, and flames (*Japanese*) 9-48018
 interference by potassium salt mol. absorption in C tube atomiser and flames (*Japanese*) 9-48019
 laser intracavity absorption for organics, analytical potential 9-34386
 metallurgical analysis (*French*) 9-5241
 microcomputer based, 2-channel spectrometer 9-24864
 microsampling nebulizer technique for premixed flame atomic spectrometry 9-34380
 multielement flameless atomic absorption spectrometer, multiple slit, time multiplex, design and performance 9-12859
 non-spectral interference using graphite mini-tube furnaces 9-48028
 plasma emission spectroscopy, background reduction method using flame atomic absorpt. 9-16069
 refractory elements, atomisation and flame conditions for anal. (*Russian*) 9-29442
 review of advances in past 25 years 9-34381
 standard addition method, evaluation and optimisation 9-16058
 Teflon sampling manifold for use with small injections 9-34383
 trace metal adsorption causing errors, prevention by competitive complexation 9-43651
 Zeeman modulated technique, appls., detect. limits 9-24876
 Zeeman modulation technique, line interferences 9-24877
 Zeeman spectroscopy, theory 9-43677
 BaO, determ. in glass, at. absorpt. method (*Polish*) 9-24872
 C atomizers, problems associated with atomization 9-34386
 CaO, determ. in glass, at. absorpt. method (*Polish*) 9-24872
 Cd determ. in whole blood by atomic absorpt. spectroscopy 9-44071
 Co, determ. using hollow sintered cathode spectral lamp (*Rumanian*) 9-17509
 Fe, determ. using hollow sintered cathode spectral lamp (*Rumanian*) 9-17509
 Li/Na/PO₃F and Li/K/PO₃F systems, low melting-point comps. for electrodeposition appl. 9-43662
 MgO, determ. in glass, at. absorpt. method (*Polish*) 9-24872
 Na₂O-CaO glass, atomic absorption spectroscopy 9-43656
 Ni, determ. using hollow sintered cathode spectral lamp (*Rumanian*) 9-17509
 SiO₂-B₂O₃-Na₂O-K₂O system glass, phase separated, loss of oxides during acid leaching, atomic absorpt. anal. 9-11716

atomic beam electric resonance

No entries

atomic beam magnetic resonance

- semi-classical equations of motion, soln. by transform. to rot. co-ordinate frames 9-35586
 Ag-beam mag. resonance apparatus as freq. standard, features 9-21712
 O(²S₂) metastable state g_f factor, TOF at. beam mag. reson. obs., rel. to He(²S) 9-3593

atomic beams

- see also atom-molecule reactions; atom-surface impact; atomic beam electric resonance; atomic beam magnetic resonance; particle velocity analysis; plasma-beam interactions
 deflection, by reson. standing EM wave 9-26959
 focusing with laser beam, Na beam and dipole forces 9-7066
 laser spectroscopy using atomic and molecular beams (*Japanese*) 9-35841
 refractive elements, magnetic resonance studies, nuclear spin and hyperfine structure meas. 9-776
 spectroscopy, two-freq. separated oscillating fields technique 9-21715
 surface analysis, atomic beam scatt., SIMS, and vibr. spectra, book contrib. 9-42357
 Cs, optical pumping and detection of 0-0 transition 9-18158
⁴Cs, A=133, 137-139, hyperfine struct., isotope shifts, nuclear moments and radii, laser spectroscopy 9-10071
 H beam, 3 to 15 keV, system using voltage pulse generator 9-18315
 H isotopes, transition radiation from neutral beams, beam foil ionization 9-18299
 H₂, optical diagnostics of high-power neutral beam 9-17556
 H₂, γ-ray yield curves from ²⁷Al(p,γ) 9-3530
 H⁺ beam, control using laser radiation 9-27112
 H⁺+H⁺, merged beams, double charge transfer cross section 9-22818
 He beam, fast, formed by 25-90 keV He⁺ beam neutralisation, ²³S population 9-31740
 I, highly stable optical freq. standard 9-35685
¹Na, A=21-31, hyperfine struct., mag. moments and isotope shifts, laser spectroscopy 9-10072
 O+Cl₂, reactive scatt. in supersonic at. beam 9-36754
 O+Cs₂, reactive scatt. in supersonic at. beam 9-36753

atomic clocks

- see also frequency measurement; time measurement*
 Cs atomic-beam resonator, fractional freq. stabilities, time, freq. and physical measurement 9-26038
 frequency standards using divergent beams, stability limits 9-26037
 phase and frequency instabilities in precision frequency sources, characterisation and mathematical models 9-2750
 Rb atomic resonator, fractional freq. stabilities, time, freq. and physical measurement 9-26038
 synchronised technique, SIRIO satellite signals experiment (Italian) 9-2751
 USA Naval Observatory clock time scales, algorithm 9-27176
 Ag-beam mag. resonance apparatus as freq. standard, features 9-27172
 Cs beam clock meas. in test of general relativity, potential blue shift expr. 9-12704
 Cs beam freq. standard research at PTB, beam optics, Majorana transitions 9-21709
 Cs beam freq. standards, freq. offset due to spectral impurities 9-21710
 Cs beam standard at Radio Research Lab., Japan 9-21714
 Cs, environmental effects on rate in astronomical observatories 9-16833
 Cs, for receiver-controlled frequency references 9-6099
 CsV, long-beam primary standard, continuous operation, concept 9-21711
 H₂ maser, time-dependent freq. shifts obs. 9-21713
 Rb time standards, study review (French) 9-174

atomic clusters

- binary microcluster, struct. and thermodynamics, Monte Carlo simulation 9-7736
 electron density, bulk and surface atoms, from ab initio model calcs. 9-4590
 metal, electronic spectrum fluctuations, appl. to Ni and Ti 9-19501
 metal atom cluster compounds 9-3607
 transition metal chalcogenides, diffuse intensity contours, electron diffraction patterns 9-23504
 zeolite-Y, containing Ag atoms, ions and clusters, optical absorption spectra 9-36569
 Ag_n (n<10), uv-visible absorpt. spectra in Kr matrices 9-13858
 AgBr emulsion, latent image speck size, characteristic curve anal. 9-34338
 Ar_nH(H⁺), excited and ground state struct. energies and binding energy, vibr. modes, LCAO-SCF-MO calc. 9-3608
 Cr_nC_n⁺, p=1 to 4, CrC_n⁺, clusters, electronic props., mass spectra obs. (French) 9-45877
 Cs₁₁O₃, ionic clusters in alkali metal suboxide cryst., struct., vibr. freqs., Raman spectra 9-37772
 Fe_nC_n⁺, p=1 to 4, clusters, electronic props., mass spectra obs. (French) 9-45877
 H_n⁻ (n=5 to 13), ion-induced dipole clusters, binding energies and geometries 9-41261
 Mo₆Cl₁₄²⁻, cluster ground state electronic struct. SCF X α SW calc. 9-3607
 Rb₅O₂, ionic clusters in alkali metal suboxide cryst., struct., vibr. freqs., Raman spectra 9-37772
 Re₃Cl₁₂²⁺, cluster ground state electronic struct. SCF X α SW calc. 9-3607
 Re₃Cl₉, cluster ground state electronic struct. SCF X α SW calc. 9-3607

atomic collision processes *see atomic inelastic collisions; elastic scattering of atoms and molecules***atomic electric moment**

- coherent transients, spherical tensor treatment 9-26940
 pressure broadening, adiabatic theory, low density approxs. 9-22628
 In(²P_{3/2}), at. quadrupole shielding factor 9-10222
 N IV, dipole lengths, dipole vels. and transition probabilities 9-35113
 O V, O VI, dipole lengths, dipole vels. and transition probabilities 9-35113

atomic electron configuration interactions *see atomic electron correlations***atomic electron correlations**

- 3d-shell, pair correl. energies calcs. 9-31417
 ATOM programme package for atomic calculations 9-10010
 electron correlation energy, approx. 4th-order perturbation theory 9-6876
 excited state structure, electron correl., var. collapse theory 9-6890
 expectation values, correlation effects 9-6821
 first row atoms, static quadrupole and mixed dipole-octupole polarisabilities 9-22857
 first row atoms and multiply excited states, SO(4) theory for electron correlation 9-22608
 four-electron ions, excited states, one-electron approximation calcs. 9-10049
 m-scheme configuration interaction calcs., interaction integrals 9-45645
 MC-SCF theory, modified one-electron Hamiltonian, iteration convergence 9-6871
 negative ions, electronic structure, stabilisation calcs. using big mol. Gaussian SCF/CI program 9-18121
 nonhydrogenic atoms, radial transition integrals, Coulomb approx. calcs. 9-45625
 np⁶ subshells, interaction effect on ang. distrib. 9-10076
 open shell orbital theory with electron correl., wavefunction cluster expansion 9-13647
 photoionisation cross-section, intershell interactions 9-26948
 second-order calculations, scaling 9-31359
 singly ionised atom, excited state struct., electron correl., oscill. strengths, theory 9-6889
 spin density functional formalism 9-18122
 superoperator resolvent, alternative inner projections 9-31412
 transition metals, 1st period, at. correlation energies, perturbation calc. 9-36508
 two-electron atomic system, relativistic calc. of level widths 9-3376
 two-electron atomic systems, correl. energy calcs. 9-36543
 two-electron systems below N=2 threshold, widths and config. mixing 9-18129
 unitary group approach, matrix element evaluation 9-31411
 unlinked cluster corrections for configuration interaction calculations 9-3368
 e⁺e⁻e⁻, two-electron at., three-body problem, binding energy 9-3372
 Ar, 1s2s3p²P_{3/2}^o-state, relativistic effects and config. mixing 9-45640
 Ar, electron impact ionis., calc. for 3s² subshell 9-31700
 Ar, M-shell photoionis., many-body interactions 9-10081
 B, atomic correlation energies, perturbations and near degeneracy 9-3371
 Ba, even-parity J=2 spectra, multichannel quantum-defect anal. 9-31445

atomic electron correlations continued

- Be, atomic correlation energies, perturbations and near degeneracy 9-3371
 Be, ground state energy determ., Galerkin-Petrov method 9-769
 Be, ground state reduced first order density matrix CI calc., mag. shielding const. and diamagnetic susceptibility 9-6872
 Be, one-particle ions, energy, correlated wavefunction 9-45639
 Be-like ions, 2s2p(²P₁^o)-2s²(¹S₀^o) transition probabilities, CI calcs. 9-36544
 C, atomic correlation energies, perturbations and near degeneracy 9-3371
 C I isoelectronic sequence, forbidden transitions calc. 9-31444
 Cl, photoionis. cross sections, RPA with exchange method generalisation 9-10077
³⁵Cl XVI, n=2, Lamb shift, fine struct. 9-13675
 Cr II to VI, struct. and transition probabilities, ab initio calc. using Thomas-Fermi central pot. 9-3360
 Fe III to VI, struct. and transition probabilities, ab initio calc. using Thomas-Fermi central pot. 9-3360
 H⁺, electronic structure, stabilisation calcs. using big mol. Gaussian SCF/CI program 9-18121
 H⁺, ground state electron correlation visualisation 9-3367
 H⁺, H₂⁺, bound states calc. 9-13646
 He, elastic electron scatt. phaseshifts, 2s2p ³P autoionisation, 1s2s ³S-1sep ³P triplet continuum photoionisation 9-31480
 He, ground state electron correlation visualisation 9-3367
 He isoelectronic series, (H⁺ to C⁴⁺), correl. energy calcs. 9-36543
 He⁺, reson. calcs. with correlated target state wave functions, complex coord. method 9-26939
 He-like two electron atoms, three-body problem 9-3372
 Li, 1s2p² ⁴P^o state, using configuration-interaction wavefunctions 9-3369
 Li, 1s2s2p² ⁴P^o state, using configuration-interaction wavefunctions 9-3370
 Mn III to VI, struct. and transition probabilities, ab initio calc. using Thomas-Fermi central pot. 9-3360
 Ne, electronic struct., universal STO basis sets 9-10021
 Ni III to VI, struct. and transition probabilities, ab initio calc. using Thomas-Fermi central pot. 9-3360
 Rb, oscillator strength ratios for principal series, relativistic and correlation effects 9-784
 Si, Rydberg series electronic struct. 9-22614
 Si, Rydberg series electronic struct. 9-22615
 U, isotope shift and configuration interaction 9-31468
 Uⁿ⁺ (n=0 to 6), electronic struct., multiconfig. Dirac-Fock calcs. 9-45646
 Xe, N-shell Coster-Kronig transitions 9-13691
 Zn²⁺, closed shell ion, 3d electron pair correl. energies calcs. 9-31417

atomic electron impact excitation

- see also electron spectra*
 ATOM programme package for atomic calculations 9-10010
 Bethe approx. modifications, impact radiation polarisation 9-31695
 Bethe approximation 9-18249
 bremsstrahlung cross-section, near HF limit 9-18288
 distorted wave expansion with off diagonal pots., local approx. 9-31694
 distorted-wave approximation, higher-order methods, s-s excitation 9-27088
 electron ion collisions, distorted wave theory, Auger ionis. and excitation fluoresce. 9-7018
 Glauber wavefunction, without nonmoving bound particle assumption 9-18250
 HV electron microscopy, total scatt. cross-section obs. 9-21859
 hydrogenlike ions, electron impact excitation, Coulomb-Born-Oppenheimer calcs. 9-10211
 intermediate coupling strengths from LS coupled R-matrix elements 9-18292
 laser field photon absorption by reson. scatt. electron 9-859
 light atoms, intermediate energy, review 9-856
 relativistic effects in excitation and ionis., Z α and v/c depends. 9-860
 Schwinger variational principle 9-45780
 μ ⁺p, electron scatt. length determ. 9-36801
 Al I, electron impact line broadening in arc spectra 9-26919
 Ar, electron impact excitation, continuous spectrum radiation mechanism 9-3395
 Ar, electron-photon coincidence obs., reson. lines, polarisation correls. 9-31697
 Ar, fluoresce. following slow electron impact, 380-710 nm 9-22646
 Ar, gas, slow positron annihilation and momentum transfer rates 9-22828
 Ar II, line-continuum interference effect in Lorentzian wings 9-18147
 Ar jet, supersonic, electron beam-excited, continuous VUV emission spectrum origins 9-6964
 Ar L-shell, X-ray emission spectra prod. by 0.3-3 keV electron impact, line intensities 9-45666
 Ar, total scatt. cross section, 20-3000 eV 9-36778
 Ar⁺, upper laser levels collisional excitation and de-excitation, rate coeffs. 9-7112
 Be³⁺, electron scatt. near ionis. threshold, ang. momenta 9-31698
 Ca II, identification of low energy autoionising levels 9-31703
 Cu, ang. distrib. for 98.6 keV electrons 9-18295
 Eu, electron impact excitation of spectral lines 9-3579
 Fe II permitted emission, excitation mechanism in Seyfert 1 galaxies and QSOs 9-21412
 Fe⁺, electron impact collision strengths and forbidden Fe VI emission under nebular conditions 9-8970
 H, complex optical pot. methods 9-22844
 H, cross sections, second Born approx. (Russian) 9-36780
 H, cross-section, two-pot. eikonal approx. 9-22847
 H, differential cross-section and oscillator strength, 136-300 eV 9-36774
 H, distorted wave expansion with off diagonal pots., local approx. 9-31694
 H, e⁺ scatt., two-pot. eikonal approx., 50-200 eV 9-31685
 H, electron and positron bremsstrahlung, differential cross sections 9-18294
 H, electron-photon ang. correl. for H(2p) 9-31699
 H, excited state electron and ion quantum scatt. cross sections, dipole approx. (Russian) 9-6996
 H, form factors and cross sections for nl-nl' direct collisional transitions 9-31636
 H, in homogeneous mag. field, transition amplitude from 1st Landau level 9-10218
 H, positron scatt., analytic model, complex scaling 9-18257
 H-like atoms, electron exchange scatt., high impact vels. 9-22846

atomic electron impact excitation continued

- He, $^1S(1s,3s)$ state excitation by electron impact, Glauber approx. 9-31696
He, coherent excitation of 2^1P state, large momentum transfer 9-36775
He, cross sections, second Born approx. (Russian) 9-36780
He, electron and neutral collisions, Rydberg level transitions 9-45821
He, electron impact excitation of $1^1S-2^1P(3^1P)$, excitation cross section and polarisation fractions, XUV emission 9-22841
He, electron impact excitation, resonances, near $n=3$ threshold 9-36773
He, excitation of 2^1P and 2^3S states, distorted-wave model 9-31701
He, excited state, excitation, long-range force effects 9-10170
He, Glauber scatt. amplitude, numerical method in Lommel function 9-22795
He ground state, electron impact excitation, alignment and orientation parameters calcs. 9-36772
He I, triplet state, excitation energy transfer among upper levels 9-26901
He I 2^1S-2^3P transition, rate coeff. for electron impact excitation 9-48664
He $^+$, electron scatt. near ionis. threshold, ang. momenta 9-31698
He-Cd II hollow-cathode laser, 4416 Å pulse oscillation 9-7122
He-like positive ions, electron impact excitation, electron exchange, CBO approx. calcs. 9-36771
He(2^1S), metastable state electron impact excitation differential cross section meas. 9-10210
Hg, 5.2 eV resonance in electron impact excitation 9-10208
Hg II, excitation cross sections, transition probabilities, by electron impact 9-3580
Hg(6^3P_1), slow electron scatt. stepwise excitation function to 6^3P_2 state 9-858
K I, identification of low energy autoionising levels 9-31703
K $^+$, dielectronic recomb., in crossed beams, UV emission obs. (Russian) 9-10212
K $^+$, electron impact excitation of reson. levels (Russian) 9-45852
Kr, total scatt. cross section, 20-3000 eV 9-36778
Li, electron impact total excitation cross section, first order exchange approx. 9-31692
Li $^+$, electron scatt. near ionis. threshold, ang. momenta 9-31698
Li $^+(2^1P)$, electron impact excitation, absolute 548.5 nm emission cross-section 9-10209
Na, electron impact total excitation cross section, first order exchange approx. 9-31692
 ^{23}Na , optical excitation function and polarisation meas. of spectral resolved D-lines 9-3575
Ne, 18.5 to 18.7 eV resonances, fine struct. resolved by reson. free-free radiative absorptions 9-3576
Ne, $2p^33s-2p_2$ to ground state, electron collisions of the second kind, rate consts. 9-27090
Ne, total scatt. cross section, 20-3000 eV 9-36778
O VII electron impact excitation, reson. effects 9-41243
Rb I, 4p subshell excitation spectra, 15 to 19 eV, a new interpretation 9-777
S II in Io Na cloud, excitation rel. to Jupiter magnetosphere thermal electron density 9-40133
Sr, ejected-electron spectrum, Auger levels, autoionisation 9-22843
Sr, electron scatt., autoionis. states electron spectra (Russian) 9-36779
U $^+$, atomic model 9-41095
U $^+$, atomic model 9-41095
Xe, electron beam excited, VUV radn. emission 9-27089
Xe, N-shell Coster-Kronig transitions 9-13691
Xe, total excitation cross-section 9-4198
Xe, total scatt. cross section, 20-3000 eV 9-36778

atomic electron impact ionisation

- see also electron spectra
electron beam ion source for multiply charged ions 9-30608
electron coincidence ionisation spectra, Green's function anal. 9-31714
electron coincidence spectroscopy, orbital shape, charge density, mol. struct. determ. appls. 9-27113
electron ion collisions, distorted wave theory, Auger ionis. and excitation fluoresce. 9-7018
K- and L-shell ionization of atoms by relativistic electrons 9-7017
K-shell ionisation by Coulomb excitation, plane-wave Born-approx. 9-18272
low temp. plasma ionisation by fast electron beam, effective cross section calc. 9-14572
outer shell ionisation, ang. distrib. and polaris. of charact. X-rays and Auger electrons 9-10205
relativistic effects in excitation and ionis., $Z\alpha$ and v/c depends. 9-860
Schwinger variational principle 9-45780
transition metals, ionisation pot. meas. 9-45849
two-electron Fourier amplitudes of atomic and mol. wavefunctions using the $(\gamma,2e)$ and $(e,3e)$ processes 9-3419
Al, photoionisation and electron impact ionisation relationship, mean free paths 9-22672
Ar L-shell, X-ray emission spectra prod. by 0.3-3 keV electron impact, line intensities 9-45666
Ar, slow electron ionis., calc. for $3s^2$ subshell 9-31700
Ar, total scatt. cross section, 20-3000 eV 9-36778
Au, photoionisation and electron impact ionisation relationship, mean free paths 9-22672
Bi, keV electron impact, L X-ray prod. cross section 9-18293
C $^+$, electron impact detachment, cross-section, 10-1000 eV 9-31702
C $^{2+}$, electron impact ionis. cross-section meas. 9-3577
C $^{3+}$, cross section measurement, contribution due to excitation-autoionisation 9-45850
C $^{3+}$, electron impact ionis. cross sections 9-22845
Er, keV electron impact, L X-ray prod. cross section 9-18293
F $^+$, electron impact detachment cross sections, test of classical scaling theory 9-31693
H, complex optical pot. methods 9-22844
H, electron coincidence ionisation spectroscopy, rel. to impulse approx. calcs. 9-31715
H, expt. and theoretical cross sections 9-22842
H, triple differential cross section 9-36776
H-like ions, scaled Coulomb-Born-Oppenheimer collision strengths 9-22839
H+e $^+$, moment T-matrix approach, ang. distrib., total cross section, below pickup threshold 9-3573
H+e $^+$, moment T-matrix approach, elastic scatt., total cross section, intermediate energy 9-3582
He, 35 eV, triple differential cross section 9-36777

atomic electron impact ionisation continued

- He, distorted-wave model, 100-400 eV 9-45824
He, electron Compton profiles from energy loss spectra 9-7013
He, fast electron retardation, ionisation cascade, degradation spectra, anal. (Russian) 9-27741
He, Glauber scatt. amplitude, numerical method in Lommel function 9-22795
He, near threshold ionisation 9-3578
Ho, keV electron impact, L X-ray prod. cross section 9-18293
Kr, total scatt. cross section, 20-3000 eV 9-36778
N $^{4+}$, cross section measurement, contribution due to excitation-autoionisation 9-45850
N $^{4+}$, electron impact ionis. cross sections 9-22845
N $^{4+}$, electron-impact ionisation rate coeffs. in theta-pinch plasma 9-41878
Na I in Io Na cloud, ionisation rel. to Jupiter magnetosphere thermal electron density 9-40133
Ne, electron impact ionisation, ang. correl., first Born approx. 9-22840
Ne, electron impact ionisation yield model 9-45851
Ne, K-L $_{2,3}$, post-collision interaction Auger effects 9-45686
Ne, total scatt. cross section, 20-3000 eV 9-36778
O, triple differential cross sections 9-10207
O $^+$, electron impact detachment, cross-section, 10-1000 eV 9-31702
O $^{2+}$, cross section measurement, contribution due to excitation-autoionisation 9-45850
O $^{2+}$, electron-impact ionisation rate coeffs. in theta-pinch plasma 9-41878
Sm, keV electron impact, L X-ray prod. cross section 9-18293
Sr, ejected-electron spectrum, Auger levels, autoionisation 9-22843
Sr, electron scatt., autoionis. states electron spectra (Russian) 9-36779
Xe, total scatt. cross section, 20-3000 eV 9-36778
- atomic electron scattering see atomic electron impact excitation; atomic electron impact ionisation; elastic scattering of electrons by atoms and molecules
- atomic emission spectroscopy
acetylene flame, Na and MgO concs. meas., saturation vs. absorption spectroscopy 9-29425
AES, quantitative, parameters, appls. 9-43697
analytical physico-chem. methods, charact. (French) 9-48033
discharge lamps, electrodeless, for at. fluoresc. spectrometry, twin-port power divider 9-43681
dry residues from solutions, additive chem. comp. effect on intensity distrib. of arc (Russian) 9-34419
electrodeless discharge lamps, pulsed RF excited, for at. absorpt. and at. fluoresc. spectrosc. 9-21816
emulsion calibration curve 9-43650
flame, improvements in methods for trace element analysis 9-16066
flame emission spectroscopy; calibration plot systematic errors 9-43648
fluorescence, analytical appls. 9-43668
gas jet source, emission spectrographic analysis appl. (French) 9-34390
impedance matching network and impedance meas. for inductively coupled plasma 9-43678
Inconel 600, surface composition depend. on H atom influx, AES 9-5192
inductively coupled plasma, with CW dye laser 9-43646
interference filter, stray light reduction 9-43645
liquid sampling and use of inductively coupled plasma 9-43679
microwave-induced plasma, improvements to TM $_{010}$ cavity 9-43680
optical, using inductively-coupled plasma light source (Japanese) 9-48020
review of advances in past 25 years 9-34381
steel, liquid state, spectrochemical anal. 9-16096
synthetic calibration standards 9-24850
Al, spectral anal. in HV impulse discharge sensitivity limit 9-29420
Ar plasma source in TM $_{010}$ cavity, for soln. anal. 9-48032
MgO in acetylene flame, saturation spectroscopic determ. 9-29425
Na, in acetylene flame, saturation spectroscopic determ. 9-29425
Ta, determ. in ore, spectrochem. method 9-16075
Ta-Re-Y-La alloy, Y, La determ., spectrochem. method 9-16076
- atomic energy see nuclear power
- atomic excited states
see also atomic metastable states; atomic resonant states
alkali metal, dynamic polarisability dispersion eqn., dispersion interaction of atoms 9-26902
blackbody radiation interaction with LF atomic transitions, Zeeman, Stark and stimulated emission 9-41127
decay, radiative emission-autoionisation interference 9-26945
degenerate atomic level perturbation by neutral particles 9-792
excitation energy, eqn. of motion method calcs., approx. and error anal. 9-36501
excitation of simple atomic and mol. systems, long-range force effects 9-10170
excited state structure, electron correl., var. collapse theory 9-6890
excited states of closed-shell systems, SCF scheme 9-6885
first row atoms and multiply excited states, SO(4) theory for electron correlation 9-22608
form factors and cross sections for nl \rightarrow nl' direct collisional transitions 9-31636
four-electron ions, excited states, one-electron approximation calcs. 9-10049
fourth row element ions, relativistic Dirac-Fock-Slater orbital binding energies, one-electron transition energies 9-25778
giant Rydberg state, theory, behaviour, applications (French) 9-26903
high Rydberg atom + polar molecule, l-changing collision 9-10185
high Rydberg electron interaction with core, retardation effects 9-6888
high Rydberg states, expansions in inverse principal quantum no. 9-36551
high-Rydberg state high-impact-velocity forward charge transfer as classical process 9-28224
highly excited atoms, acted on by EM radiation, oscillator stochastic instability theory (Russian) 9-31487
hydrogenic ion + H $^+$, electron capture in highly excited s-state 9-45839
inert gas + H $^+$, charge transfer, ejected electron spectra 9-45828
inner-shell excitation in heavy ion collisions, variational method 9-31428
ion, singly-charged, sufficient conditions for finite no. of bound states 9-10047
ion + atom collisions, X-ray polarisation 9-45810
many-electron systems, time depend., complex scaling and reson. calcs. 9-22612
microwave ionisation of highly excited states, and excitation 9-31482
neutral particle balance in nonequilibrium plasma, excited atoms effect 9-27747

atomic excited states continued

- oscillator strengths, core relax. effects calcs. 9-10050
polarisability of atoms, freq. depend., Hartree-Fock theory 9-45652
row element ions 9-25778
Rydberg, extrapolation to high principal quantum numbers of radial integrals in Coulomb approx. 9-3380
Rydberg atom+Rydberg atom, ionisation cross-section calcs. 9-31664
Rydberg states, Auger and radiative transition probabilities 9-6923
Rydberg states, cross sections for collisional ang. momentum transfer 9-6997
Rydberg states, selections from 1977 Comments on Modern Physics, book 9-30181
Rydberg-valence mixing, oscillator strengths 9-31492
second-row elements, low lying levels, excitation equilib. and line intensities 9-12401
single-term atomic state props., variationally optimised local central pot. calcs., $2 < Z < 55$ 9-41123
singly ionised atom, excited state struct., electron correl., oscill. strengths, theory 9-6889
solar coronal ions, proton excitations approximation, erratum and extension 9-35118
spontaneous emission from excited atoms, mechanism 9-35586
three-electron atom systems with two vacancies in K-shell excited states and autoionis. state energies (Russian) 9-31429
transition metals, 1st period, at. correlation energies, perturbation calc. 9-36508
two K-shell vacancy systems, excited states, radiative decay 9-10048
two-electron doubly excited states, rotor-like spectra 9-18128
two-electron systems below $N=2$ threshold, widths and config. mixing 9-18129
Ar arc discharge atomic excitation, effect of ion conversion (Russian) 9-10731
Ar atomic excited states collision radiative destruction in glow discharge 9-3528
Ar II, transition probabilities, lifetimes, intermediate coupling semiempirical calcs. 9-789
Ar, multiply excited, inner level X-ray emission spectra, line widths and Auger transition rates 9-36575
 $\text{Ar}^*(3s^2 3p)_1 + \text{Ar}(^1S_0)$, collisional population transfer rate coeffs., 300K 9-10177
 B^{2+} , $2S$, $2P^0$ and $2D$ autoionising states, positions and widths 9-26944
Ba, autoionis. spectrum, pair splittings 9-13684
Ba, two-photon spectroscopy, highly excited even levels, $J=0$ spectrum anal. 9-31447
Be, excitation energies and transition moments in a second order polarization propagator approach 9-10051
 Be^+ , $2S$, $2P^0$ and $2D$ autoionising states, positions and widths 9-26944
 Ca^{2+} , $2S$, $2P^0$ and $2D$ autoionising states, positions and widths 9-26944
 Ca_2^+ ($2\Sigma_u^+$ and $2\Sigma_g^+$), ab initio SCF and CI pot. energies 9-27055
 $\text{Ca}^{*+} + \text{Ca}^+$, Rydberg levels collision cross sections, Ca_2^+ pot. energies 9-27055
 $\text{Cd}(^1P_1)$ excited state quenching by mols., cross sections, chem., phys. exit channels 9-779
 $\text{Cd}(^3P_1)(^1P_1) + \text{H}_2(\text{HD})(\text{D}_2)$ reacts., $\text{CdH}(\text{CdD})$ yields, quenching cross sections 9-1948
Ce, F states, radiative lifetime and g-factor determ. 9-41138
Cs atom, direct meas. of 7P doublet state lifetimes by pulsed dye laser 9-786
Cs, natural and effective lifetimes meas. for 10 P states 9-26934
Cs+Cs, Rydberg states collisional disalignment determ. by fluoresc. quantum beat damping 9-13789
Fe I, excited levels measured lifetimes compared with calcs. from oscillator strengths 9-36586
Fe I, precision oscillator strengths from levels $4^5F_{1,5}$ and $4^5D_{0,4}$, comparison 9-36584
Fe I transition from levels $4^5F_{1,5}$, relative oscillator strengths precision meas. 9-36585
Fe I transitions from levels $4^5D_{0,4}$, relative oscillator strengths precision meas. 9-36583
H, backscatt. from Mo in the presence of O 9-3388
H, charge exchange involving excited states, Born cross sections 9-45836
H, excited state electron and ion quantum scatt. cross sections, dipole approx. (Russian) 9-6996
H, form factors and cross sections for $n\text{L} \rightarrow n'\text{L}'$ direct collisional transitions 9-31636
H, parity mixing, relativistic neutral current interactions and nonrelativistic pots. 9-26908
H, relax. rates in glow discharge 9-7001
 $\text{H}^+ + \text{He}(\text{Ar})(\text{O}_2)$, charge transfer, to $\text{H}(n=2)$, mixed parity elec.-dipole oscillations 9-31678
He, $1^1S(1s,3s)$ state excitation by electron impact, Glauber approx. 9-31696
He, doubly excited states classification, for intermediate quantum nos. 9-10046
He, electron specter scatt. phaseshifts, $2s2p$ $3P$ autoionisation, $1s2s$ $3S$ — $1s2p$ $3P$ triplet continuum photoionisation 9-31480
He, electron and neutral collisions, Rydberg level transitions 9-45821
He, excited state formation from He_2^+ in afterglow, theory 9-22802
He, first excited state, electron Hamiltonian, effective one-body, with correct asymptotic behaviour 9-45619
He, high-L states, laser driven forbidden transitions, line shapes 9-22638
 He^* , collisional transfer rates between excited levels 9-22793
 $\text{He}^* + \text{He}$, ($*$ =excitation or charge), differential scatt. inversion procedure, symmetric exchange, classical, semiclassical theory 9-13802
Hg, electronically excited, form. by electron impact dissociation of Hg halides 9-18296
Hg II, excitation cross sections, transition probabilities, by electron impact 9-3580
Hg, metastable and excited states, pulsed dye laser absorption spectroscopy 9-26924
 $\text{Hg} + \text{N}_2$, 6^3P_0 — 6^3P_1 excitation, double modulation obs. 9-27072
 $\text{H}(n=2)$ excitation by ion impact, precision doubly differential cross section meas. 9-45811
 $\text{I}^* + \text{H}_2\text{O}(\text{D}_2\text{O})(\text{HDO})$, $5^2P_{1/2}$ electronic to vibr. energy transfer, quenching and time resolved IR fluoresc. 9-3537
Ir I, radiation lifetimes, beam-sputtering technique meas. 9-18142
K, fine-struct. intervals, polarisabilities, highly excited d states 9-27100
Kr plasma, of positive column, at. alignment, radiative lifetimes, collision cross sections 9-4203
Li, $2S$, $2P^0$ and $2D$ autoionising states, positions and widths 9-26944
Li, $1s2p^2$ $4P^e$ state, using configuration-interaction wavefunctions 9-3369

atomic excited states continued

- Li, $1s2s2p^2$ $4P^e$ state, using configuration-interaction wavefunctions 9-3370
Li, core charge polarisation, HF calcs. 9-45627
Li isoelectronic sequence, doubly excited states, relative ordering 9-31424
Li, isoelectronic series, doubly excited states, Hartree-Fock energy 9-22613
Li, lifetimes, differential meas. using atomic ionoluminesc. 9-13672
Li-like atoms, $4S^e$ doubly excited states, orbital config. assignment 9-41118
Mg, $3s3d^3D$ and $3s4d^3D$ states, fine-struct. meas. by level crossing spectra 9-36572
Mo I spectrum, lifetime meas. of excited states of $4d^5 5p$ and $4d^4 5s5p$ config. 9-13683
Mo XV, electronic struct. of complex ion, relativistic perturbation theory 9-22610
N I (4D) in auroral zone, prod. 9-21090
Na, atomic states highly excited by laser radiation, Stark effect 9-13669
Na, high-lying Rydberg states, field ionisation 9-45683
Na, ionisation and energy pooling in laser-excited vapour 9-795
Na, Rydberg states, fine struct. and Zeeman beats 9-14044
Na, Rydberg states, optically pumped, electric field ionis. (Russian) 9-27095
 $\text{Na} + \text{N}_2$, higher Na s and manifold states deactivation cross sections 9-10176
 $\text{Na}^*(nd, nf) + \text{He}$, ang. momentum mixing 9-10175
Ne, $2p^3 3P_2$ to ground state, electron collisions of the second kind, rate consts. 9-27090
Ne, atomic deexcitation effects of X-rays, X-ray preionisation in TEA lasers 9-793
Ne, foil excited, 6 to 10 MeV, equilibrium K-shell excitation 9-22817
Ne II, transition probabilities, lifetimes, intermediate coupling semiempirical calcs. 9-789
Ne-Xe- $\text{F}_2(\text{NF}_3)$, excited states quenching 9-18406
 $\text{O}^2(^1D_2)$, prod. by O_3 photolysis, collisional deactivation 9-20384
 $\text{PbO} + \text{C} \rightarrow \text{CO} + \text{Pb}$, chemiluminesc. from gas phase reaction 9-8426
Pt I, radiative lifetimes, beam-sputtering technique meas. 9-18142
Rb F states, highly excited, natural radiative lifetime meas. 9-3404
Rb Rydberg levels in intense mag. field, diamag. struct. 9-26958
 $\text{S}(^1S)$, photolytic prod. from OCS 9-13775
Sb, excited state lifetimes, crossed at. electron beams obs. 9-790
 Sbl , $2D$ state radiative lifetimes 9-3381
 SblI , $3P$, $3D$ state radiative lifetimes 9-3381
 $\text{Se}(^1S)$, quenching of high concs. prod. by photolysis 9-6904
Si $3p^2(^1D_2)$ state collisional quenching 9-22806
Si, Rydberg series electronic struct. 9-22614
Si, Rydberg series electronic struct. 9-22615
Sm, excited states hyperfine struct., isotope shifts, laser-RF double reson. obs. 9-41140
 ^{238}U I, lifetime, branching ratio and absolute transition probability of 6395.42 Å transition 9-3402
V, hyperfine struct., laser-RF double-reson. obs. 9-41141
Xe II $5s5p^2$ $^3S_1/2$ state, lifetime meas. 9-13670
Xe, photoionis. from excited states 9-10078
Xe-Br $_2$ discharge, atomic state density determ. 9-36573
Yb, Rydberg states, optically pumped, electric field ionis. (Russian) 9-27095
Yb, single atom detection by selective laser excitation and field ionisation from Rydberg states 9-18159
Zr XIII, electronic struct. of complex ion, relativistic perturbation theory 9-22610
- atomic explosions** see nuclear explosions
- atomic fine structure**
 2P fine struct. interval of $2s^2 2p^5$ and $2s^2 2p$ configs., Z-depend. 9-22634
alkali metal, quantum beats in photoionis. by fine struct. levels coherent superposition 9-6922
constant variation, summary of obs. evidence 9-12759
EXAFS, theory and technique appl. in atomic environment (French) 9-26927
interstellar gas, fine struct. levels population ratios 9-35351
neutral atoms, slow collisions, fine struct. transitions 9-841
pionic Ti, Klein-Gordon eqn., relativistic fine struct. term, verification 9-22868
 π hyperon atoms, Coulomb level fine splitting (Russian) 9-22871
 $\pi\mu$ atom, energy levels, fine struct. and Lamb shift calc. (Russian) 9-31744
 ^{35}Cl XVI, $n=2$, Lamb shift, fine struct. 9-13675
Cs, resonant multiphoton ionis. 9-36589
 Ce^+ , electron affinity, nonstatistical fine-struct. detachment intensities at 488 nm, laser electron spectra 9-41144
H Balmer- α fine struct. lines, anomalous shifts, in He- H_2 DC discharge 9-45677
H-like atom, Stark effect on fine struct. 9-26929
He, fine structure, 2nd order contribs. from all intermediate states 9-3354
He I, fine struct. of triplet term of $1s3d$ config. 9-3595
K, fine-struct. intervals, polarisabilities, highly excited d states 9-27100
Li, $1s2p^2$ $4P^e$ state, using configuration-interaction wavefunctions 9-3369
Li, $1s2s2p^2$ $4P^e$ state, using configuration-interaction wavefunctions 9-3370
Li 3^2D state, level crossing meas. 9-13832
Mg, $3s3d^3D$ and $3s4d^3D$ states, fine-struct. meas. by level crossing spectra 9-36572
Mg II, fine struct. of $2D$ and $2F$ sequences by level crossing and anticrossing spectroscopy 9-6919
Na, Rydberg states, fine struct. and Zeeman beats 9-14044
 $\text{Na} + \text{inert gas atom}$, 4^2D fine struct. transition 9-850
 $\text{Na} + \text{Ne}(\text{Ar})(\text{Kr})(\text{Xe})(\text{N}_2)(\text{CO}_2)$, fine struct. changing collisions, vel. depend. 9-22803
Ne, electron impact, fine struct. resolved by reson. free-free radiative absorptions 9-3576
Si, EUV beam foil spectra, highly resolved, fine struct. splittings 9-31448
 Si^{12+} , $1s2s^3S$ - $1s2p^3P$ transitions 9-22632
- atomic fluorescence**
actinides, K-shell fluorescence yields from Auger electrons and X-rays, precision meas. 9-31462
anti-Stokes luminescence, quantum statistics 9-915
Cl, shock heated, radiative recombination under nonequilibrium expansion in supersonic nozzle (Ukrainian) 9-37421
collisions in intense light beams, quantum aspects (Russian) 9-6903
Doppler broadening compensation with laser induced light-shifts 9-3405

atomic fluorescence continued

- electron ion collisions, distorted wave theory, Auger ionis. and excitation fluoresc. 9-7018
 excited state decay, radiative emission-autoionisation interference, fluoresc. yield 9-26945
 isoelectronic series, X-ray line excitation 9-44453
 multiplet mixing collisions, effect on near resonant light scatt. 9-6908
 nonresonant intermediate state, affecting time depend. spectra after two-photon excitation 9-13664
 recoil atoms meas. by laser spectroscopy neutron detect. possibility 9-22864
 resonance fluorescence, multiatom effects 9-6906
 resonance fluorescence, photon bunching and antibunching 9-31460
 resonant light scattering, collisional repopulation of at. levels 9-6907
 Rydberg states, Auger and radiative transition probabilities 9-6923
 sputter-induced optical emission, absolute photon yields 9-45667
 superfluorescence, oscill., quantum statistics 9-917
 superfluorescence initiation 9-781
 three-level atoms, multitime correlations in scatt. and fluoresc. (Russian) 9-10065
 three-level systems, laser fluoresc. spectroscopy 9-36578
 two level atom, two-photon reson. fluoresc. 9-780
 two-atom two-photon resonance fluorescence 9-22645
 Volterra cycles and cooperative fluoresc. crit. point 9-3667
 O I, 63 μ m emission and quenching cross section in thermosphere and ionosphere 9-16732
 Ar, electron impact excitation, continuous spectrum radiation mechanism 9-3395
 Ar, fluoresc. following slow electron impact, 380-710 nm 9-22646
 Ar jet, supersonic, electron beam-excited, continuous VUV emission spectrum origins 9-6964
 Ar*($3p^4p$)₁+Ar($1S_0$), collisional population transfer rate coeffs., 300K 9-10177
 Ba ions, resonance fluorescence and optical sideband cooling of electro-dynamically contained ions 9-3422
²⁰⁹Bi I, tunable CW dye laser spectroscopy, energy levels, lifetimes and hyperfine struct. 9-6905
 Br, K-fluorescence yield determ. using MWPC 9-18140
 Br₂+H(D) \rightarrow HBr(DBr)+Br, reactive cross-section, collision energy depend. obs. 9-11784
 C I, UV fluoresc. from photodissoc. of CO₂ 9-13776
 Ca, intercombination line, at. beam saturation and reson. fluoresc. spectroscopy 9-36580
 Ca, weak intercombination line, Lamb-dips obs. by resonance fluorescence monitoring 9-3392
 Cd($1P_1$) excited state quenching by mols., cross sections, chem., phys. exit channels 9-779
 Ce, F states, radiative lifetime and g-factor determ. 9-41138
 Cl, K-fluorescence yield determ. using MWPC 9-18140
 Cs atom, direct meas. of 7P doublet state lifetimes by pulsed dye laser 9-786
 Cs, superfluorescence of vapour, effective initial tipping angle 9-22923
 Cu laser lines, broadening, induced emission cross-sections 9-26928
 Fm⁺, lifetimes and fluoresc. yields calcs. 9-45668
 Fe II permitted emission, excitation mechanism in Seyfert I galaxies and QSOs 9-21412
 H, electron impact excitation, electron-photon ang. correl., for H(2p) 9-31699
 H-like, average spectral lifetime, asymptotic expression 9-45671
 He I singlet transitions, polarisation meas. following beam-filtered foil excitation 9-13665
 He(3S) decay rates in high-press. afterglow 9-41898
 Hg+Zn(Cd), sensitized fluoresc., orientation and alignment transfers (French) 9-13808
 I, collision-induced $5^2P_{1/2}$ - $5^2P_{3/2}$ radiative transition 9-31461
 I($^2P_{1/2}$)+n-iodopropane (iodoethane), quenching rate coeff., in UV photolysis of n-iodopropane (iodoethane) 9-11799
 I*+H₂O(D₂O)(HDO), $5^2P_{1/2}$ electronic to vibr. energy transfer, quenching and time resolved IR fluoresc. 9-3537
 K⁺, dielectronic recomb., in crossed beams, UV emission obs. (Russian) 9-10212
 Kr plasma, of positive column, at. alignment, radiative lifetimes, collision cross sections 9-4203
¹³⁹La, hyperfine struct. of excited odd-parity levels, laser at. beam fluoresc. obs. 9-13663
 Li, photoexcitation of high levels, reson. radiation at 670.7 nm 9-783
 Li I(2^2P), electron impact excitation, absolute 548.5 nm emission cross-section 9-10209
 N I ($4D$) in auroral zone, prod. 9-21090
 N+NO, $^4(S)$ state reaction rate, discharge flow and photolysis reson. fluoresc. method 9-5142
 Na, atomic states highly excited by laser radiation, Stark effect, fluoresc. monitoring 9-13669
 Na, fluoresc. in flame, saturation curves with pulsed tunable dye laser 9-36579
 Na, hyperfine splitting, fluoresc. after two-photon excitation 9-18307
 Na, in acetylene flame, conc. determ. by saturation spectroscopy 9-29425
 Na, photon emissions, two-time corrs. 9-22647
 Na resonance line fluoresc. profile, perturbed by He 9-36723
 Na, strongly driven two-level atoms, reson. fluoresc. and absorpt. spectra meas. 9-36581
 Na, wing profile of doublet lines, in flames at 1 atm. 9-22660
 Na+N₂, higher Na s and manifold states deactivation cross sections 9-10176
 Na+Ne(Ar)(Kr)(Xe)(N₂)(CO₂), fine struct. changing collisions, vel. depend. 9-22803
 Na(3^2P), in O₂-H₂-Ar flame, atm. press., lifetime obs. 9-39149
 Ne, fluoresc. spectra, mol. bands, 0.1 to 6 atm., 3000-8200 Å 9-3394
 Ne, laser fluoresc. spectroscopy in microwave discharge 9-36578
 Ne+He(Ar)(Xe)(N₂)(CO₂), fluoresc. spectra, mol. bands, 0.1 to 6 atm., 3000-8200 Å 9-3394
 Ne⁺+inert gas atom (z=1-4), radiative and non-radiative deexcitation after electron capture 9-7008
 O I, red line, luminesc. amplification by radiowave anomalous absorpt. (Russian) 9-29925
 O+N₂, quenching of O($1D$) state at 300K, semiclassical study 9-45823
 O($1D$)+haloalkanes, deactivation reactions, absolute rate consts. determ. 9-11783
 P, ground state $3p^2(^3S_2)$, time-resolved reson. fluoresc. obs. 9-34333
 Rb, circ. polarised reson. fluoresc. excited with π polarised D₂ line, 0-170 G 9-41133

atomic fluorescence continued

- Rb, Doppler-free superradiance, polarisation characts. 9-782
 Rb, laser saturation spectra, collision broadened line struct. (Russian) 9-45678
 Rb, superradiant cascading effects, Rydberg levels 9-31491
 Sm, excited states hyperfine struct., isotope shifts, laser-RF double reson. obs. 9-41140
 Tb³⁺, in POCl₃:SnCl₄, $^5D_3 \rightarrow ^5D_4$ transition, solvent depend. 9-22644
 Tl, line shape in Ar gas, collisional redistrib. of near-reson. rad. 9-31469
 Ti+N₂, Hg sensitised fluoresc., quenching 9-22643
²³⁵U, ground-state hyperfine structure high-precision meas. by laser-RF double reson. 9-26942
²³⁵U, high precision meas. of hyperfine struct. of 620 cm⁻¹ atomic level 9-45660
 V, hyperfine struct., laser-RF double-reson. obs. 9-41141
 Xe II $5s5p^6\ ^3S_{1/2}$ state, lifetime meas. 9-13670
 Xe, vac. UV irradiated, near IR emissions 9-3393
- atomic fluorescence spectroscopy** see atomic emission spectroscopy
- atomic forces**
 alkali metal, dynamic polarisability dispersion eqn., dispersion interaction of atoms 9-26902
 exchange interactions, generalised Jansen's perturbation theory 9-6981
 excitation of simple atomic and mol. systems, long-range force effects 9-10170
 fibrous materials, struct., interatomic forces calcs. 9-22875
 one-electron atoms, interaction between N atoms, biorthonormal basis sets 9-22576
 oscillator strength sums, dynamic polarisabilities, one-term approximations 9-22782
 paraffin oil, aq. emulsion, polyelectrolyte stabilised, mech. props. 9-39223
 resonance fluorescence, multiatom effects 9-6906
 Ar+Ar(He)(Ne), dispersion interaction, series coeffs., variation method 9-3518
 Be+Be, polarisability and London coeff., ab initio variation perturbation calc. 9-13635
 Be+Mg, polarisability and London coeff., ab initio variation perturbation calc. 9-13635
²⁰⁹Bi, P violating eN pot., determ. of effects by optical rotation meas. 9-26277
 H, gaseous, spin aligned, low-density props. 9-18255
 H+H, multipole-multipole dispersion interaction, Pade approximants 9-31638
 H+H⁺, interaction energy, perturbation theory, Pade approximants and convergence 9-31635
 He+Ar, van der Waals pot., from crossed at.-mol. thermal beams scatt. 9-27053
 He+He⁺ interactions, electronic forces 9-22790
 He+He(Ne)(Ar), dispersion interaction, series coeffs., variation method 9-3518
 He*+D, Penning and assoc. ionis. with metastable He, 0.01 to 10 eV beams 9-27074
 Mg+Mg, polarisability and London coeff., ab initio variation perturbation calc. 9-13635
 Ne+Ne(He)(Ar), dispersion interaction, series coeffs., variation method 9-3518
 Tl($^3S_{1/2}$)+inert gas, long-range interaction, spectral line shifts and broadening 9-10174
- atomic hyperfine structure**
 see also Lamb shift
¹⁴N II ground state hyperfine structure quantum beats via ion-beam surface interaction at grazing incidence 9-10233
 alkali metal atom, Stark effect for hyperfine structure sublevels and splitting of n²S_{1/2} states (Russian) 9-3401
 calculations, UHF and PHF methods 9-36517
 delta-function potential, modified Fermi contact interaction 9-3378
 EPR of S=1/2, I=3/2 system, quadrupole effects 9-42827
 heavy atoms, hyperfine structure 9-3375
 ion, free, aligned, static hyperfine interaction, gamma-ray ang. distrib. 9-9508
 muonium, ground state, hyperfine struct. due to exchange and virtual photons 9-36804
 polarised nuclear beam production by reson. at. ionis. 9-13576
 positronium, ground state, hyperfine struct. due to exchange and virtual photons 9-36804
 refractory elements, atomic-beam mag. reson. nuclear spin and hyperfine structure meas. 9-776
 Ba isotopes, isotope shifts and hyperfine struct. from laser spectroscopy 9-9460
 Bi, vapour, optical activity and HFS, neutral weak currents (Russian) 9-13660
²⁰⁹Bi I, tunable CW dye laser spectroscopy, energy levels, lifetimes and hyperfine struct. 9-6905
 C³⁴, lowest 2^2P_0 and 4^2P_0 states, variational Hylleraas-type wavefunction 9-10023
⁴³Ca, isotope shift and hyperfine struct. by laser spectroscopy 9-41139
¹¹³CdII, hyperfine level crossing, saturation induced in laser 9-18160
 Cs atomic beam, optical pumping and detection of 0-0 transition 9-18158
 Cs, hyperfine struct. density and temp. shift coeffs., at high buffer gas densities 9-18138
 Cs+inert gas, D₂ line collisional broadening and shift, and HFS 9-22664
⁴Cs, A=133, 135, 137, isotope shifts and hyperfine struct. of 5s-7p transitions 9-13677
⁴Cs, A=133, 137-139, hyperfine struct., isotope shifts, nuclear moments and radii, laser spectroscopy 9-10071
⁴Cs, A=138 to 142, nucl. moments and charge radii changes from hyperfine struct. and isotope shifts 9-17804
¹⁵⁷Gd, splitting factor determ. by computer fit in Gd II spectrum 9-31723
 H Balmer- α fine struct. lines, anomalous shifts, in He-H₂ DC discharge 9-45677
³He, nucl. mag. moment, ratio of precession freqs. of gas phase helions-proton mixture (Russian) 9-17803
 He+Cs(Rb), interatomic pots., hyperfine shifts, diffusion coeffs., perturbation exchange theory 9-41220
 K, hyperfine struct. density and temp. shift coeffs., at high buffer gas densities 9-18138
¹³⁹La, hyperfine struct. of excited odd-parity levels, laser at. beam fluoresc. obs. 9-13663
 Li, 2^2P state, hyperfine structure, UHF and PHF methods calcs. 9-36517

atomic hyperfine structure continued

- Li, $1s2p^2\ ^4P^o$ state, using configuration-interaction wavefunctions 9-3369
 Li, $1s2s2p^2\ ^4P^o$ state, using configuration-interaction wavefunctions 9-3370
 Li, core charge polarisation, HF calcs. 9-45627
 Li, hyperfine splitting and isotopic shift, Doppler-free two-photon spectroscopy 9-36592
 ^7Li , HFS using Doppler-tuned HFS spectroscopy 9-13831
 ^{171}Lu , hyperfine struct. and isotope shift of 605.5 nm line by laser spectroscopy 9-41137
 Na, reson. two-photon ionis., photoelectron ang. distrib. and polaris., nucl. spin influence 9-10083
 ^{23}Na , hyperfine splitting, fluoresc. after two-photon excitation 9-18307
 ^ANa , $A=21-31$, hyperfine struct., mag. moments and isotope shifts, laser spectroscopy 9-10072
 ^{22}Ne , spectrometer for meas. of isotopic, isomeric shifts and hyperfine structure 9-6191
 Rb, hyperfine struct. density and temp. shift coeffs., at high buffer gas densities 9-18138
 Rb^{85} , Rb^{87} , quantum beat between transitions $6^2P_{1/2}$ to $6^2S_{1/2}$ 9-45691
 Rb-inert gas, D_2 line collisional broadening and shift, and HFS 9-22664
 ^ASb , $A=121, 123$, elec. and mag. hfs. 9-10224
 Sm, excited states hyperfine struct., isotope shifts, laser-RF double reson. obs. 9-41140
 ^ASm , $A=144-154$, charge distrib. and hyperfine splitting from muonic X-rays 9-40838
 ^{235}U , ground-state hyperfine structure high-precision meas. by laser-RF double reson. 9-26942
 ^{235}U , high precision meas. of hyperfine struct. of 620 cm^{-1} atomic level 9-45660
 ^{235}U isotope separation enhancement with RF hyperfine transitions 9-41249
 V, hyperfine struct., laser-RF double-reson. obs. 9-41141

atomic inelastic collisions

- see also atom-atom collisions; atom-ion collisions; atom-molecule collisions; atom-molecule reactions; beam-foil spectra; ionisation of atoms*
 atom, coherent transients, spherical tensor treatment 9-26940
 atom+rigid rotor, rot. inelastic scatt., semiclassical 9-18264
 atomic, molecular and solid-state theory, conf., Flagler Beach, Florida, USA (Mar. 1978) 9-31356
 born-Huang expansions in the generator coordinate method of molecular dynamics 9-31646
 charged particle scattering, Schwinger variational principle 9-45780
 close, slow collisions, Σ -H transitions united-at. approx. 9-22794
 colliding-beam studies of atomic collision processes 9-31742
 collision spectroscopy, book 9-27065
 collisional ionization rate coefficients 9-14518
 complex scaling transformations in stationary and scattering problems 9-18124
 coupled equations solution method in adiabatic approx. 9-3524
 diabatic and adiabatic representations 9-45795
 direct Coulomb ionisation, origin and nature of universality 9-45791
 excitation cross section oscillations, unequal spacing 9-27079
 exponential model, two-state, comment on Stueckelberg phase calcs. 9-3514
 flame collisional processes, coherent optical transient spectroscopy 9-39147
 Glauber wavefunction, without nonmoving bound particle assumption 9-18250
 heavy ion collision, delta electrons as probe of high mag. fields 9-13810
 inert gas atom+atom, excited state-ground state interactions 9-18259
 in intense light beams, quantum aspects (*Russian*) 9-6903
 interstellar medium, collisional excitation rel. to fine struct. levels population ratios 9-35351
 ion channelling, coherent excitation 9-46727
 laser-assisted excitive Penning ionisation 9-41232
 neutral atoms, slow collisions, fine struct. transitions 9-841
 nonreactive scatt., classical differential cross sections in Legendre polynomials 9-836
 outer-shell excitation, electron promotion model, 1-10 keV, closed-shell-closed-shell interaction 9-27073
 partial-wave two-cluster atomic scattering amplitudes 9-44763
 pressure broadened spectral line shape, effect of turning points 9-22655
 radiative collisions, line shape in external mag. field 9-22665
 statistical model of inner-shell vacancy production in atomic collisions 9-45792
 Ar, collision processes, photoionisation mass spectra obs. 9-31479
 Cu laser lines, broadening, induced emission cross-sections 9-26928
 H^+e^- interactions in intense EM field, one photon absorpt., $1s-2s$ transition 9-36765
 Na, self-broadening of $3S-5S$ and $3S-4D$ two-photon transitions 9-26955
 Na+H(He)(Ne), D_2 reson. linewidth 9-31647
 Nd, relaxation in weakly ionised expanding plasma 9-41222
 Ne, reson. broadening at low densities 9-31452
 Ne, spectral line broadening due to reson. interaction 9-22654
 ^{85}Rb cell filtering action, press. shift and broadening by foreign gases 9-3403

atomic magnetic moment

- see also gyromagnetic ratio*
 refractory elements, atomic-beam mag. reson. nuclear spin and hyperfine structure meas. 9-776
 two-level spin system, mag. moment dynamics in mutually perpendicular mag. fields, of arbitrary freq. 9-3415

atomic mass

- see also isotopes; mass spectra; nuclear mass*
 alkali metal, phonon frequencies, depend. on atomic mass 9-14901
 sputtering yield, mass dependence, rel. to boundary effect 9-24398
 Ca, atomic weight and isotope fractionation on Earth and in solar system 9-20835
 Pd, isotopic comp. and at. wt., using solid source mass spectrometry 9-864
 $^{47,48}\text{Ti}$, precise atomic mass determ. 9-31718
 Zr, isotopic composition, at. wt., rock standards, chondrite composition 9-3591

atomic metastable states

- hydrogenic ions, selections from 1977 Comments on Modern Physics, book 9-30181
 inert gas ion beam, metastable fraction determ. by W surface impact, secondary electrons obs. 9-28873

atomic metastable states continued

- particle beam excited state populations, preparation, measurement and control, review 9-30607
 Al^- , metastable, electron affinity calcs. 9-31439
 Ar, ($^3\text{P}_2$) and ($^3\text{P}_0$) states, quenching mechanisms and rate consts. 9-13801
 $\text{Ar}(^3\text{P}_2)+\text{N}_2(\text{C}^3\text{I}_{u,0})$ excitation transfer cross section, radiative lifetimes, in N_2 laser, transitions 9-27246
 $\text{Ar}^*(^3\text{P})+\text{Co}_2(\text{X}^2\Sigma_g^-)$, T-R and T-V energy transfer, collisional energy depend. 9-18262
 $\text{Ar}^*(3p^24p_1)+\text{Ar}(^1\text{S}_0)$, collisional population transfer rate coeffs., 300K 9-10177
 $\text{Ar}(3p^2, 4p)$ and ($3p^5, 4p^2$) states, radiative lifetimes, two-body deactivation rate consts. 9-10068
 B^- , metastable, electron affinity calcs. 9-31439
 $\text{C}^1(\text{D})$, prod. in cometary coma, detect. in comet west (1976 VI) 9-16885
 Fe III, metastable states in Be star ϕ Persei rel. to mass loss 9-5832
 H ($2^1\text{S}_{1/2}$), two-photon decay, Laplace transform method 9-10084
 H, subnatural linewidth resolution $2^2\text{S}_{1/2}$, $2^2\text{P}_{1/2}$ level crossing, Lambshift, pulse technique 9-22669
 H^- , metastable, electron affinity calcs. 9-31439
 H^{2-} , metastable, electron affinity calcs. 9-31439
 He, 2^1S state, two-photon ionisation, multipole interference 9-22675
 He 2S metastable state, three-photon ionis. 9-18167
 He, afterglow, intermediate press., plasma discharge parameter time depend. calc. 9-19102
 He glow discharge, laser-induced 569 and 637 Å Raman emission source 9-46024
 He, two-photon ionisation calc. for linearly and circularly polarised laser light 9-797
 He^- , metastable, electron affinity calc. 9-31439
 $\text{He}+\text{He}$, (2^1S) and (2^3S) metastable states, direct and assoc. ionisation rate consts. in afterglow, electron energy spectra 9-13812
 $\text{He}^++\text{Ne}^+ \rightarrow \text{He}^++\text{Ne}^+$, cross sections 9-22821
 $\text{He}^++\text{Ar}(\text{Kr})(\text{Xe})$, elastic scatt., repulsive rainbows and optical pots. 9-840
 He^++D , Penning and assoc. ionis. with metastable He, 0.01 to 10 eV beams 9-27074
 $\text{He}^*(1s2s, ^3\text{S})+\text{Ar}$, Penning ionis., discrete-continuum states coupling 9-10193
 $\text{He}(2^1\text{S})$, bi- and ter-mol. deexcitation reaction rate coeffs. meas. in afterglow 9-36748
 $\text{He}(2^1\text{S})$ population in fast beam formed by 25-90 keV He^+ neutralisation 9-31740
 $\text{He}(2^1\text{S})+\text{H}(\text{D})$, Penning and assoc. ionis. cross sections, vel. depend. 9-22815
 $\text{He}(2^1\text{S})+\text{molecule collisions}$, exit channels rate consts. 9-13800
 $\text{He}(2^1\text{S}_1)$, metastable state electron impact excitation differential cross section meas. 9-10210
 $\text{He}(2^1\text{S}$ and $2^1\text{S})+\text{H}_2(\text{D}_2)$, Penning, rearrangement and total ionis. cross sections, vel. depend. 9-22816
 Hg, metastable and excited states, pulsed dye laser absorption spectroscopy 9-26924
 $\text{Hg}(6^3\text{P}_2)$, Pt surface impact, in $\text{Hg}(6^3\text{P}_1)$ stepwise electron excitation function meas. 9-858
 $\text{I}(^4\text{P}_{1/2})+\text{n-iodopropane}$ (iodoethane), quenching rate coeff., in UV photolysis of n-iodopropane (iodoethane) 9-11799
 $\text{Kr}(^3\text{P}_2)$, quenching mechanisms and rate consts. 9-13801
 Nd, relaxation in weakly ionised expanding plasma 9-41222
 $\text{O}^1(\text{D})$, energy transfer contrib. to heating of low nighttime ionosphere 9-44288
 $\text{O}(^2\text{S})$ metastable state g_J factor, TOF at. beam mag. reson. obs., rel. to $\text{He}(^2\text{S})$ 9-3593
 P^- , metastable, electron affinity calcs. 9-31439
 Sm, excited states hyperfine struct., isotope shifts, laser-RF double reson. obs. 9-41140
 ^{235}U , high precision meas. of hyperfine struct. of 620 cm^{-1} atomic level 9-45660
 Xe-Br $_2$ discharge, atomic state density determ. 9-36573
 $\text{Xe}(^3\text{P}_2)$, quenching mechanisms and rate consts. 9-13801

atomic orbitals *see* atomic structure**atomic orbitals calculations**

- see also GO calculations; GTO calculations; STO calculations*
 2p-h TDA equations, superoperator derivative 9-31372
 alkali anions, autodetaching sub $^2\text{P}_{1/2}$ threshold states 9-22611
 ATOM programme package for atomic calculations 9-10010
 Breit-type three-electron eqn., Pauli approx. 9-10044
 cluster expts. of wavefunction, closed-shell orbital theory 9-10004
 Coulomb integral and quantum mechanical exchange redefinition from atomic and molecular orbitals 9-44787
 d-orbitals importance in calc. of effective interactions and excitation spectra 9-6823
 density function method 9-41091
 education, classical and quantum uncertainties, particle in box, harmonic oscill. and atom 9-25789
 formic acid, harmonic force consts., ab initio calcs. and uniqueness problem 9-6834
 fourth row element ions, relativistic Dirac-Fock-Slater orbital binding energies, one-electron transition energies 9-25778
 Gaussian orbitals, multi-centre integrals, Racah algebra, Talmi transformation 9-45626
 Gaussian-lobe orbitals, ang. depend., anal. of standard p- and d-orbitals 9-6851
 Gaussian-lobe orbitals, ang. depend., axial GLO sets, theory 9-6852
 Gaussian-lobe orbitals, ang. depend., polyhedric lobe edifies 9-6853
 Hartree-Fock approximation with pseudowavefunctions 9-3357
 interaction between N one-electron atoms, biorthonormal basis sets 9-22576
 ionisation potential, X_n eigenvalues and Slater transition state 9-31394
 MC-SCF theory, modified one-electron Hamiltonian, iteration convergence 9-6871
 multiconfigurational reference states, orbitals optimisation 9-10002
 nonhydrogenic atoms, radial transition integrals, Coulomb approx. calcs. 9-45625
 open shell orbital theory with electron correl., wavefunction cluster expansion 9-13647
 open shell restricted HF eqns., role of coupling operators 9-758
 oscillator strength sum rule, hydrodynamic analogy to quantum mechanics 9-26873

atomic orbitals calculations continued

- photoelectric cross section, fixed-orientation atomic orbitals, rel. to plane-wave final state approx., angle-resolved photoemission 9-28891
 polarisability and London coeff., ab initio variation perturbation calc. 9-13635
 polarisability of atoms, freq. depend., Hartree-Fock theory 9-45652
 positive atomic ions, orbital SCF energies, rel. to total SCF energies 9-3350
 relativistic atomic wave functions, Hartree-Fock calcs. 9-10009
 row element ions 9-25778
 scalar relativistic approximation 9-26899
 single-term atomic state props., variationally optimised local central pot. calcs., $2 < Z < 55$ 9-41123
 trial wave functions, by off-diagonal hypervirial theorem 9-22578
 two-electron atom, Schrodinger local energies 9-41090
 unified atom limit, adiabatic approx. for transitions between $l=2$ states 9-22781
 universal basis set concept, Slater-basis 9-36502
 unlinked cluster corrections for configuration interaction calculations 9-3368
 variation-interaction soln. of Hartree Fock eqns., Green's integral operator, SCF formalism 9-6842
 variational method, metric-constrained 9-22579
 variational technique, 73 variational technique, for two-electron atom, for teachers 9-21505
 Be, electronic struct., universal STO basis sets 9-10021
 Be, ground state energy determ., Galerkin-Petrov method 9-769
 Be, ground state reduced first order density matrix CI calc., mag. shielding const. and diamagnetic susceptibility 9-6872
 Be, ionisation energies and oscillator strengths, polarised frozen core approx. 9-36524
 Be, one-particle ionis. energy, correlated wavefunction 9-45639
 Fe, model potential method, in Roothaan's open-shell scheme 9-36513
 H, dipole static polarisability for any state, modified Coulombic Green's function Sturm expansion 9-7031
 H, quadratic Zeeman effect, perturbative approach 9-22649
 He, freq. depend. polarizability, LCAO SCF perturbation theory 9-31387
 He, orbitals calculations, using extended STO basis sets 9-6844
 He, path integral formalism of perturbation theory, simple mols. and atoms 9-6841
 He-like atoms, oscillator strength calc., allowed np-n'd and nd-n'f transitions 9-31467
 I, model potential method, in Roothaan's open-shell scheme 9-36513
 Li, electron impact total excitation cross section, first order exchange approx. 9-31692
 Mg, polarisability and London coeff., ab initio variation perturbation calc. 9-13635
 Mg^{2+} , $2p^1np-2p^5ms$ ($n=3, 4$; $m=3,4,5$) transition probabilities calc. 9-6915
 Na, electron impact total excitation cross section, first order exchange approx. 9-31692
 Ne, electron impact ionisation, ang. correl., first Born approx. 9-22840

atomic polarisability

- alkali metal, dynamic polarisability dispersion eqn., dispersion interaction of atoms 9-26902
 excitation of simple atomic and mol. systems, long-range force effects 9-10170
 first row atoms, static quadrupole and mixed dipole-octupole polarisabilities 9-22857
 frequency dependent polarisability, time depend. Hartree-Fock calc. 9-45652
 hydrogenic atom in weak mag. field, polarisability, ground-state energy 9-3594
 inert gases, polarisabilities, linear and nonlinear, screening consts. effects 9-31435
 interacting systems, oscillator strength sums, dynamic polarisabilities, one-term approximations 9-22782
 long-range potentials, vac. fluctuations and retardation effects 9-3522
 open-shell ions, coupled HF calc., static dipole polarisabilities and shielding factors 9-6862
 polarisability and London coeff., ab initio variation perturbation calc. 9-13635
 single-term atomic state props., variationally optimised local central pot. calcs., $2 < Z < 55$ 9-41123
 Ar, pair polarisability determ. from collision induced light scatt. spectrum 9-13678
 Ar+Ar(He)(Ne), dispersion interaction, series coeffs., variation method 9-3518
 Bi, Dirac eqn. calc. 9-22620
 Ca dipole polarisability, in Ca_2^+ pot. energies calcs. 9-27055
 H, dipole static polarisability for any state, modified Coulombic Green's function Sturm expansion 9-7031
 H, freq. depend. multipole polarisability and dispersion energy between interacting pairs 9-18306
 H ground state, dynamic polarisability, laplace transform method in two-photon spectroscopy theory 9-10084
 He, freq. depend. multipole polarisability and dispersion energy between interacting pairs 9-18306
 He, freq. depend. polarizability, LCAO SCF perturbation theory 9-31387
 He, isoelectronic series 9-3358
 He through Ne, static polarisabilities and hyperpolarisabilities, numerical SCF method 9-36567
 He+He(Ne)(Ar), dispersion interaction, series coeffs., variation method 9-3518
 K, fine-struct. intervals, polarisabilities, highly excited d states 9-27100
 Mg, polarisability and London coeff., ab initio variation perturbation calc. 9-13635
 Na, atomic states highly excited by laser radiation, Stark effect 9-13669
 Ne, atom, calculation from optimised potential model 9-6895
 Ne+Ne(He)(Ar), dispersion interaction, series coeffs., variation method 9-3518
 Pb, Dirac eqn. calc. 9-22620
 S, static multipole polarisability, frozen core approx. 9-36791
 Th, tensor polarisabilities of levels, level crossing method 9-10223
 Ti, Dirac eqn. calc. 9-22620

atomic power see nuclear power**atomic reactors see fission reactors****atomic resonant states**

- adsorption, selective, correlation of intensity features with at.-surface pot. Fourier components 9-15013
 alkali anions, autodetaching sub $2P_{1/2}$ threshold states 9-22611
 alkali metal atom, resonant multiphoton ionis. (*Russian*) 9-3401
 alkali metal Stark profiles, of reson. lines, model microfield method appl. 9-26931
 angular momentum depend. of laser-induced birefr. and dichroism in atomic reson. lines 9-10367
 atomic resonance interaction, photon echo meas. 9-27061
 bremsstrahlung, high frequency cross section limit for neutral ats. and ions 9-27142
 charge exchange in laser field, secondary emission 9-27081
 coherent transients, spherical tensor treatment 9-26940
 complex scaling method, theory 9-18123
 complex scaling transformations in stationary and scattering problems 9-18124
 dilation analyticity in constant electric field, two-body Stark problem 9-26900
 electron+atom resonance scattering in laser field 9-859
 electron scatt. resonances during dilatation transformations, reson. eigenvalues stability 9-18291
 EM wave, reson., standing, at. beam deflection 9-26959
 fluorescence, photon bunching and antibunching 9-31460
 Hamiltonian, complex-rotated, reson. props. 9-31427
 inert gases, reson. widths, anomalous variation 9-31478
 ion channelling, coherent excitation 9-46727
 ions, H-, He-like, $Z=4$ to 34, wavelengths, radiative transition probabilities, autoionisation rates 9-25776
 many-electron systems, time depend., complex scaling and reson. calcs. 9-22612
 multiphoton ionisation, resonant, in strong EM wave field 9-10079
 multiphoton ionisation, resonant (*Russian*) 9-3421
 multiphoton resonant ionis. in incoherent field 9-26952
 multiphoton transitions, continuum level shift effects 9-26956
 multiphoton transitions, perturbation theory, atomic ionisation and intermediate reson., dissoci., review 9-41145
 N-electron atoms, reson., complex coord. calcs. 9-18125
 neutral atoms, bremsstrahlung, high freq. limit, effect of resonance scatt. 9-31473
 nonlinear Faraday effect in resonant media 9-32001
 nonlinear Ramsey resonance of excited atoms, Doppler-broadened transition 9-10074
 optical nutation in gases (*Russian*) 9-27225
 perturbation of the atomic spectrum by a strong light field 9-10073
 polarised nuclear beam production by reson. at. ionis. 9-13576
 Raman X-ray scattering, reson., K vacancy excited state widths, appl. to Zr, Mo, Rh, Ag and Sn 9-45661
 resonance calculations for arbitrary potentials 9-22779
 Rydberg states in electric and magnetic fields: near-zero-energy resonances 9-36552
 three-level atom in radn. field, resonance processes (*Russian*) 9-45687
 two level atom, two-photon reson. fluoresc. 9-780
 two-atom two-photon resonance fluorescence 9-22645
 two-level atom in resonant bichromatic field (*Russian*) 9-36588
 two-level atom in resonant EM wave, atomic motion 9-18155
 two-photon S-S transitions, reson. broadening (*Russian*) 9-26957
 Ar, electron-photon coincidence obs., reson. lines, polarisation correls. 9-31697
 Ar, Paschen (1s) reson. state, decay mechanism and kinetics 9-27021
 Ar+N₂, bimol. and three body quenching, reson. state 1P_1 , 3P_1 and excimer Ar atoms 9-3540
 As I, rel. oscill. strengths, 193.8 and 197.3 nm lines 9-791
 Ba⁺+ZZ 9-13811
 Be, 2P shape reson., electron scatt. calc. 9-41240
 Ca, intercombination line, at. beam saturation and reson. fluoresc. spectroscopy 9-36580
 Ca stable isotopes, nucl. charge distrib. from isotope shift in Ca I resonance line 9-9461
 Ca⁺+ZZ 9-13811
 Co, 3p excitation spectra 9-22633
 Cs, reson. multiphoton ionis. 9-41146
 Cs, resonant multiphoton ionis. (*Russian*) 9-3421
 Cs, resonant multiphoton ionis. 9-36589
 Cu, 3p excitation spectra 9-22633
 Cu, isoelectronic series, oscillator strengths of reson. transitions 9-22666
 D+H⁺(D⁺)(He⁺)(Ne⁺)(Ar⁺)(Kr⁺), reson. charge charge transfer from photoexcited donor state 9-22820
 Fe, 3p excitation spectra 9-22633
 H, electron scatt. in EM field, reson. emission and absorpt. of photons 9-27087
 H, resonant pole trajectories in complex scaling, stationarity 9-18126
 H⁺, energies and widths of $1^2P(1)$ and $1^2S(2)$ resonant states 9-18130
 He, electron impact excitation, reson., near $n=3$ threshold 9-36773
 He, electron scatt. resonances during dilatation transformations, reson. eigenvalues stability 9-18291
 He, resonance photoabsorption in (3s3p) 1P reson. region 9-45659
 He⁺, reson. calcs. with correlated target state wave functions, complex coord. method 9-26939
 He⁺, resonances in post collision interaction 9-13820
 He-like ions in laser prod. plasma, anomalous intensity ratios of reson. to intercombination lines 9-23454
 He-like three-electron atoms and ions, inelastic-reson. quasiprojection operators 9-3581
 He⁺+He, reson. charge transfer, merging-beam technique 9-41235
 He(2S)², autoionising reson., appl. of complex-rotated Hamiltonians 9-31427
 Hg, 5.2 eV resonance in electron impact excitation 9-10208
 Hg, photoelectron angular distrib. resonance 9-13687
 I($^2P_{1/2}$)+n-iodopropane (iodoethane), quenching rate coeff., in UV photolysis of n-iodopropane (iodoethane) 9-11799
 In, two-photon laser spectroscopy 9-6925
 K, fine-struct. intervals, polarisabilities, highly excited d states 9-27100
 K⁺, electron impact excitation of reson. levels (*Russian*) 9-45852
 Kr, reson. levels relax. consts. determ. by alignment method in discharge 9-26936
 Kr, self-broadening of first reson. line 9-26933
 La, intense 4d-f reson., cross-sections, spectra, calcs. 9-31426

atomic resonant states continued

- Mg, 2^2P shape reson., electron scatt. calc. 9-41240
 Mg, reson. line, Hanle effect, density depend. 9-6917
 $\text{Mg}^+ + \text{Mg}$ and $\text{Mg}^{2+} + \text{Mg}$, resonant charge transfer, phase interference effect 9-10199
 NE, disalignment collision cross sections of $2p_4$, $2s_2$ levels, mode crossing determ. 9-18162
 Na, reson. two-photon ionis., photoelectron ang. distrib. and polaris., nucl. spin influence 9-10083
 Na resonance line fluorescence, profile, perturbed by He 9-36723
 Na, strongly driven two-level atoms, reson. fluoresc. and absorpt. spectra meas. 9-36581
 $\text{Na} + \text{H}(\text{He})(\text{Ne})$, D2 reson. linewidth 9-31647
 Ne, electron impact, fine struct. resolved by reson. free-free radiative absorptions 9-3576
 Ne, photoionization mass spectroscopy using synchrotron radiation, reson. width meas. 9-31478
 Ne, reson. broadening at low densities 9-31452
 Ne superradiation propagation through reson.-absorbing positive column plasma, pulse shape change 9-4117
 Ne transitions, $1.52\ \mu\text{m}$ and $633\ \text{nm}$, mode crossing resonance shape 9-18163
 Ni, $3p$ excitation spectra 9-22633
 O VII electron impact excitation, reson. effects 9-41243
 Rb, circ. polarised reson. fluoresc. excited with π polarised D_2 line, 0-170 G 9-41133
 Rb induced radiation in multiphoton excitation above ionisation limit (*Russian*) 9-3425
 Rb, vap., 1.06 micron conversion to $420\ \text{nm}$ range 9-14040
 ^{87}Rb , Stark effect on $5^2\text{P}_{3/2}$ state 9-3399
 Sr, $4607\ \text{\AA}$ reson. line shape, width and shift in Ar, press. depend. 9-22653
 $\text{Sr}^+ + \text{ZZ}$ 9-13811
 $\text{Ti}(^3\text{S}_{1/2}) + \text{inert gas}$, long-range interaction, spectral line shifts and broadening 9-10174
 Tm, intense 4-d f reson., cross-sections, spectra, calcs. 9-31426
 Xe, reson. levels relax. consts. determ. by alignment method in discharge 9-26936
 Xe, self-broadening of first reson. line 9-26933
 Yb, two-photon laser spectra, hybrid resonances 9-31489
 Zn isoelectronic sequence, resonance oscill. strengths 9-3413
 Zn, isoelectronic series, oscillator strengths of reson. transitions 9-22666

atomic scattering factors *see crystal atomic structure; crystallography; lattice dynamics*

atomic spectra

see also atomic fluorescence; atomic hyperfine structure; atomic spectral line breadth; atomic structure; beam-foil spectra; conversion electron spectra; radiative corrections; Russell-Saunders coupling; Stark effect; Zeeman effect

- 2^2P fine struct. interval of $2s^22p^5$ and $2s^22p$ configs., Z-depend. 9-22634
 absorption spectrum windows, of oscillator ensemble with embedded impurity oscill. 9-6045
 atomic spectra, two-electron matrix elements in Hylleraas coords., ang. integrals, radial recurrence relations 9-3386
 blackbody radiation interaction with LF atomic transitions, Zeeman, Stark and stimulated emission 9-41127
 collisional radiation redistrib. in spectral line nonimpact region 9-22667
 conference, Leningrad, USSR (Feb. 1977) 9-10059
 curve of growth, approx. 9-41126
 direct obs. of the transversal Doppler-shift 9-18151
 electric dipole radiation interaction, length vs. vel. form, gauge invariance 9-41142
 energy level and Grottrian diagrams, S I to Ti XXII, book 9-3387
 excitation profile, effect of radiative emission-autoionisation interference of excited state decay 9-26945
 exotic atoms, with monopoles, spectral line intensities and selection rules (*Chinese*) 9-36800
 first-row elements, low lying levels, excitation equilib. and line intensities 9-12401
 flame atomic absorption lines, appl. as background reduction method in plasma emission spectroscopy 9-16069
 fourth row element ions, relativistic Dirac-Fock-Slater orbital binding energies, one-electron transition energies 9-25778
 ground state shift, limited nonreson. moderately strong laser field 9-18157
 highly-charged ions, spectral characts., relativistic effects, theory 9-10061
 inert gas atoms, adsorbed on metal surface, excitation spectrum 9-23832
 ion, highly-stripped, quantum defects 9-41147
 ion, multiply charged, two-electron, parity nonconservation in spectra 9-10087
 ions, H-, He-like, Z=4 to 34, wavelengths, radiative transition probabilities, autoionisation rates 9-25776
 lanthanides, 4d spectra in atoms rel. to solids 9-31450
 laser spectroscopy, multiphoton and multistep methods, review 9-35842
 level crossing signals, for at. and nucl. parameters 9-3416
 level-band quantum system interaction with quasireson. monochromatic field (*Russian*) 9-26915
 m-scheme configuration interaction calcs., interaction integrals 9-45645
 magnetic scanning method, for at. parameters obs., accuracy 9-27116
 many-level atoms, Raman scatt. resons. in separated fields 9-31449
 metallic species, ionised and neutral, high intensity resonance lines provided by flow lamp light source 9-27355
 moving atom-surface wave interaction, EM field momentum very close to plane interface 9-13936
 multiphoton transitions, choice of gauge 9-31488
 multiphoton transitions, continuum level shift effects 9-26956
 muonic atoms, parity violating neutral current effects, E1-E2 interference 9-41254
 neutral atoms, bremsstrahlung, high freq. limit, effect of resonance scatt. 9-31473
 neutral atoms, bremsstrahlung, high frequency limit 9-31472
 optical dispersion using nonresonant light beam (*Spanish*) 9-23394
 oscillator strength, meas. using stimulated electronic Raman scatt. polarisation flip method 9-31471
 parity nonconservation in atomic transitions 9-36574
 parity-violating weak interaction of electrons with nuclei, atomic spectroscopy search 9-36571
 perturbation of the atomic spectrum by a strong light field 9-10073
 quasi-classical quantisation of multidimens. systems, adiabatic invariants (*Russian*) 9-3343

atomic spectra continued

- relaxation shift by laser action freq. 9-18150
 resonance light pressure, anal. of forces and applications, reviews 9-18156
 resonant EM wave affecting atomic motion, two-level atom 9-18155
 row element ions 9-25778
 Rydberg-valence mixing, oscillator strengths 9-31492
 spatial frequency response of a nonlinear absorbing medium 9-27314
 spectrochemical anal., line pair intensity ratio stability, internal standard variability 9-39247
 Stark effect in Lyman α -line wings 9-22648
 transition cross section meas. by saturation flux with laser oscill. 9-27114
 transitional probabilities in quasiclassical case (*Russian*) 9-26914
 two K-shell vacancy systems, excited states, radiative decay 9-10048
 two-photon resonant processes, conserved quantity 9-45688
 velocity distribution of photo-excited atoms, reson. radiation trapping 9-22668
 weak resonance radiation, collisional redistrib. function 9-794
 zeolite-V, containing Ag atoms, ions and clusters, optical absorption spectra 9-36569
 0 I, $63\ \mu\text{m}$ emission and quenching cross section in thermosphere and ionosphere 9-16732
 Ag, 4d-subshell absorpt. spectra, ab initio Hartree-Fock calcs. 9-18139
 Ag, isolated in mol. matrix, absorption spectra 9-22724
 Al I, electron impact line broadening in arc spectra 9-26919
 Al, muonic atom, Lyman series, muon transfer effect 9-7040
 Ar, collision induced light scatt., three- and four-body spectra 9-18260
 Ar, electron-photon coincidence obs., reson. lines, polarisation correls. 9-31697
 Ar II, transition probabilities and level lifetimes calc. 9-26935
 Ar ions, spectral classification in θ -pinch plasma 9-6896
 Au, isolated in mol. matrix, absorption spectra 9-22724
 B-like ions, EUV emission density sensitivity 9-16910
 Ba, even-parity J=2 spectra, multichannel quantum-defect anal. 9-31445
 Ba I, 440 to $830\ \text{\AA}$, 5p absorpt. spectra 9-31455
 Ba isotopes, isotope shifts and hyperfine struct. from laser spectroscopy 9-9460
 $\text{Ba}^+ + \text{ZZ}$ 9-13811
 $\text{Ba} + \text{Kr}$, collision induced dipole transition, elec. quadrupole transition, oscillator strengths 9-41128
 Be^+ , electron impact excitation, Bethe approx. modifications, impact radiation polarisation 9-31695
 Be-like ions, $2s2p(^1\text{P}_1^0) \rightarrow 2s^2(^1\text{S}_0^e)$ transition probabilities, CI calcs. 9-36544
 Be-like ions, oscill. strengths and transition probabilities, Breit-Pauli approx. calcs. 9-36570
 Bi I, transition probabilities in 195-600 nm range 9-6898
 Bi, optical activity, search for parity nonconservation 9-36574
 Bi, parity violation, optical activity of vap. 9-26938
 ^{209}Bi , P violating eN pot., determ. of effects by optical rotation meas. 9-26277
 C I, interstellar, UV lines obs. in ζ Puppis and ζ Ophiuchi 9-35332
 C I isoelectronic sequence, forbidden transitions calc. 9-31444
 C IV doublets in QSO spectra rel. to absorption redshift 9-35417
 Ca I 6573 \AA and Ca II 7324 \AA forbidden line, centre-to-limb behaviour 9-25572
 Ca II emission from stellar chromospheres 9-30061
 Ca stable isotopes, nucl. charge distrib. from isotope shift in Ca I resonance line 9-9461
 $\text{Ca}^+ + \text{ZZ}$ 9-13811
 ^{43}Ca , isotope shift and hyperfine struct. by laser spectroscopy 9-41139
 Cd, absorpt. spectra in nonreson. biharmonic radiation field 9-3400
 Co, $3p$ excitation spectra 9-22633
 Cr II to VI, struct. and transition probabilities, ab initio calc. using Thomas-Fermi central pot. 9-3360
 Cr XV, mag. quadrupole lines, in TFR600 Tokamak plasma, 10-20 \AA 9-13662
 Cs atomic beam, optical pumping and detection of 0-0 transition 9-18158
 Cs I, 560 to $1050\ \text{\AA}$ 9-31455
 Cs, oscill. strengths of principal series doublets 9-13671
 Cs, Rydberg states, principal series doublets, intensity ratio anomalies 9-18148
 Cu, $3p$ excitation spectra 9-22633
 Cu, highly ionised, spectral classifications below $55\ \text{\AA}$ 9-13658
 Cu, isolated in mol. matrix, absorption spectra 9-22724
 Eu, electron impact excitation of spectral lines 9-3579
 Eu^+ , IR transition probability meas. 9-6897
 F isoelectronic series, transitions between $1s^22s^2p^5$ - $1s^22s^2p^43d$ and $1s^22s^22p^6$ - $1s^22s^22p^3s$ configs. 9-26925
 $\text{F} + \text{He} + \text{Ar}$, VUV spark emission spectra 9-3457
 ^{19}F , pionic $2p$ - $1s$ X-ray transitions 9-18319
 Fe, $3p$ excitation spectra 9-22633
 Fe I, excited levels measured lifetimes compared with calcs. from oscillator strengths 9-36586
 Fe I, isoelectronic sequence, abnormal intensities in multiplets 9-22635
 Fe I, precision oscillator strengths from levels $a^5\text{F}_{1,3}$ and $a^5\text{D}_{0,4}$, comparison 9-36584
 Fe I in solar spectrum, 300 to 900 nm lines interpretation using precise oscillator strengths 9-40155
 Fe I transition from levels $a^5\text{F}_{1,3}$, relative oscillator strengths precision meas. 9-36585
 Fe I transitions from levels $a^5\text{D}_{0,4}$, relative oscillator strengths precision meas. 9-36583
 Fe II, spectrum, term system 9-778
 Fe II permitted emission in Seyfert 1 galaxies and QSOs, obs. 9-35361
 Fe II permitted lines in spectra of type I Seyferts and quasars 9-44602
 Fe III, metastable states in Be star ϕ Persei rel. to mass loss 9-5832
 Fe III to VI, struct. and transition probabilities, ab initio calc. using Thomas-Fermi central pot. 9-3360
 Fe IX lines in solar corona, appl. as plasmas density indicators 9-44429
 Fe VI, forbidden emission under nebular conditions 9-8970
 Fe VIII to Fe XXVI, wavelength tables (*Japanese*) 9-13661
 Fe vapour, line strengths, energy-level structure for $3p$ -edge absorption spectrum 9-45673
 Fe X and XIV forbidden line emission from supernova remnants 9-44580
 Fe XI, $3p^3d$ configuration transitions in solar corona, 1175 to $1965\ \text{\AA}$ 9-25559
 Fe XVII, mag. quadrupole lines, in TFR600 Tokamak plasma, 10-20 \AA 9-13662

atomic spectra continued

- Fe XVII-XXIV X-ray line complex obs. of M87 galaxy halo 9-21425
 Fe XVIII-Zn XXII, transitions between $1s^2 2s^2 p^5$ - $1s^2 2s^2 2p^3 d$ and $1s^2 2s^2 p^5$ - $1s^2 2s^2 2p^3 s$ configs. 9-26925
 Fe XXIV, dielectronic satellite spectra calc., solar flare spectra appl. 9-35123
 *Fr, emission spectra measurements (*French*) 9-26918
 Ge XXIV, transitions between $1s^2 2s^2 p^5$ - $1s^2 2s^2 2p^3 d$ and $1s^2 2s^2 2p^5$ - $1s^2 2s^2 2p^3 s$ configs. 9-26925
 H atom spectra, homogeneous mag. field, variational approach 9-22629
 H, backscatt. from Mo in the presence of O, ion form., line emission 9-3388
 H, electron impact excitation, Bethe approx. modifications, impact radiation polarisation 9-31695
 H I Lyman α emission meas. at solar minimum 9-12417
 H, Lyman- α emission from photodissoc. of H_2O 9-10158
 H, parity nonconservation in emission spectra 9-10086
 H to Ca, leading atomic lines, solar spectra 9-25560
 H, transition probabilities and expectation values, in intense mag. field 9-10066
 H-like atom, photon coalescence and splitting at 1s electron, low-energy limit 9-10082
 H α , polaris. spectroscopy, Rydberg const. determ. 9-9202
 He, electron impact excitation of $1S$ - $2P$ ($3P$), excitation cross section and polarisation fractions, XUV emission 9-22841
 He, electron impact excitation, Bethe approx. modifications, impact radiation polarisation 9-31695
 He, excitation by photon or electron scatt., long range force effects 9-10170
 He, high-L states, laser driven forbidden transitions, line shapes 9-22638
 He I, rate coeff. for 2^3S - 2^3P transition electron impact excitation 9-48664
 He II 4686 Å emission in spectrum of HDE 226868 (Cygnus X-1) 9-21328
 He II 4686 Å line phase shift from spectrophotometry of DQ Herculis 9-21296
 He, light scattering spectra of gas, collision-induced scatt. 9-18137
 He like ions Z=12-19, $1s^2$ $S_{1/2}$ - $1s3p$ P_1 lines satellites obs. in laser 9-22640
 He, resonance photoabsorption in (3s3p) 1P reson. region 9-45659
 He, spectrogram using moderate-resolution spectrometer with interf. selective amplitude modulation 9-30588
 He $^+$ +H $_2$, charge transfer, appl. of atom-photon coincidence meas. 9-45829
 He $^+$ +He, charge transfer, appl. of atom-photon coincidence meas. 9-45829
 He $^+$ +He, interference struct., optical emission interpretation 9-45816
 Hg II, excitation cross sections, transition probabilities, by electron impact 9-3580
 Hg, in aq. soln., transient spectra 9-6899
 Hg+Ar, spectral line broadening of Hg in UV, interaction pot. 9-26937
 Hg+N $_2$, 6^3P_0 - 6^3P_1 excitation, double modulation obs. 9-27072
 *Hg, A=198-202.204, muonic X-ray transitions, nuclear state quadrupole moments and charge distrib. 9-41253
 Ir II, term anal. of spectrum 9-6902
 K, vapour, absorpt. spectra 9-21509
 Kr, reson. levels relax. consts. determ. by alignment method in discharge 9-26936
 Kr, rotation of plane of polarisation close to reson. 9-41129
 Kr(He) arc, wall-stabilised, atm. press. 9-46503
 La, intense 4d-f resons., cross-sections, spectra, calcs. 9-31426
 Li, vapour, absorpt. spectra 9-21509
 *Li, HFS using Doppler-tuned HFS spectroscopy 9-13831
 Lu V, spectrum anal., 500-2100 Å 9-26920
 ^{171}Lu , hyperfine struct. and isotope shift of 605.5 nm line by laser spectroscopy 9-41137
 Mg I, extensions to the doubly excited spectra in the vacuum uv 9-6901
 Mg I sequences for elements Cr to Zn, $n=3$ - $n'=4$ transitions 9-26922
 Mg, K α hypersatellite spectrum, K-shell electron double ionisation cross section, binding energy 9-36577
 Mg $^{2+}$, $2p^6$ - $2p^5$ ms ($n=3$, 4 ; $m=3,4,5$) transition probabilities calc. 9-6915
 Mn I, absorpt. spectrum, 1305-2040 Å, ionis. energy 9-26921
 Mn III, revision and extension of spectrum, fundamental configs. (*Spanish*) 9-22637
 Mn III to VI, struct. and transition probabilities, ab initio calc. using Thomas-Fermi central pot. 9-3360
 Mn, UV absorpt. spectra, 3p-excitation, super Coster-Kronig decay 9-13659
 Mo, beam-foil spectra, 5-55 nm, using 22-200 MeV beams, rel. to Tokamak impurities 9-46481
 Mo IX, 4p-5d,6d and 4p-6s,7s transitions, grazing incidence spectrograms 9-36576
 Mo VI, $4p^4$ - $4p^4d$ transitions, level assignments 9-22631
 Mo XXXI-XXXIV spectra from exploded Mo wire plasmas 9-1295
 N I isoelectronic sequence, density-sensitive line ratios and electron densities in solar corona 9-16906
 N I resonance lines, oscillator strengths 9-5741
 N III lines for solar diagnostics 9-30031
 N, Rydberg-valence mixing, oscillator strengths 9-31492
 Na isoelectronic series, spectroscopy, review 9-10060
 Na, rotation of plane of polarisation close to reson. 9-41129
 Na, strongly driven two-level atoms, reson. fluoresc. and absorpt. spectra meas. 9-36581
 Na, vapour, absorpt. spectra 9-21509
 *Na, A=21-31, hyperfine struct., mag. moments and isotope shifts, laser spectroscopy 9-10072
 ^{23}Na , pionic $2p$ - $1s$ X-ray transitions 9-18319
 Nb V, $4p^4$ - $4p^4d$ transitions, level assignments 9-22631
 Ne, ground level isotope shift between ^{20}Ne and ^{22}Ne , obs. 9-31451
 Ne I isoelectronic sequence, X-ray spectra, K X to Fe XVII 9-22641
 Ne III, UV spectra excited by He $^+$ impact 9-6900
 Ne, reson. broadening at low densities 9-31452
 ^{20}Ne , ^{22}Ne , 1.15 μm line isotope shift, phase-polarisation nonlinear high-resolution spectroscopy in longit. mag. field 9-41423
 Ni, 3p excitation spectra 9-22633
 Ni III to VI, struct. and transition probabilities, ab initio calc. using Thomas-Fermi central pot. 9-3360
 Ni XIX, mag. quadrupole lines, in TFR600 Tokamak plasma, 10-20 Å 9-13662
 Ni XVIII solar XUV flare lines, oscillator strength meas. 9-5796

atomic spectra continued

- O I, new absorpt. lines 9-26923
 O I 557.7 nm forbidden line emission structure in airglow 9-35027
 O I 6300 Å line meas. of O(1D) quenching coeff. by molecular collision, optical meas. 9-2419
 O I 7990 Å and 11287 Å branching ratios, astron. appl. 9-41134
 O I 7990 Å branching ratio, lab. study, rel. to airglow and auroral emissions 9-775
 O I-like ions, solar emission lines density depend. 9-40165
 O III 1666 Å line used in electron density determ. for quiet Sun and polar coronal holes 9-21245
 O III 5007 Å forbidden line splitting, NGC 7293 (Helix Nebula) obs. 9-25694
 O VII line intensity ratios depend. on temp. and ionization balance 9-16903
 O $^+$, spectra in pure O arc plasma, 2000-9000 Å, 9000K 9-32750
 Pb, transition probabilities, 200-700 nm 9-31454
 Pbl, np^2 - $np(n+1)s$ transition array, relativistic oscill. strengths 9-31465
 PrIV, change of spectra under free state to cryst. transition 9-33271
 Rb I, 4p subshell excitation spectra, 15 to 19 eV, a new interpretation 9-777
 Rb Rydberg levels in intense mag. field, diagam. struct. 9-26958
 Rb vapour, IR stimulated Raman scatt. 9-27325
 S X in solar corona, density-sensitive line ratio and electron densities 9-16906
 Sb I, ratio of oscillator strengths for 217.6 and 231.1 nm lines (*Russian*) 9-31457
 Sc+Ar $^+$, charge exchange obs. through spectral line enhancement 9-7005
 Se XXVI, transitions between $1s^2 2s^2 p^5$ - $1s^2 2s^2 2p^4 3d$ and $1s^2 2s^2 2p^5$ - $1s^2 2s^2 2p^3 s$ configs. 9-26925
 Si I sequences for elements Cr to Zn, $n=3$ - $n'=4$ transitions 9-26922
 Si II 1533 Å identifications in QSO spectra rel. to absorption redshift 9-35417
 Sm II, transition probability, 3000-7000 Å, solar abundance 9-31453
 Sm, optical isotope shifts, optical heterodyne method 9-22630
 *Sm, A=144-154, charge distrib. and hyperfine splitting from muonic X-rays 9-40838
 SnI, np^2 - $np(n+1)s$ transition array, relativistic oscill. strengths 9-31465
 Sr I, oscillator strengths for certain transitions 9-18143
 Sr, Rydberg series, absorpt. by selectively laser-excited atoms 9-3390
 Sr $^+$ +ZZ 9-13811
 Ti, $6^3P_{1/2}$ - $7^3P_{1/2}$ transition, parity nonconservation obs. 9-31446
 Tm, intense 4d-f resons., cross-sections, spectra, calcs. 9-31426
 U I, visible spectrum, ^{238}U - ^{235}U isotope shift 9-788
 U, isotope shift and configuration interaction 9-31468
 U, neutral atomic, oscill. strengths, 2289.8-2860.3K, 355.2-359.4 nm 9-10069
 ^{238}U I, lifetime, branching ratio and absolute transition probability of 6395.42 Å transition 9-3402
 V II, spectrum, $3d^5$ and $3d^4d$ config. (*Spanish*) 9-22636
 Xe, reson. levels relax. consts. determ. by alignment method in discharge 9-26936
 Xe-Br $_2$ discharge, atomic state density determ. 9-36573
 Y III, $4p^4$ - $4p^4d$ transitions, level assignments 9-22631
 Yb, two-photon laser spectra, hybrid resonances 9-31489
 Yb $^{3+}$, spectrum and energy levels 9-26916
 YbI, first spectrum, wavelengths and intensities, Zeeman effect 9-3389
 Zn, highly ionised, spectral classifications below 55 Å 9-13658
 Zr II and III, oscillator strengths for certain transitions 9-18143
 Zr IV, $4p^4$ - $4p^4d$ transitions, level assignments 9-22631
- atomic spectral line breadth**
 alkali metal, two-photon S-S transitions, press. broadening and shift by rare gases 9-6916
 alkali metal Stark profiles, of reson. lines, model microfield method appl. 9-26931
 atom, two-photon absorption resonance, transit effects 9-10085
 atomic radiative collision, in external mag. field 9-22665
 cadmium, L α X-ray spectra, ^{40}Zr to ^{48}Cd , linewidths 9-41131
 collisional broadening 9-26932
 degenerate atomic level perturbation by neutral particles 9-792
 Doppler broadening compensation with laser induced light-shifts 9-3405
 EUV emission line nonthermal broadening near quiet solar limb 9-48748
 fluids, atomic and molecular, collision induced light scatt. (*German*) 9-27057
 laser beam surface evaporation, spectral-line absorption 9-19951
 level shift and width in light field, higher order perturbation theory (*Russian*) 9-3414
 many-level atoms, Raman scatt. resons. in separated fields 9-31449
 molecule-molecule collision, effect on linear and non-linear spectroscopic line shapes 9-36735
 multiphoton ionisation, resonant, in strong EM wave field 9-10079
 multiplet line-centre fluxes, effects on temp. models 9-5806
 niobium, L α X-ray spectra, ^{40}Zr to ^{48}Cd , linewidths 9-41131
 nonlinear Ramsey resonance of excited atoms, Doppler-broadened transition 9-10074
 O-type stars, UV reson. lines profiles rel. to coronae possible existence 9-21293
 perturbation of the atomic spectrum by a strong light field 9-10073
 pressure broadened spectral line shape, effect of turning points 9-22655
 pressure broadening, adiabatic theory, low density approx. 9-22628
 pressure broadening, quantum-path theory 9-31470
 redistribution of scattered radiation by collisions in nonimpact region of spectral line profile 9-35109
 resonant Raman X-ray scattering, K-vacancy excited state widths, appl. to Zr, Mo, Rh, Ag and Sn 9-45661
 solar inhomogeneous emission formations, line profiles calc. 9-25562
 solar Lyman α line, wavelength and profile meas. 9-8896
 solar photosphere, line profile displacement rel. to line formation in unresolved magnetic element 9-48750
 Stark widths of neutral lines, simple estimating formula 9-3397
 stars, line profiles in expanding envelopes 9-44464
 stellar chromospheric scaling laws, width-luminosity correls., Wilson-Bappu effect 9-40177
 stellar photosphere line profiles, thick circumstellar dust shell effect 9-30058
 transition arrays in X-ray, UV spectra, mean wavelength and spectral width 9-6913
 two level model theory, extended, appl. to Doppler-, laser and collision-broadened bound-bound multiphoton absorption 9-3423

atomic spectral line breadth continued

- two-photon S-S transitions, reson. broadening (*Russian*) 9-26957
 Al I, electron impact line broadening in arc spectra 9-26919
 Al I line broadening and shifts by van der Waals interaction with Ar and He atoms 9-6912
 Ar atomic excited states collision radiative destruction in glow discharge, spectral line profiles 9-3528
 Ar II, electron impact width, UV-region 9-22661
 Ar II, line-continuum interference effect in Lorentzian wings 9-18147
 Ar, multiply excited, inner level X-ray emission spectra, line widths and Auger transition rates 9-36575
 As I, rel. oscill. strengths, 193.8 and 197.3 nm lines 9-791
 Ba, autoionis. spectrum, pair splittings 9-13684
 C I, C II, C III, C IV in solar flare, line profiles rel. to upper chromosphere model 9-40148
 C II, UV lines Stark widths 9-6910
 Ca II, solar H and K line profiles vars. at solar minimum and cycle 21 onset 9-16907
 Ca II H and K line profiles of active solar limb filament 9-44446
 Ca II K-line asymmetry in A-type star Sirius unconfirmed 9-30062
 Ca II K-line asymmetry in A-type star Sirius, comments 9-30063
 Ca II K-line in dwarf stars, profiles rel. to chromospheric models and activity 9-48773
 Ca II line width in late type stars, Wilson-Bappu effect 9-12464
 Cs, self-broadening of Doppler-free two-photon lines 9-41135
 Cs+He(Ne)(Ar), optical pumping, spectral line shape (*Spanish*) 9-22662
 Cs+inert gas, D₂ line collisional broadening and shift, and HFS 9-22664
 Cu laser lines, broadening, induced emission cross-sections 9-26928
 Fe I 5383 Å line width, Stark broadening 9-31463
 H, Balmer emission line decrement in HR 1099, evidence for nonthermal excitation 9-21342
 H I, interstellar Lyman lines profiles, implications of high-vel. absorpt. features 9-48891
 H I, line profiles in Nova Vulpeculae (1979) 9-48820
 H I 21 cm, line profiles in clumpy irregular galaxies (Markarian 296 and 297) 9-44608
 H I 21 cm line widths in galaxies, correl. with absolute magnitude and type 9-5900
 H I Balmer α and β line profile rapid vars. in Be-stars (*Russian*) 9-16992
 H I emission line profiles obs. in α Ceti spectrum (*Russian*) 9-16990
 H I in interacting galaxy NGC 2623, emission and absorpt. profile 9-17087
 H I in Seyfert galaxies, anomalous line profiles 9-8988
 H I line strength var. in HD 184905, Ap-star 9-16987
 H I Lyman α line profile of active solar limb filament 9-44446
 H II regions, narrow radio recomb. lines prod. around X-ray source 9-8972
 H Lyman α , astronomical, profile rel. to H₂ reson. fluoresce. 9-8821
 H, Lyman α and β lines, in solar spectra, exptl. obs. and theoretical profiles 9-8888
 H, Lyman α asymmetry in solar flares, rel. to proton/electron energy flux ratio 9-8887
 H Lyman α line profile in Ar plasma 9-22658
 H, plasma, spectral line broadening, ion dynamic effects 9-46432
 H, subnatural linewidth resolution $2S_{1/2}$, $2^2P_{1/2}$ level crossing, Lambshift, pulse technique 9-22669
 H-like ions, spectral broadening in plasma 9-46431
 H₂, Stark broadening, wings calc. 9-31464
 H₂(D₂) Stark broadening in Ar arc plasma 9-36582
 H*(3), D*(3) Balmer- α emission, obs. of H₂O(D₂O) electron impact disoc. excitation 9-31706
 H α emission profile in RS Canum Venaticorum binary HR 1099, vars. obs. 9-21343
 H α in dwarf stars, profiles rel. to chromospheric models and activity 9-48773
 H α in giant extragalactic H II regions, line widths rel. to vel. dispersion 9-44606
 H α profile in HR 1099 during February 1978 radio flare, spectrophotometry 9-21344
 H α profile in He weak and He strong stars, vars. 9-40201
 H β in Be shell stars, high-resolution polarisation struct. meas. by digicon spectropolarimeter 9-44485
 He, high-L states, laser driven forbidden transitions, line shapes 9-22638
 He I, 10830 line in R Coronae Borealis at pre-max. phase, P Cygni profile 9-16975
 He I 4^3D , 3^3F - 2^3P line struct., in low-press. linear discharge 9-14523
 He I 4026 Å in He weak and He strong stars, line variability 9-40201
 He I 584 Å, solar reson. line profile and intensity meas. 9-40153
 He, press. broadened (2^3P - 2^1S) line, 0.3-20 torr. 9-13673
 He, Stark profile in arc plasma, heavy-particle temp. 9-46484
 He⁺, reson. calcs. with correlated target state wave functions, complex coord. method 9-26939
⁴He, laser mag. reson., ⁷S-⁹P energy separation, motional Stark effect, Zeeman tuning parameters 9-6911
 Hg, line profile and shift at 546.1 nm, high-press. discharge (*French*) 9-785
 Hg, metastable and excited states, pulsed dye laser absorption spectroscopy 9-26924
 Hg+Ar, spectral line broadening of Hg in UV, interaction pot. 9-26937
 In+Hg, spectral-line contours in high-press. arcs 9-3412
 K, resonance lines broadening and shift by noble gases 9-10070
 Kr, self-broadening of first reson. line 9-26933
 Kr-(He) arc, wall-stabilised, atm. press. 9-46503
 Mg I, Mg II, solar reson. lines obs. in active region 9-40163
 Mg I λ 2852, in Sun, supergranular line profile var. 9-40164
 Mg II h and k line profiles of active solar limb filament 9-44446
 Mg, reson. line, Hanle effect, density depend. 9-6917
 N⁺, stark broadening of high orbital ang. momentum states 9-22650
 Na, self-broadening of 3S-5S and 3S-4D two-photon transitions 9-26955
 Na, two-photon transition broadened by Ar impact 9-22681
 Na, wing profile of doublet lines, in flames at 1 atm. 9-22660
 Na+H(He)(Ne), D2 reson. linewidth 9-31647
 Na+He(Ar)(N₂), collision broadening and shift of 3S-4D and 3S-5S lines 9-3406
 Ne, broadening of $2p^23p$ - $2p^24d$ spectral line by He 9-18145
 Ne, Doppler broadening compensated by light shifts 9-41136
 Ne, reson. broadening at low densities 9-31452
 Ne, self broadening of $2p^23p$ - $2p^24d$ spectral line 9-18144
 Ne, spectral line broadening due to reson. interaction 9-22654

atomic spectral line breadth continued

- Ne transitions, 1.52 μ m and 633 nm, mode crossing resonance shape 9-18163
 O I 1302 Å line profile in ζ Ophiuchi spectrum and interstellar O abundance 9-44583
 O III 5007 Å forbidden line profiles from M16 H II region 9-8976
 Pb, La X-ray spectra, $40Zr$ to $48Cd$, linewidths 9-41131
 Rb, laser saturation spectra, collision broadened line struct. (*Russian*) 9-45678
 Rb+inert gas, D₂ line collisional broadening and shift, and HFS 9-22664
 Rb+inert gas, mag. scanning technique for broadening and shift 9-22663
⁸⁵Rb cell filtering action, press. shift and broadening by foreign gases 9-3403
 Rh, La X-ray spectra, $40Zr$ to $48Cd$, linewidths 9-41131
 Ru, La X-ray spectra, $40Zr$ to $48Cd$, linewidths 9-41131
 Si line profile vars. in B-type stars 9-5823
 Si XI 303 Å, solar line profiles 9-12452
 Sr, 4607 Å reson. line shape, width and shift in Ar, press. depend. 9-22653
 Tc, La X-ray spectra, $40Zr$ to $48Cd$, linewidths 9-41131
 Ti, line shape in Ar gas, collisional redistrib. of near-reson. rad. 9-31469
 Ti+Hg, spectral-line contours in high-press. arcs 9-3412
 Ti($S_{1/2}$)+inert gas, long-range interaction, spectral line shifts and broadening 9-10174
 U, atomic model 9-41095
 U⁺, atomic model 9-41095
 Xe, AC Stark effect, on saturated absorption line shape in partially Doppler-compensated system 9-45669
 Xe, self-broadening of first reson. line 9-26933
 Zr, La X-ray spectra, $40Zr$ to $48Cd$, linewidths 9-41131

atomic structure

- see also atomic electron correlations; atomic excited states; atomic fine structure; atomic orbitals calculations; atomic polarisability; atomic spectra; nuclear screening; Russell-Saunders coupling; triplet state
 2p-h TDA equations, superoperator derivative 9-31372
 actinide atoms and ions, electronic struct. (*Japanese*) 9-6856
 approximate energy differences from average electron densities 9-36505
 approximate energy relationships, Z⁻¹ perturbation expansion 9-13620
 atom-excess electron systems, negativity of ground state interaction energies 9-13619
 atomic, molecular and solid-state theory, conf., Flagler Beach, Florida, USA (Mar. 1978) 9-31356
 Born-Oppenheimer approx., physics of new derivation 9-9997
 charge distribution, chem. effects, total valence-electron energy/nucleon electronic interaction energy relation 9-3347
 collision, two-centre one-electron, nonadiabatic couplings for ionising transitions, switching functions determ. 9-22813
 conference, Boulder, Colorado, USA, June 1978 9-36511
 conference, Leningrad, USSR (Feb. 1977) 9-10059
 contact interactions, parity-violating and parity-conserving, new evaluation techniques 9-26872
 core charge polarisation effects, dipolar contributions 9-45631
 covariant photon interaction 9-3342
 effective valence shell Hamiltonians, generalised perturbation theory 9-36509
 eigenvalue sum rel. to total SCF energy for ats. and mols. 9-9993
 electron coincidence spectroscopy, orbital shape, charge density, mol. struct. determ. appls. 9-27113
 electron Hamiltonian, effective one-body, with correct asymptotic behaviour, appl. to He 9-45619
 energy density functional approach, kinetic energy model 9-31357
 energy level and Grotian diagrams, S I to Ti XXII, book 9-3387
 excited state structure, electron correl., var. collapse theory 9-6890
 fermion interaction theory of nuclear and atomic struct. models, singlet paired fermions 9-9180
 ground state, energy functional of first-order reduced density matrix 9-10003
 ground state charge density, asymptotic behaviour 9-22575
 hadronic atoms, Coulomb levels shift (*Russian*) 9-45870
 Hartree problem, iterative diagonalisation soln. 9-6829
 Hartree-Fock expectation values, systematic behaviour 9-3365
 heavy atoms, collective oscillations, of individual shell 9-45674
 Heisenberg equation of motion, operator level and function level 9-6826
 highly correlated particle densities and idempotent one-densities 9-6815
 inert gases, He to Xe, Hartree-Fock electron density, kinetic energy functional 9-26879
 integral calculations, permutational approach using spatial symmetry 9-36515
 ion, three-electron, 2s2p1s config., intermediate coupling state, energy level calcs. 9-3353
 ionisation potential, X_n eigenvalues and Slater transition state 9-31394
 level shift and width in light field, higher order perturbation theory (*Russian*) 9-3414
 light hydrogen-like atoms, nuclear size corrections to energy levels 9-36549
 local exchange potential giving correct asymptotic behaviour 9-45618
 many electron theory, state vectors and propagators, unified approach 9-6822
 many-electron atoms, orthogonal multidimensional ang. functions 9-13628
 model potentials, constructive theory 9-26869
 multiply charged ions, energy calcs., coupling schemes, diagram technique appls. 9-10007
 muonic atoms, energy levels of light hydrogen like and muonic atoms, nuclear size corrections 9-36549
 N-electron zero-momentum energy expressions, approx. wave function accuracy assessment criterion 9-3348
 negative ions, electronic structure, stabilisation calcs. using big mol. Gaussian SCF/CI program 9-18121
 nonlocal pseudopotentials, density functional formalism calcs. 9-41096
 nuclear screening parameters, using Hartree-Fock energy 9-6883
 open shell systems, wave operator hierarchy eqns. 9-41087
 open-shell systems, many-body perturbation theory, coupled cluster approach 9-31360
 orbitals, max. and min. overlap, localised, and hybrid, orthonormality-constrained variation method 9-6830
 positive ion behaviour in strong mag. field 9-35978

atomic structure continued

- positron + H(He), second-order nonadiabatic polaris. pot. for elastic scatt. 9-22836
- quantum defect theory, positive ion + electron system 9-13621
- relativistic HF eqn. from QED bound states 9-21992
- relativistic two-electron atom, level shifts, transition probabilities, perturbation theory 9-22001
- scalar particle in Coulomb and uniform mag. field (*Russian*) 9-3385
- scalar relativistic approximation 9-26899
- screened potential model, for at. energy levels and oscill. strengths 9-36516
- Singer polynomials, evaluation of matrix elements 9-6813
- single-term atomic state props., variationally optimised local central pot. calcs., $2 < Z < 55$ 9-41123
- singly ionised atom, excited state struct., electron correl., oscill. strengths, theory 9-6889
- solar coronal ions, proton excitations approximation, erratum and extension 9-35118
- spin permutation group for transpositions, elements of representation matrices 9-31358
- spin-dependent operators in the spin-free quantum chemistry 9-6817
- tensor operators, reduced matrix elements for L-S coupled, N-electron configurations 9-13625
- theory, history of developments in USSR 9-9069
- three-body problem, effective pots. in adiabatic representation 9-6819
- total HF SCF energy, of ats. and ions, approximation methods comparison 9-31366
- two-electron atom, long-range electron density, function reliability test 9-26875
- variational computations, containing nonlinear parameters, nonexistence of maxima 9-6816
- variational method, metric-constrained 9-22579
- virtual levels, in three-level atoms, definition 9-44671
- wave function asymptotic coeff. for electron in atom or ion 9-26871
- weakly ionised nonrelativistic atom, props., exchange effects 9-10008
- Z-expansion scheme, generalisation 9-36500
- Al($^{2p}_{3/2}$), at. quadrupole shielding factor 9-10222
- Ar, $1s2s3p^4P_{3/2}$ -state, relativistic effects and config. mixing 9-45640
- Au, atomic form factor, meas. using Bragg scatt. of 412 keV gamma-radiation 9-14734
- Be, isoelectronic sequence, pot. energy relationships 9-22584
- Bi, radial integral, polarisability and oscillator strength, Dirac eqn. calc. 9-22620
- C, asymmetric atom, case history for independent discovery, inductivistic model 9-25821
- C I, m-representation approach 9-45645
- Cs, core charge polarisation effects, dipolar contributions 9-45631
- F IV, m-representation approach 9-45645
- Ga, J_1J_2 transition from LS, revised assignments for $d^9s^2p^3$, $d^9s^2p^3$ 9-45630
- Ge, J_1J_2 transition from LS, revised assignments for $d^9s^2p^3$, $d^9s^2p^3$ 9-45630
- H, appl. of Schrodinger eqn. (*Hungarian*) 9-3339
- H atoms on liquid He surface, interaction and bound states 9-18131
- H, ground state energy in interacting system 9-18255
- H, parity mixing, relativistic neutral current interactions and nonrelativistic pots. 9-26908
- H, scalar relativistic approximation 9-26899
- H, wavefunctions, parabolic, polar, unitary transform. coeffs. (*Russian*) 9-3344
- H⁻, electronic structure, stabilisation calcs. using big mol. Gaussian SCF/CI program 9-18121
- H-like atom near metal surface, quasi-stationary spectrum 9-18132
- H-like atoms, bound states, $so(2,1)$ algebra 9-10016
- He, channel coupling array calcs. 9-31362
- He, isoelectronic sequence, pot. energy relationships 9-22584
- He, isoelectronic sequence, Schrodinger eqn. finite difference soln. 9-31373
- He, one-dimensional atom, bound states, for teachers 9-40317
- He-like ions, X-ray form factors and total scatt. X-ray intensities 9-10063
- He⁺+e⁻ system, complex quantum defects 9-13622
- H₂, energy levels and Debye screening, no evidence for red shift 9-31369
- I, state determ. following photodissoc. of KI, time of flight meas. 9-18105
- In, J_1J_2 transition from LS, revised assignments for $d^9s^2p^3$, $d^9s^2p^3$ 9-45630
- K, state determ. following photodissoc. of KI, time of flight meas. 9-18105
- Kr, atomic form factor, calculation from optimised potential model 9-6895
- Li, isoelectronic sequence, pot. energy relationships 9-22584
- Li⁺, S-autoionising states, energy calcs. 9-36520
- Li-like atoms, $^4S^0$ doubly excited states, orbital config. assignment 9-41118
- Mo XV, electronic struct. of complex ion, relativistic perturbation theory 9-22610
- N II, m-representation approach 9-45645
- N IV, dipole lengths, dipole vels. and transition probabilities 9-35113
- Ne V, m-representation approach 9-45645
- O III, m-representation approach 9-45645
- O V, O VI, dipole lengths, dipole vels. and transition probabilities 9-35113
- Pb, J_1J_2 transition from LS, revised assignments for $d^9s^2p^3$, $d^9s^2p^3$ 9-45630
- Pb radial integral, polarisability and oscillator strength, Dirac eqn. calc. 9-22620
- Pt group elements, singly ionised, $(5d+6s)^N$ electronic configs. (*French*) 9-22594
- Sn, J_1J_2 transition from LS, revised assignments for $d^9s^2p^3$, $d^9s^2p^3$ 9-45630
- Sr, Rydberg series, absorpt. by selectively laser-excited atoms 9-3390
- Tl, J_1J_2 transition from LS, revised assignments for $d^9s^2p^3$, $d^9s^2p^3$ 9-45630
- Tl, radial integral, polarisability and oscillator strength, Dirac eqn. calc. 9-22620
- U, atomic model 9-41095
- U⁺, atomic model 9-41095
- Uⁿ⁺ (n=0 to 6), electronic struct., multiconfig. Dirac-Fock calcs. 9-45646
- ²³⁴U, isotope shifts and inherent quadrupole moments (*French*) 9-7032

atomic structure continued

- Yb, scalar relativistic approximation 9-26899
- Yb³⁺, spectrum and energy levels 9-26916
- Zr XIII, electronic struct. of complex ion, relativistic perturbation theory 9-22610
- atomic structure, crystals** see *crystal atomic structure*
- atomic weight** see *atomic mass*
- atomi**
see also *exotic atoms; helium atoms; hydrogen neutral atoms; positronium*
parity nonconservation effects in ats. and ions 9-10086
- attaching** see *joining processes*
- attenuation** see *absorption; dispersion (wave); scattering; transmission*
- attenuation equalisers**
radiowaves, troposcatter channels and appls. of adaptive equalization techniques, statistical anal. 9-29841
- attenuation measurement**
atmospheric attenuation of 1.25 and 2.0 mm waves, radiotelescopic obs. 9-34897
frequency scaling of attenuation above 10 GHz due to rain, use of COM-SAT satellites 9-5595
optical fibres, graded index, observation of differential mode attenuation using OTDR 9-46085
satellite radio path at 20 GHz, measuring ATS-6 satellite and radar system 9-20912
seismic Rayleigh waves, inversion of global average group vels. and attenuation coeffs. 9-12090
seismic Rayleigh waves attenuation and group vel., regionalisation and pure path models 9-12091
thin film optical waveguide, attenuation due to roughness-induced mode coupling 9-10408
- attitude control**
artificial Earth satellites, low-altitude, appl. of altitude control techniques 9-25441
control moment gyroscopes, single-gimbal, geometric theory 9-21738
gyroscope speed-optimal EM correction of magnetized rotor (*Russian*) 9-9227
magnetic damper for satellite stability, asymptotic theory (*Russian*) 9-30496
orbital station, two-stage force gyroscopes system (*Russian*) 9-30458
rigid body attitude control in inertial space (*Russian*) 9-9101
satellite stabiliser system with 2-stage suspension, dynamics (*Russian*) 9-32222
Skylark rocket, using magnetometers and Moon sensor 9-25436
sounding rocket attitude estimation using star sensor data 9-25435
space station motion, mechanical model, rotational stability (*Russian*) 9-35095
Spacelab Instrument Pointing Subsystem 9-25447
- audio acoustics**
see also *audio recording; audio systems; hearing; speech*
finite element simulation of acoustic transmission system with radiation 9-3862
frequency analyzer for room quality meas. for HiFi (*German*) 9-46140
room acoustics and subjective sound perception, computer simulation (*Polish*) 9-7258
sound diffusion systems, fundamentals calc. (*Spanish*) 9-3855
- audio amplifiers** see *audio-frequency amplifiers*
- audio equipment**
see also *audio-frequency amplifiers; gramophones; loudspeakers; microphones; pick-ups*
architectural aspects, intelligible and uniform sound production in Westphalen Hall, Dortmund (*German*) 9-1029
distortions of audio instrums., pulse response and transient nonlinearities (*Japanese*) 9-18658
multichannel audio monitor for detecting electrical signals, neurophysiological expt. appl. 9-20694
polymer piezoelectric transducer appls. 9-32169
spatial hearing problems, stereophony, quadraphony appl. (*German*) 9-16213
stereophony, reproduction of sound effects using microphone and headphones (*German*) 9-37106
- audio-frequency amplifiers**
auditory training apparatus, individual for persons suffering from severe hearing loss 9-39590
- audio recording**
cinefilm, acoustoelectric data on 35 mm magnetic tapes, magnetic tracks for 70, 16 and 8 mm film prints (*Russian*) 9-18665
digital systems for use in cinematography (*Russian*) 9-27487
dual track sound, picture recording, mixing system, cinematography appl. (*Russian*) 9-17532
dummy head design comparisons 9-18656
equipment and services, 1979 video yearbook 9-14197
film soundtracks, low-cost pure, undistorted sound 9-27476
Fourier transform recording and playback system, hypothetical cct. and characts. 9-3879
limiter, frequency-selective, for correction of speech sound track defects (*Russian*) 9-27486
motion picture sound recording and reproduction using a holographic method (*Russian*) 9-10273
PCM audio disc (*Japanese*) 9-27484
photographic sound tracks, increasing quality for release prints, direct positive recording process (*Russian*) 9-9255
sound stage, cinema acoustics (*Russian*) 9-18609
- audio systems**
see also *acoustic devices; acoustic equipment*
echo and reverberation generation, electronic ccts. (*German*) 9-32138
room acoustics and audio visual design for board rooms 9-37092
sound diffusion systems, fundamentals calc. (*Spanish*) 9-3855
- auditory activity** see *hearing*
- auditory perception** see *hearing*
- Auger effect**
actinides, K-shell fluorescence yields from Auger electrons and X-rays, precision meas. 9-31462
AES, anal. techniques 9-43691
AES, electronics design 9-30615
AES, quantitative, parameters, appls. 9-43697
alkali halides, photoelectric yield spectra, 10 to 40 eV photon energy 9-28887

Auger effect continued

- APS, extended fine struct. analysis 9-28863
 atom, outer shell ionisation, ang. distrib. and polaris. of charact. X-rays and Auger electrons 9-10205
 atom+heavy ion, K-shell excitation, absolute cross section, $0 < Z < 11$, 40-600 keV 9-41231
 beam brightness modulation, in Auger scanning microscopy 9-16097
 binary alloys, homogeneous, surface anal. using quantitative AES 9-24395
 bremsstrahlung-induced Auger peaks, utility in spectroscopy 9-30618
 cascade background correction, Auger peaks, Cu(110) surface appl. 9-43079
 cathode workshop, conf., Washington, DC, USA (Jan.-Feb. 1978) 9-43068
 coating chemical characterisation by surface and near-surface sensitive techniques 9-15053
 deconvolution, electron loss data as unit impulse response function 9-9265
 depth profiling techniques for thin film interdiffusion and interfacial reactions, book contrib. 9-1564
 digital acquisition and processing, of Auger spectra 9-43698
 electron energy loss struct. in Auger anal. 9-47559
 electron ion collisions, distorted wave theory, Auger ionis. and excitation fluoresc. 9-7018
 electron spectroscopy appls., review (*Japanese*) 9-40645
 electron stimulated desorption data, chemisorbed systems, reinterpretation in Auger decay model 9-42375
 fracture, ionisation wave generation, microbreakdown mechanism 9-33032
 geometrically induced structure on SXAPS and Auger electron appearance potential spectra 9-38695
 III-V semiconductors, Auger coeffs. calc., appl. to GaSb 9-15160
 impurity flux in scrape off layer of Tokamaks TFR 400 and 600 9-652
 Incoloy 800, high temp. oxidation in low O_2 pressures, SEM obs. of oxide morphologies, Auger spectra 9-47844
 ion bombarded surfaces, energy analysed SIMS with Auger and XPS meas. 9-4457
 ion deposition techniques, AES exam. of surface cleaning methods 9-15878
 ion-bombardment Auger spectroscopy for studying surfaces of solids 9-20497
 light metal, surface effects on X-ray level widths 9-47147
 metal embrittlement, Auger electron spectrographic anal. (*Chinese*) 9-38982
 metallurgy, use of combined ion-, electron-beam techniques 9-43700
 micro-organisms irradiated with monoenergetic X-rays, biological consequences of Auger effect 9-11969
 microanalysis, general principles, experiments and appl. (*French*) 9-8468
 microanalysis of solid matter in a scanning electron microscope (*Czech*) 9-8465
 microbeam anal., conf., Ann Arbor, MI, USA (June 1978) 9-39258
 MIS structures, AES depth profiles, factors affecting depth resolution 9-15567
 molecular break-up in mol. ion collision with solid and gaseous targets 9-45814
 monolayer coverage, determ. by AES, appl. to C on Pt 9-46916
 π -n structure, forward biased, with band to band Auger recombination, numerical simulation 9-7879
 photoelectron spectra formation in upper atmosphere, role of Auger processes 9-2403
 photon-induced Auger emission, deep-hole interferences 9-43098
 pollutant particles, characterised by AES and XPS 9-43694
 pyrographite, surface struct., amorphisation, secondary electron spectra and AES 9-43077
 Rydberg states, Auger and radiative transition probabilities 9-6923
 scanning Auger microanalysis, charge buildup reduction technique 9-17569
 scanning Auger microanalysis, review 9-43699
 scanning Auger microscopy, effect of backscatt. electrons on resolution 9-2898
 scanning electron excited AES, appl. to cathode studies 9-40643
 scanning electron microscope with field emission gun for solid surface studies (*Czech*) 9-6240
 SEM, edge effect, Monte Carlo simulation 9-1801
 SEM, synchronous modulation technique 9-17570
 SEM voltage contrast mode at semiconductor surfaces and Auger electron spectroscopy, anal. of conditions (*Czech*) 9-35897
 semiconductor, Auger recombination, carrier density depend. 9-38089
 semiconductor, Auger transition probability, phonon-assisted 9-15120
 semiconductor, highly doped and highly excited, Auger coefficients 9-19606
 semiconductor, recombination enhanced defect reactions 9-38094
 semiconductor wafer defects, study by ASLEEP, SEM and scanning AES 9-19256
 semiconductors, Auger and radiative recombination of acceptor bound excitons 9-47023
 semiconductors, Auger recombination processes 9-38091
 semiconductors, recombination processes, review 9-38088
 lane layers, reactive ion etching and Auger electron spectra 9-24394
 FMS-AES-X-ray photoelectron spectral analysis system, for solids anal. 9-39268
 FMS/AES, instrumentation and appls. in Japan 9-35883
 solid surface and thin film anal. methods, review 9-34410
 spectrometer, with electrostatic prism electron optics 9-29437
 spectroscopy, data acquisition control using HP 9845 desktop computer 9-21726
 steel, austenitic stainless, grain boundary segregation studies, intergranular fracturing technique for stress corrosion cracking investigation 9-39057
 steel, austenitic type 304, temper embrittlement and surface segregation an AES and ionization loss spectroscopy study 9-43372
 steel, C-Mo-P, intergranular fracture and grain boundary segregation, P, H, Mo effects (*Japanese*) 9-15775
 steel, cold-rolled, good and bad paintability, AES, SEM and X-ray diff. characterisation of surfaces 9-42344
 steel, low alloy, Mn determ. by AES and APS 9-48001
 steel, low-C, structural, with Zr impurities, grain boundaries, AES 9-24524
 surface analysis, spectroscopic methods, review (*Chinese*) 9-34414
 surface composition, quantitative anal., review 9-24854
 surface impurities during start up and early operation of ISX-A, surface anal. with sample transfer 9-654

Auger effect continued

- surface topography development during depth profiling in AES, sputter-etching effects 9-46900
 thin film analysis and characterisation, conf., Les Arcs, France (Jan. 1978) (*French*) 9-8466
 Tokamak discharge chamber, AES anal. (*Russian*) 9-4163
 transition energies, frozen orbital calc. method 9-18168
 transition intensities, calc. for quantitative solid surface analysis using AES (*German*) 9-34400
 transition metal carbonyl complexes, UV and X-ray photoelectron spectra, effect of adsorbed CO 9-4897
 transition metal oxides, UPS, LEED and AES studies of mol. adsorption 9-4480
 ultrathin film thickness meas. by AES 9-35663
 vacuum vessel wall surface conditions, long term changes, PLT appl. 9-653
 $AR+N^+(O^+)$, electron emission, double differential cross sections, Auger spectra 9-45684
 Ag-Au alloy, ion irradi., surface segregation and selective sputtering, AES expts. 9-7740
 Al (100) surface, prep. and props. of Pb and Sn monolayers 9-15018
 Al, adsorption of O_2 , AES, XPS, and LEED obs. 9-46938
 Al, Auger electron microscopy, edge effect, Monte Carlo simulation 9-1801
 Al, bulk and surface plasmon loss intensities in XPS, Auger and electron energy loss spectra 9-38012
 Al, chemisorption of CO, interatomic Auger transition spectroscopy 9-7747
 Al, corrosion-protective chromate coatings, characterisation 9-47798
 Al, initial oxidation, interatomic Auger transition spectroscopy 9-7746
 Al, L_{23} shell ionisation cross-section under H^+ , heavy-ion impact, Auger spectra (*French*) 9-24406
 Al surface, Ar^+ and e^- excited Ar Auger electron emission 9-47560
 Al/NiSi/Si system, high temp. interaction study, elec. and struct. characts., AES meas. 9-24075
 Al-Cu (4.2 wt.%), precipitation strengthened, solute depletion at fatigue facets, AES study 9-38973
 Al_2O_3 , valence band density of states from self-deconvolution of $L_{23}VV$ Auger spectrum 9-47561
 Ar, Auger electron emission from ion-solid collision (*French*) 9-33876
 Ar, multiply excited, inner level X-ray emission spectra, line widths and Auger transition rates 9-36575
 Au, chemisorption of O_2 , catalytic effect of Ca, AES study 9-15021
 Au, thin film, electrotransport-induced failure site, minor constituents effects 9-23763
 Au very thin film on MgO (001) surface, AES obs. 9-33870
 B^+ , beam-foil excitation; absolute Auger yield meas. 9-45685
 Ba, adsorbed layers on W, Auger and work function meas., impregnated W cathode model 9-43073
 Ba-O system, adsorbed layers on W, Auger and work function meas., impregnated W cathode model 9-43073
 BaO films on Ir, thermionic props., Auger, LEED, and emission microscopy 9-43089
 BaO surface, AES peak height calibrations 9-43072
 BaTiO₃ surface voids, Auger spectrochem. anal., organic contamination 9-24467
 BaTiO_{3-x}, ferroelec., Auger spectroscopy of surface layers 9-42343
 BiF₃ thin films, optical props. 9-32005
 C films, surface struct., graphitisation, secondary electron spectra and AES 9-43077
 C^+ , beam-foil excitation; absolute Auger yield meas. 9-45685
 CaO surface, AES peak height calibrations 9-43072
 $Cd+H^+(He^+)$, L- and M-shell Auger electrons 9-27076
 $Cd_{1-x}Hg_x$ -Te, photodetectors, recomb. processes, photoconductive decay obs. 9-38129
 $Cd_{1-x}Hg_x$ -Te, Auger effect, temp. depend. of Auger lifetime 9-38097
 CdS, Auger excitation mech. of 1.6-2.0 micron luminesc. band 9-8184
 CdS:Li, TSC and optical photocurrent quenching spectra, Auger excitation of recomb. centres 9-33294
 Co (1012), struct. and CO chemisorption obs. 9-4474
 Co-Sn alloy, electroplated, oxide films, XPS/AES expts. 9-15862
 CoAl, compositional depend. of oxidation rates 9-8393
 Cr, AES meas. of soft X-ray emission threshold potential (*Russian*) 9-33866
 Cr, oxide film form., combination anal. using ESCA, AES and SIMS 9-16092
 Cr-Au, matrix sensitive and insensitive factors evaluation using quantitative AES 9-24395
 Cu (100), coadsorption of Pb and Bi, LEED and AES meas. 9-15017
 Cu, AES excited by X-rays, satellite lines 9-33893
 Cu, adsorption of Pb on stepped and low index surfaces, LEED, AES and desorption anal. 9-46942
 Cu, Auger M₁VV line shape, bandlike and atomlike features 9-43075
 Cu, Auger-photoelectron coincidence measurements 9-19968
 Cu film on Ni, AES comparison of ion plated and vacuum evaporated films 9-28250
 Cu-Ag, Auger spectroscopy, effect of composition on matrix parameters (*German*) 9-11489
 Cu-Ni, initial oxidation study by microprobe-AES method (*Japanese*) 9-15867
 Cu-Ni, preferential sputtering Auger electron spectra obs. 9-33880
 Cu-Ni alloys, surface comp. and catalysis, AES and thermal desorption meas. 9-46898
 Cu-Ni film, coevaporated, AES anal. and ion sputtering effects 9-15044
 Cu-Sn, Sn surface segregation in monolayer regime, model of kinetics and equilib., AES data explained 9-7739
 $Cu_{0.7}Al_{0.3}$, chemical effect on valence electronic states, AES and SXAPS meas. 9-47558
 Cu_2NiO_4 , protective oxide film on Cu-Ni alloy, AES 9-39035
 Cu₂O solar cell, low barrier heights, Auger spectra obs. 9-15224
 Cu₂O-Au(Mg)(Mn)(Yb) Schottky barrier solar cells, surface anal. using AES 9-43759
 $Cu_{0.75}Pb_{0.25}$, chemical effect on valence electronic states, AES and SXAPS meas. 9-47558
 $Cu_{0.67}Sb_{0.33}$, chemical effect on valence electronic states, AES and SXAPS meas. 9-47558
 Cu_2-S on CdS, low temp. growth, AES obs. 9-28924
 $Cu_{0.5}Si_{0.5}$, chemical effect on valence electronic states, AES and SXAPS meas. 9-47558
 EuO (100), disordered, LEED and electron spectroscopy 9-28178
 Fe surface, form. and decomp. of nitrides 9-24831

Auger effect continued

- Fe, surface films formed in inhibitive solns., optical props., protective quality 9-20260
- Fe-CR alloys, ion-etched, surface comp., effect of adsorbed CO, AES obs. 9-46896
- Fe-Cr-Mo(Ni)(Mo-Ni), AES using peak-to-peak value (*Japanese*) 9-20485
- Fe-Ni alloy, anodic oxide film formed in $H_3BO_3-Na_2B_4O_7$ soln., exam. of in depth profile by AES and sputter etching 9-20247
- Fe-Ni-Cr, oxide film form., combination anal. using ESCA, AES and SIMS 9-16092
- Fe-Si, (3wt.%) alloys, grain boundary anal., scanning AES 9-43256
- FeTi, surface segregation and catalytic effect on hydrogenation, AES and XPS study 9-11626
- α -Fe(111), adsorption of water under the influence of 2.5 keV electrons 9-28199
- GaAs, adsorption of O_2 , adsorption states and Ga depletion, UPS, AES, and thermal desorption meas. 9-46952
- GaAs:Sn films, MBE grown, doping profiles, carrier mobilities, RHEED and AES obs. 9-1447
- GaAs-Au Schottky barriers, PES and depth profiling obs. 9-42641
- GaP surface, Ar^+ and e^- excited Ar Auger electron emission 9-47560
- GaSb-Au Schottky barriers, PES and depth profiling obs. 9-42641
- GaSb $_{1-x}As_x$, disorder-enhanced Auger recomb. 9-43014
- GdF $_3$, chemically reacted film on ferroelectric-ferroelastic Gd $_2$ (MoO $_4$) $_3$, characterisation 9-15057
- GdFe $_2$ films, electron beam deposited, amorphous and cryst., mag. and struct. props. 9-4710
- Ge, direct gap recombination, at high excitation level and low temp. 9-38650
- HCl, mol., XPS and KLL Auger effect, line shifts 9-31602
- $H^+(H_2O)_n$, secondary electron emission from charged clusters on 2.4 keV Ar bombarded surfaces 9-15580
- $H^+(NH_3)_n$, secondary electron emission from charged clusters on 2.4 keV Ar bombarded surfaces 9-15580
- H_2S , mol., XPS and KLL Auger effect, line shifts 9-31602
- nHg $_{1-x}Cd_xTe$, single-phonon and plasmon recomb. lifetime effect, with magnetically tuned bandgap 9-38098
- III-V alloys, disorder-enhanced Auger recomb. 9-43014
- In-In $_2O_3$ -Pb tunnel-junction barriers, evidence for chemical annealing effects 9-42701
- InAs $_{1-x}Sb_x$, disorder-enhanced Auger recomb. 9-43014
- InP (100) surfaces, chem. treatment effects on comp. and nature 9-47794
- InP, anal. of anodically oxidised (111) layers by MeV $^4He^+$ channelling effect meas. and AES 9-4492
- InP-Au Schottky barriers, PES and depth profiling obs. 9-42641
- Ir (110), chemisorption of O_2 , sorption and dissoc. kinetics 9-33186
- Ir, chemisorption of CO on clean and oxidised (110) surfaces 9-11015
- Ir(110)(1 \times 2) reconstructed, adsorption, of S, AES study 9-42384
- K $_2O$ -SiO $_2$ glass, AES obs. of K $^+$ electromigration to surface under electron bombardment (*French*) 9-33869
- LaNi $_2$, surface segregation induced by O_2 , LEED and AES exam. 9-11009
- Li, Auger line shape KVV, energy band theory 9-43074
- Mg, AES, KLL spectra, and plasmon struct. 9-15592
- Mg, $L_{2,3}$ shell ionisation cross-section under H^+ , heavy-ion impact, Auger spectra (*French*) 9-24406
- Mg surface, Ar^+ and e^- excited Ar Auger electron emission 9-47560
- Mg, transition energies calc. 9-18168
- Mg-Cd, plasmon loss and plasmon gain, X-ray photoemission and AES 9-23918
- MnZn ferrites, doped; determ. of grain boundary composition, using Auger spectroscopy (*German*) 9-23618
- Mo, and oxides, AES expts., chem. shift and beam effects 9-15566
- Mo, coadsorption of CO $_2$ and O_2 , AES and SIMS obs. 9-46928
- Mo, sintered, thermally induced surface composition variations 9-5078
- MoO $_3$, AES expts., chem. shift and beam effects 9-15566
- MoSi $_2$ sputtered films, protective layer form. on oxidation, Auger anal. and backscatt. meas. 9-15029
- N^+ , beam-foil excitation; absolute Auger yield meas. 9-45685
- NH $_3$, solid, AES excited by X-rays 9-33894
- Na, AES, KLL spectra, and plasmon struct. 9-15592
- Na, Auger electron emission from ion-solid collision (*French*) 9-33876
- Na, metallic, Auger cross relaxation energy, SCF cluster model calc. 9-46945
- Na, transition energies calc. 9-18168
- NaCl, mechanoluminesc. peaks, microbreakdown mechanism, generation of ionisation waves 9-33032
- Nb foil, oxidized, electron irradiation damage, AES study 9-28015
- Nb, interaction with O_2 , AES and low-energy SIMS meas. 9-47832
- Nb $_2$ G films, prep. by DC sputtering and solid state diffusion, supercond. props. and struct. 9-38212
- Nb $_2$ Ge, high T_c films, electron tunnelling and AES anal. 9-28471
- Nb $_2$ O $_5$, electron irradiation damage, AES study 9-28015
- Ne, Auger electron emission from ion-solid collision (*French*) 9-33876
- Ne, electron impact ionisation yield model 9-45851
- Ne, foil excited, 6 to 10 MeV, equilibrium K-shell excitation 9-22817
- Ne, K- $L_{2,3}L_{2,3}$, post-collision interaction Auger effects 9-45686
- Ne, transition energies calc. 9-18168
- Ni (001), geometrically induced structure in SXAPS and Auger electron appearance potential spectra 9-38695
- Ni (100), clean and halcogen-covered, electron ejection by metastable He atom impact 9-8217
- Ni (110), interaction with O_2 , electron energy loss spectra and AES obs. 9-47826
- Ni, (110) and (111) surfaces, oxidation exam. at room temp. by combined SIMS-AES/LEED method 9-20241
- Ni (111), C monolayer phase condensation, LEED and AES obs. 9-46960
- Ni, AES meas. of soft X-ray emission threshold potential (*Russian*) 9-33866
- Ni, oxidation, chemisorption and oxide nucleation stages, low-energy SIMS and AES obs. 9-43083
- Ni/Fe interfaces sputter profiling, by AES 9-15572
- Ni/Fe layers, interdiffusion, Auger sputter profiling obs. 9-46848
- Ni-Fe reed contact, Au-plated, submicron Auger spectroscopy exam. 9-15027
- Ni $_3$ C formation and decomposition during evaporation of Ni onto graphite 9-15055
- Ni(110) surface, AES (*Dutch*) 9-1802
- Auger effect continued**
- O^+ , beam-foil excitation; absolute Auger yield meas. 9-45685
- P^+ , beam-foil excitation; absolute Auger yield meas. 9-45685
- PH $_3$, mol., XPS and KLL Auger effect, line shifts 9-31602
- PLTZ, thin film epitaxial growth and characteris. 9-28918
- Pb overlayers, on Cu substrate, oxidation, AES and XPS obs. 9-47833
- PbSnTe-like semicond., Auger recomb., nonparabolic approx. 9-15161
- Pb $_{1-x}Sn_xTe$, epitaxial layers, carrier lifetime meas. 9-42559
- Pb $_{1-x}Sn_xTe$, small-gap, recomb. mech. 9-38099
- PbTe, epitaxial layers, carrier lifetime meas. 9-42559
- Pd-Ni alloys, surface comp. and catalysis, AES and thermal desorption meas. 9-46898
- Pd-silicate transport in Si-Pd $_2$ Si-Si, correl. with C contamination 9-4491
- Pt, adsorption of O_2 , surface struct. depend., LEED, AES, and electron energy loss spectra 9-46934
- Pt electroplated film, Schottky barrier metallisation, Au diffusion, AES obs. 9-14968
- Pt-Ir alloys, surface composition 9-19433
- Pt-Pd(Au) alloys, surface comp. and catalysis, AES and thermal desorption meas. 9-46898
- Pt $_2$ Si film formation, AES exam. to characterise impurity effects 9-15054
- Se, $L_2M_{4,5}M_{4,5}$ Auger spectrum following photoionisation, post collision interaction, chemical shifts 9-22678
- Si, 1-10 keV H^+ , He^+ irradi., role of Auger processes in electron emission 9-15579
- Si (111) surface, 1-3 keV He^+ , Ne^+ , Ar^+ , Xe^+ bombard., AES obs. 9-33877
- Si, adsorption of O_2 , early stages, AES, LEED, and XPS obs. 9-46937
- Si, Auger line shape $L_{2,3}VV$, energy band theory 9-43074
- Si, Auger recomb. coeff. meas. using laser excitation 9-38654
- Si, Auger recombination, localized and free carrier comparison 9-38090
- Si diode, transient switching duration, linear carrier lifetime, emitter efficiency and Auger recomb. coeff. determ. 9-11207
- Si, early oxidation stages, AES study (*French*) 9-8379
- Si films, electron-beam-deposited on W substrates, growth and struct., AES and SEM obs. 9-46972
- Si, nonradiative recombination and luminesc. 9-33770
- Si surface, Ar^+ and e^- excited Ar Auger electron emission 9-47560
- Si:B, ion implantation using B $_2O_3$ -B mixture, Auger spectra, channelling anal. 9-4317
- Si-SiO $_2$ interface, intermediate chem. state of Si during sputter profiling, Auger spectra 9-11230
- SiC, thermal oxide layers, AES depth-profiling anal. 9-43454
- SiH $_4$, mol., XPS and KLL Auger effect, line shifts 9-31602
- SiO $_2$ glass, AES anal. (*French*) 9-39236
- SiO $_2$, surface defect studies, AES, theoretical model, and expt. 9-7738
- SiO $_2$, valence band density of states from self-deconvolution of $L_{2,3}VV$ Auger spectrum 9-47561
- Sn, chemisorption of O_2 , AES and EELS study 9-46917
- SnO $_2$ /Sb film, DC sputtered, correspondence between Sb content and targets 9-23847
- Sr, ejected-electron spectrum, autoionisation 9-22843
- SrO surface, AES peak height calibrations 9-43072
- Ta surface, effect of C oxidation on work function, 1250-2000K, AES 9-24054
- TaO $_n$, combined SIMS, AES and XPS investigation 9-33199
- Ta $_2$ O $_5$, anodic, sputtered, equilib. surface comp., mass and energy depend. 9-19472
- Ti, AES meas. of soft X-ray emission threshold potential (*Russian*) 9-33866
- Ti, electropolishing in perchloric acid-acetic acid soln., AES study of anodic films 9-5072
- Ti film electrode, oxidation, electrochem. and surface analytical characterisation 9-39034
- Ti surface, Ar^+ and e^- excited Ar Auger electron emission 9-47560
- Ti-Al-V-Sn (6,6,2 wt.%), H_2 induced crack growth, in-situ scanning Auger anal. 9-8355
- Ti-W/Au, Auger depth profile anal. 9-23868
- TiC, CVD and activated reactive evaporation on WC-TiC-Ta(Nb)C-Co, substrate-layer interactions, AES obs. 9-24679
- TiC $_x$ film, formation by hollow cathode discharge reactive deposition process, on mild steel sheet 9-24451
- TiH $_2$ film electrode, oxidation, electrochem. and surface analytical characterisation 9-39034
- UO $_2$ (\sim 100), vicinal surfaces, LEED and AES expts. 9-4464
- W (100), adsorpt. of acetylene, room temp., electron spectroscopy obs. 9-7749
- W (100), coadsorption of CO and H_2 , CO/H surface complex obs. 9-4478
- W (100), desorption of O_2 , electron desorption cross sections 9-46944
- W (110), adsorpt. of N $_2$, N $_2O$, and NO $_2$ /N $_2O_4$, 300K and 100K, XPS, UPS, and XAES 9-28203
- W (110), adsorpt. of NO, 300K and 100K, XPS, UPS and XAES 9-28204
- W (111), adsorption of O_2 , AES, LEED and electron stimulated desorption obs. 9-46935
- W {001} (1 \times 1) \rightarrow ($\sqrt{2}\times\sqrt{2}$)R45 $^\circ$ surface struct. transition, LEED, AES, and work function meas. 9-42348
- W, clean and oxidised, mol. binding states of SiO 9-7750
- W, surfaces (100) and (110), adsorbed O electron stimulated desorption, combined method using LEED and AES 9-33181
- W(111), chemisorption of ethane, AES and LEED pattern exam. 9-15005
- Xe, N-shell Coster-Kronig transitions 9-13691
- Zn+ $H^+(He^{2+})$, L- and M-shell Auger electrons 9-27076
- ZnO, (0001) surface, clean and O adsorbed, AES and refl. electron energy loss spectra 9-46927
- ZnTe (110) and (111) surfaces, O_2 adsorption, electron energy loss and Auger spectra 9-47568
- Auger electrons** see Auger effect
- Auger showers** see cosmic ray showers and bursts
- Auger spectra** see Auger effect
- Auger spectroscopy** see Auger effect
- augmented plane wave calculations** see APW calculations
- aural null direction finders** see radio direction-finding
- aurora**
- see also airglow; atmospheric electron precipitation; atmospheric proton precipitation; atmospheric spectra
- ARAKS Project 9-21021

aurora continued

- artificial, optical equipment for detection during ARAKS expt. 9-21075
 artificial aurorae obs. in conjugate region during ARAKS expt., TV system 9-21074
 auroral activity, 1962-1978 period 9-39999
 brightness monitoring, rocket studies, using 2972 Å photometer 9-25334
 characteristics of auroral forms 9-8738
 D-region, NO prod. rel. to winds and electron densities time vars. correl. 9-25389
 diffuse auroral precipitation mechanisms 9-12327
 diffuse auroral zone, form. and dynamics of polar edge of ionospheric trough 9-8743
 discrete aurora mechanisms, review 9-8737
 E-layer, auroral, seasonal vars. 9-8746
 E-region, plasma lines meas. 9-25386
 effect on fair weather electric field 9-44285
 electron precipitations and polar auroras 9-29932
 electrons, pitch angle and energy distrib., ESRO 4 satellite obs. 9-29921
 electrons, spatial distrib. rel. to high-latit. ionosphere cond. 9-12334
 equatorward auroral boundary characs. near midnight from DMSP images 9-16733
 equatorward extent (1973-4) of auroral activity 9-12328
 European Incoherent Scatter (EISCAT) project for auroral ionosphere study (*French*) 9-2437
 fading before breakup, obs., rel. to substorm expansion 9-2420
 filamentary auroral arc, as source of travelling ionospheric disturbance obs. by radar 9-48610
 ground level electric potential gradient, auroral effects on slow vars. and short-period pulsations 9-12188
 infrasonic waves and auroral electrojet 9-35023
 intensity and electron flux, in situ rocket meas. 9-39998
 ionosphere electron density and temp. meas. by sounding rockets 9-8760
 ionosphere F-region ionisation, role of auroral particle precip. 9-44296
 magnetosphere morning sector, auroral electron discontinuity location meas. by Molniya-1 satellite 9-8778
 midday discrete auroral gap 9-2421
 optical emission height profiles of medium intensity aurora 9-40002
 optical emissions, near steady state conditions obs. rel. to precip. and high-latit. ionosphere 9-40000
 optical observation systems for the ARAKS experiment 9-21073
 particles precipitation, influence of ring current and plasma sheet drift instabilities 9-12351
 photometric systems, comparison at observatories in Arecibo and Stara Zagora 9-48575
 Photozavv modulation photometer for artificial aurorae/airglow 9-21076
 poleward leaps of auroral zone activity rel. to plasma sheet recoveries 9-25401
 pulsating aurora, 3 Hz modulation rel. to pitch angle diffusion instabilities 9-25391
 pulsating aurora, comments and reply on morphology 9-25383
 pulsations, harmonic anal. 9-8736
 quiet time arc pattern rel. to interplanetary magnetic field 9-25382
 radio absorption obs. by riometers rel. to 10-80 keV electron precip. at geosynchronous orbit 9-48606
 secondary electrons spectrum at low altitudes, collisionless effects 9-40008
 sheet-like auroral ionospheric irregularities 9-35033
 solar cycles during 1540-1700 period, from solar and auroral obs. 9-21267
 spectrum vars. at latit. of polar cleft 9-25384
 stable auroral red arcs, rel. to ionosphere scintillation producing irregularities horizontal struct. 9-12339
 STARE: a new radar auroral backscatter experiment in northern Scandinavia 9-39977
 statistical auroral ovals, comparison of all-sky camera photographs and satellite photographs 9-48599
 storm time auroral ionosphere, anomalous transport coeffs. effect on thermal struct. 9-16743
 substorm absorption events, at low auroral latits., apparent equatorward propag. 9-8769
 substorm expansion phase, ionospheric currents and elec. field vars. assoc. with absorpt. spikes 9-35039
 substorms, morphology of N and NO 9-48607
 sunspot period stability investigation by periodic anal. of aurora and earth-quake records in ancient China (*Chinese*) 9-21253
 type-B, obs. and interpretation of spectra and rapid time vars. 9-40001
 UVB photometry, at geographic latat. 69°22' north 9-44376
 UVB stellar photometry from N.Norway during auroral activity, technique and results 9-40084
 visible arcs, precip. primary electrons and bremsstrahlung X-rays, satellite correlated obs. 9-35029
 N I (²D) 5200 Å emission, prod. in auroral zone 9-21090
 N(²D)+O₂ as source of O(¹D) atoms 9-35028
 NO₂, continuum emission in aurora 9-2422
 O I 6300 Å, ionospheric luminesc. amplification by radiowave anomalous absorpt. (*Russian*) 9-29925
 O I 7990 Å branching ratio, lab. study, rel. to airglow and auroral emissions 9-775
 O II forbidden line emission, 7320-7330 Å, intensity ratio and centre wavelengths 9-44284
 O(¹S) production indirect mechanism in aurora 9-48597
 O(¹S) source in aurora, energy transfer from excited N₂ and O₂ 9-48598

auroral ionisation see aurora**austenitic stainless steel**

- acoustic emission during cyclic deformation (*Japanese*) 9-43314
 austenite stabilisation by H cathodic impregnation (*German*) 9-47680
 cladding, in LWR primary circuit, stress-corrosion cracking 9-20293
 cold working type, heat treated, tool wear during cutting 9-47782
 cooling sensitization, continuous, exam. in type 304 9-29098
 creep deform. effect on struct. of twin boundaries 9-8332
 creep deformation, effect on grain boundary struct. on type 800 alloy at 800°C, TEM study 9-38885
 deformation induced cavitation, exam. 9-43363
 DIN 1.4970, influence of He on high temp. mech. props. 9-7636
 dynamic recrystallization kinetics 9-47731
 elastic moduli exam. after thermomechanical treatment in 13Kh18N10G3S2M2 (*Russian*) 9-24558
 electron transmission microscopy, microstructural zones (*Spanish*) 9-39059
 fatigue, low cycle, temp. and strain rate effects (*Japanese*) 9-29198

austenitic stainless steel continued

- fatigue crack propagation in single crystals, orientation depend. 9-29167
 fatigue endurance rel. to test piece size, corrosive environment effects (*Russian*) 9-29270
 fusion reactor first wall material, radiation damage by simultaneous accelerator microscope irradi. 9-45402
 grain boundary segregation studies, intergranular fracturing technique for stress corrosion cracking investigation 9-39057
 heat conductivity, low temp. mag. susceptibility meas. (*Chinese*) 9-47080
 high Mn, thermally induced segregation 9-4971
 HVEM irradi., point defect trapping influence on void swelling 9-23652
 intercrystalline corrosion in low and high oxidizing environment (*Russian*) 9-43477
 life prediction of high temp. low cycle fatigue, strain rate effect 9-8360
 matrix precipitation of Cr₂N, due to P addition, TEM exam. 9-4973
 mechanical properties in liq. Na, review 9-20150
 NbC precipitate particles, size distrib., TEM study of grain to grain variations 9-29066
 neutron irradiated, type 316, ferrite formation, study by mag. meas. and TEM 9-37742
 nuclear reactor structural material, effect of irradi. and other factors on fatigue crack propagation 9-20194
 oxide film morphology, irradiation effects in N₂O₄ (*Russian*) 9-33209
 porous fibre, sintered and compacted, mech. props. 9-15623
 potentiostatic tests, on type 317L, use of free-corrosion potential time transients to distinguish between pitting and crevice corrosion 9-39058
 reactor fuel assemblies, postirradiation mechanical props. of honeycomb spacer grids 9-36324
 recrystallization after hot rolling 9-47734
 sensitized, type 304, intergranular corrosion fatigue crack growth in oxygenated pure water at 85°C 9-47814
 stability, deform. rel. to γ - α transform. kinetics 9-24522
 stacking fault energy rel. to mech. props. (*French*) 9-43339
 steel, austenitic stainless, type 304, exam. of continuous cooling sensitization 9-29098
 stress corrosion cracking, environments responsible 9-20242
 stress corrosion cracking, exam. of inhibiting action of Pb²⁺ 9-20249
 stress corrosion cracking at low stress intensity factors 9-29264
 stress corrosion cracking in high temp. water, effect of environmental factors 9-1924
 stress corrosion cracking in high temp. water, surface prep. effect 9-5088
 structure and mech. props. under low temp. deform. under linear and plane stress conditions 9-1902
 sulphidation, rel. to Fe-Ni-Cr-S phase relations 9-38800
 surface films grown in Cl⁻ solns., ellipsometric investig. 9-20261
 V alloyed, creep inhibition at grain boundaries, dislocation struct., TEM study 9-43346
 vacancy porosity, effect of Soviet BR-5 reactor operating conditions 9-32990
 void-swelling, in type W 548 20% cold worked irradiated with 22 MeV C²⁺ ions or 46 MeV Ni⁸⁺ ions 9-37744
 weldments, creep fracture, correlation with time-temperature parameters 9-29219
 Cl⁻ stress corrosion cracking, forming process of fan-shaped pattern 9-20287
 Cr-Ni, 316 type, electron irradiated, void swelling 9-42104
 D depth distrib. determ. using D(³He,p)⁴He 9-4326
 H trapping studies in fusion first wall materials 9-45407
 Mo effect on mech. behaviour in inert medium and hot Cl⁻ medium (*French*) 9-43482
 Ni-Cr-Fe, AISI 316, irradiation effects on phase stability 9-11566
 Ni-free austenitic stainless steel, corrosion obs. 9-24652

austenitic steel*see also austenitic stainless steel*

- AISI 310, creep damage and rupture 9-20127
 austenitic solid solution, chem. evaluation of B and its correlations with hardenability and hardness (*German*) 9-39230
 bainite, formed from deformed austenite, morphology and mech. props. 9-43345
 carburising in vac., rate, austenite grain size, C distrib. 9-20277
 cold worked, derivation of simple void-swelling equation 9-7631
 corrosion resistant, review of heat treatment, mech. and corrosion resist. characts. (*Korean*) 9-24653
 corrosion under boiled conditions, Mossbauer spectroscopy study 9-47800
 creep fatigue cycling, electric crack growth 9-29209
 decomposition, controlled rolling rel. to substruct., props. 9-29014
 deformation under modified ausforming (*Japanese*) 9-11673
 diffusion couple with C steel, diffusion of C, 773-1373K 9-19392
 fatigue after plastic deform. sequences (*French*) 9-20131
 fission reactor component reliability, non-destructive testing and flaw evaluation (*French*) 9-24711
 fracture toughness meas. by Charpy impact testing, welding, heat treatment, neutron irradi. effects 9-5062
 grain size before quenching rel. to mech. props. of type 30KhGSA 9-24553
 heat treatment, preliminary, cold deform., elec. heating rel. to mech. props. of type 30KhGSA 9-24554
 high-speed, austenite grain growth, W addition effects 9-20085
 hot-worked, subgrain struct., X-ray diffr. and electron microscope obs. (*Russian*) 9-15698
 hydrogen embrittlement behavior of unirrad. steels for nuclear reactor press. vessels 9-8340
 intermittent loading effect on creep (*Japanese*) 9-29147
 internal stress meas. and anelasticity in creep (*Czech*) 9-38909
 lattice, X-ray diffr. study in KL12M and 40G5 near martensitic transform. (*Russian*) 9-1868
 metastable, 0Kh14AG12M, Cr-Mn and Cr-Mn-Ni, phase transform. kinetic effect on mech. props. (*Russian*) 9-34024
 metastable, hardening by cycling of martensitic transform. during rapid heating, in 30N24M4 and 50N21M3 (*Russian*) 9-20074
 microdefect accumulation during creep, effects of heat treatment, hardening 9-24550
 neutron irradiation of BOR-60 reactor shim-rod sockets, Kh18N9 steel 9-46716
 nitrided layer depth meas. by eddy current instrument 9-34242
 nitriding and nitride composition, Ti addition effects 9-20278
 overheated, ESR, low alloy, fatigue crack growth rate 9-34141
 pearlitic and bainitic transforms., effect of austenitisation conditions (*Russian*) 9-38820

austenitic steel continued

- post deformation holding at deform. temp. effect on struct. and strength of austenite and martensite, in 45Kh2N12GS (*Russian*) 9-1880
 precipitation hardening by VC in 37Kh12N8G8MFT, hardness meas. and electron microscope exam. (*Russian*) 9-38843
 quenching, press. effect, distrib. of temp. fields analysis 9-38860
 recrystallisation diagrams, heating, plastic deform. rel. to struct. 9-20067
 relaxation processes, alloyed with N, model (*Russian*) 9-11650
 rupture of steel Kh17N13M3T, activation characts., microalloying effects (*Russian*) 9-5033
 steel, stainless, LWR appl., US and AE testing of welds 9-36330
 transform. kinetics rel. to temp., deform., struct., mech. props. 9-24519
 tubing, heavy walled, US inspection 9-39107
 void swelling, role of bulk point-defect recombination, calcs. for type 316 9-42105
 Cr, mech. props, carbide phase struct. 9-15702
 Cr-Mn, Kh4G18F, microstruct. and mech. props. during tensile deform. (*Russian*) 9-20114
 Cr-Ni, type 304, temper embrittlement and surface segregation an AES and ionization loss spectroscopy study 9-43372
 Cr-Ni (32.8 wt.%), tensile props. and fracture of two phase Fe alloy austenite and ferrite (*Japanese*) 9-8344
 Mn strain hardening at room and low temps. (*German*) 9-38845
 Mn-Al-V, NDT of nitrated layer depth 9-11750
 Mn-Ni-Cr-C, supercooled, influence of constant mag. field on diffusional decomp. (*Russian*) 9-4964
 Mn-V-C, discontinuous precipitation, grain boundary struct. effect 9-29068
 Ni, N22, X-ray diffr. study of austenite lattice near martensitic transform. (*Russian*) 9-1868
 Ni-Cr, precipitation strengthened, anelasticity, plastic creep limit, 823K 9-1899

autoionisation

- see also Auger effect
 alkali anions, autodetaching sub $2P_{1/2}$ threshold states 9-22611
 atomic excited state decay, radiative-emission autoionisation interference, fluorese. yield 9-26945
 ions, H-, He-like, $Z=4$ to 34, wavelengths, radiative transition probabilities, autoionisation rates 9-25776
 plasma, multiply charged ions, collisional dielectronic recomb. rate, effect on level populations 9-1287
 Siegert eigenvalues for autoionising electronic states 9-10075
 SIMS, secondary ion emission mechanism, autoionis. process model (*Japanese*) 9-26177
 slow ion+atom collisions, coherent excitation and decay of autoionising states 9-45789
 three-electron atom systems with two vacancies in K-shell excited states and autoionis. state energies (*Russian*) 9-31429
 Ar, autoionising levels excited by heavy ion impact 9-13804
 Ar, collision processes, photoionisation mass spectra obs. 9-31479
 Ar + $C^{2+}(O^{4+})(Si^{n+})$, $n=10,11,12$, intense low energy autoionisation lines 9-31674
 B^{2+} , $2S$, $2p^0$ and $2D$ autoionising states, positions and widths 9-26944
 Ba, autoionis. spectrum, pair splittings 9-13684
 Ba, two-step autoionis., double ionis. anomaly 9-22671
 Be^{3+} , $2S$, $2p^0$ and $2D$ autoionising states, positions and widths 9-26944
 C^{3+} , $2S$, $2p^0$ and $2D$ autoionising states, positions and widths 9-26944
 C^{3+} , cross section measurement, contribution due to excitation-autoionisation 9-45850
 CO, ejected electron spectroscopy of autoionising states using electron-electron coincidence technique 9-3587
 CO, photoelectron spectra ang. distrib., vibr. transitions, autoionis. state 9-31609
 Ca II, electron impact excitation, identification of low energy autoionising levels 9-31703
 He, elastic electron scatt. phaseshifts, $2s2p$ 3P autoionisation, $1s2s$ $^3S-1s2p$ 3P triplet continuum photoionisation 9-31480
 He, isoelectronic spectra autoionisation states $n=3$ hydrogenic threshold, complex rot. method 9-31477
 He, lifetimes of doubly excited states, autoionisation and radiative decay 9-18146
 He, resonance photoabsorption in $(3s3p)$ 1P reson. region 9-45659
 He⁺, reson. calcs. with correlated target state wave functions, complex coord. method 9-26939
 He($2S$) 2 , autoionising reson., appl. of complex-rotated Hamiltonians 9-31427
 He($2S$) 2 +H(D), Penning and assoc. ionis. cross sections, vel. depend. 9-22815
 K I, electron impact excitation, identification of low energy autoionising levels 9-31703
 Li, $2S$, $2p^0$ and $2D$ autoionising states, positions and widths 9-26944
 Li⁺, S-autoionising states, energy calcs. 9-36520
 N $^{4+}$, cross section measurement, contribution due to excitation-autoionisation 9-45850
 Ne+He⁺(Ne⁺), coherent excitation and decay of autoionising states 9-45789
 Ne $^{n+}$ +Ar(Kr), ($n=1, 2, 3, 4$), energy spectra of electrons produced 9-45822
 O $^{3+}$, cross section measurement, contribution due to excitation-autoionisation 9-45850
 Sr, ejected-electron spectrum, Auger levels 9-22843
 Sr, electron scatt., autoionis. states electron spectra (*Russian*) 9-36779
 Tm, intense 4d-f reson., cross-sections, spectra, calcs. 9-31426

automatic control

- analyser automatic, for melting point of paraffin wax determ. 9-14223
 artificial blood circulation system, thermoelectric heat exchanger control unit 9-25149
 blood O $_2$ affinity variability, automated meas. method 9-39544
 camera automatic focusing mechanism principles and designs 9-30595
 corneal mechanised trepan control 9-29659
 deformation, cyclic, static, meas., recording, automatic system 9-15893
 electromechanical actuator, vibr. linearisation of mag. hysteresis charact. (*Russian*) 9-12789
 ethylene, polymerisation plant, high-press. equipment design 9-24746
 fatigue testing, low cycle, automation of installation control 9-15926
 HTGR fuel reprocessing pilot plant, solids handling and fluidised-bed combustion techniques development 9-45397
 laser level-control circuit for high-bit-rate system using slope detector 9-18430

automatic control continued

- magnetic field, 0.1 to 2 T, automatic control, performance improvement (*French*) 9-30450
 mechanical properties, of materials and structural members, rating quality of automated systems 9-15928
 mechanical testing of materials in complex stressed condition, automatic unit 9-15898
 nitriding system for Si $_3$ N $_4$ fabrication, automated 9-24468
 non-destructive assay technology and automated 'real-time' materials control 9-26721
 plasma frequency response investigation problem 9-10649
 PWR power unit, automatic control and meas. system design lines (*Russian*) 9-30964
 Rheovibron viscoelastometer, dynamic, direct reading, automation, appls. to polymer films, fibres 9-3980
 solar furnace, materials melting process dynamics rel. to automatic control 9-39317
 toroidal plasma, ion temp. control by neutral injection 9-37514
 Si, VPE growth, in process monitoring and control of doping gas conc. 9-24443
automatic data processing see data processing
automatic frequency control
 gas laser with automatic freq. control, long-term instability and irreproducibility of freq. 9-45962
automatic gain control
 seismic recording equipment, digital automatic amplitude control unit parameters choice (*Russian*) 9-39964
 signal amplitude digital automatic control system, instrumental realisation algorithm (*Russian*) 9-39924
automatic test equipment
 aerosol particle size spectrometer, microcomputer-modified 9-39329
 analyser, automatic, for melting point of paraffin waxes meas. 9-14223
 automatic defect signalling for the ASNK-U assembly system for nondestructive testing 9-39101
 BUS-2 scan control unit for automatic interference reduction 9-5126
 coercive force, automatic meas. by remote means, for ferromag. metals and alloys 9-24690
 crack detect. in electrically cond. materials, pulsed elec. meas. method (*French*) 9-29324
 Daresbury Laboratory automated magnet field meas. facility 9-30509
 dead weight machines, instrumentation for load cells, with compensators and computerized data processing 9-37266
 deformation, cyclic, static, meas., recording, automatic system 9-15893
 digital circuit for selecting information bearing components of output voltage of electromagnetic transducer 9-2760
 digital computer control of mech. tests 9-43508
 dimensional nonuniformities, refractive index profiles of optical fibres 9-18541
 dust meter, EIP-9M, with optical and inductive-charge transducers 9-17595
 eddy-current phase thickness gauge with automatic error corrections 9-9204
 fatigue testing, low cycle, automation of installation control 9-15926
 fibre to fibre coupling loss due to displacement, separation, misalignment, automatic measuring technique 9-32036
 gas chromatograph capillary column, computerized testing 9-16067
 light and water exposure apparatus 9-15914
 long-path light absorption cell meas., automation, optical alignment 9-17491
 Macsym One, automated measurement and control system based on 'real world' signals 9-17402
 magnet testing using digital apparatus with incompletely closed mag. system 9-9226
 mechanical properties, of materials and structural members, rating quality of automated systems 9-15928
 mechanical testing of materials in complex stressed condition, automatic unit 9-15898
 neutron sensor performance testing, automatic counting channel and analysis system 9-13612
 noise suppression circuit for automatic flow indicator 9-5111
 photographic materials inspection by IR laser beam 9-30593
 plastic pipe inspection by rotational ultrasonics 9-20323
 rail flaw detection, US wheel probe variation problems 9-47862
 scanner development, for surface inspection of cold rolled sheets (*German*) 9-43533
 scrapping of soldered pipes, automatic, device 9-29308
 semiautomatic portable coeircimeter 9-34250
 semiconductor wafer diagnostics, using computer automated scanning low-energy electron probe 9-4214
 steel, ball, fatigue life prediction, fully automatic X-ray diffr. apparatus (*Japanese*) 9-39076
 steel, cold rolled strip, surface defects, online automatic system, design study 9-34231
 steel, non metallic inclusion eval. using Quantinet systems 9-15923
 stopwatch, electrical, testing device, semiautomatic 9-30424
 surface flaw inspection of nuclear fuel pellets 9-30939
 suspension, automated meas. of viscosity 9-37258
 thin film thickness meas., automatic Brewster angle spectrophotometer 9-6078
 US basic instrument crack and flaw detection, basic instrument 9-5108
 US evaluation, computer-assisted, review 9-43536
 US flaw detector, pulse-to-analogue converter 9-39102
 US inspection system, automatic, for welding seams 9-29310
 US inspection unit, UDM-IM, modernisation 9-39106
 US tester for steel plate circular stampings 9-15949
 C content in Fe $_3$ C melt, measurement using automatic device 9-39252
 H $^+$ concentration meas. (*German*) 9-16083

automatic testing

- composite structures, multipoint moments meas. by optical struct. anal. 9-15910
 conference on analysis instrumentation, Charleston, West Virginia, USA (May 1977) 9-16100
 crack growth recording, automatic, elec. resist. method 9-39070
 digital computer control of mech. tests, review 9-43508
 displacements, angular, linear, simultaneous use primary transducers 9-6084
 dosimeter, exoemissive, automation of testing 9-6770
 engineering metrology, measurements by optically generated patterns 9-3648

automatic testing continued

- fatigue tests, short-term, methodological problem of automating data computer processing 9-15931
- fracture toughness, automation of method of forming and measuring circular crack depth in cylinders 9-43531
- hardness testing, depth of impression meas., automated 9-15892
- pipe, thick walled, increasing efficiency of automated ultrasonic inspection of segregate defects 9-11755
- PWR power unit, automatic control and meas. system design lines (*Russian*) 9-30964
- thermoelectric thermometers, automatic testing, structural method for improving precision 9-35744
- trace analysis using injection method of at. absorpt. spectrometry 9-34382
- US evaluation, computer-assisted, review 9-43536

automobiles

- exhaust system, procedures for evaluation of acoustical performance 9-18645
- interior noise levels running in city streets 9-23127
- noise legislation 9-34465

avalanche diodes

- see also *avalanche photodiodes; IMPATT diodes*
- No entries

avalanche photodiodes

- fibre communication devices, directional couplers, attenuators, switches development 9-3782
- short-pulse photodiode receiver quasioptimal filtering 9-26132
- Ga_{0.72}Al_{0.28}Sb avalanche photodiodes, ionization coeff. 9-17488
- GaAs, electroabsorpt. avalanche photodiode waveguide detector, freq. demultiplexing 9-17486
- GaAs, p-i-n, temp. depend. characts. 9-35835
- Ga_{0.47}In_{0.53}As homojunction photodiode, avalanche photodetector for 1.0-1.6 μ m region 9-6179
- GaInAsP-InP lasers and detectors, for fibre optic communications at 1.0-1.6 μ m 9-3803
- Ge, p-i-n, temp. depend. characts. 9-35835
- InGaAsP:Be ion-implanted avalanche photodiode, struct. and characts. 9-17487
- InGaAsP-InP photodiodes, microplasma-limited avalanche multiplication at 1 to 1.3 μ m 9-26128
- Si film double-mesa reach-through avalanche photodiode with large gain-bandwidth product 9-12845
- Si, p-i-n, temp. depend. characts. 9-35835
- Si:B, low noise avalanche photodiode fabrication by channelling implantation 9-35827

avalanches, carrier see *impact ionisation***avalanches, electron** see *electron avalanches***avalanches, electron-hole** see *impact ionisation***avionic systems** see *aircraft instrumentation***avogadro's number** see *constants***axions** see *lenses***axiomatic field theory**

- (1/N) expanded nonrenormalisable interactions, nonlocality investigation 9-30652
- $\lambda\phi^4$, deep inelastic struct. functions for bound states, ladder approx. 9-35952
- $\lambda\phi^4$, extended objects in quantum systems and soliton solns. 9-35945
- $\lambda\phi^6$ theory, exact solns. 9-45012
- ϕ^2 theory, renormalisation, Nelson's symmetry and energy densities 9-40671
- ϕ^3 field theory with internal Potts symmetry, exactly soluble limit 9-45004
- ϕ^4 , large order behaviour of perturbation theory and mass terms 9-45018
- ϕ^4 , Grinzberg Landau Wilson model, dispersion theory and ϵ expansion for $T > T_c$ 9-12753
- ϕ^4 model, Altman's contractor techniques, appl. to nonlinear integral eqns. for Green's functions 9-45005
- ϕ^4 theory, asymptotically free, finite local field equation 9-35944
- ϕ^4 theory, spontaneous symmetry breakdown in finite systems 9-45011
- $(\psi\bar{\psi})^2/N$ interaction in 4-dimens., nonlocal theory for Thirring model 9-21940
- analytic regularization in an arbitrary number of dimensions 9-26215
- axial symmetry in lattice theories 9-9280
- baglike struct., ϕ and ψ interacting scalar fields 9-22046
- Bogoliubov approach, current functional, reduction formula (*Russian*) 9-279
- Bogoliubov axiomatic approach to nonlocal QFT microcausality and broken microcausality (*Russian*) 9-12972
- chiral invariant SU(N) Thirring model, exact S-matrix 9-21911
- closure of cones in algebra of test functions 9-278
- collective coordinates with non trivial dynamics, review 9-26232
- conditioning of states 9-6008
- confinement criteria for gauge invariant, lattice, and Abelian models 9-22023
- convergence properties of the Pade approximants on a lattice 9-17615
- cosmological quantum theory, a general framework 9-9043
- critical indices, conformally invariant bootstrap method 9-12955
- current conservation in perturbative sine-Gordon and massive Thirring models 9-9273
- cut vertices and their renormalisation, generalisation of Wilson expt. 9-21929
- Dirac fermion fields in (3+1) dimensions, boson representation 9-26243
- discrete and Abelian lattice gauge theories 9-9279
- discrete lattice gauge fields, duality transformation, review 9-26236
- dynamical lattice theory 9-21933
- dynamical symmetry and asymptotic scale invariance in ladder models 9-21959
- electrons and gravitational instantons 9-25961
- elementary particle symmetries, axiomatic approach 9-21897
- elementary particle theory, mathematical method, conf., Liblice, Czechoslovakia (June 1978) 9-21891
- equations of motion in asymptotically free theories 9-26247
- Euclidean (super ϕ^4), Wess-Zumino model, asymptotic behaviour in perturbation theory 9-30645
- Euclidean field theory, nonlinear elliptic eqn., classical solns. 9-21569
- Euclidean Green functions, quantum fluctuations of instantons 9-26220
- Euclidean Yang Mills eqns., self-dual solns. 9-26230
- extended meson model, Euler-Lagrange eqn. bilocal field theory conservation laws 9-21938

axiomatic field theory continued

- F 9-35955
- four fermion field theory, renormalisation in mean field expansion, Yukawa coupling 9-21939
- free Euclidean field, struct. of translation operators in phase space 9-30662
- $g\phi^4$ theory, $g \rightarrow \infty$, vacuum energy density 9-40657
- $g\phi^4$ model, supersymmetric, massive and massless, renormalised supercurrent and anomalies 9-6267
- gauge theories, facts and prospects, conf., Schladming, Austria (Feb.-Mar. 1978) 9-26203
- Gell-Mann-Low function and Borel summations in renormalizable theories 9-40670
- Gross-Neveu model, irrelevant operators and equivalent field theories 9-21912
- high-mass diffraction in the supercritical region 9-22081
- holonomic quantum fields, deformation model 9-25907
- holonomic quantum fields, global monodromy structs. for monodromy preserving deformation 9-45019
- holonomic quantum fields, model 9-25908
- holonomic quantum fields, model 9-25909
- holonomic quantum fields, Riemann-Hilbert problem on complex sphere 9-25910
- holonomic quantum fields 9-25911
- Hubbard model with half filled band, fermion mass spectrum 9-21955
- Lagrangian formalism for the theory of spin-3 fields 9-26224
- lattice formulation of general relativity 9-40426
- lattice gauge theories, two dimens., static quark confinement 9-35916
- lattice gauge theory, local struct. Kirkwood-Salzburg eqn., recursive eqns., critical behaviour 9-26207
- lattice gauge theory, map between corner and link operators, QCD relation 9-35926
- lattice gauge theory, strongly coupled, confinement of fermions 9-2905
- lattice Hamiltonian models, connected diagram expansion 9-21916
- lattice Hamiltonian models, estimation of eigenvalues 9-40669
- lattice models with a solvable symmetry group 9-17616
- lattice quantisation of Sine-Gordon system, single-site approx. 9-17603
- massive Thirring model, explicit diagonalisation of Hamiltonian 9-21918
- massless limit in the ladder approximation 9-21953
- massless Thirring model, saturating field configurations for two point Green's function 9-35923
- massless Thirring model is curved space, black holes, thermal states, conformal anomaly 9-26221
- meron solutions in a non-Abelian, conformal invariant Higgs model 9-17610
- multicomponent $\lambda(\phi^2)^2$ model, symmetry breakdown absence, vacuum uniqueness 9-12926
- multipartite S-matrix factorisation in two dimens. space-time models 9-281
- multiple vacua for non-Abelian lattice gauge theories 9-35929
- non-Minkowskian space-times, mass generation by self-interaction 9-45014
- nonlinear Klein-Gordon eqn. related to Riemannian geometry, localised solns. 9-26223
- nonlocal Wightman fields, PCT and spin statistics 9-35915
- nonrenormalisable model, non-cutoff Euclidean Green's function in four dimens. space-time 9-21898
- order/disorder quantum field operators associated with 2-D Ising model in continuum limit 9-9276
- para-Bose coherent states 9-96
- perturbation theory, large-order behaviour, critical exponents, Callan-Symanzik eqns. 9-30397
- planar Feynman diag. enumeration 9-26239
- QED on lattice, Hamiltonian variational approach to physics of weak-coupling region 9-35979
- quantum fields in Fock space, construction 9-2911
- quark confinement in 2-D lattice Higgs-Villain model 9-26289
- random magnetic systems, gauge symmetries, Ising and X-Y models anal. 9-38295
- reflection positivity in quantum field theory, some remarks 9-21900
- renormalised Thirring model, massless scalar field in 2-space-time dimensions 9-12929
- resonances and field theory 9-2907
- semiquantum approximation for the Reggeon field theory on a lattice 9-35968
- sine-Gordon equation, discretisation 9-21931
- sine-Gordon equation and nonlinear σ model on a lattice 9-21932
- Sine-Gordon field theory, ferromag. model, existence and renormalisation in all dimensions 9-26248
- solitary solutions collision in nonlinear field theory, variational anal., ϕ^4 appl. 9-35922
- soliton conservation laws, S-matrix bootstrapping approach (*German*) 9-9274
- SU(N) Thirring model and 1/N expansion, chiral symmetry breaking 9-12977
- superrenormalisable interactions, struct. of infrared divergences 9-40663
- superselection rules, commutativity 9-240
- Symanzik's approach to nonrenormalizable theories for massless models 9-26212
- Thirring massive SU(N) model, factorisation 9-12951
- Thirring model with SU_N symmetry, scale invariance 9-9288
- Thirring-Weiss model, massless, saturating field configurations 9-35953
- time-ordered products and Schwinger functions 9-26216
- U(n) symmetric Thirring model in indefinite metric space, boson representation 9-12942
- Wightman axiomatic scheme for concentratable field, polynomial cluster props. (*Russian*) 9-12971
- Yang-Lee edge singularity, field theoretic formulation 9-17354
- Z(N) topological excitations in Yang-Mills theories: duality and confinement 9-12938
- NN scattering, effective interaction in the Blankenbecler-Sugar equation in ϕ^2 theory 9-21914
- ψ^{2N} field theory, asymptotic graphs counting techniques 9-17608
- $\psi\bar{\psi}\psi$ model, two dimens., relationship with Yukawa-type model 9-35948

backscatterersee also *particle backscattering*

- acoustic backscattering from very rough water surfaces 9-41499
- acoustic monitoring of industrial chem. waste at deep water dump site 9-34466

backscatter continued

- active remote sensing with radar, radiative transfer theory, half-space random media appl. 9-8721
- auroral E-layer, plasma lines meas. 9-25386
- conducting rectangular corrugations, radar appls. 9-18332
- Doppler processing of HF backscatter radar and mode structures of ionospheric propagation 9-16753
- elastic scattering large-ang., approx. classical theory, for teaching 9-25801
- EM scattering from large rotating conducting cylinder of arbitrary cross section 9-18331
- EM sounding method using spatial and spectral sampling, for investigation of inhomogeneities in ionospheric plasma (*French*) 9-29911
- ionosphere EM wave propagation; backscatter echo spectral analysis and radio transmission forecasts (*French*) 9-29912
- Kirchhoff approximation in horizontally polarized backscatt. from random surface 9-7061
- lakes, ice-covered (North Slope, Alaska), radar return differences 9-2298
- lidar return, simulated, from one-dimensional stratospheric aerosol model 9-44247
- myocardial and hepatic tissue US backscatter comparison 9-48310
- North Sea, surface film, 13.9 GHz radar backscatter cross section meas. 9-39764
- oceanography, acoustic backscatter monitoring of natural suspensates and slope/shelf water intrusions 9-2241
- plasma, stimulated Raman backscattering of circ. polarised EM waves 9-37465
- raindrop induced forward and backward scattering amplitudes, tabulations 9-34884
- remote sensing, scatter model for leafy vegetation 9-12193
- remote sensing of vegetation layer, scatt. model 9-29880
- SkyLab scatterometer meas. of hurricane Ava, anomalous data correction 9-29881
- soil moisture measurement, active microwave remote sensing, surface roughness and texture effects 9-12295
- soil moisture sensitivity of cross-polarized radar backscatt. 9-25282
- sporadic-E (E_s) layer over Japan, sky-wave backscatter obs. 9-44298
- STARE: a new radar auroral backscatter experiment in northern Scandinavia 9-39977
- US tissue characterisation by backscattered field space-time processing 9-48305

backward wave oscillations *see* **backward wave tubes**; *electromagnetic oscillations*

backward wave tubes

- see also* **carcinotrons**
- p-Ge, free-carrier reson. investigation using backward-wave tube spectrometer 9-15353

bagging *see* **packaging**

balanced amplifiers *see* **differential amplifiers**

balanced input amplifiers *see* **differential amplifiers**

balances

- see also* **weighing**
- acceleration compensation of force transducers and weighing systems (*German*) 9-35733
- animal and organ weighing, automatic balance (*Japanese*) 9-25173
- deadweight standard machines, 100 kN, investigation of parasitic effects 9-35731
- electromechanical weighing machines, testing of strain gauge load cells (*German*) 9-35682
- electronic, reasons for slow sales and review of recent models 9-21706
- force and meas. measurement, conf., Braunschweig, W.Germany (Sept. 1978) 9-35725
- force standard machines, calibration using mass standards (*German*) 9-35735
- lever balance errors caused by knife edge height displacement 9-35680
- liquid density meas., analytical one panned scales appl. based on solid body density standards (*Croatian*) 9-26033
- load cell, automatically controlled using capacitive and US sensors (*German*) 9-35715
- load cells and indicators for weighing machines, permissible number of digits (*German*) 9-35681
- loading machines, comparison with German PTB force scale (*German*) 9-35734
- quartz crystal microbalance, response to liq. deposit 9-30422
- scale single flat spring fulcrum deformation, second approximation (*Japanese*) 9-184
- strain gauge load cells, small dead weight machines with compensator and computerized data processing 9-37266
- weighbridge and heavy-goods weighing machines, changes in standards 9-6096
- wind-tunnel balance, 6-component, using load cell techniques (*German*) 9-37268

ball lightning *see* **lightning**

ballistics

- see also* **impact (mechanical)**; **military equipment**
- collision of aimed and initially stationary balls, for teachers 9-21506
- optimum re-entry configuration via the method of steepest descent 9-37339

balloons

- see also* **aircraft**
- astronomical balloon-borne equipment, data communications 9-16793
- hot-air, mile-long, space research and solar power generation appl. 9-48583
- intra-aortic balloon pumping apparatus trials 9-48368
- rubber balloon, internal press. eqn., for teachers 9-14
- space research using stratospheric balloons (*Italian*) 9-48683
- stratospheric tethered system, feasibility study (*Italian*) 9-44251
- superpressure balloon, orbital simulator of stratospheric photochem. 9-29966

band gap *see* **energy gap**

band model of magnetism

see also **Hubbard model**

- actinide elements, cpds. and alloys, mag. props., review 9-4649
- charge-transfer organic salts, strongly correlated, interband absorpt., long-range Coulomb interaction 9-4525
- charge-transfer salts, strongly correlated, interband absorpt., long-range Coulomb interaction 9-4525
- exciton ferromagnet, spin-lattice relax., light and US absorption (*Russian*) 9-7960

band model of magnetism continued

- ferromagnetic Fermi liquid, stability conditions 9-47224
- ferromagnetic metal, nearly and weakly ferromag., freq. depend. elec. cond., Drude's formula deviation 9-47091
- ferromagnetic metal, two-band model ordinary Hall effect and spin-depend. phenomena 9-19577
- inhomogeneous itinerant electron ferromagnet, mag. and thermal props. 9-7964
- Invar alloy, thermodynamic properties, effects of forced magnetostriction 9-11331
- itinerant electron antiferromag., localised mag. states 9-28500
- itinerant electron antiferromagnet, effects of paramagnetic impurities on Neel temperature 9-4678
- itinerant electron ferro- and antiferromagnetism, spin fluctuations 9-7961
- itinerant electron ferromagnetic alloys, magnon energy, effect of ordering 9-7986
- itinerant electron system, weakly ferromagnetic ground state, Fermi liquid theoretical study 9-4646
- itinerant electron systems, mag. excitations, study by inelastic neutron scatt. 9-47264
- itinerant ferromagnet, neutron inelastic scatt. 9-7970
- itinerant ferromagnet, spin-wave dispersion and linewidth 9-4668
- itinerant ferromagnet, thermodynamics 9-4645
- itinerant ferromagnet, tight-binding metal, Einstein temp. 9-24126
- itinerant strong ferromagnetism, effect of electron correlations 9-7962
- paramagnon theories below three dimensions for itinerant strongly interacting fermion system 9-38298
- rare earth-Co intermetallics, RCO_2 , itinerant ferromag., magnetovolume effects 9-8038
- transition metal, mag. susceptibility, spin wave spectrum for improved itinerant-localised electron model 9-1654
- weak itinerant electron ferromagnet, spin fluctuation curvature of Arrott plot 9-8012
- Au-Ni, magnetisation and sp. ht., ferromag., paramag. and crit.-conc. regions 9-38330
- Co, bulk modulus and thermal expansion coefficient, mag. contributions 9-8039
- Cr, phase transition at T_N 9-4676
- Cu_2MnAl alloy, energy band calc. by nonrelativistic SAPW method 9-4507
- Fe, ferromag., evidence for itinerant electron model, angle resolved photoemission from surface 9-24414
- Fe, photoemission study of (100), (110) and (111) surfaces, ferromag. band struct. 9-38714
- Fe-Ni alloys, electronic struct. by XPS obs. 9-33226
- MnSi, weak itinerant ferromagnet, mag. excitations 9-7985
- Ni (001), spin polarised photoemission theory 9-15584
- Ni-Co alloy, stiffness const., interpretation within band model 9-42748
- Sc_2In , itinerant electron ferromag., low temp. sp. ht., mag. field depend. 9-42765
- TiBe_2 , itinerant antiferromagnetism, mag. susceptibility obs. 9-15288
- $\text{V}_2\text{O}_{2n-1}$ Magneli phases, elec. and mag. props. 9-37990

band-pass filters

see also **crystal filters**; **vocoders**

- analogue filters, in ocean wave spectrum analyser system for operational buoys 9-5662
- dye laser tuning by dielectric interference filter-coated prism 9-10322
- fibre-optic band-pass attenuator 9-37003
- interdigital transducers for one-port SAW resonators, narrow band filters appl. (*Japanese*) 9-27478
- low-temperature narrow-bandpass interference filter construction 9-32049
- narrowband optical wave filter with stacked directional coupler 9-7226
- optical, narrow, via nearly degenerate four-wave mixing 9-23013
- SAW, manufacturing inaccuracies influence on transmission characts. 9-10434
- SAW, signal sorting in military high density signal receivers 9-18615
- SAW X-ray topographical representation 9-47870
- seismic surface waves, freq. filter anal., fast method 9-48573
- spatial filtering properties of volume holograms 9-27211

band structure

- see also* **band structure of crystalline metals**; **band structure of crystalline semiconductors and insulators**; **band structure of semimetals**; **band theory models and calculation methods**; **Brillouin zones**; **conduction bands**; **degenerate semiconductors**; **electron energy states of amorphous solids**; **electron energy states of liquid metals**; **electron energy states of liquid semiconductors**; **energy gap**; **Fermi surface**; **many-valley semiconductors**; **valence bands**
- A-15 compounds, supercond. props., band struct. calcs. 9-33388
- angle resolved photoemission obs. and band struct. 9-33899
- band modification caused by impurities and magnetophonon effect 9-42562
- band tailing due to zero-point vibrs. in perfect cryst. 9-28267
- dielectric band structure, of solids 9-47034
- electronic system with two-fold degenerate band, free energy change due to electron-phonon coupling 9-42500
- ice, UPS study 9-43101
- photoemission, angle-resolved, from bulk bands of solids 9-4895
- (Sn), chain, energy band struct., Hartree-Fock and CDW solns. 9-23885
- transition metal carbides and borides, electronic structures calc. in conjunction with X-ray photoelectron spectroscopy (*Japanese*) 9-15074
- transition metal hydrides, electronic states calc. 9-7769
- transition metal-rare earth dil. alloy, hyperfine field of rare earth impurity 9-1588
- TTTl_2I_3 , charge transfer salt, Coulomb effects 9-46599
- (BHNH) $_n$, band structure, ab initio calcs. 9-23895
- (BH_2NH_2) $_n$, band structure, ab initio calcs. 9-23895
- $\text{Cu}_{60}\text{Zr}_{40}$ glassy metal, photoemission and mag. susceptibility 9-28896
- ErH_2 , electronic struct. 9-28268
- FeO_2^{2-} ion, electronic struct., hyperfine interactions, SCF $X\alpha$ calcs. 9-37951
- H_2 , solid, electronic struct., HF calc. using plane wave basis 9-7772
- InSb -anodic oxide-Ni, energy band diagram, internal photoemission meas. 9-33356
- NbSe_2 (2H), metallic layer cpd., angle-resolved photoemission spectra 9-47593
- Nb_3Si , hypothetical, electronic struct., lattice parameters and possible supercond. transition temp. 9-23891
- (SN) $_n$ chain, isolated, effect of (SCH_2) $_2$ impurities, on electronic props., EHT calcs. 9-15067

band structure continued

- (Sn), energy band struct., self-consistent calc. by intersecting spheres model 9-28269
 V_3In , hypothetical, electronic struct., lattice parameters and possible supercond. transition temp. 9-23891

band structure of crystalline metals

- Al_5 compounds, calc. 9-37970
 Al_5 compounds, self-consistent LMTO band calcs. 9-37954
 dipole-nuclear acoustic resonance, electron band struct. influence, in cubic metal 9-19787
 electric properties calc., book 9-28274
 FCC binary alloys, short-range order diffuse scattering, Fermi surface imaging (*Japanese*) 9-7776
 highly conducting material, electroreflectance by deep field penetration 9-19864
 transition metal, fusion entropy, electronic contrib. 9-42217
 transition metal, inner shell photoelectron and photoabsorpt. spectra 9-43091
 transition metal alloys, d-band hybridisation, electronegativities, structural stability 9-42007
 transition metal compounds, electronically driven lattice instabilities, role of p-d hybridisation 9-7669
 transition metals, electronic structure of interstitials 9-1583
 transition metals, interatomic forces, phonon spectra, from band structure charge densities 9-7662
 two-band alloy, Green's function from multiband theory 9-37952
 type II superconductor, phase diagrams, exam. in terms of electronic structure 9-8278
 uncompensated, one-particle interband transition, effect on Curie temp. 9-7994
 Al_5 compounds, electronic struct., XPS and SXE spectra calc. 9-42437
 Ag (001) surface, photoemission, electron escape effect 9-1814
 Ag (111), angle-resolved photoemission, free-electron final state model 9-4896
 Ag-Cd, α and β phase, XPS, effects of atomic order on band struct. 9-42440
 Al-based 3d-transition metal alloys, soft X-ray absorpt., electronic struct. 9-38690
 Al-Ge(Mg)(Zn)(Ga), dil., electronic transport coeffs. for point defect scatt., 4-OPW calc. 9-42531
 Au, photoelectron spectra, occupied surface-state bands in sp gap 9-43094
 Au, photoemission study of bulk and surface electronic struct. 9-4894
 Au-Cd(Ga)(In) alloy, UPS exam. of valence bands 9-19511
 Au-Ga dil. alloys, electronic struct. 9-37974
 β' -Au-Mg, de Haas-van Alphen effect, relativistic LMTO bandstructure, Fermi surface 9-37959
 Be-Mg, two-band alloy, electronic and optical props., multiband theory 9-37952
 Cu (001) monolayer, electronic struct., self-consistent LCAO calc. 9-4606
 Cu, band structure calcs., optimised LCAO version, appl. to Wannier states 9-33220
 Cu, energy band calc. by model-pseudopotential method 9-7779
 Cu, energy band dispersions, absolute determ. using ang.-resolved photoelectron spectrosc., symmetry method 9-15590
 Cu, multipole wave functions for photoelectrons, constant-energy-surface harmonics, s-d band appl. 9-37955
 Cu-transition metal dil. alloy, virtual bound states 9-37975
 Cu_2MnAl , alloy, energy band calc. by nonrelativistic SAPW method 9-4507
 $\text{Cu}_3\text{Ni}_{1-x}$, paramag., electronic struct., atomic sphere approx. to KKR-CPA 9-19502
 Cu(111), bulk s orbital bands, sensitivity to oxidation, photoelectron spectra 9-47597
 Fe, photoemission study of (100), (110) and (111) surfaces, ferromag. band struct. 9-38714
 Fe-based alloy, effect of sp-3d impurity interactions in resistivity 9-46696
 Fe-C, electronic structure of interstitials 9-1583
 Fe-Ni alloys, electronic struct. by XPS obs. 9-33226
 Fe-Rh alloy, nonmag. and mag., band theory 9-37973
 FeGe₂, antiferromagnet, de Haas-van Alphen effect 9-4505
 $\text{Fe}_{1-x}\text{P}_x$ dilute alloys, electronic struct., mag., elec. and struct. props. 9-37971
 H_2 metallic, electronic band struct. using θ -function basis 9-37976
 LaAl_2 , magnetoresist. and de Haas-van Alphen effect, Fermi surface model 9-15069
 Li, Auger line shape KVV, energy band theory 9-43074
 Li, electronic structure and lattice const. determ. using orthogonalised modulated plane wave method (*Ukrainian*) 9-42436
 Mg, bandstruct. using potentials with exchange and correlation, KKR methods 9-11060
 Nb, band struct., deformation potentials calc. by Green's function method 9-1568
 Nb, optical properties and electronic props. 9-42439
 Nb-Sn, Al_5 cpd., Hall coeffs., effect of tetragonal distortion on band struct. 9-33281
 Nb-Zr, effect of band structure on elastic constants and superconductivity 9-8313
 $\text{Nb}_2\text{Al}(\text{Ga})(\text{Si})(\text{Ge})(\text{Sn})$, electronic struct. calcs. 9-47005
 NbSe_3 , electronic props. variation with struct. 9-42438
 Ni film (111), ferromag., energy bands and planar densities of states, LCAO calc. 9-4509
 Ni, optical absorption in near IR 9-38539
 Ni-Al alloys, XPS for band struct. 9-33889
 Ni-Zn alloys, XPS for band struct. 9-33889
 NiC, electronic structure of interstitials 9-1583
 NiTi, search for electronic phase transition, soft X-ray appearance potential spectra 9-24391
 NpAl_4 clusters, band struct., variational $X\alpha$ calc. 9-4508
 Pb, band structure, and electron-phonon interaction, supercond. transition temp. determ. 9-19512
 Pd, electronic states, effect of hydrostatic press. 9-11055
 Pd, g tensor of d holes, sub-bands and energy splitting 9-23890
 Pd-H, electronic states from de Haas-van Alphen measurements 9-7777
 Pd-H, nature of the 50K anomaly, residual resist. 9-7818
 Pt, paramagnetic, induced magnetic form factor, 73 kOe at 78K 9-33454
 PuAl_4 clusters, band struct., variational $X\alpha$ calc. 9-4508
 Re-based HCP-BCC binary systems, electronic struct. and supercond. (*Russian*) 9-33375

band structure of crystalline metals continued

- ScM , ($\text{M}=\text{Ru}, \text{Rh}, \text{Pd}, \text{Ag}$), electronic struct., self-consistent local density functional calcs., LMTO method 9-11059
 Ta, optical properties and electronic props. 9-42439
 TaSe_3 , electronic props. variation with struct. 9-42438
 Ti-based HCP-BCC binary systems, electronic struct. and supercond. (*Russian*) 9-33375
 UAl_4 , clusters, band struct., variational $X\alpha$ calc. 9-4508
 V, optical properties and electronic props. 9-42439
 V, X-ray band spectra calcs. 9-33860
 V-D alloys, positron annihilation radn. angular correlation, electronic struct. study 9-43058
 $\text{V}_3\text{Al}(\text{Ga})(\text{Si})(\text{Ge})(\text{Sn})$ electronic struct. calcs. 9-47005
 VRu, soft X-ray emission, photoelectron spectra and electron structure 9-37978
 W, Fermi velocity calc., linear muffin-tin orbital method 9-28272
 W, semi-infinite cryst., secondary electron emission, obs. of electronic struct. 9-33871
 Zn, electronic band struct., pseudopotential calcs. 9-19510
 Zr-Nb-Mo, phonon spectra anomalies, lattice dynamics calculations, superconductivity parameters 9-7655

band structure of crystalline semiconductors and insulators

- see also conduction bands; energy gap; valence bands
 alloy semiconductor, two-band, band struct. calc. 9-37952
 [CC] $\text{In}_{1-x}\text{Ga}_x\text{As}-\text{GaSb}_{1-y}\text{As}_y$ superlattice, optical absorption 9-19887
 conjugated polymers, one- and two-dimensional, band structs. and band gap sizes 9-47008
 copper phthalocyanide, cryst. struct. sensitivity of band struct. 9-42444
 corundum, electronic struct., determ. by X-ray spectroscopy 9-8210
 ferroelectricity, vibronic theory, developments 9-33620
 I-III-VI₂ chalcopyrite compounds, d-level struct. and p-d coupling 9-42451
 ice, UPS, valence band struct. 9-33890
 III-V semiconductors, Auger coeffs. calc., appl. to GaSb 9-15160
 III-V semiconductors, cond. band struct. and transport parameters, review 9-19587
 III-V semiconductors, conduction-band struct. from reflectivity meas. when subject to mechanical strain 9-42449
 IV-VI compounds, interaction of outer s states 9-10825
 IV-VI compounds, orthorhombic, atomic pseudopot. 9-42453
 many-valley semiconductor, relative displacement of D_1 and D_2' bands under shear deform. influence 9-15080
 metal-GeS-metal system, current-voltage characts., band struct. effects in field emission region 9-42667
 nickel phthalocyanide, cryst. struct. sensitivity of band struct. 9-42444
 one-dimensional homonuclear molecular systems, nature of energy gap 9-11063
 cis-polyacetylene, electronic struct. 9-47012
 polyglycine chain, electronic struct. and transport props., ab initio Hartree-Fock crystal orbital calc. 9-42448
 pseudobinary semiconductors, energy band calc., compositional disorder effect determ. 9-42442
 α -quartz, electronic energy band struct. calc. 9-23894
 rare earth chalcogenides, compositions, props., computer prediction 9-42429
 rare earth trifluoride film, optical props., 5 to 34 eV 9-38687
 semiconductor, heavy hole spectrum in mag. field 9-15079
 semiconductor, microwave magnetoconductivity in large quantising mag. field, effect of band non-parabolicity 9-47112
 semiconductor tunnelling, bound levels and band struct., rel. to inelastic electron tunnelling spectroscopy 9-4597
 semiconductors with grain-boundary barriers, boundary states' energy struct. influence on elec. cond. 9-11147
 ternary diamond-like semiconductors, charact. features of electronic spectrum and stability 9-33230
 tetrahedrally coordinated semiconductors, electronic struct. and Fourier transformed Compton profiles 9-38689
 tetraselenotetracene, electronic structure, conductivity studied by ESCA 9-4889
 tetrathionaphthalene, electronic structure, conductivity studied by ESCA 9-4889
 tetrathiotetracene, electronic structure, conductivity studied by ESCA 9-4889
 transition metal carbides, 3d metal, interatomic interaction 9-1569
 transition metal diborides, 3d metal, interatomic interaction 9-1569
 transition metal dichalcogenides, layered, electronic band struct. and bonding by atomic orbitals methods 9-15077
 transition metal dihydrides, band struct. and electronic props., electron-phonon coupling 9-47011
 transition metal mononitrides, 3d metal, interatomic interaction 9-1569
 transition metal oxides, 3d metal, interatomic interaction 9-1569
 TTF-TCNQ, TCNQ and TTF bandwidths, extended Huckel and CNDO/2 calcs. 9-7771
 zero-gap semiconductors, dynamic dielec. function in mag. field, appl. to magnetoreflection spectra 9-15108
 $\text{AgFeSe}_2(\text{S}_2)(\text{Te}_2)$, elec. props., band gap (*Russian*) 9-11116
 BN, hexagonal, electronic struct. from X-ray emission and XPS 9-47009
 BaTiO_3 , electronic struct., XPS and band struct. calc. 9-38708
 Bi, electron tunnelling and band struct., mag. field effect 9-37979
 $\text{Bi}_2\text{GeO}_{20}$, reflectivity spectrum and band struct. 9-47474
 $\text{Bi}_2\text{Si}_2\text{O}_{12}$, eulytine, change in band structure on transition to amorphous state 9-15081
 Bi_2Te_3 , layered semiconductor, angle resolved photoemission 9-28893
 $\text{CdCr}_2\text{S}_4(\text{Se}_4)$, ferromagnetic semiconductors, spinel-type, resonance Raman scattering and electronic structure (*Japanese*) 9-47421
 CdCr_2Se_4 , optical absorption due to transitions between bands and local levels 9-38537
 $\text{Cd}_3\text{Hg}_{1-x}\text{Te}$, strong elec. field effect on galvanomagnetic effects 9-11159
 $\text{Cd}_{1-x}\text{Mn}_x\text{Te}$, effect of Mn 3d⁵ states on band struct., exciton refl. struct. in mag. field 9-11094
 Cd_3P_2 , energy band struct. and electron mobility at low temp. 9-37984
 $\text{CdS}(\text{Se})$, single cryst., band parameters from optical exciton spectra 9-47021
 CoO , valence band struct., cryst. field anal., photoelectron data 9-47007
 CrBr_3 , self consistent band struct., intersecting spheres model 9-37985
 CrCl_3 , self consistent band struct., intersecting spheres model 9-37985
 CrO_2 , optical conductivities and dielec. functions in 0.2-6 eV range, rel. to band struct. 9-42938
 CuGaS_2 , tetragonal distortion, crystal field splitting, temp. depend. 9-47060

band structure of crystalline semiconductors and insulators continued

- Cu₂S, electromechanical props. (Russian) 9-11117
 EuSi₂, valence band struct. (Russian) 9-15076
 FeCr₂S₄, pure and doped, CVD grown, surface struct., elec. props. and band struct. 9-4905
 Ga_{0.5}Al_{0.5}As, heterostructure, cation order, effect on energy bands 9-1570
 GaAs, electronic struct., mol. cluster model, SCF multiple scatt. method 9-42446
 GaAs, ion-bombarded, energy band struct., electrorefl. obs. 9-19517
 GaAs, optical inhomogeneity, physical basis 9-15430
 GaAs, self-consistent localised electronic struct. 9-42445
 n-GaAs:Te, elec. cond. and Hall coeff. temp. depend. meas., three band model 9-33287
 (GaAs)_x-(AlAs)_{1-x}, multilayer heterostructure, cation order, effect on energy bands 9-1570
 Ga_{0.08}In_{0.92}As_{0.18}P_{0.82}, band struct., optical studies 9-47013
 Ga_{0.1}In_{0.9}P, film, energy band struct., photolum. meas. 9-7784
 Ga_{1-x}In_xS₂, energy spectrum and struct., X-ray diffr. and light absorption 9-11437
 n-GaP, ion-bombarded, energy band struct., electrorefl. obs. 9-19517
 n-GaP, many-valley semiconductor, relative displacement of D₁ and D₂' bands under shear deform. influence 9-15080
 GaP, optical inhomogeneity, physical basis 9-15430
 GaP, stress-induced X_{1c}-X_{3c} conduction band mixing 9-19515
 GaSe, band struct. and electron density of states in two-dimens. approx. 9-37987
 GaSe, electron beam excited free exciton luminesc., rel. to band struct. 9-19940
 GaSe, layer, upper valence bands using bond-orbital model 9-15078
 GaSe layers, band struct. and state density calc. by empirical tight-binding method 9-42443
 GaSe, thin film, photoelectrical props. at high electric field (Russian) 9-11247
 Ge, doped, D⁻ band width, influence of resonances 9-11061
 Ge, electroreflectance spectra, nonparabolicity effects of bands (Russian) 9-4791
 Ge, energy-gap narrowing and state filling under laser irradi. 9-42441
 Ge, self-consistent localised electronic struct. 9-42445
 GeAsS, X-ray photoelectron spectra, valence electrons density of states (Russian) 9-15583
 GeS, orthorhombic, atomic pseudopot. 9-42453
 GeSe₂, exciton absorpt., transmission spectra of cryst., glasses and amorphous samples 9-15485
 Ge_{0.5}Si_{0.5}, solid solution, single crystal, photoconductivity (Russian) 9-11170
 HgSe, interband absorpt. and Γ -point band structure parameters 9-47010
 InAs, heavily doped, Burstein-Moss effect and near-band-edge luminesc. 9-47525
 n-InAs, transport props., influence of higher energy bands, calcs. 9-19598
 InAs-GaSb superlattice energy struct. and semiconductor-semimetal transition 9-23893
 In_{1-x}Ga_xAs-GaSb_{1-y}As_y, heterostructure devices 9-42624
 In_{1-x}Ga_xSb alloy system, interband magnetooptical study using Schottky barrier 9-8124
 n-InSb, conduction-band struct. from reflectivity meas. when subject to mechanical strain 9-42450
 n-InSb, transverse magnetoresist. in strong mag. fields 9-4571
 InSe, layer semicond., electronic props. 9-28275
 In₂Se₃, single cryst. prep. and electrophys. props. 9-43129
 KNbO₃, electronic struct., XPS and band struct. calc. 9-38708
 KTaO₃, electronic struct., XPS and band struct. calc. 9-38708
 La silicides, valence band struct. (Russian) 9-15076
 LaOF, features of formation of band structure 9-33232
 LiC₆, band struct., density of states and Fermi surface props. 9-37982
 LiC₆, Raman spectrum, rigid band model anal. 9-4800
 LiC₆, spatial distribution of valence electrons 9-37983
 LiH, electronic struct., equation of state, insulator-metal phase transition 9-33234
 MoO₂, optical conductivities and dielec. functions in 0.2-6 eV range, rel. to band struct. 9-42938
 NH₃, solid, UPS, valence band struct. 9-33890
 Na₂WO₃, optical props. 9-38515
 NbO, electronic struct. from photoelec. and X-ray emission spectra and X_c calcs. of NbO₆⁻¹⁰ cluster 9-23892
 NiBr₂, self consistent band struct., intersecting spheres model 9-37985
 NiCl₂, self consistent band struct., intersecting spheres model 9-37985
 Pb chalcogenides, interband absorpt., optical absorpt. coeff., two- and six-band models 9-33728
 PbI₂ (2H), angular depend. magnetoluminesc. 9-43029
 PbS, band struct., angle resolved photoemission obs. 9-33899
 PbS, energy gap anomaly, relativistic band struct. calc. 9-4510
 PbS(Se)(Te), angle resolved UPS and electronic band struct. 9-37981
 PbSe, band struct. angle resolved photoemission obs. 9-33899
 PbSe, energy gap anomaly, relativistic band struct. calc. 9-4510
 Pb_{1-x}Sn_xTe, displacive phase transition, effect of interband hybridisation 9-33233
 Pb_{1-x}Sn_xTe, energy band parameter determ. from photoluminescence spectra in mag. field 9-11066
 PbTe, band struct., angle resolved photoemission obs. 9-33899
 PbTe, energy gap anomaly, relativistic band struct. calc. 9-4510
 Sb₂Se₃, single crystals, phys. prop. anomalies, 400-450K (German) 9-38072
 Sc silicides, valence band struct. (Russian) 9-15076
 Si, Auger line shape L_{2,3} VV, energy band theory 9-43074
 Si, band structure self-consistently determined with X_a potentials using MAPW method 9-33227
 Si, determ. from line-shape anal. of electro- and thermo-reflectance spectra 9-24296
 Si, heavily doped, bandgap narrowing and diffusion length meas. 9-7781
 Si, heavily doped, characts. of distrib. of density of states 9-15072
 Si, IR photoresponse at 1.15 microns, band-gap narrowing effects 9-7864
 n-Si, many-valley semicond., relative displacement of D₁ and D₂' bands under shear deform. influence 9-15080
 Si, p-n junc. solar cell, forward bias capacitance and current meas. for lifetime and band narrowing detn. 9-7892
 Si-SiO₂, electron photoemission from Si, band struct. effects 9-19977
 SiAs-Au surface barrier diodes, optical props. of SiAs 9-8145
 SiC (6H), semicond., with one-dimens. electron superlattice, interband optical absorpt. 9-15483

band structure of crystalline semiconductors and insulators continued

- SiO₂, ideal β -cristobalite struct., one-electron energy bands determ. 9-42452
 SiO₂, selections from 1977 Comments on Modern Physics, book 9-30181
 Sm monochalcogenides, semicond.-metal phase transition 9-47017
 Sm_{1-x}R_x³⁺S, (R is rare earth metal), semicond.-metal phase transition 9-47017
 SmSi₂, valence band struct. (Russian) 9-15076
 SnBr₂, UPS, 40.81 eV, valence band struct. 9-33891
 SnCl₂, UPS, 40.81 eV, valence band struct. 9-33891
 SnO₂, rutile, band gap assignment by two-photon spectroscopy 9-19513
 SnSe, orthorhombic, atomic pseudopot. 9-42453
 TaN, metastable FCC, band struct. calc. 9-33231
 TiCl₃, layer compound, theoretical study of phase transition, energy bands calc. 9-10945
 TiH₂, electronic density of states and tetragonal distortion, APW calc. 9-37986
 TiO₂, Ti⁴⁺ XPS, band struct. investig. 9-38707
 TiO₂, uniaxial stress depend. of direct-forbidden and indirect-allowed transitions, absorpt. edge obs. 9-42990
 TiInSe₂, single cryst., elec. cond., photocond. and IR spectra absorpt. spectrum 9-47097
 UN, band struct. and density of states, PES meas. 9-42454
 U₂Pu_{1-x}O₂, theoretical study of electronic thermodynamic and valence props. 9-37655
 US, band struct. and density of states, PES meas. 9-42454
 UTe, electronic and spin struct. negative spin polarisation of photoelectrons 9-19514
 VO, energy band spectrum, APW and Green's function method calcs. 9-7783
 V₂O_{2n-1}, Magneli phases, elec. and mag. props. 9-37990
 WO₂, optical conductivities and dielec. functions in 0.2-6 eV range, rel. to band struct. 9-42938
 WO₃, optical props. 9-38515
 Y silicides, valence band struct. (Russian) 9-15076
 Y₂O₃, fundamental absorpt. 9-8161
 YOF, band structure formation, valence band 9-33232
 ZnS, self energy effects of valence and conduction electrons 9-37980
 ZnSe, self-consistent localised electronic struct. 9-42445
 ZnSe₃, electronic props, variation with struct. 9-42438
- band structure of semimetals**
 doped, one-particle interband transition, effect on Curie temp. 9-7994
 Bi, acoustic waves, giant quantum attenuation at high mag. fields, angular depend. (Japanese) 9-4585
 PbPo, electronic struct., relativistic band struct. calc. 9-4510
 Sb, electronic structure change with press., pseudopot. calcs. (Russian) 9-47006
- band theory models and calculation methods**
 see also APW calculations; band model of magnetism; band structure; cellular method; free-electron approximation; Hubbard model; KKR calculations; k.p. calculations; Kronig-Penney model; muffin-tin potential; nearly-free-electron approximation; OPW calculations; pseudopotential methods; relativistic band structure calculations; tight-binding calculations
 alloys, disordered, charge density function calculation method 9-42433
 alloys, short-range order, electronic theory using pseudopot. approx., review 9-47004
 holes, in degenerate bands, variational principle for Landau levels, const. mag. field 9-33219
 LCAO method, optimised version appl. to Cu 9-33220
 LCOB, pseudobinary semiconductors energy band calc., compositional disorder effect determ. 9-42442
 local potential problems, improved Pauli Hamiltonian 9-19499
 multipole wave functions, singular points in band struct. and Wannier function tails, Cu cond. band appl. 9-37956
 multipole wave functions for photoelectrons, constant-energy-surface harmonics, Cu s-d band appl. 9-37955
 partially filled s band, strong intraatomic interaction 9-28271
 photoelectrons in crystals, scatt. by impurity centre, multipole wavefunctions 9-42490
 semiconductor, impurity band props. 9-23888
 semiconductor, zero gap, collisionless, anomalous Hall effect 9-23988
 semiconductor heterojunction, interface states, two-band-narrow gap approximation 9-24059
 semiconductors, polycrystalline, electrical conductivity theories (Czech) 9-42537
 surface electronic wave functions in semi-infinite, muffin-tin lattice, spherical-wave method 9-42603
 TTT_{1,3}, charge transfer salt, Coulomb effects 9-28308
 two-band alloy, Green's function from multiband theory 9-37952
 Pb chalcogenides, interband absorpt., optical absorpt. coeff., two- and six-band models 9-33728
 Pd, dielec. screening and phonon frequencies using isotropic noninteracting s-d-band model 9-19343
 Pd, Fermi surface, extremal cross section, press. derivative, band struct. calc., LMTO method 9-11055
 Pt, dielec. screening and phonon frequencies using isotropic noninteracting s-d-band model 9-19343
 ScM, (M=Ru,Rh,Pd,Ag), electronic struct., self-consistent local density functional calcs., LMTO method 9-11059
 Si:H, amorphous, electronic states of hydrogenated Si, theory 9-42494
 UO₂, localised versus itinerant 5f electrons exam., reflectivity meas. 9-19905
 USb, localised versus itinerant 5f electrons exam., reflectivity meas. 9-19905
 V, dielec. screening and phonon frequencies using isotropic noninteracting s-d-band model 9-19343
- bands (kink) see kink bands**
- bandwidth compression**
 see also vocoders
 hearing aids, limitations of voiced portion of speech 9-29668
 SAW/CCD hybrid signal processor 9-32163
 speech signals, time-domain algorithms for harmonic bandwidth compression 9-46125
- Bardeen-Cooper-Schrieffer theory see BCS theory**
- barium**
 see also nuclei with
 adsorbed layers on W, Auger and work function meas., impregnated W cathode model 9-43073
 atom, 4d subshell spectra, strong interaction regime 9-18165

barium continued

- atom, autoionis. spectrum, pair splittings 9-13684
 atom, spectra even-parity $J=2$, multichannel quantum-defect anal. 9-31445
 atom, two-photon spectroscopy, highly excited even levels, $J=0$ spectrum anal. 9-31447
 atom, two-step autoionis., double ionis. anomaly 9-22671
 coadsorption with Cs on W (100), work function of surface under equilibrium conditions 9-15025
 eye rod photoreceptors, vertebrate, opposing effects of Ca^{2+} and Ba^{2+} 9-24990
 fission product, solubility and migration in oxide fuel 9-19373
 ions, resonance fluorescence and optical sideband cooling of electro-dynamically contained ions 9-3422
 laser, energy characts. at $1.5 \mu\text{m}$ 9-13953
 Raman conversion of XeCl-laser radiation in metal vapours, up to 40% efficient 9-23025
 Ba I, 440 to 830 Å, 5p absorpt. spectra 9-31455
 Ba II star HR 774, Reticon spectra rel. to Mg isotopes and s-process elements 9-25594
 Ba isotopes, isotope shifts and hyperfine struct. from laser spectroscopy 9-9460
 Ba-Al-Si, exam. of phase diagram, confirmation of BaAl_2Si_2 and $\text{Ba}(\text{AlSi})_2$ (Russian) 9-29019
 Ba + Ba^+ , $6p^2\text{P}$ level lifetimes, depolaris. cross-sections, Hanle effect obs. 9-26943
 Ba + CCl_4 - BaCl_2 + $\text{CCl}_2(\text{A})$, chemiluminesc. spectrum and ang. distrib. obs. 9-15962
 Ba + Kr, collision induced dipole transition, elec. quadrupole transition, oscillator strengths 9-41128
 Ba + N_2O , chemiluminescent flame, BaO states population 9-39153
 Ba⁺ + Ba, $6p^2\text{P}$ level lifetimes, depolaris. cross-sections, Hanle effect obs. 9-26943
 Ba⁺ + Ba^{*}, radiative collisional fluoresc. at sum freq. 9-18261
 Cs-Ba Knudsen thermionic converter performance optimisation 9-27840
 KCl:Ba, defect struct., dark-field microscopy, anal. of decoration patterns 9-23506
 KCl:Ba(Ca)(Sr), microstruct. and hardness, impurity distrib. effects 9-24529

barium compounds

- α -celonian-leucospherite-tuhualite-milarite series of cpds., struct. types 9-19223
 ferrite compounds, microsyntactic intergrowth and cryst. defects, TEM obs. 9-10858
 ferrite platelets in multidomain state and at saturation, FMR absorpt. 9-42841
 ferrite powder, effect of lattice defects on coercivity (German) 9-24194
 formate, cryst., Raman scatt. 9-4804
 psilomelane type structures, rel. between rutile, β -gallia, hollandite and $\text{Ga}_4\text{Ti}_{1-x}\text{O}_{2-x}$ type struct. 9-37664
 Ba-ferrite, Hall effect and electrical conductivity 9-42564
 Ba-ferrite, Hall effect caused by remanent magnetisation 9-38109
 Ba-O system, adsorbed layers on W, Auger and work function meas., impregnated W cathode model 9-43073
 Ba_{0.25} Sr_{0.75}Nb₂O₆, inhomogeneous ferroelec., photorefractive effect 9-42935
 Ba₂AgNb₂O₁₅, Ba₂AgTa₂O₁₅, ferroelec. and ferroelastic props. (French) 9-24266
 BaAl₄ type structure, role of elongated rhombic dodecahedron in alloy structures 9-32946
 BaAl₂O₁₉, single crystals, Czochralski growth, Al₂O₃-BaO phase diagram, cryst. quality 9-24428
 Ba₂Bi³⁺Bi⁵⁺O₆, structure and elec., mag., thermal props. vs. temp. X-ray and neutron powder diff. study 9-19189
 BaBr₂:Sm²⁺, spectra, ³D states, Lauer-Fong formula and SCC model 9-15513
 BaBr₂.2H₂O, pure and deuterated, low temp. IR and Raman spectra (German) 9-19874
 BaCO₃, decomp., rel. to CO₂ transport in BaO 9-23780
 BaCO₃, precipitation induction errors, a method for determ. 9-5175
 BaCO₃, soln. kinetics and activation heat (German) 9-16031
 Ba¹⁴CO₃ gel suspension scintillation counting problems 9-3283
 BaCO₃-PbCO₃ systems, solid soln. form., regions of existence 9-11581
 BaCO₃ + BaO + SiC react., contact phenomena at SiC grain boundary 9-43193
 BaCO₃ + Ti(Zr)(Hf)O₂, reacts., mechanism, effect of polymorphic transitions 9-11605
 Ba₂CaUO₆, luminescence and energy migration 9-4837
 BaCl + Ar(He)(N₂), intermultiplet energy transfer 9-27063
 BaCl₂ film, UPS exam. 9-38716
 BaCl₂:Sm²⁺, spectra, ³D states, Lauer-Fong formula and SCC model 9-15513
 BaCl(C^{II}) + He(Ar)(N₂), collisional quenching, laser induced fluoresc. decay meas. 9-27075
 BaClF:Sm²⁺, radiationless processes 9-33792
 Ba(ClO₄), D₂O, D quadrupole coupling, temp. depend. 9-31551
 BaClO₄.H₂O, force fields and normal coords. of H₂O mols. 9-31500
 Ba(ClO₄), H₂O, cryst., O-H bond lengths, H-O-H angles, corrections 9-32943
 BaCl₂.2H₂O, ferroelastic effect obs. 9-28033
 BaCl₂.2H₂O(D₂O), lattice vibr., IR and Raman spectra 9-15443
 BaCoF₄, low temp. magnon effects on polarisation 9-42905
 Ba₂CoReO₆, seignettomagnets with perovskite struct. 9-38459
 Ba₂Cu(OH)₆, EPR, g-values 9-19770
 BaF₂ film, UPS exam. 9-38716
 BaF₂ IR window refractive index var. with temp., -180° to +200°C obs. 9-14052
 BaF₂ purification for laser components, selective ion filter design and construction 9-14051
 BaF₂, U-centre, electronic struct. and optical transition energies, SCF MS X_α calc. 9-4532
 BaF₂:Ce³⁺, EPR of low-symmetry sites 9-47332
 BaF₂:Er³⁺, fluoresc., importance of defect clustering 9-33827
 BaF₂:Sm²⁺(Tm²⁺), vibronic spectra and dynamics of impurity-containing lattice 9-1787
 BaF₂:Tm²⁺(Yb³⁺), axial g-values of 4f¹³ ions with trigonal symmetry (Korean) 9-24135
 BaF₂:U³⁺, single crystal, superhyperfine interaction of tetragonal centres 9-42834

barium compounds continued

- BaF₂-MnF₂-FeF₃ system, X-ray investigation, struct. relations, liquid-solid equilibria diagram, study by DTA (French) 9-34017
 BaFCl, luminesc. and ionic conduction 9-28829
 BaFe₂O₁₉, effect of impurity concentrations, and sintering conditions on grain size (German) 9-23630
 BaFe₂O₁₉, high field Mossbauer effect on ⁵⁷Fe at room temp. and 4.2K 9-24238
 Ba₂FeReO₆, seignettomagnets with perovskite struct. 9-38459
 Ba₂Ga₂GeO₇, gehlenite struct., synthesis and physicochem. props. 9-43181
 BaH₃, proton chemical shift tensor, heavy ion effects 9-19791
 Ba(H₂PO₄)₂, X-ray cryst. struct. determ. 9-7589
 BaH[AsCr₂O₁₀], X-ray cryst. struct. determ. 9-42019
 BaHg₁₁ type structure, role of elongated rhombic dodecahedron in alloy structures 9-32946
 BaI molecule UV band systems 9-22728
 Ba₂M₁₁M₁₁F₉, (M₁₁=Fe, Co, Ni, Zn; M₁₁'=V, Cr, Fe), solid state synthesis and cryst. chem. study (French) 9-41988
 BaMgF₄, low temp. phonon effects on polarisation 9-42905
 BaMnF₄, incommensurate phase, Brillouin spectra 9-42981
 BaMnF₄, low temp. phonon, and exciton effects on polarisation 9-42905
 BaMnF₄, luminesc., emission from localised traps 9-33777
 BaMnF₄, spectroscopy, ferroelectric/ferromagnetic coupling 9-19845
 BaMnF₄, struct. and mag. transitions, magnon dispersion curves, nearest neighbour exchange const. 9-42760
 Ba₂MnReO₆, seignettomagnets with perovskite struct. 9-38459
 BaMo₄, M=Mo, W, EPR spectrum, temp. depend. of zero field splitting 9-15346
 BaMoO₄, external lattice vibr. modes and elastic wave vels., dispersion relations 9-33050
 Ba(NO₃)₂, Born-Mayer interaction pot. and lattice props. 9-37858
 Ba₂NaNb₂O₁₅, absorption loss effects on frequency-doubled operation of Nd:YAG laser 9-36957
 Ba₂NaNb₂O₁₅, electrooptic coeffs. and refractive indices 9-33673
 Ba₂NaNb₂O₁₅, high-pressure phase transitions, ferroelastic phase 9-7687
 Ba₂NaNb₂O₁₅, low temp. ferroelectric transitions, birefr. and dielec. meas. 9-38499
 Ba₂NaNb₂O₁₅, optical mode softenings, Raman scatt. meas., 1.5 to 600K 9-33631
 Ba₂NaNb₂O₁₅, Raman spectra in elec. field 9-1763
 Ba₄₊₃Na₃₋₂Nb₁₀O₃₀, tetragonal tungsten bronze structure ferroelec. mech. for ferroelec. transition 9-38481
 BaNiF₄, low temp. magnon effects on polarisation 9-42905
 Ba₂NiF₆, obs. of short range order by optical birefringence 9-11318
 BaO, association with N₂O₄=2NO₂=2NO+O₂ system, 350-650K (Russian) 9-20363
 BaO, C^Σ-level, perturbation, extra lines, assignment 9-18213
 BaO, CO₂ transport kinetics following BaCO₃ decomp. 9-23780
 BaO, cryst., Debye characteristic temp. calcs. 9-37796
 BaO, determ. in glass, at. absorpt. method (Polish) 9-24872
 BaO epitaxial films, cathode poisoning due to O₂, CO₂, and S, surface anal. 9-42600
 BaO, film, initial struct., field electron emission microscopy and LEED determ. 9-11033
 BaO films on Ir, thermionic props., Auger, LEED, and emission microscopy 9-43089
 BaO surface, AES peak height calibrations 9-43072
 BaO, transition moment of diatom., p-evaluation 9-31612
 BaO-Al₂O₃-P₂O₅, exam. of electron beam irradi. effects on physical props. 9-4253
 BaO-Al₂O₃-P₂O₅, electron beam irradi., temporal change in electric field produced 9-4760
 BaO-Al₂O₃-SiO₂-H₂O system, phase transitions during hydrothermal treatment 9-43216
 BaO-B₂O₃-GeO₂, exam. of glass formation and physicochemical props. 9-4959
 BaO-B₂O₃-V₂O₅ glasses, polaron hopping cond., optical absorpt. and ESR spectra 9-23966
 BaO-Fe₂O₃-B₂O₃ glass, Mossbauer study of struct. and mag. props. 9-47369
 BaO-GeO₂-Na₂O-H₂O system, hydrothermal crystn., phase formation laws 9-46636
 BaO-Nd₂O₃-P₂O₅ ultraphosphate glasses, Nd³⁺ conc. quenching of luminesc. effect 9-19931
 BaO-OsO₃ system 9-24739
 BaO-SiO₂, molten, corresponding state principle with KF-BaF₂ and appl. 9-11589
 BaO-SiO₂-Fe₂O₃ permanent mag. ceramics, exam. of phase diagram, using X-ray analysis, optical microscopy, electron probe anal., and thermal analysis (German) 9-29012
 BaO-TeO₂ glass, struct. and props. (Japanese) 9-32917
 BaO-TiO₂-Nd₂O₃, exam. of compositional and dielectric props. 9-33601
 BaO + BaCO₃ + SiC react., contact phenomena at SiC grain boundary 9-43193
 BaO.n Fe₂O₃, magnet, effect of SiO₂ on texture and densification behaviour (German) 9-24631
 Ba₃(PO₄)₂ glass, phase equilibrium data 9-27923
 Ba₃(PO₄)₂ glass, phase equilibrium data 9-27922
 Ba₃(PO₄)₂:Eu, X-ray phosphor, study of emission and trapping centres 9-8197
 BaPb_{1-x}Bi_xO₃ film, RF sputtered, T_c as function of comp. and annealing conditions 9-24100
 BaPb_{1-x}Bi_xO₃, struct. determ., X-ray and neutron diff. study 9-42039
 Ba₃Re₂O₉, cryst. struct., mag. and semicond. props. 9-10836
 BaS:Cu phosphor, photo- and electro-luminescence 9-43030
 BaSO₃, suspension, light scatt., optical anisotropy determ. by polarisation ratio 9-1772
 BaSO₄, crystallisation, seeded growth kinetics, inhibitor effects 9-37644
 BaSO₄, growth curves, growth affinity presentation, for growth from soln. 9-27936
 Ba₂SO₃.H₂O, X-ray powder data 9-14767
 Ba₄Sb₂LiO₁₂, Li sites determ., using method based on bond-strength calcs. 9-7514
 Ba₂Si₂TiO₆, fresnoite single cryst. SAW characts. 9-37913
 Ba_{0.25}Sr_{0.75}Cr_{1-x}O₈, X-ray cryst. struct. and composition determ., new hollandite phase 9-14750
 Ba_{0.25}Sr_{0.75}Nb₂O₆, anomalous photovoltaic effect and photocond. 9-38122
 Ba_{0.25}Sr_{0.75}Nb₂O₆, ferroelectric, anomalous photovoltaic effects 9-7861
 Ba₂Sr_{1-x}TiO₃, ferroelec., with impurities, lattice dynamics 9-28061
 Ba₂Sr_{1-x}TiO₃, thin ferroelec. layers 9-42912

barium compounds continued

- BaTiO₃:Mn, ferroelec. domain stabilisation by bulk ordering of defects 9-42925
 Ba(TCNQ)₂, electronic absorpt. spectra, vibronic struct., charge transfer bands 9-24331
 Ba(Ti₂SnO₃), thin film elec. and photoconductivity 9-33366
 (BaTi) citrates, thermal decomp., thermal anal., IR and X-ray diffr. obs. 9-24735
 BaTiO₃, acceptor doped, exam. of electrical conductivity 130 to 300°C 9-33286
 BaTiO₃, anomalous photovoltaic effect and photocond. 9-38122
 BaTiO₃, bulk photovoltaic effect in ferroelects. 9-15181
 BaTiO₃, chemically precipitated, exam. of sintering behaviour by isothermal shrinkage (*German*) 9-4935
 BaTiO₃, Co substituted, ferroelec., diffuse behaviour 9-38475
 BaTiO₃, coherent excitation of soft polariton mode 9-15464
 BaTiO₃, dielec. and optical props. using shell model 9-33654
 BaTiO₃, dielectric ceramic, interaction with metallic film during sintering 9-33958
 BaTiO₃, diffr. of Mossbauer radiation near Curie point (*Russian*) 9-8079
 BaTiO₃, displacive type ferroelectric, SHG 9-36955
 BaTiO₃, domain struct., formation at phase transitions 9-38510
 BaTiO₃, donor doped, exam. of heterogeneous microstructure (*German*) 9-24632
 BaTiO₃, electrode, surface comp. changes during photoelectrolysis, XPS obs. 9-7894
 BaTiO₃, electronic struct., XPS and band struct. calc. 9-38708
 BaTiO₃, electrostatic energy calc. by plane-wave summation method 9-23564
 BaTiO₃, exam. of anomalous pyroelectric effect above Curie point 9-33613
 BaTiO₃, exam. of PTC effect as function of Ti excess (*German*) 9-23960
 BaTiO₃, ferroelec., appl. of pseudo-ionic model for ionic cryst. 9-33049
 BaTiO₃, ferroelec., crit. X-ray scatt. 9-33636
 BaTiO₃, ferroelec., repolarisation in SEM 9-15424
 BaTiO₃, ferroelec., reduction of hysteresis losses 9-42926
 BaTiO₃, ferroelec., X-ray diffr. topographic study of polarisation reversal 9-38442
 BaTiO₃, ferroelec. thin films, r.f. sputtering, X-ray and microprobe obs. 9-47627
 BaTiO₃, ferroelectric polydomain crystals, piezoresonance effects, appl. as transducer 9-4779
 BaTiO₃ film, sputtered, elec. props. 9-42676
 BaTiO₃ films, ferroelec., effect of elec. field on dielec. props. 9-33642
 BaTiO₃, light scatt., Comes Lambert Guinier model 9-15471
 BaTiO₃, melt grown, drift mobility meas. 9-19596
 BaTiO₃, O K_α X-ray emission band spectra (*Russian*) 9-15563
 BaTiO₃, ohmic noble metal contacts using In₂O₃ layer 9-42638
 BaTiO₃, phonon scatt. surfaces obs., by neutron film methods 9-46761
 BaTiO₃, piezoceramic, nonlinear piezoeffect 9-42900
 BaTiO₃, polycrystalline, exam. of effect of freq., temp. and DC electric field strength, on elastic consts. 9-1890
 BaTiO₃, powder, anomalous particle size effect, demonstration with high resolution energy dispersive diffractometer using synchrotron radiation 9-14640
 BaTiO₃ powder, dispersion effect on meas. in electrical sensing zone particle size counter 9-17383
 BaTiO₃, pure, dielec. behaviour at ultralow freq. 9-38425
 BaTiO₃, pure, dielectric const. and elastic compliance temp. depend. for various phases 9-19830
 BaTiO₃, pure and doped, photocurrent kinetics 9-42576
 BaTiO₃, rare earth doped ceramics, thermolum. and microwave induced thermolum. fading 9-1792
 BaTiO₃, single crystals, electron microscope study of domain and defect structs. 9-15425
 BaTiO₃, soft mode exam. 9-37799
 BaTiO₃ surface voids, Auger spectrochem. anal., organic contamination 9-24467
 BaTiO₃, synthesis by solid-solid reactions 9-38776
 BaTiO₃, synthesis by solid-solid reactions 9-38777
 BaTiO₃, thin film elec. and photoconductivity 9-33366
 BaTiO₃, transform. of cryst. struct., at cubic-to-tetragonal phase transitions 9-37827
 BaTiO₃, transport and optical props., small polaron hopping theory 9-47096
 BaTiO₃, vacuum condensates, epitaxial growth on SrTiO₃ crystals, electron diffr. and TEM anal. 9-15051
 BaTiO₃, X-ray diffr. intensities, anomalous temp. depend. (*Russian*) 9-1484
 BaTiO₃:Al, 0.05-0.3 wt.%, ceramic dielectric, dielec. and mech. props. 9-8091
 BaTiO₃:Fe, photoinduced Rayleigh scatt. and bulk photovoltaic effect 9-38554
 BaTiO₃:Fe, short circuit photocurrent, depend. on polarization 9-38121
 BaTiO₃:Mn²⁺, electrooptical effect, charge transfer mechanism, defect. pair form. 9-38519
 BaTiO₃:Nb, ferroelec. and paraelec. phases, props. 9-42919
 BaTiO₃:ZrO₂, dielec. loss tangent and const. 9-4769
 BaTiO₃-BaNb₂O₆, semiconducting ferroelectric ceramic, nonlinearity of dielectric layer capacitance 9-8098
 BaTiO₃-CuO(TiO₂)(ZrO₂) mixture, exam. of liquid phase sintering, densification 9-33979
 BaTiO₃-PbO-B₂O₃, liquid phase sintering, effect on props. (*German*) 9-33980
 BaTiO₃-x, ferroelec., Auger spectroscopy of surface layers 9-42343
 BaTiO₃ effect of chemical treatment on loss quality, at microwave wavelengths 9-34159
 Ba₂Ti₂O₇, effect of chemical treatment on loss quality, at microwave wavelengths 9-34159
 BaTi(PO₄)₂, cryst., luminesc., struct. interpretation 9-47489
 Ba₁₀₀Ti₁₀₀₋₁Sn₁+0.3 at.%Sb, intergranular capacitor, effect of microstructure on electrical props. 9-34160
 Ba₂V₂O₇, cryst. struct. determ. and bond strength anal. 9-23576
 BaWO₄ crystals, X-irradiated, EPR, TSC and thermoluminescence spectra meas. 9-1791
 BaWO₄, external lattice vibr. modes and elastic wave vels., dispersion relations 9-33050
 BaWO₄, single cryst. growth by Czochralski method and U incorporation, effective distrib. ratios, luminesc. chars. 9-42094
 BaWO₄:Er³⁺, spin-lattice and spin-spin relax. times, electron spin echo obs. 9-28609

barium compounds continued

- BaX₂, X=Cl, Br, I, valence shell electronic struct., ab initio SCF calc. photoelectron spectra 9-31383
 Ba₂Zn_{2-2x}Cu_{2x}Fe₂O₂₂, hexagonal ferrites, prep. and mag. characterisation 9-1727
 BaZnF₆, low temp. phonon effects on polarisation 9-42905
 BaZrO₃-LaAlO₃ systems, sintering conditions, elec. props. 9-43184
 Ba[Pt(CN)₄].4H₂O, polarised time-resolved emission spectra 9-33811
 CaBaFe₂O₈, Mossbauer study 9-38414
 CaO, CO₂ transport kinetics following CaCO₃ decomp. 9-23780
 Fe₂O₃-BaO-CoO system, phase comp. and mag. props., Bi₂O₃ additions effect 9-29032
 K_{6-2x}Ba_{2x}M₂(Si₂O₇)₂, M=Nb,Ta, IR spectra, appl. to nonstoichiometry in cpds. with (M₂X₂O₆) layers (X=Si,Ge) (*French*) 9-11418
 (K_{0.5}La_{0.5})₂Ba_{1-x}TiO₃, cryst. struct., dielec. and IR spectral meas. 9-46614
 K₂O-CaO-BaO-SiO₂ (Ba₂O) (GeO₂), calc. of network refraction a. exam. of glass structure 9-4783
 LiBaAlF₆:Eu²⁺, luminesc., band emission and line emission 9-28810
 LiF-BaF₂, densities of binary molten salts (*Japanese*) 9-7644
 (Li_{0.5}Ba_{0.5})₂Ba_{1-x}TiO₃, cryst. struct., dielec. and IR spectral meas. 9-46614
 Pb_{0.5-x}Ba_{0.5x}Gd_{0.11}, Raman spectra, temp. depend. of ferroelec. soft A-mode 9-33682
 (Pb_{1-x}Ba_x)_{1-x}La₂Nb_{2-x}O₆, ferroelec., phase transitions 9-38487
 Sr_{0.25}Ba_{0.75}Nb₂O₆ film, growth and electrophys. props. 9-42928
 Sr_{0.5}Ba_{0.5}Nb₂O₆ crystals, ferroelec., dislocation free, pyroelec. props. 9-42907
 Sr_{0.75}Ba_{0.25}Nb₂O₆ single cryst., electro-optical hysteresis curves and phase transitions (*German*) 9-28717
 Sr_{1-x}Ba_xNb₂O₆, tetragonal tungsten bronze structure ferroelec. mech. for ferroelec. transition 9-38481
- Barkhausen effect**
 ferromagnet, magnetisation noise and power loss 9-24197
 machined surface layer structure determ. using Barkhausen noise probe (*German*) 9-24710
 magnetic noise meas. method based on periodicity of Barkhausen jumps 9-17452
 soft magnetic material, analysis by means of Barkhausen noise cross spectra 9-24199
 soft magnetic materials, effect on static losses (*Slovak*) 9-4695
 steel, mild, plastic deform. during fatigue, detection by Barkhausen noise meas. 9-43524
 steel 42NKHtYUa wire, hysteresis loop and differential permeab. after US and conventional drawing 9-15818
 TGS, ferroelec. crystal, Barkhausen effect study 9-38507
 TGSe, ferroelec. crystal, Barkhausen effect study 9-38507
 weak magnetic samples, conduction of flux 9-28560
 Co-Ni-Fe, semi-hard magnet, irreversible magnetisation changes, directional distrib. 9-24196
 Fe, irreversible magnetisation changes, directional distrib. 9-24196
 Fe-Al-Co-Ni, Alnico alloys, irreversible remagnetisation processes in rotating fields (*Russian*) 9-8015
 Fe-Ni alloy, low-noise, for cores of ferromag. probes and mag. modulators 9-8017
 Fe-Si, strips and rods, spatial extent of flux due to irreversible changes of mag. polarisation 9-33506
 NaH₂(SeO₃)₂, ferroelec. crystal, Barkhausen effect study 9-38507
 Ni, simultaneous obs. of Barkhausen and magnetoplastic effect 9-28583
 NiFe film, stationarity and behaviour of Barkhausen noise 9-24198
 SmCo₄Cu_{0.7}, highly anisotropic ferromag., mag. state after large Barkhausen jump (*Russian*) 9-4699
- Barnett effect** see gyromagnetic effect; magnetisation
- barometers**
 IC barometer using op. amps. and pressure transducer 9-35709
 sensor for constant-level balloon expt., boundary layer to 100 mbar level 9-21047
- barometric pressure** see atmospheric pressure and density
- barrages** see dams
- barrel distortion** see aberrations
- barretters** see thermistors
- baryon-baryon interactions**
 see also baryon-baryon scattering; hyperon-nucleon interactions; nucleon-nucleon interactions
 No entries
- baryon-baryon scattering**
 see also baryon-baryon interactions; hyperon-nucleon scattering; nucleon-nucleon scattering
 diffractive scatt., field theoretic model with quark field operators 9-26318
- baryon decay**
 see also baryon hadronic decay; baryon leptonic decay; hyperon decay
 baryon+antibaryon bound states, NN, quasinuclear levels, annihilation, influence of decay channels, multichannel model 9-2912
 charmed baryons, semileptonic decays, SU(4) breaking, mag. moments, suppression factors 9-387
 charmed particles, masses and decay consts. in SU(4)×SU(4) broken chiral symmetry 9-40686
 hadron resonance decay, intermediate vector boson and high energy weak interaction detect. 9-22012
 nucleon stability testing, radiochemical and geochemical method limits 9-22093
 B₆-e⁺+hadrons, decay due to weak neutral currents (*Russian*) 9-22146
 D₁₅-pγ, SU(6) selection rule violation from quark hyperfine interactions 9-6329
- baryon hadronic decay**
 baryon, charm changing weak decays 1/2⁺→3/2⁺+0⁻/γ in SU(4) and SU(8)_w 9-3021
 Bethe-Salpeter formulation for baryon matrix elements in hadronic weak decays 9-386
 charm-changing decay, derivation of selection rules 9-13120
 charmed baryons, quark-diquark model of nonleptonic decays 9-13120
 charmed multiplet decay, 3/2⁺ decuplet isobars in SU(3) symmetry, dynamical assumption 9-26333
 hyperon decays, theoretical description, and sum rules for NNπ amplitudes 9-17663
 hyperons, quark-diquark model of nonleptonic decays 9-13120

baryon hadronic decay continued

- non-leptonic hyperon decays and the baryon spectrum, S- and P-waves, quark model description 9-36073
- nonleptonic hyperon decays and lightlike chiral struct. of hadrons 9-36074
- pionic decays, anal. of baryon reson. photocoupling signs 9-22094
- SU(3) quark sectors, weak hadronic and radiative decays of nonstrange charmed baryons 9-22092
- D_{05} -KN, SU(6) selection rule violation from quark hyperfine interactions 9-6329
- Ω^- , charm changing weak decays $1/2^+ \rightarrow 3/2^+ + 0^-/\gamma$ in SU(4) and SU(8)_w 9-3021
- Ω_s^{*++} , charm changing weak decays $1/2^+ \rightarrow 3/2^+ + 0^-/\gamma$ in SU(4) and SU(8)_w 9-3021

baryon interactions see *baryon-baryon interactions; lepton-hadron interactions; meson-baryon interactions; photon-hadron interactions*

baryon leptonic decay

- β -decay, neutrino-free, theory, weak interaction const. derivation 9-13254
- neutron beta decay characteristics 9-6338
- neutron decay, radiative corrections to proton recoil spectrum 9-13119
- C_0^+ charmed baryon weak decays 9-9369

baryon mass

- see also *hyperon mass*
- baryonia mass spectra calc. incl. spin-dependent forces 9-26309
- charm baryons, mass splitting and weight diagrams 9-26314
- charmed, baryon spectrum due to chromomagnetic and electromagnetic hyperfine interaction 9-13123
- charmed particles, masses and decay consts. in SU(4) \times SU(4) broken chiral symmetry 9-40686
- EM mass differences, one gluon exchange contrib. 9-3024
- negative parity baryons, spectrum and mixing angles, QCD type quark model 9-26307
- neutron, ratio of mass to Planck's const. (German) 9-6077
- SU(5) symmetry with beauty quark, baryon and meson mass spectra 9-45079

baryon photoproduction

- see also *hyperon production; neutron production; proton production*
- radiative transitions of baryons in the MIT bag model 9-40722
- $\Delta(1232)$ production by virtual photons, Δ^{++} and Δ^0 prod. 9-9383

baryon production

- see also *baryon photoproduction; hyperon production; neutron production; proton production*
- baryon number generation in grand unified theories 9-26279
- cosmological baryon production, expanding Universe, baryon to entropy ratio, number nonconservation 9-44652
- diquark and quark jet fragmentation model, meson and baryon production 9-2979
- hydrodynamic theory of multiple hadron production, new approach (Russian) 9-6332
- photoproduction, and Compton scatt., formalism 9-9384
- spin-parity test using polarised proton targets or beams 9-9427
- $\Delta^{++}(1232)$, mag. dipole moment calc., from πp data 9-22133
- $\Delta^{++}(1232)$ inclusive prod. in $\pi^- p$ interactions at 147 GeV/c 9-17772
- $\Delta^{++}(1236)$, Δ^{++} inclusive prod. in $p\bar{p}$, interaction mech. 9-3054
- e^+e^- annihilation, prod. of orbitally charmed hadrons, free quark model anal. 9-22120
- K^-n reactions, quasi two-body final states at 8.25 GeV/c 9-22139
- $K^+p \rightarrow X\Delta^{++}$, absorption corrections to three Reggeon formulas (Russian) 9-9423
- $K^\pm p \rightarrow K^\pm(\Delta^{++}\pi^-)$, 8.25 GeV/c, proton diffraction region 9-9405
- $\pi^-p \rightarrow \Delta^{++}X$, 100, 200, 360 GeV/c, δ^{++} inclusive and semi-inclusive prod. cross sections 9-40817
- π^-p inclusive reactions, 147 GeV/c, average charged particle multiplicities 9-40818
- $\pi^-p \rightarrow n\pi^- \pi^+ \pi^+$, 12 GeV/c, Δ^- , ρ and f prod., baryon exchange 9-423
- Σ^\pm prod., 4-7 GeV e^+e^- annihilation 9-9387

baryon resonances

- see also *hyperon resonances*
- baryon+antibaryon bound states, NN, quasinuclear levels, annihilation, influence of decay channels, multichannel model 9-2912
- baryonia mass spectra calc. incl. spin-dependent forces 9-26309
- baryonium, exotic nuclear state or four quark boson resonance? 9-325
- baryoniums coupled directly to photon 9-17694
- Brayshaw and Peierls mechanisms for generating hadron peaks, $N^*(1470)$, $O(1020)$ and charm 9-404
- cosmological baryon production, expanding Universe, baryon to entropy ratio, number nonconservation 9-44652
- di-nucleon exotics and quark statistics 9-13071
- dibaryon resonances, quark cluster model 9-13081
- dibaryon resonances in πNN and $\pi\pi NN$ dynamics 9-13177
- finite-range effects in the πNN , $\pi N\Delta$ and $\pi\Delta\Delta$ vertices 9-22129
- hadron resonance decay, intermediate vector boson and high energy weak interaction detect. 9-22012
- multibaryon resonances, coloured quark-cluster model, possible 3-baryon state 9-6318
- nucleon excited states in nuclei, expts. on 2H and 3He (French) 9-3179
- nucleon fluid, excitation to $N^*(1234)$ state, lowest order constrained variational calcs. 9-40864
- nucleon isobars in nuclear struct., $\Delta(1236)$ role in exchange currents 9-26378
- photoproduction, and Compton scatt., formalism 9-9384
- pionic decays, anal. of baryon reson. photocoupling signs 9-22094
- pseudoresonance Argand loops (Russian) 9-9354
- QCD, resonance props. from sum rules 9-26301
- quark cluster, model of ordinary and exotic hadrons 9-40759
- quark string model, hadron spectrum, semiclassical approach, baryons and exotic hadrons 9-40747
- spin-parity test using polarised proton targets or beams 9-9427
- SU(4) symmetry predicted $1/2^+$ charmed baryons, C_1^{++} , C_1^+ , C_1^0 , $X_{1/2}^{++}$, $X_{1/2}^+$, possible observation 9-40758
- two-nucleon interaction isobar contributions from noncovariant perturbation theory 9-478
- D_{05} -KN, SU(6) selection rule violation from quark hyperfine interactions 9-6329
- $\Delta(1232)$ excitation in $e^+p \rightarrow e^+n^+$ 9-22115
- $\Delta(1232)$ production by virtual photons, Δ^{++} and Δ^0 prod. 9-9383
- $\Delta(1236)$ isomer, charged and neutral current prod. 9-17711
- Δ inclusive production, Mueller-Regge model 9-17767
- $\Delta^{++}(1232)$, mag. dipole moment calc., from πp data 9-22133

baryon resonances continued

- $\Delta^{++}(1232)$, spin density matrix, production in $\nu p \rightarrow \mu^- \pi^+ p$ 9-9362
- $\Delta^{++}(1232)$ inclusive prod. in $\pi^- p$ interactions at 147 GeV/c 9-17772
- $\Delta^{++}(1236)$, Δ^{++} inclusive prod. in $p\bar{p}$, interaction mech. 9-3054
- $\Delta^{++}(1236)$, prod. in $K^+ p$, and $p\bar{p}$ interactions (Russian) 9-9423
- $\Delta^{++}\Delta^0$ prod. in $p\bar{p} \rightarrow (\pi^+)(\pi^-)$ 9-6350
- $\Delta^{++}\pi^0\pi^0$ events in 4 GeV/c $\pi^+ p$ interactions 9-22132
- ed inelastic scatt., electrodisintegration at high energy and momentum transfer, exchange currents 9-6342
- $\gamma d \rightarrow pn$, EM properties of πNN system, virtual π reabsorption 9-22109
- $\gamma N \rightarrow N\pi$, instability of anal. results near $N\pi$ reson. region (Russian) 9-9385
- KN system, new reson. evidence in SU(6)_wXO(3) harmonic oscill. model 9-13178
- N , N^* , evidence for core of valence quarks 9-36025
- N and Δ resonances in nuclei, coupled channel eqns. soln. for nuclear matter 9-17845
- $N^*(1238)$, high energy neutrino reactions for weak interaction props. and hadron struct. investigation, book contrib. 9-30727
- (N Δ) quasi bound state, $T=J=2$ 9-45007
- NN, baryonium, internal struct. (Norwegian) 9-36032
- $\nu N \rightarrow \pi^\pm \Delta$, dynamical model 9-401
- $p\bar{n} \rightarrow \Delta^{++}\Delta^-$, quasi eikonal model anal., πP cut contribution, enhancement coefficients (Russian) 9-40798
- $pN \rightarrow N\pi\Delta(1236)$ above 6 GeV; crossed channel isospin amplitude anal. 9-6346
- pp , 1.5 GeV/c, phenomenological anal., dibaryon resonances 9-17750
- pp , 69 GeV/c, charged backward π prod., inclusive baryon resonance prod. cross section (Russian) 9-30760
- $pp \rightarrow d\pi^+$, polarised beam and target, N Δ intermediate states, coupled channel method 9-9392
- $p\bar{p} \rightarrow \Delta^{++}\Delta^-$, quasi eikonal model anal., πP cut contribution, enhancement coefficients (Russian) 9-40798
- $p\bar{p} \rightarrow n\Delta^{++}$, quasi eikonal model anal., πP cut contribution, enhancement coefficients (Russian) 9-40798
- π resonances, Peierls-Yoccoz projection applied to satellite meson coherent state 9-26345
- $\pi^-p \rightarrow \Delta^{++}X$, 100, 200, 360 GeV/c, δ^{++} inclusive and semi-inclusive prod. cross sections 9-40817
- $\pi^-p \rightarrow K^0\Lambda^0$, up to 1334 MeV/c, baryon resonance parameters 9-412
- $\pi^-p \rightarrow n\pi^+\pi^-$, 8 GeV/c, backward meson and baryon reson. prod. 9-415
- $\pi^-p \rightarrow p\bar{f}n$, M 0 state in $p\bar{n}$ search, M 0 state decay 9-36108
- $\pi^+p \rightarrow \rho^+\Delta^{++}$, quasi eikonal model anal., πP cut contribution, enhancement coefficients (Russian) 9-40798
- $\pi\Sigma$ resonances, asymptotic restrictions and sum rules (Russian) 9-22137
- Σ^\pm prod., 4-7 GeV e^+e^- annihilation 9-9387
- $Ca(\pi^\pm X)$, stopped π^- , fast π^\pm , 180, 220 MeV, interactions near $\Delta(1232)$ resonance 9-6712
- 3F_2 (2.22 GeV) diproton, obs. in $p\bar{p}$ scatt. 9-36093
- 4He (p,p), effective channel approach, N^* resonance effects 9-9570
- 4He , N^* -H configurations 9-17822

baryon scattering see *baryon-baryon scattering; lepton-hadron scattering; meson-baryon scattering; photon-hadron scattering*

baryons

- see also *baryon resonances; hyperons; nucleons*
- asymmetry in Universe, thermodynamic equilib. departure (Russian) 9-48975
- baryon number of the Universe 9-30163
- baryonic state even wave harmonic oscillator theory, structure functions versus form factor 9-393
- cosmological baryon production, expanding Universe, baryon to entropy ratio, number nonconservation 9-44652
- f-quark, five quark models and baryon magnetic moments 9-13020
- five quark models and mag. moments of baryons 9-26297
- micrononcausal Euclidean wave functions for baryons by assuming 'Yukawa type' couplings and G-parity 9-45030
- multiplicative baryon number conservation, H \rightarrow H oscill. upper limit, baryon to lepton transform. 9-298
- negative parity, spectrum and mixing angles, QCD type quark model 9-26307
- quark geometrodynamics, baryon struct., current and meson couplings 9-6320
- string model, string geometrical shape and overlapping functions 9-13073
- structure functions, dynamic relationship to baryonium trajectories 9-40763
- SU(6) breaking of baryon wave functions, chromodynamic spin-spin force 9-340
- SU(8) broken symmetry, baryon masses 9-290
- very early Universe, baryon asymmetry 9-40309
- Y-shaped baryon, baryon models and the planar bootstrap condition 9-3005

barysphere see *Earth core*

batch processing (computers)

- distributed computing system THESEUS for mag. field analysis 9-41293

batteries see *cells (electric); primary cells; secondary cells; solar cells*

Bauschinger effect

- grain boundary contribution, to Bauschinger effect 9-47759
- Incoloy 800H, high temp. low cycle fatigue, ageing and cold working effect 9-43277
- sign-reversing loading (Russian) 9-23224
- Al-Si (1.2 and 0.6 wt.%), single crystal, dispersion hardened with SiC, Bauschinger effect and work hardening 9-43360
- α , $\alpha+\beta$, β -Ti-Mn alloys, Bauschinger effect during cyclic straining 9-43310

Bayard-Alpert gauges see *ionisation gauges*

bays (magnetic) see *geomagnetic variations*

BCS theory

- see also *many-body problems*
- collective quantum fields for many body systems, appl. to BCS, 3He and type II superconductors (German) 9-35917
- general commutator equation in the algebra of spin operators 9-4638
- layer crystals, superconductivity using BCS model 9-15254
- linear fermion systems, molecular field models, and the KMS condition (German) 9-9178
- microscopic mechanism for the macroscopic asymmetry of superconductivity 9-19687
- open BSC model, dynamics in weak coupling limit 9-2738
- proximity-effect sandwiches BCS-like term in local density of states 9-1646

BCS theory continued

- retarded Josephson equation 9-19697
- superconducting metal, reliability of tunnel density of states 9-28483
- superconductivity theory, introductory remarks recent developments (*Chinese*) 9-47192
- ¹⁵⁸Er, number conservation, effect on energy spectra, deform. and B(E2) values 9-36122
- ¹⁶⁰Er, number conservation, effect on energy spectra, deform. and B(E2) values 9-36122
- Nb-NbO_x-Pb, miniature tunnel junction, gap voltage calc. 9-7939

beam choppers

- neutron time of flight anal., non-conventional methods, expt. capability study 9-44985
- neutrons, reverse Fourier TOF anal. with mech. beam choppers 9-6788

beam-foil spectra

- anisotropic excitation at large inclination angles, foil angle depend. 9-45820
 - ion-induced electron distributions, experimental resolution and background effects 9-36749
 - second-row elements, K-shell X-ray prod. by H(He) ion bombardment 9-47550
 - third-row elements, L-shell X-ray prod. by H(He) ion bombardment 9-47548
 - Tokamak plasma, heavy metal contaminants, rel. abundance and charge stable comp. diagnostics 9-46480
 - ⁷⁹Au+¹⁹F(²⁸Si), target L α X-ray prod., projectile charge state depend. 9-47549
 - B⁺, beam-foil excitation; absolute Auger yield meas. 9-45685
 - Be II, beam-foil spectra assignment, compared with HF energies, isoelectronic sequence 9-31424
 - C IV, beam-foil spectra assignment, compared with HF energies, isoelectronic sequence 9-31424
 - C⁺, beam-foil excitation; absolute Auger yield meas. 9-45685
 - C⁺, beam-tilted C foil interactions, charge-state distrib., photon emission, 100-400 keV 9-22814
 - Cl (IX-XV) allowed intra L-shell transitions, oscill. strengths and radiative lifetimes meas. 9-13676
 - Clⁿ⁺+Cu, effect on projectile charact. X-rays and REC of target thickness 9-45662
 - Cs L-shell X-ray prod. by H(He) ion bombardment 9-47548
 - Cs+H⁺, 4 MeV beam-foil X-ray production cross-section 9-7003
 - Fe II, Fe III, lifetimes, VUV beam-foil spectroscopy 9-22657
 - H⁺, beam-tilted C foil interactions, charge-state distrib., photon emission, 100-400 keV 9-22814
 - H₂⁺, energy spectra of emergent dissoci. and recomb. products from C film 9-45819
 - He I singlet transitions, polarisation meas. following beam-tilted foil excitation 9-13665
 - ⁶⁷Kr, ¹⁹F(²⁸Si), target L α X-ray prod., projectile charge state depend. 9-47549
 - Kr⁺, beam-tilted C foil interactions, charge-state distrib., photon emission, 100-400 keV 9-22814
 - Mg⁺, beam-tilted C foil interactions, charge-state distrib., photon emission, 100-400 keV 9-22814
 - MnI, transition probability and solar abundance, beam foil TOF meas. 9-40154
 - Mo, EUV spectra 5 to 55 nm using 22 to 200 MeV beams 9-46481
 - N⁺, beam-foil excitation; absolute Auger yield meas. 9-45685
 - N⁺, beam-tilted C foil interactions, charge-state distrib., photon emission, 100-400 keV 9-22814
 - Na V(VI)(VII), beam-foil spectra, extreme UV mean lifetimes and oscillator strengths 9-31456
 - Na⁺, beam-tilted C foil interactions, charge-state distrib., photon emission, 100-400 keV 9-22814
 - ²³Na⁺ polarised beam, beam foil technique for polarisation determ. 9-13843
 - ⁶⁰Nd+¹⁹F(²⁸Si), target L α X-ray prod., projectile charge state depend. 9-47549
 - Ne, foil excited, 6 to 10 MeV, equilibrium K-shell excitation 9-22817
 - O⁺, beam-foil excitation; absolute Auger yield meas. 9-45685
 - O⁺, beam-tilted C foil interactions, charge-state distrib., photon emission, 100-400 keV 9-22814
 - P⁺, beam-foil excitation; absolute Auger yield meas. 9-45685
 - S⁺, beam-tilted C foil interactions, charge-state distrib., photon emission, 100-400 keV 9-22814
 - Si, EUV beam foil spectra, highly resolved, fine struct. splittings 9-31448
 - Si¹²⁺, 1s2s²S-1s2p³P transitions 9-22632
 - Si+F⁴⁺, q=3-9, Si K-shell ionis., electron transfer cross sections, solid targets 9-10192
 - Zn II, beam excited levels, population inversion 9-18161
 - Zn I(II), low lying level lifetimes, beam foil spectra 9-36751
- beam-foil spectroscopy**
- collectively accelerated protons, nucl. activation, time-of-flight, and foil activation meas. 9-4195
 - fast ion beam (Z \leq 18), semi-empirical determ. of charge states (*French*) 9-45867
 - University of Liege beam-foil facility 9-45866
 - C, stripper foil prepared by cracking hydrocarbon vapour in glow discharge 9-31286
- beam handling equipment**
- 3 GeV proton synchrotron magnet design and meas. 9-31303
 - 30 T pulsed solenoid construction and life tests 9-31297
 - aberrational quadrupole lens system, for charged particle beam focusing, with finite emittance 9-26180
 - analog wire chambers for beam tuning 9-3267
 - axisymmetric high flux secondary particle channel 9-45502
 - beam profile monitor using Rutherford backscatt., emittance and luminosity meas. 9-45497
 - BNL short separators, modernisation and improvement 9-22525
 - CERN ISR, supercond. quadrupole magnets, wire dimension meas. and short circuit detection 9-31255
 - CERN SPS, supercond. bending magnets CESAR 9-31251
 - CERN Super Proton Synchrotron beam-splitting steel septum magnets 9-31295
 - CERN Super Proton Synchrotron extraction channel septum magnets 9-31296
 - charged particle beam position detectors, dielectric use 9-26794
 - cold neutron beam polarising supercond. hexapole magnet 9-31300

beam handling equipment continued

- colliding ring solenoidal detector magnetic system design and fabrication 9-31298
 - communication network within hierarchical control system, appl. to Fermilab beam line 9-45610
 - cylindrical magnetic lens, 100-300 kOe, use of Li 9-9257
 - double-drift beam bunching systems 9-45495
 - electron beam deflection system for scanning microprobe 9-2878
 - electron linac, 600 MeV, Saclay, 40000 hrs. of operation, recent improvements (*French*) 9-688
 - electrostatic lenses, lens properties and computational techniques 9-44983
 - electrostatic prism, electron optics for Auger spectrometer 9-29437
 - EN-tandem, foil stripper (*German*) 9-36437
 - energy doubler magnets, AC loss meas. 9-31277
 - energy doubler magnets, production characts. 9-31276
 - ESCAR magnet cooling system 9-30485
 - fast electrostatic chopper of low power consumption 9-31284
 - Fermilab energy doubler, supercond. magnets, mag. field meas. 9-31258
 - Fermilab energy doubler magnets, support design and cryostat system 9-31257
 - Harwell, neutron diffractometers, spectrometers and ancillary equipment 9-45527
 - heavy ion generator, 150 keV, for sputtering 9-697
 - heavy-ion beam buncher for ion pulsing into tandem accelerator 9-31280
 - Heidelberg proton microprobe, for PIXE anal. of small, 4 μ m², size samples 9-5239
 - HV generator for accelerator beam control 9-26797
 - Hyperon-I supercond. magnet for high-energy physics expts. 9-31302
 - intense low energy ion beam transportation, space charge blow up 9-44982
 - ion beam alignment and energy meas. analyser 9-6781
 - Los Alamos Meson Physics Facility proton irradiation port 9-9935
 - magnet and cryostat design 9-31252
 - magnetic spectrograph, fast resolution optimization 9-6792
 - moderator, MgO coated, for slow positron beam prod. 9-17557
 - MWPC for beam definition in precision total cross section meas. 9-3268
 - neut. beam injector for tandem mirror fusion reactor, delivering 1.2 MeV D atoms 9-22509
 - neutron curved monochromators, reflectivity data 9-45515
 - neutron monochromator, development of Institut Laue Langevin 9-45514
 - neutron super mirrors, reflectivities calc. 9-45320
 - proton microbeam scanner facility for trace element anal. in biological samples by p induced X-ray fluoresc. 9-5431
 - quadrupole triplet, electrostatic, for 10 mA MeV ion beam focusing, construction and performance details 9-3621
 - scanning microprobe, digitally controlled for p and heavy ions 9-13571
 - scintillation hodoscope counter for beam meas. in CERN SPS 9-36472
 - secondary beam profile monitor based on MWPC 9-6783
 - secondary electron imaging system for a nuclear microprobe 9-26799
 - SIN π -channel and spectrometer, technical aspects of pion scatt. facility 9-13574
 - SIN high resolution pion channel and spectrometer 9-22517
 - stressed parabolic magnetic lens, thermal effects 9-27151
 - superconducting accelerator magnets, magnetization effects on field shape 9-31253
 - superconducting coil for beam transport dipole magnet 9-31256
 - superconducting dipole magnet models of combined type 9-31301
 - superconducting dipole magnets, stress and strain distrib. 9-31250
 - superconducting dipole magnets for CERN beam line 9-31294
 - superconducting dipole models for accelerator-storage ring complex 9-31259
 - superconducting hexapole magnet construction and design 9-30503
 - superconducting magnets in synchrotron, quench thresholds after proton beam exposure 9-31254
 - synchronisation of neutron beam, ultracold neutron spectrometer 9-721
 - synchrotron, system for meas. spatial characteristics of extracted beam 9-26793
 - Tokamak Fusion Test Reactor neutron collimator design 9-9876
 - University of Liege beam-foil facility, computer controlled system 9-45866
 - Wien filter, inhomogeneous field, theory and expt. of ion optics 9-45510
 - B fibre/Al laminates, use in neutron collimators 9-45506
 - C stripper foils for heavy ions, preparation method 9-22516
 - Fe analysing magnet, fast precise field control 9-45883
 - Fe/Ge multilayer neutron polarizing monochromator 9-45513
 - MgO scintillator prep. for viewing accelerator beam spots 9-6803
 - Nb₃Sn multifilamentary dipole magnets, supercond. props., 4.2 to 15K 9-31275
- beam handling techniques**
- see also mass spectroscopy; particle optics
 - accelerated electron cluster in synchrotron, rot. disc, method investig. of synchrotron radiation 9-3264
 - anastigmatic electron deflection system between beam-shaping lens and probe target 9-27155
 - atomic beam, focused with laser beam, Na beam and dipole forces 9-7066
 - beam handling and detection system matching for optimum resolution in nucl. physics 9-45504
 - charge transfer cross sections in high-flux, low-energy accelerators 9-30609
 - compensated ion beams, handling and expts. (*Russian*) 9-46461
 - coupled Marx-Tesla circuit for production of intense relativistic electron beams 9-17558
 - delivery of single accelerated particles 9-703
 - electron beam, nonrelativistic, injection into drift space 9-895
 - electron beam, relativistic, focusing limitations in low-pressure gas 9-41322
 - electron beams, point focusing through different vacuum lines 9-45499
 - electrons in synchrotron, beam lifetime increase using pulsed mag. field 9-3265
 - fast ion beam (Z \leq 18), semi-empirical determ. of charge states (*French*) 9-45867
 - field emitter electron beam exposure system for semiconductor fabrication 9-30624
 - fusion by particle beam, laser beam with retractable focus, ionis. path form. in gases 9-18992
 - heavy ion beam source, high charge and intensity beam prod. 9-12884
 - HFEF/N, handling equipment for neutron radiography facility 9-45443
 - hollow cathode discharge, with quadrupole mass filter, ion form. and handling 9-12878
 - hollow-beam accelerator, with phase focusing, limiting current 9-18065

beam handling techniques continued

- ion beam, overneutralisation, by electrons in mag. field 9-10256
- ion beam focusing from quadrupole mass filter using electrostatic lens 9-229
- isochronous cyclotron, energy variation, microcomputer control 9-13565
- linear electron accelerator, efficiency of calorimetric method 9-6778
- magnetic focusing of proton beams by single dipole coil 9-40642
- magnetic insulation wave, propag. in vacuum coaxial line 9-27144
- mass filter performance, quadrupolar field distortion effects 9-35887
- molecular beam, discharge characteristics from multichannel nozzle (French) 9-30603
- molecular beam, modulated, detect. by electron bombard. detect. 9-2885
- NBS positron annihilation in flight facility, positron beam calibration 9-31306
- negative ion based neutral systems, generation, handling and acceleration 9-44981
- neutrino beam, monitoring systems, at the Protvino Institute of High-energy physics 9-9929
- neutron filtered beams, 2 keV, 24 keV, 144 keV, calibration and use 9-9937
- neutrons, dead time distortions in reverse Fourier TOF spectrometry 9-6789
- optical diagnostics of high-power neutral beam 9-17556
- optimum resolution by matching beam handling and detection systems 9-45494
- positron beam, relativistic, collimation in single cryst. 9-23669
- proton beam for neutrino experiments, focusing, pulsed power supply 9-9974
- proton beam of neutrino experiments facility, particle loss and radiation environment 9-9930
- proton LINAC-injector I-2 operation for several users 9-45480
- pulse-power particle beam sources as fusion drivers, review 9-18066
- relativistic electron beams, mag. focusing, equilib. surface ripples 9-3618
- rotating proton beam, generation and propag. 9-6217
- space charge in beam transport 9-30610
- strong focusing colliding beams for electric power generation 9-18032
- surface structure anal., discussion of ion optics 9-46902
- synchrotron, methods of increasing heavy ion beams intensity 9-26790
- H⁺ short bunch shaping at entrance of linear accelerator, calcs. 9-700
- H⁺ beam, control using laser radiation 9-27112
- He⁺ shutter controlled microbeam, with scanning system, for 2-dimens. backscatt. images 9-2879

beam-trapping see self-trapping**bearings (machine) see machine bearings****behavioural sciences see social and behavioural sciences****behavioural sciences computing see social and behavioural sciences computing****bells****see also musical instruments**

ornamented, warble occurrence 9-23149

bending**see also bending strength; buckling; stress analysis; torsion**

- anisotropic composite cantilever, bending and torsion, mathematical formulation 9-18708
- anisotropic reinforced plate, stress distrib. near recesses, variational anal. (Russian) 9-27521
- bar undergoing bending oscillations, shape optimisation (Russian) 9-37210
- beam, fixed ended, exptl. behaviour under simulated uniformly distributed load 9-27540
- beam formation, eccentric, error anal. 9-3920
- cantilever beams, free transverse bending vibrs., secondary effect influence (French) 9-18785
- compressed bar, secondary plastic deformation influence beyond yield stress (Russian) 9-37199
- countersunk hole in flat bar in tension and transverse bending, stress concentration factors 9-46274
- cracks, plastic, in bending, tension, anal. 9-41623
- curved plate bending problem solved with nonconforming finite elements 9-37202
- cylinder, hollow with external annular crack, bending, stress intensity coeff. (Russian) 9-27537
- cylindrical shells, mildly sloped, with circular aperture, bending problem 9-18704
- cylindrical specimen with external crack reaching surface of annular stress concentrator, tension and bending 9-14349
- deep circular notches, plane strain general yielding under loads and bending 9-18809
- deflection analysis of cylindrical shell, with end plate subjected to centrifugal force, finite element method appl. (Japanese) 9-1104
- double cantilever beam, fracture behaviour, quasistatic energy anal. 9-18817
- eight node solid element for pure bending 9-44734
- elastic layer, dynamics, approx. eqns. 9-7326
- elastoplastic circular plates, nonlinear behaviour equilib. eqns. 9-14279
- fibre reinforced organic matrix composite, use of unidirectional flexural tests, to assess environmental behaviour 9-20301
- fission reactor pipework integrity assessment 9-22431
- flexural vibration mode shape change by defects 9-7335
- glass-plastic AG-4c, fatigue resistance under bending in H₂SO₄ (Russian) 9-34163
- heavy fabric sheets, fabric folding obs. 9-18756
- 'heterosis' finite element for plate bending 9-3933
- isoparametric linear bending element and one-point integration 9-3919
- isotropic circular plate bending into paraboloidal shell 9-41592
- light gauge steel diaphragms, buckling, bending anal. under concentrated loads 9-23233
- LORA—an accurate four node stress plate bending element 9-27527
- machine, four-point assessment, steel bar deform. meas. by holographic interferometry 9-34266
- metal sheeting, profiled, shear deformation, stressed-skin anal. 9-1121
- micromachine for low-frequency fatigue testing of materials by pure bending 9-29317
- multimode focusing fibre with random bends, optical power loss 9-7214
- non-linear optimized fibre reinforced plates in bending 9-27550
- optical fibre, single-mode, misalignment and bend losses 9-10411
- optical fibres, Al coated, empirical formula for induced excess loss 9-46074
- optical fibres, single mode, curvature and microbending losses 9-27418
- optical fibres, single-mode, splicing and bending losses 9-18505

bending continued

- optical fibres, two dimens., microbending theory, role of nonadjacent mode coupling 9-27415
- optimal design of bending elements 9-10470
- orthotropic annular plates, general nonsymmetric postbuckling anal. 9-7307
- orthotropic plate flexure, theoret. considerations, expt. investigations (German) 9-10463
- orthotropic sandwich plates, large deflection governing eqns. 9-7301
- piezoceramic microwelding transducer component oscillation amplitudes 9-26046
- piezoresistive accel. transmitter mech. designs (German) 9-12792
- plate, annular, uniformly stressed, with variable rigidity, axisymmetric bending problem 9-32295
- plate, cantilever, strain meas. from holographic data 9-20303
- plate, circ., large deflection anal., with nonuniform Jacobi polynomial load 9-37184
- plate, circ. isotropic, compressible, bending into ellipsoidal shell 9-32252
- plate, circular, flexural response on bilinear foundation 9-32238
- plate, optimal design under dead weight and surface loading 9-3915
- plate, out of plane bending, steady state crack propagation, rotatory inertial effects 9-7340
- plate, rectangular, deflections, bending moments, nodal line anal. 9-32366
- plate, thin, under elastic bending, optical method for slope and curvature contours 9-37259
- plate vibrating in water, stress meas. by interferometric holography 9-3653
- plates, thick, bending anal. (Russian) 9-10485
- plates, thin rectangular elastic, bending, finite difference anal. 9-46181
- plates, variable thickness annular, axisymmetric bending 9-46193
- polystyrene, fracture toughness eval. with surface crack specimens 9-15777
- portal frame, elastic-perfectly plastic behaviour under column axial force variations 9-7296
- rectangular plate of variable thickness, bending under normal variable loads 9-37205
- reinforced open cylindrical shells, bending stability 9-41581
- shell, cylindrical, cantilever, dynamic deforms. and stresses under impulsive loads 9-27504
- shell bending, static geometric analogy in classical shell theory (Russian) 9-37159
- simply supported circular, cylindrical panel, vibration with initial bending 9-32343
- splint making materials, comparative study 9-39606
- steel, 45, depth length relationship of fatigue crack developing in circular specimens during bending 9-11705
- steel, C, and high strength, fatigue crack propag. under periodic over-stressing, design criterion (Japanese) 9-20166
- steel, C and low alloy, size effect in bending fatigue strength and its prediction 9-43411
- steel, fatigue strength, statistical prop. (Japanese) 9-20169
- steel, ferritic-pearlitic, low C, low alloy, low temp. effects on fatigue strength 9-5057
- steel, low alloy, 10KhSD, 16G2AF, welded joint low-cycle fatigue during crack form. and propag. during biaxial bending 9-11704
- steel, low C, fatigue crack propagation in smooth specimen, strain ageing effect (Japanese) 9-20163
- steel, statistical fatigue props. of SM50A for welded structures (Japanese) 9-20168
- steel tube eversion, effect of material and geometrical parameters 9-15690
- steels, C, H₂ embrittlement after patenting and cold deform. (Russian) 9-29175
- strain in plates, direct determ. using projected gratings 9-32420
- stress analysis of cylindrical shell with rigid circular inclusion 9-14267
- stress relaxation in bending, alternative eqns. 9-7294
- strip with semi-elliptic notches or cracks, stress anal. by rational mapping function 9-14257
- thick plate, with elliptical hole, subjected to simple out of plane bending, photoelastic anal. to determ. stress distrib. 9-37187
- thin orthotropic plates, bending stability and free vibration 9-3961
- thin plates, limit load and elasto-plastic bending, finite element anal. 9-27544
- toroidal shells and tubes, flexible shell theory and buckling 9-23231
- vibrating plate like strut, displacement and strain meas. using time average holography 9-46272
- wedge shaped notches with large flank angles, plane strain general yielding under loads and bending 9-18808
- AL, laminate, free-free plates, predicted and expt. natural modes 9-10520
- Ag, surfaces, dislocation climbing, etch pit investig. 9-19260
- Al alloy 01205, mech. props. at cryogenic temps. 9-29206
- Al alloy 2029-0, circular plates with work hardening, nonlinear behaviour, experimental deflection and strain data 9-38893
- Al alloy D16, fatigue props. eval. 9-15750
- Al alloys, fatigue crack propag. under periodic over-stressing, design criterion (Japanese) 9-20166
- Al alloys A5083 and A7075, statistical fatigue props. 9-5060
- Al beam, exam. of elastoplastic contact strength law, using impact bending (German) 9-43365
- Al-Fe-Si commercial alloy, elevated temp. low cycle fatigue behaviour under rotating bending 9-47766
- Al₂O₃-SiO₂ fibre/mineral wool fibre composites, exam. of strength and shrinkage charact. rel. to Al₂O₃-SiO₂ fibre content effects 9-20105
- C fibre reinforced plastics with mixed fibres, exam. of fracture toughness and shear strength 9-20151
- Fe, casting, fatigue strength, section size and surface struct. effect (Japanese) 9-20170
- Mo, recrystallised sintered sheet, C addition effect on ductility 9-8319
- Nb₃Sn multifilamentary composite superconductor, reaction treatment, crit. current, transition temp. and bend props. 9-33430
- Ni-Nb-Al, unidirectionally solidified γ/γ' - δ eutectic, fatigue crack propag. 9-29184
- PLTZ ceramics, stress-induced ferrelec. transition, pseudoelasticity and shape memory, bending meas. 9-24274
- Si wafer, Ta sputtered induced stress meas., X-ray transmission topography 9-24434
- Si wafers, process-induced in-plane distortion and wafer bowing 9-11048
- Si-SiO₂ interface metallisation induced stress meas., X-ray transmission topography 9-24434

bending continued

- Ti, fatigue cracking, initial stage under bending and torsion (*Japanese*) 9-20165
 Ti-A-V (6, 4 wt.%), castings, fatigue crack initiation 9-29186
 UO₂, superplastic creep 9-15730

bending of light *see gravitation; light***bending strength**

- bituminous mixes, complex modulus calc. (*French*) 9-20092
 cemented carbides, hardmetal, bending strength and fracture toughness 9-20181
 ceramic and glass ceramic, AE meas. under maintained load (*German*) 9-43315
 concrete, beam with mixed type of reinforcement, shear and bending strength 9-20124
 fibre reinforced cement, mech. and rheological props. (*German*) 9-20129
 glass, strength under linear tension, bending, torsion and compression of type K8 9-14062
 glass, technical, STL10, A-1, A-3, A-6, 13V, statistical features of strength characts. 9-43353
 glass fibre reinforced plastic, flexural fatigue props. (*Japanese*) 9-20171
 glass fibre reinforced poly- and vinyl-ester, fatigue and flexural strength 9-8364
 glass fibre reinforced polyester, behaviour under bending load (*Japanese*) 9-38904
 glass sheets, large scale, exam. of bending strength under uniformly distributed load 9-29135
 graphite, isotropic, nonlinear stress/strain relationship effect on band strength 9-20119
 Kevlar aramid fibre reinforced composites, flexural strength 9-11671
 optical glass ceramic, (sital) surface operation parameters, selection using bending strength tests 9-32101
 plastic, flexural fatigue props. (*Japanese*) 9-20171
 polyimide 6, glass fibre reinforced and unreinforced, fatigue under rotary bending (*German*) 9-15782
 polypropylene/peanut-hull flour composite, strength 9-8365
 refractory, flexural creep 9-29155
 sandwich composite beam, four point bending stress, multilayer built-up theory anal. (*Japanese*) 9-8322
 steel, 0.54% C, fatigue crack accel. and closure in rotating bending tests, in annealed or quenched/tempered state 9-43383
 steel, alloy, quenched, high strength, shot blast hardening effect on repeated impact bending 9-1914
 steel, C, fatigue, residual stress and crack growth expts., notch and surface treatment effects 9-8356
 steel, C, fracture criterion determination, using 3-point bending 9-29216
 steel, C, type 45, crack form. mechanism during fatigue 9-38957
 steel, C-Mn-V and Cr-Mo-V, power station component, fracture toughness and fatigue characts. 9-20192
 steel, Cr-Cu-Mn, fatigue crack propag. rate eval. by J integral method (*Japanese*) 9-8346
 steel, electric arc sprayed coating on wire, elastic and elastic-plastic props. (*German*) 9-34089
 steel, fracture toughness eval. by equivalent energy method (*Slovak*) 9-43402
 steel, low alloy, type 10KhN1M, heat-treated, struct. and resist. to thermal embrittlement 9-15788
 steel, low C, effect of grain size on transition behaviour and bending speed correl. (*Japanese*) 9-8345
 steel, low C, fatigue strength, effect of loading type, cross section shape, and specimen edge finish (*Japanese*) 9-8343
 steel, low C, specimens with notch and fatigue crack, fracture surface features 9-43417
 steel, Mn-Cr, tempered, case hardened, shot peening effect on bending fatigue strength (*German*) 9-24645
 steel, spheroidized AISI 1095, ductile fracture of U-notched bend specimens 9-24616
 steel, spring, 60C2A, tempered under stress, influence of tempering conditions on mech. props. (*Russian*) 9-47724
 steel, structural 15Kh2NMFA, use of linear and nonlinear fracture mech. for crack propagation resist. determ. 9-3056
 steel, W, high C, amorphous, rapidly quenched from melt, mech. and thermal props. 9-38874
 steel bar, in four point bending machine, measurement using holographic interferometry 9-34266
 steels, tool, cold hydrostatic extrusion rel. to struct., props. 9-20068
 Tokamak fusion reactor supercond. toroidal coil bending moment computation 9-41867
 W, static deform., removal of surface layer effect on mech. props. in single crystal 9-43359
 Al, torsional fatigue and bending tests 9-43521
 AlN, hot pressed, effect of O₂ content on flexural strength and compact density 9-11668
 AlO₂, corrosion resistance of phosphate bonded castable, and dense fired types in steam CO at 199°C 9-20222
 Al₂O₃, glass resistant, plasma coating props. 9-34164
 Al₂O₃, vitreous-bonded, mech. behaviour under various stress-time schedules 9-38968
 β-Al₂O₃-Na₂O, hot pressing and phys. props. 9-4940
 C fibre reinforced plastics, use in orthopaedic implants, exam. of mech. props. 9-20706
 C fibre reinforced plastic, tensile testing using ring specimens (*Japanese*) 9-29148
 C glass fibre hybrid plastics, review of mech. props. 9-20107
 CaAl₂O₄ cement bond phases, corrosion in steam-CO at 199°C 9-29234
 Fe, cast, grey, electric arc sprayed coating on wire, elastic and elastic-plastic props. (*German*) 9-34089
 σ-Fe-Cr, brittle fracture stresses under high hydrostatic press. and high temp. (*Japanese*) 9-43397
 HfC-HfBr₃, preparation and high temp. antifriction props. 9-1918
 Mo, electric arc sprayed coating on wire, elastic and elastic-plastic props. (*German*) 9-34089
 Nb alloy, VN2AE, influence of nitriding on heat resist. and brittleness (*Russian*) 9-8386
 Ni-Cr-Co alloys, relax. resist. exam. by bending and tension 9-24564
 NiO-CaF₂, hot-pressed, mech. props., thermal expansion rel. to CaF₂ additive 9-43321
 SiC, hot pressed, bending strength (*German*) 9-24571
 Si₃N₄, reaction bonded, effect of Si powder grain size on microstructure, and mech. props. (*German*) 9-4998
 Si₃N₄, reaction bonded, pore size and distrib. effect on strength 9-29165

bending strength continued

- Si₃N₄, reaction sintered, time depend. strength degradation 9-29235
 Si₃N₄, reaction-bonded, added oxides effect on strength after oxidation 9-39012
 SiO₂-Al₂O₃-CaO-MgO-Na₂O (1.58, 7.16, 3.59, 14.9 mole.%), polished sheet, strength in commercial state and after strengthening by ion exchange 9-1904
 TiC-TiB₂, preparation and high temp. antifriction props. 9-1918
 ZrC-ZrB₂, preparation and high temp. antifriction props. 9-1918
- berkelium**
see also nuclei with
²⁴⁵Bk, K-shell fluorescence yields from Auger electrons and X-rays, precision meas. 9-31462
- berkelium compounds**
 BkO₃ and Bk₂O₃, electronic struct. and chem. bonding and XPS line shape calcs. 9-33264
- beryllium**
see also nuclei with
 abundance in meteorites rel. to interstellar grain synthesis 9-16894
 adsorption on W(211), work function changes and scatt. electron energy losses 9-46947
 atom, ²P shape reson., electron scatt. calc. 9-41240
 atom, electronic struct., universal STO basis sets 9-10021
 atom, excitation energies and transition moments in a second order polarization propagator approach 9-10051
 atom, ground state energy determ., Galerkin-Petrov method 9-769
 atom, ground state reduced first order density matrix CI calc., mag. shielding const. and diamagnetic susceptibility 9-6872
 atom, ground state static polarisability and hyperpolarisability, numerical SCF method 9-36567
 atom, ionisation energies and oscillator strengths, polarised frozen core approx. 9-36524
 atom, one-particle ionis. energy, correlated wavefunction 9-45639
 atom, polarisability and London coeff., ab initio variation perturbation calc. 9-13635
 atomic correlation energies, perturbations and near degeneracy 9-3371
 brittleness problems, elevated plasticity and superplasticity, temp. depend. (*Russian*) 9-15758
 chemisorption, of H atoms, mol. orbital cluster theory 9-15002
 concentration determ. in rainfall, Katowice, Poland (*Polish*) 9-16558
 containerless grain refinement using BeO in space environment, melting and solidification 9-47673
 cosmic ray isotopes meas., 200-1500 MeV/nucleon 9-12366
 determination in simulated aerosol samples, proton scatt. anal. 9-5217
 diffusion in Al-Mg-Zn alloy surface, depth profiling by ion microprobe with high mass resolution 9-46894
 electronic surface states, (001) surface, Brillouin zone 9-24047
 energy loss of 120 keV heavy ions, range and range straggling determ. 9-45595
 film, ultra-thin, fabrication 9-33933
 galactic Be abundance, rel. to cosmic-ray nucleosynthesis and extragalactic matter infl rate 9-17084
 HCP, electron-phonon interaction, thermal effects 9-33057
 ion bombarded, D trapping 9-19291
 ion implantation in InP and In_{1-x}Ga_xAs_yP_{1-y}, p-n junction diode fabrication 9-47156
 isoelectronic sequence, ionization equilib. balance, solar and stellar atms. appl. 9-36587
 isoelectronic sequence, pot. energy relationships 9-22584
 lattice dynamical props., unpaired forces, phonon dispersion relations 9-19336
 lattice dynamics, phonon dispersion relations and Debye temp. 9-42171
 lattice location results for implanted impurities, Rutherford backscatt./channelling technique 9-4329
 lightweight optical substrate fabrication 9-23107
 magnetic suscept. anomalous temp. depend. (*Russian*) 9-4650
 plastic strain mech., effect of impurities (*Russian*) 9-34101
 porous, shrinkage during sintering, kinetics, photographic method 9-15622
 proton energy staggering in ion backscatt. expt. 9-37750
 solubility, partition coeff. in SiC 9-10951
 surface morphology, effect on low energy H ion erosion yield 9-42121
 thin foil thickness meas. using ¹⁴⁸Gd and ²⁴¹Am alpha-particles 9-30417
 twin and stacking fault energies 9-38018
 X-ray spectra, separation of K-emission and absorpt. edges 9-33864
 Am-Be, neutron fluence-to-dose conversion factors 9-6771
 B²⁺+He(Ne), charge transfer and excitation, differential cross sections, 2-5 keV 9-36764
 B³⁺+He, electron capture and impact-ionis. cross sections, Monte Carlo calcs. 9-27083
 Be, grain size effect on mech. props. (*Russian*) 9-47749
 Be III, X-ray lasers pumped with synchrotron radiation and low-energy photons 9-41371
 Be⁺, ³S, ²P^o and ²D autoionising states, positions and widths 9-26944
 Be⁺, electron impact excitation, Bethe approx. modifications, impact radiation polarisation 9-31695
 Be³⁺, electron scatt. near ionis. threshold, ang. momenta 9-31698
 Be:Li, ion-implanted, interstitial props. 9-37876
 Be:Li, lattice location of implanted ⁶Li, ion beam channelling study 9-17730
 Be-like ions, 2s2p(³P^o)→2s²(¹S^o) transition probabilities, CI calcs. 9-36544
 Be-like ions, oscil. strengths and transition probabilities, Breit-Pauli approx. calcs. 9-36570
 Be⁺+FH→BeF+H, collinear, pot. energy surface study 9-11782
 Be²⁺+H→Be⁺+H⁺, charge transfer total cross-sections 9-3559
 Be⁴⁺+H, electron capture into n, l levels, 100 keV/amu 9-22826
 Be⁴⁺+He, electron capture and impact-ionis. cross sections, Monte Carlo calcs. 9-27083
 Be₂, pot. curve, coupled-pair many electron theory, quadrupole excitation 9-36538
 Be₂, pot. curve of ground-state, many-body perturbation theory and SCF-CI method 9-36563
 Be(¹S) excitation energy, eqn. of motion method calcs., approxs. and error anal. 9-36501
¹⁰Be in 1000 and 5000 yr old Antarctic ice, meas. 9-2305
¹⁰Be in marine sediments rel. to geophysical events and cosmic ray var. 9-29748
¹⁰Be in seawater rel. to oceanic residence times of dissolved Be 9-34856
 Be(²3P)+methane, reaction, ab initio MO calcs. 9-8431

beryllium continued

- GaAs:Be, implanted, determ. of Be concentration profiles by $^9\text{Be}(p,\alpha)$ reactions and SIMS anal. 9-4335
 p-GaAs:Be, ion implanted, annealing characts., defect cond. profiling, electron diff. obs. 9-4318
 InGaAsP:Be ion-implanted avalanche photodiode, struct. and characts. 9-17487
 In_{1-x}Ga_xAs_{1-y}P_y:Be, ion implantation, hole conc. and mobility, junction depth 9-46685
 InP:Be, ion implantation, hole conc. and mobility, junction depth 9-46685
 γ -Mn electrodeposition influence of Cu, Ag, and Be impurities (Russian) 9-47938

beryllium alloys

- see also *beryllium compounds*
 depth profile meas. in alloys, using d and α detection in $^9\text{Be}(p,d)$ and $^9\text{Be}(p,\alpha)$ 9-5203
 distribution of Be in metals, using $^9\text{Be}(d,p)$ and $^9\text{Be}(\alpha,n)$ 9-5204
 metastable alloy formation by ion implantation 9-14828
 Al-Be-Mg (30, 5wt.%) alloy, weld solidification parameters 9-24511
 Al-Be-Fe system, phase equilibria using high energy ion beams 9-43203
 Be-Co-Ni, phase relations (German) 9-43209
 Be-Mg, two-band alloy, electronic and optical props., multiband theory 9-37952
 Be₂Mn_{1-x}Fe_x, mag. props., giant moment clusters 9-28508
 (Ce_{1-x}La_x)Be₁₃, mag. intermediate valence behaviour 9-24131
 Cu-Be, elastic interaction energy calcs. for Guinier-Preston zones 9-11617
 Cu-Be, study of internal oxidation using central diffusion of X-rays (French) 9-37839
 Cu-Be (6.2, 9.3, 13.4 at.-%), cell growth of discontinuous precipitation (Japanese) 9-24525
 Fe-Be, magnetic transition effect on alloying element solubility (Japanese) 9-42256
 Fe-Be-Co, solubility anomaly due to magnetic transition, Co effect (Japanese) 9-42257
 Ni-Be system, radiation induced solute segregation and precipitation study by means of Johnson-Lam kinetic model 9-43252
 TiBe₂, itinerant antiferromag., mag. susceptibility and elec. cond. meas. 9-19726

beryllium compounds

- see also *beryllium alloys*
 beryll, synthetic, cryst. growth, review (German) 9-33926
 Be²⁺ + H₂O, mol. complex struct. and interaction energy, CI calc. 9-18133
 BeAl₂O₄:Cr³⁺, alexandrite, potential laser material, stimulated emission and absorpt. spectrum 9-33734
 Be₃Al₂(SiO₃)₆, thermal expansion study 9-37857
 Be₃Al₂(SiO₃)₆, beryl, 350 keV proton irradi., superchannelling effects 9-4344
 Be₃Al₂(SiO₃)₆:Cr³⁺, EPR spectra, exchange-coupled pairs 9-28596
 Be₂(BO₃)F, cryst. struct. 9-42026
 BeCl₂, valence shell electronic struct., ab initio SCF calc., photoelectron spectra 9-31383
 BeF₂, optical fibres, material dispersion 9-27377
 BeH₂, potential energy surface, DIM method 9-18110
 (BeH₂)_x, polymer, ab initio calcs., cryst. orbital method 9-37659
 BeO, ceramic, thermolum. glow curves 9-47527
 BeO ceramic plates, exposed to ultrasoft X-rays, thermal luminesc. and electron emission 9-8192
 BeO ceramics, thermally stimulated exoelectron max., effect of H₂ adsorption 9-43109
 BeO discharge tube for sealed-off high press. CO₂ laser amplifier 9-18397
 BeO, emission of free charge carriers in vacuum as symptom of pyroelec. props. 9-42908
 BeO, grain refining agent for Be containerless processing in space 9-47673
 BeO, low-Z material, outgassing expts. 9-209
 BeO powder, sinterable and unsinterable, sintering processes, electron microscope exam. 9-33986
 BeO, tetrahedrally bonded valence crystals, SCF perturbation theory appl. 9-37658
 BeO, vacuum UV luminesc., excitation by X-ray synchrotron radiation 9-8168
 BeO-Al₂O₃-V₂O₅, mixture kinetics and mechanism of formation of crysoberyll 9-11535
 BeO-TeO₂ glass, struct. and props. (Japanese) 9-32917
 BeO₂ and anion, dimerisation energy and binding of electron, ab initio calc. 9-45628
 BeO₂⁻, electron binding, ab initio calc. 9-45628
 BeO₂, tetrahedra, variabilities in interatomic distances and angles 9-46594
 Be₂SiO₄, determ. of electronic polarisabilities of ions 9-7570
 Be₄Te₂[O₂□]₂, singularities of atomic arrays as compared with Al₂Mg₂[O₄□] spinel struct. type 9-19242
 LiF-BeF₂, molten, corresponding state principle with MgO-SiO₂ and appl. 9-11589

Bessel differential equation see *Bessel functions***Bessel functions**

- cylinders, deform. anal. in modified Bessel functions (Russian) 9-10478
 deflection, large, of circ. plate, produced by nonuniform Jacobi polynomial load 9-37184
 dilute mag. alloy, density of energy states in lower energy region in terms of modified Bessel function 9-19741
 fermion systems, integral evaluation 9-40449
 inelastic molecular collisions appl. of non-integer Bessel uniform approx. 9-36733
 infinite system of eqns. characterising zeros of Bessel functions 9-12570
 optical film, non-homogeneous, oblique light incidence (Russian) 9-13905
 plate, thin, circ., quasistatic normal deflection due to time depend. heat-source distrib. 9-37145
 semiclassical collision theory, non-integer Bessel uniform approx. 9-36730
 zeros of classical polynomials and Bessel functions, diophantine props., review 9-35530

beta-decay

- see also *beta-decay theory*; *beta-ray spectra*; *nuclear electron capture*
 Cabibbo fit, generalised, appl. to quark mixing ang. in sequential Weinberg-Salam model 9-17655
 double β -disintegration, search for expt. evidence (French) 9-36202

beta-decay continued

- element formation (Russian) 9-8818
 $f_{7/2}$ shell nuclei, shell model study in pure $f_{7/2}^n$ config. 9-36162
 free neutron decay, $e^- \nu$ ang. correl. coeff., determ. from proton recoil spectrum 9-22242
 Gamow Teller matrix elements and nuclear mag. moments, configuration mixing ν , mesonic effects 9-26400
 Gamow-Teller β transition quenching in mirror nuclei A=3, 15, 17, 39, 41 9-17860
 Gamow-Teller matrix element, axial currents in nuclei, quenching mechanism 9-17859
 I 9-499
 neutron decay, radiative corrections to proton recoil spectrum 9-13119
 nuclear isotopes far off stability line, production, props., review (Hungarian) 9-9927
 parity nonconservation, coupling constants, intermediate-boson mass ratio 9-9516
 polarised neutrons, polarization effects of β decay in intensive electromagnetic field (Russian) 9-22243
 pseudoscalar mesons, muonic double β -decay, tree and box diagram approx., K⁻ and F⁻ 9-17717
 semileptonic weak and EM interactions, nuclear current operators 9-6515
 shape isomer prod. in nuclear reactions and β -decay 9-6377
 T-invariance, EM simulation 9-30807
 virtual pions, Yukawa field and effects on μ -capture, β -decay, mag. moment etc. 9-26379
 β^+ decay, Q-value atomic excitation corrections 9-40918
¹⁰⁴Ag, A=104,104m, characts. of the excited levels of ¹⁰⁴Pd 9-9515
²⁴Al, β -transitions, weak magnetism, nuclear struct., matrix elements 9-13253
³¹Al, radioactive half-life and branching ratios 9-22240
⁴Ar, A=43,44, β -decay, ^{43,44}K levels, spin and parity assignments, decay scheme 9-13210
³⁵Ar-³⁵Cl superallowed decay, branching ratio meas., Cabibbo angle anomaly 9-26399
⁶⁹As β -decay, struct. determ. of ⁶⁹Ge 9-22245
⁷⁶As, dynamic orientation in n-Si crystals, ang. momentum, forbidden β transition 9-501
⁸²As, investigation of beta-strength functions by neutron and γ -spectroscopy 9-45209
¹²B, polarised, higher order effects in determ. of asymmetry parameters 9-22247
¹³⁸Ba, A=143,146, expt. β -decay energy of neutron-rich nuclides 9-30808
¹³⁹Ba, first order forbidden β -decay, quasi-particle-phonon interaction calcs. 9-9514
²⁵⁰Bk, β^- decay, half life and ²⁵⁰Cf energy levels, bands and transitions 9-22205
⁴Br, A=85 to 89, total β -decay energies and atomic masses of neutron-rich isotopes 9-40889
⁷⁸Br, half life of Fermi superallowed β^+ activities from ⁵⁸Ni(¹⁴N,2n) 9-9518
⁸⁷Br, investigation of beta-strength functions by neutron and γ -spectroscopy 9-45209
¹C, β -transitions, weak magnetism, nuclear struct., matrix elements 9-13253
³⁹Ca β -decay Gamow-Teller interaction renormalisation constant from ³⁹K(p,n) 7480-7530 keV 9-6601
¹⁰³Cd decay, ¹⁰³Ag levels and spectra 9-22235
¹²⁶Cd, mass separated, decay scheme and half life, ¹²⁶In levels 9-3117
⁴Ce, A=124-127, half lives, low energy γ -data, β decay probabilities 9-499
¹³³Ce, 5-h isomer β -decay, ¹³³La level struct., parity levels, decoupled band struct. 9-9476
²⁵¹Cm beta decay, ²⁵¹Bk level struct. 9-36200
⁶⁰Co, 2505 keV gamma ray intensity in β -decay 9-13249
⁵⁷Cr, new isotopes of interest to explosive nucleosynthesis, β -decay scheme and mass determ. 9-45208
⁴Cs, A=147, 148, T_{1/2} determ. 9-9524
¹³⁷Cs decay determ. by β -ray spectrometry 9-26397
¹⁵³Dy-¹⁵³Tb mass difference from β^+ spectrum (Russian) 9-13257
²⁰F, β - γ directional correlation meas., search for second class currents 9-13245
²⁰F, β -transitions, weak magnetism, nuclear struct., matrix elements 9-13253
²⁰F decay, β - γ ang. correlation, second class current contrib. 9-22236
²⁰F-²⁰Ne+ e^- + $\bar{\nu}_e$, CVC test in $2^+ \rightarrow 2^+$ transitions 9-6514
⁵³Fe half life from ⁵⁴Fe(n,2n) 9-3142
¹⁴⁷Gd, γ -transitions, internal conversion electron spectra meas. 9-6475
⁶⁹Ge, transitions, spin and parity, and mag. moments determ. from β -decay of ⁶⁹As 9-22245
¹H, inverse β -decay fission $\bar{\nu}$ induced reaction cross sections 9-22273
¹H, inverse β -decay, fission $\bar{\nu}$ induced reaction cross sections 9-22273
³H μ -decay, ρ exchange current, weak axial vector current low energy theorem 9-40886
⁴Ho, A=148, 149, identification and β -decay from ¹⁴⁴Sm+¹⁰B, ^{148,149}Dy levels 9-36166
¹²⁸I decay ¹²⁸Xe, collective excitations obs. 9-45143
¹³²I decay, weak transition energies and intensities, γ -spectrum, ¹³²Xe levels 9-9521
¹³⁷I, investigation of beta-strength functions by neutron and γ -spectroscopy 9-45209
¹²In, β -decay obs., decay scheme, half-lives 9-45207
¹⁰³In decay, ¹⁰³Cd levels and spectra 9-22235
¹¹⁵In, β^- decay spectrum, measured T_{1/2}, E _{β} 9-40888
¹²⁹La β -decay, struct. of ¹²⁹Ba 9-22244
¹⁴⁶La, expt. β -decay energy of neutron-rich nuclides 9-30808
¹⁶⁷Lu-¹⁶⁷Yb, spin-parity determ. for ¹⁶⁷Yb levels 9-6380
¹⁶⁹Lu, internal conversion electron spectrum E _{γ} <100 keV, ¹⁶⁹Yb ground state population probability 9-6497
¹⁶⁹Lu, positron decay spectrum 9-6504
¹⁷¹Lu, positron decay 9-6505
⁴Mg, A=29-32, radioactive half-life and branching ratios 9-22240
²⁰Mg, β -delayed proton obs., mass excess of T=2 state in ²⁰Na 9-22234
⁵⁰Mn, new isotopes of interest to explosive nucleosynthesis β -decay scheme and mass determ. 9-45208
⁶⁰Mn, new isotopes of interest to explosive nucleosynthesis, β decay scheme and mass determ. 9-45208
¹²N, β -transitions, weak magnetism, nuclear struct., matrix elements 9-13253
¹²N, polarised, higher order effects in determ. of asymmetry parameters 9-22247

beta-decay continued

- $^{16}\text{N}(0^+ \rightarrow ^{16}\text{O}(0^+) + \beta$, nucl. wave functions and mesonic exchange currents 9-40887
 ^{24}Na , $A=22, 24$, β -transitions, weak magnetism, nuclear struct., matrix elements 9-13253
 ^{24}Na , $A=27-32$, radioactive half-life and branching ratios 9-22240
 ^{20}Na , β - γ directional correlation meas., search for second class currents 9-13245
 ^{22}Na , anomalous electron capture/ β^+ decay ratio, second forbidden corrections 9-22238
 ^{19}O β -decay, Fermi to Gamow Teller mixing ratio meas., ^{19}F isospin mixing 9-9520
 ^{32}P , β^- decay, energy spectra of positron pairs 9-6506
 ^{32}P , transmutation doping of ^{30}Si , residual radioactivity 9-33009
 ^{187}Pt fast β -transition, ^{183}Ir levels, J^π assignments, Nilsson states for $N=105$ isotones 9-22206
 ^{86}Rb , $A=96$ to 100, half-lives and neutron emission probabilities in neutron rich isotopes 9-17864
 ^{79}Rb β^+ decay, ^{79}Kr excited states, J^π assignment, transitions, level lifetimes 9-17810
 ^{100}Rh , γ -ray spectrum and ang. $\gamma\gamma$ correlations, ^{100}Ru level struct. study 9-6510
 ^{109}Rh , 79.8 sec., β -decay to ^{109}Pd , γ and γ - γ meas. 9-3116
 ^{97}Ru , K-capture probability for β -transition to 216 and 324 keV levels of ^{97}Tc 9-6511
 ^{29}S β^+ -delayed proton decay, half life, ^{29}P deduced levels 9-22241
 ^{124}Sb , first forbidden β -transitions, β - γ circular polarisation correlations 9-5517
 ^{134}Sb , expt. β -decay energy of neutron-rich nuclides 9-30808
 ^{135}Sb , investigation of beta-strength functions by neutron and γ -spectroscopy 9-45209
 ^{137}Sn , expt. β -decay energy of neutron-rich nuclides 9-30808
 ^{92}Sr , gaseous fission products, β -decay energies 9-9519
 ^{151}Tb , positron decay, γ -ray coincidence spectra 9-9513
 ^{151}Tb , meas. of positron spectrum 9-6509
 ^{160}Tb , ^{160}Dy , A_2^+ ang. correl. coeff., β - γ ang. correl. studies 9-13255
 ^{103}Tc , decay scheme to ^{103}Ru 9-9470
 ^{104}Tc decay, ^{104}Ru level energies, $B(E2)$ ratio, mixing ratios, γ -ang. correlations 9-493
 ^{53}Ti , new isotopes of interest to explosive nucleosynthesis, β -decay scheme and mass determ. 9-45208
 ^{50}V , half lives of β -decay and e^- -capture in $\Delta J=4$ transitions 9-22246
 ^{50}V , new isotopes of interest to explosive nucleosynthesis, β -decay scheme and mass determ. 9-45208
 ^{99}Y , ^{99}Zr , half life and beta decay investigation 9-17863
 ^{160}Yb decay, ^{160}Tm doubly odd deformed nucleus, excited states and state lifetimes 9-13209
 ^{99}Zr , ^{99}Nb , half life, level schemes and β -decay investigation 9-17863

beta-decay theory

- see also *beta-decay*; *beta-ray spectra*
 atomic electron excitation probabilities during orbital electron capture by the nucleus 9-45211
 atomic excitation effects on nuclear resonances and Q values 9-45226
 exchange effects in radioactive decay theory based on many body scatt. 9-9525
 neutrino-free β -decay theory, new aspects 9-13254
 neutron beta decay characteristics 9-6338
 odd nuclei, second forbiddenness order, matrix element determ. 9-6508
 ^{17}F , axial vector decay, exchange corrections 9-36201
 ^{15}O , axial vector decay, exchange corrections 9-36201

beta-particles see *beta-rays***beta-radiation** see *beta-rays***beta-ray absorption**

- see also *electron absorption*
 No entries

beta-ray angular distribution

- see also *beta-ray spectra*
 No entries

beta-ray detection and measurement

- see also *beta-ray spectrometers*; *radioactivity measurement*
 diamond, elec. props and performance for α - and β -particles 9-36481
 double focusing $\pi/2$ spectrometer, Fe-free, spectral distortion 9-26810
 linear position sensitive proportional line scanner for β -emitters 9-31330
 nuclear excited states, 10^{-10} to 10^{-6} s, lifetime meas. by time spectrometer system 9-31313
 scintillation β -spectra, nucleus identification 9-26805
 source deposit uniformity, meas. techniques 9-26792
 stack gas monitor, β scintillation detector + Ge(Li) detector system, environmental γ dose (*Japanese*) 9-3246
 thick sample total counting, review 9-36488
 thickness gauge, ^{14}C β -ray, for measurement of target foil thickness 9-26030
 e^- delayed coincidences using magnetic lens spectrometer and Ge(Li) detector 9-710
 (n, γ) total cross sections of 14 MeV neutrons, from activated nuclei β -ray counting 9-3156
 ^{14}C , influence of quenching on the background of liquid scintillation counters 9-18082
 ^{14}C , multiwire proportional counter for low-level counting 9-6800
 ^{137}Cs decay determ. appl. 9-26397
 Ge detector, in supercond. solenoid, iterative technique for detector distorted data anal. 9-13583
 ^3H , influence of quenching on the background of liquid scintillation counters 9-18082

beta-ray effects

- see also *electron beam effects*
 aerosol particle charging using beta sources, elect. and mag. fields 9-36429
 cell survival dependent dose rate effects, radiation carcinogenesis theory 9-11973
 pulmonary collagen turnover after β -emitting radionuclide inhalation 9-25049
 superlinear filling of traps in crystals due to competition during irradiation 9-33850
 Ar, condensed, luminescence decay under α - and β -particle excitation 9-38678
 LiF, dosimeter material, thermolum. non-linear response to sequential irradi. at different dose rates 9-1793

beta-ray polarisation

No entries

beta-ray scattering see *beta-ray effects*; *collision processes*; *energy loss of particles*; *particle backscattering*; *potential scattering*; *transport processes***beta-ray spectra**

- see also *beta-decay theory*
 odd nuclei, matrix element determ., spectra shape 9-6508
 ^{252}Cf fission fragment hard β -radiation 9-45306
 ^{221}Rn , decay scheme, α -, β -, γ -spectra meas. 9-6507
 ^{167}Yb — ^{167}Tm mass difference, from positron spectrum, level transition branching ratio 9-6376

beta-ray spectrometers

- see also *beta-ray spectra*; *electron spectrometers*
 combination intermediate-image magnetic plus Si(Li) electron spectrometer for in-beam experiments 9-31308
 double focusing $\pi/2$ spectrometer, Fe-free, spectral distortion 9-26810
 magnetic lens spectrometer and Ge(Li) detector combined apparatus for e^- delayed coincidences 9-710
 nuclear excited states, 10^{-10} to 10^{-6} s, lifetime meas. by time spectrometer system 9-31313
 scintillation β -spectra, nucleus identification 9-26805
 Ge detector, in supercond. solenoid, iterative technique for detector distorted data anal. 9-13583
 Ge detector in superconducting solenoid, semi-empirical beta-ray response function 9-13584

beta-rays

- see also *electrons*
 radiation chemistry research, β source laboratory apparatus 9-34340

beta spectrometers see *beta-ray spectrometers***betatrons**

- free electron devices for light prod., history, book contrib. 9-27147
 radiation protection meas. 9-29636

Bethe-Salpeter equation

- $\lambda\phi^3$, deep inelastic struct. functions for bound states, ladder approx. 9-35952
 bare Pomeron in four-dimensional quantum chromodynamics 9-336
 baryon matrix elements in hadronic weak decays, formulation for quark model 9-386
 deuterons, current conservation and off-shell effects with arbitrary interaction 9-45183
 eigenvalue, asymptotic expansion, weak binding approx. of Wick-Cutkosky model 9-2925
 fermion-antifermion bound states, deep inelastic struct. functions, ladder approx. 9-35952
 IR singularities, spin $1/2$ quark confinement in three dims. 9-337
 IR singularity quark confinement model, coloured bound state absence 9-338
 meson wave functions, spinor struct., inter-straton potentials 9-12969
 quarkonia from charmonium and renormalization group equations 9-22055
 reduction to equivalent Schrodinger eqn., appl. to muonium and positronium 9-2933
 relativistic equation derivation and associated potentials from field theory 9-12954
 relativistic two-electron atom, level shifts, transition probabilities, perturbation theory 9-22001
 two-particle system in QED, Dyson-Schwinger eqn. 9-2962
 vacuum instability in massless electrodynamics, Bethe-Salpeter eqn. tachyon solns. (*Russian*) 9-12993
 NN quasinuclear states and the Bethe-Salpeter equation 9-13212
 NN scattering, effective interaction in the Blankenbecler-Sugar equation in ϕ^4 theory 9-21914
 qq confinement, by infrared singularities 9-36028

Bethe-Uhlenbeck equations see *quantum statistical mechanics***bevatrons** see *synchrotrons***bicrystals**

- α/β brass, bicrystal, dynamic obs. of fracture phenomena 9-5040
 α -brass, bicrystal, grain boundary fracture at intermediate temp. (*Japanese*) 9-15774
 brass, inface segregation in α/β two phase bicrystal (*Japanese*) 9-15675
 brass, two-phase α/β , diffusion induced twins in α -phase 9-46967
 brass, two-phase α/β , morphology and crystallographic relationships between phases 9-46966
 grain boundary anal. using TEM 9-28003
 semiconductor, Poole-Frenkel effect, grain boundary barriers 9-11137
 Al bicrystal, migration of special (110) tilt boundary 9-46670
 Al, faceting of migrating (110) coincidence boundaries 9-46680
 Au, thin film bicrystal, annealing twin form. by boundary dissociation 9-47729
 Bi-Sb, rearrangement of grid of nonconformity dislocations on (111) interface during heating 9-28215
 Cu-Ni bicrystals, epitaxial growth, chemical interdiffusion, X-ray diff. line profile anal. 9-1527
 β -Cu-Zn-Al pseudoelectricity 9-29126
 Nb, supercond., flux pinning by grain boundaries 9-24114
 Zn, diffusional motion of grain boundaries, 200-405°C 9-19264

biexcitons see *excitonic molecules***big-bang theory** see *cosmology***bimetallic strips** see *bimetals***bimetallic wire** see *bimetals***bimetals**

- metal-metal contacts, positron diffusion, ang. distrib. of annihilation photons meas. 9-8207
 steel-bronze bimetal mech. props., diffusional interlayer effects 9-29169
 vacuum rolling at high temp. (*Russian*) 9-15708
 van der Waals interaction in bimetallic junction 9-24048
 Cu-Ni, bimetallic film, exam. of diffusion by electrical resistivity meas. (*Russian*) 9-14970

binaries (stellar) see *binary stars***binary stars**

- see also *eclipsing binary stars*
 2A 0311-27 optical counterpart, identification and spectroscopic obs. 9-25762
 2A 0311-227, IR flickering obs. 9-40298
 2A 0311-227, optical counterpart identification as AM Herculis type star 9-30149
 2A 0311-227 optical counterpart, possibly AM Herculis type white dwarf 9-35434

binary stars continued

- ZA 0536-328, AM Herculis-like star identification confirmed 9-40296
 A- and F-type visual binaries, uvby β photometry 9-21346
 accreting nonmagnetic degenerate dwarfs, X-ray and UV radiation 9-40184
 accretion disc, polarisation effects in emission 9-35128
 accretion discs in X-ray binaries, structured coroneae, model 9-48852
 accretion of interstellar material, numerical simulation 9-21358
 ADS 9476 (Aitken 14), possible astrometric companion (*French*) 9-44553
 ADS 9537 (BV Draconis and BW Draconis), ang. separation and position angle 9-35296
 λ Andromedae, spectroscopic binary, UV and optical obs. of chromospheric lines 9-30087
 Z Andromedae, UV spectra, 1979 Feb. 17, quiescent phase 9-40202
 Ap and Am stars, primary supernova explosion rel. to anomalies nuclear origin 9-35277
 Ariel 0535+26, X-ray binary, refined position meas. and pulse period data 9-44635
 UX Arietis, co-ordinated UV, optical and radio obs. of RS Canum Venaticorum binary 9-16963
 UX Arietis, RS Canum Venaticorum binary, two-freq. radio polarimetry 9-21335
 β Arietis, var. of highly eccentric spectroscopic binary 9-17026
 UX Arietis (H0324+28), RS Canum Venaticorum system as coronal X-ray source 9-16979
 α Aurigae (Capella), extra-atmospheric obs. analysis 9-25647
 bimetric theory of gravitation, viability, gravitational radiation from neutron star binaries 9-35611
 η Bootis, soft X-rays detect. with imaging X-ray telescope 9-48953
 α Canis Majoris (Sirius), astrometric study rel. to distance and components masses 9-5858
 α Canis Majoris (Sirius), constraints on corona model for Sirius B 9-2543
 α Canis Majoris (Sirius) AB, white dwarf formation 9-44483
 α Canis Majoris B (Sirius B), search for far UV emission 9-5821
 α Canis Minoris (Procyon) AB, white dwarf formation 9-44483
 TX Canum Venaticorum, evolution from cataclysmic to stationary P Cygni stage 9-12479
 RS Canum Venaticorum binary stars, introduction to series of papers 9-21329
 RS Canum Venaticorum binary stars, radio luminosities and spectra 9-21333
 RS Canum Venaticorum systems, X-ray emission progress report 9-21345
 β Capricorni, 1977 October 20 lunar occultation results 9-44523
 cataclysmic variables, stability of non-synchronous stars in close binary systems 9-40223
 ν Centauri, single-lined spectroscopic binary, β Cephei-type star 9-48821
 α Ceti (Mira), mass loss rate determ. 9-48831
 close binaries, undersize subgiant components 9-44528
 close binaries and the evolution of star clusters 9-5863
 close binary and planetary systems, origin 9-5859
 close binary systems, polarimetric determ. of revolution directions and spatial orientations 9-35309
 close binary systems, reflection effects evaluation, generalised approach 9-25631
 close binary systems in globular clusters, possible existence 9-44530
 close systems with neutron star components, evolution (*Italian*) 9-21354
 collisions, by oscill. orbits of second kind 9-35312
 contact binaries, mass and energy flow 9-48850
 contact binary stars, struct. of high-mass models 9-48855
 cosmic exploration by X-rays, 1978 Bakerian lecture 9-48964
 SS Cygni, 1896-1975 study of dwarf nova 9-16986
 V389 Cygni, BV photometry of peculiar variable 9-44534
 SS Cygni, light curve periodicity 9-21300
 CH Cygni, symbiotic variable, flickering obs. during outburst, binary model 9-8929
 V1357 Cygni (Cygnus X-1), brightness var. rel. to disk accretion subphotospheric layers (*Russian*) 9-25764
 V1357 Cygni (Cygnus X-1), UBV obs. and accreting disk radiation (*Russian*) 9-25645
 V1341 Cygni (Cygnus X-2), UBV photometry and light vars. 9-5833
 Cygnus X-1, possible existence of black hole 9-48842
 Cygnus X-2, spectroscopic obs., orbital period, spectral-type var., X-ray heating 9-9036
 Cygnus X-2, X-ray and optical obs., (1973 to 1977) 9-30148
 Cygnus X-3, 4.8 hr periodicity in spectra 9-5920
 Cygnus X-3, period derivative 9-48955
 Cygnus X-3, X-ray Fe line emission meas. with Bragg crystal spectrometer 9-12544
 HR Delphini (Nova 1967), spectroscopic orbit 9-44510
 detection by lunar occultation method 9-44542
 disc accretion onto magnetised compact objects, theory (*Russian*) 9-44467
 disrupted the star in close binary containing neutron star, model for Crab Nebula 9-25696
 double star photometry and variability 9-44554
 double stars, Nice obs. of 267 objects (*French*) 9-44531
 encounters with field stars, statistical effect on wide binaries 9-44562
 40 Eridani BC, white dwarf formation 9-44483
 evolution, effects of mass and ang. momentum losses from massive stars 9-25591
 evolution of massive close binaries inc. wind mass loss 9-44527
 fast nova model evolution from pre-explosion to decline 9-35273
 formation, statistical model for the initial stellar mass function 9-48851
 G139-29, perturb. from rectilinear motion, astrometric red dwarf binary system with subluminal component 9-8910
 Gliese 867, flares obs. on both components of visual binary 9-48861
 gravitational waves from binary stars, detection opportunities 9-5746
 HD 13970, photometry of probable close binary component 9-8948
 HD 152 667, search for black hole companion 9-48848
 HD 155989, spectroscopic binary, orbit from photoelectric radial vels. 9-21355
 HD 159176, spectroscopic binary radial vel. obs., orbit and masses 9-25644
 HD 187299 B, spectroscopic detect., late B-type main sequence star 9-48860
 HD 193793, shell condensation around W-R binary, IR obs. 9-12495
 HD 199892, spectrographic binary, spectrograms and orbital elements 9-21359
 HD 224085, K2e star, long-term variability 9-48849

binary stars continued

- HD 45166, dwarf in Wolf-Rayet clothing, spectrum anal. 9-5826
 HD 49798, H-deficient subdwarf O-type binary, non-LTE spectral anal. 9-16978
 HD 72 754, search for black hole companion 9-48848
 HD 92740, spectroscopic binary WN7 star, spectroscopy and photoelectric photometry 9-8924
 HD 92740, WN star, spectroscopic binary in Carina Nebula association 9-35261
 HDE 226868 (Cygnus X-1), He II 4686 Å emission in spectrum 9-21328
 HDE 226868 (Cygnus X-1), long-term circular polarisation variability 9-9031
 HDE 226868 (Cygnus X-1), orbital period and H β light curve 9-48952
 YY Herculis, symbiotic star, radio continuum detect. 9-25615
 YY Herculis, symbiotic star, radio emission report refuted 9-35274
 HR 1099, Ca II H and K emission enhancement during February 1978 radio flare 9-21341
 HR 1099, co-ordinated UV, optical and radio obs. of RS Canum Venaticorum binary 9-16963
 HR 1099, H α region spectrophotometry during February 1978 radio flare 9-21344
 HR 1099, H and Ca II, emission during February 1978 radio outburst 9-21340
 HR 1099, RS Canum Venaticorum binary, H α profile obs. 9-21343
 HR 1099, RS Canum Venaticorum binary, nonthermal flare emission during February 1978 outburst 9-21332
 HR 1099, RS Canum Venaticorum binary, optical spectrophotometry during major flare outburst 9-21342
 HR 1099, RS Canum Venaticorum binary, rapidly variable polarisation obs. at radio freqs. 9-21336
 HR 1099, RS Canum Venaticorum binary, strong radio flaring discovery 9-21330
 HR 1099, RS Canum Venaticorum binary, two-freq. radio polarimetry 9-21335
 HR 1099, RS Canum Venaticorum binary, VLA radio obs. during 1977 international campaign 9-21334
 HR 1099, RS Canum Venaticorum binary star, radio obs. at 8.0 GHz 9-21331
 HR 2317, spectroscopic binary orbit from photoelectric radial vels. 9-40225
 HR 8752, superluminous star, hot companion discovery by IUE 9-16947
 VW Hydri, dwarf nova, model 9-16977
 IDS 10275S5312, visual double, rectilinear trajectories calc. (*French*) 9-17023
 IDS 19062S3401 (AB), visual double, rectilinear trajectories calc. (*French*) 9-17023
 IDS 19465S1036 (AB), visual double, rectilinear trajectories calc. (*French*) 9-17023
 interacting binary stars, book 9-8953
 Laplace equations, partial separability Roche coordinates 9-44524
 lifetime of binary stars 9-44563
 LSS 1916, 3371, new VV Cephei stars, spectra and colours 9-35299
 lunar occultations, photoelec. obs. 9-5819
 main-sequence binaries, Roche constants 9-35297
 mass ratios distribution, $q(a)$, in spectroscopic binaries, redeterm. 9-21356
 massive X-ray binaries, Roche lobe overflow 9-35301
 MHD processes near compact superdense objects in binaries 9-40206
 Michelson stellar interferometer for binary star obs. 9-44370
 multiplicity of solar-type stars 9-44543
 MWC 349, possible model of emission line star (*Italian*) 9-48829
 MWC 349, separate spectra of components of visual binary 9-48858
 neutron star binaries formation rel. to gravit. radiation 9-35291
 neutron stars in close binary systems, spin-down rates 9-40210
 new double stars discovered at Nice, 15th series (*French*) 9-35304
 NGC 7293 (Helix nebula), complex struct. due to mass losing binary companion 9-48895
 non-synchronous stars in close binary systems, stability 9-40223
 novae, spectrophotometric estimate of electron density in rapidly rot. accretion discs 9-16968
 optical doubles, proper motions from rectilinear trajectories and SAO catalogue (*French*) 9-30089
 orbital inclinations of spatially close spectroscopic doubles (*German*) 9-44532
 orbits for 24 visual binaries (*Russian*) 9-25646
 δ Orionis, apsidal motion of spectroscopic binary 9-8952
 θ^2 Orionis A, stellar wind driving of high-vel. features in Orion Nebula 9-8978
 57 Pegasi, long-period pulsating variable, spectrographic and photometric obs. 9-21305
 57 Pegasi, visual binary, radial vel. meas. 9-21347
 period-finding technique, Fortran IV computer program 9-21195
 7 Persei, visual binary, radial vel. meas. 9-21347
 X Persei, X-ray spectra, binary model 9-25757
 perturbation analysis techniques 9-44379
 64 Piscium, double line spectroscopic binary, orbital elements (*French*) 9-35305
 PSR 1913+16, binary pulsar, general relativistic effects meas. 9-35286
 PSR 1913+16, binary pulsar, test of new dispersion-removing radiometer 9-35142
 PSR 1952+29 and 1929+10, evidence of binary system disrupted by supernova explosion 9-35285
 pulsars, neutrino emission 9-2550
 pulsating X-ray sources period vars., torque vars. and stellar response 9-9029
 radiative tides in accretion disks 9-48853
 HM Sagittae, eruptive variable, IR variability rel. to symbiotic binary model 9-25614
 SAO 015338, optical counterpart of 2A 1052+606, RS Canum Venaticorum type binary 9-21352
 SAO 114159, duplicity. detect. from occultation by 18 Melpomene 9-16870
 α Scorpii AB, mass loss and circumstellar absorption lines 9-8916
 Scorpius X-1, interstellar extinction and UV flux distrib. 9-25754
 Scorpius X-1, extended X-ray obs. with Bragg crystal spectrometer 9-12543
 separation measurements by speckle interferometry 9-40215
 RT Serpentis, symbiotic star/nova, possible H $_2$ O maser obs. 9-8932
 southern visual double stars, measures 9-21360
 speckle interferometry of 155 objects 9-17017

binary stars continued

- spectrophotometric identification of late type binaries in open clusters 9-44548
 spectroscopic binaries with nearly identical components, significance 9-48856
 spectroscopic binary member of visual double, mass determ. method (French) 9-44549
 spectroscopic binary systems orbital elements, seventh catalogue 9-16843
 static two-body problem and attraction law, post-post-Newtonian approx. 9-117
 steady accretion disk, with magnetic field, basic equations 9-40179
 Stein 2051 AB, white dwarf formation 9-44483
 Sun, possible neutron star or black hole companion props. 9-2490
 Sun+proto-Jupiter, appl. to solar system origin 9-8856
 V711 Tauri, radio flare on 1978 Nov. 6 at 15.5 GHz 9-5836
 V711 Tauri (HR 1099), 1977-1978 photometry before radio outburst 9-21337
 V711 Tauri (HR 1099), 1978 photometry during radio outburst 9-21338
 V711 Tauri (HR 1099) and related Ca II emission binaries, H α emission survey 9-21339
 tidal torques on accretion discs in binary systems with extreme mass ratios 9-40224
 tidally-distorted stellar models small oscills., Roche coordinates appl., second-order terms effect 9-44462
 α Trianguli, radial vel. vars. from microdensitometer scans of photographic spectra 9-25642
 twisted accretion discs, time-dependent eqns., X-ray binary systems appl. 9-12395
 4 U 1538-52, optical light curve of X-ray binary 9-35431
 4U 1626-67, discovery of optical pulsations from proposed candidate faint blue star 9-9034
 4 U 1700-37 (HD 153919), 97 minute periodicity discovery 9-5921
 undiscovered triples, in known binaries, selection effects (French) 9-44546
 van Bueren 62, 117, 121, dwarf stars in Hyades, spectroscopic orbits 9-5862
 γ Velorum, interstellar absorption lines in UV spectrum 9-35324
 vibrating white dwarfs, ultra-short var. 9-21287
 32 Virginis, A-type main-sequence and Am-type star components 9-30091
 θ Virginis A, pulsating star of unknown type 9-44555
 visual binaries, radial vel. meas. 9-21347
 visual binary and multiple stars, micrometer and interferometer meas. 9-35303
 visual binary multiplicity 9-44545
 visual binary stars, astrometric obs. rel. to gravit. const. var. (Russian) 9-44537
 visual double stars, photographic measures 9-17024
 visual double stars, rectilinear trajectories calc. (French) 9-17023
 wide visual double stars, B, A and F type, uvby β photometry 9-17025
 WRA 977 (4U 1223-62), lightcurve and radial vel. curve 9-21307
 X-ray binaries, anomalous periastron positions 9-25756
 X-ray binaries, cyclotron line form. in magnetised neutron star atmosphere 9-48839
 X-ray binaries, evidence of noncircular orbits 9-12541
 X-ray binaries, spherically symm. accretion near Eddington limiting luminosity 9-16809
 X-ray binaries, stability of non-synchronous stars in close binary systems 9-40223
 X-ray binaries in galaxies, contrib. to diffuse X-ray background 9-17141
 X-ray burst sources, model, substorm process at accreting neutron star 9-17132
 X-ray bursters and soft X-ray transients, different phenomena from same objects 9-25755
 X-ray pulsars, continuum optical pulsation from companions 9-30147
 X-ray sources of galactic bulge, highly compact binary model 9-35430
 Si XIII and Si XIV line emission search with ANS crystal spectrometer 9-17131

binding energy

- see also lattice energy; nuclear binding energy; nuclear forces
 alkali trimers, London pot. energy surfaces 9-6893
 benzene, monosubstituted, ring protonation and C_{1s} binding energies, STO-3G calc. 9-29336
 bound states for the symmetric shifted Coulomb potential 9-6007
 diatomic hydrides, LiH to HCl, CI calcs. in spin density functional formalism 9-18122
 electronic potential energy and X-ray scatt., relationship 9-28311
 ethylene, electron impact ionis., valence electron momentum distrib. 9-18297
 exciton binding energy and lifetime in free carrier gas 9-33238
 fluoromethanes, X α calcs. using Δ SCF formalism 9-6861
 formic acid, dimerisation energy, non-empirical MO SCF calc. 9-37656
 fourth row element ions, relativistic Dirac-Fock-Slater orbital binding energies, one-electron transition energies 9-25778
 glass, alcoholic and aq., 4.2K, trapped electron photocond. and optical spectra following radiolysis 9-29378
 globular hydrocarbons, cohesive energy and Gruncisen parameter calcs. 9-19183
 heavy elements, Z=84-103, at. electron binding energies 9-31735
 heavy ion+atom, K-vacancy production, universal scaling law 9-22811
 ionic solids, lattice and defect props., modified electron gas approx. 9-42054
 metallic elements, bond energy rel. to thermal expansion coeff. (Chinese) 9-14946
 metals, simple, binding energy, compressibility, interionic pot. and transition temp. using pseudopot. method 9-46598
 molecule, approx. energy formula 9-45629
 molecule, quartic potential function with finite BE, props. 9-26913
 molecule near metal surface, proximity effects 9-36797
 nucleic acid bases, protonated, anion binding, electrostatic mol. pots. 9-1999
 organic molecules, relax. phenomena, following core ionis., LCAO MO SCF calc. 9-10030
 row element ions 9-25778
 semiconductor, anisotropic, binding energy of exciton complexes 9-15088
 semiconductors, binding energy in exciton-impurity systems, Haynes rule 9-15112
 semiconductors, excitonic polarons, Pollmann-Buttner variational method, donor and exciton binding energies 9-42469

binding energy continued

- three-body system in mesoatomic physics, adiabatic two level approx. (Russian) 9-22870
 e⁻e⁻e⁻, two-electron at., three-body problem, binding energy 9-3372
 Ag-Cd, behaviour of Cd d-bands, comparison with Hg and Au alloys 9-37972
 Al, chemisorption of H₂, calc. of adsorption sites and binding energy 9-46953
 Al-transition metal, impurity binding energies 9-42096
 Ar,H(H⁺), excited and ground state struct. energies and binding energy, vibr. modes, LCAO-SCF-MO calc. 9-3608
 As₂S₃, Se₃, S₃, X-ray photoelectron spectra, electron binding energy, effect of Ag alloying 9-11499
 Au, surface atoms, XPS, core level binding energy, density of states 9-8224
 Au-Cd, behaviour of Cd d-bands, comparison with Hg and Ag alloys 9-37972
 CO, adsorbed on Pd, UPS of CO on Pd clusters, binding energy, d-electron emission particle size depend. 9-4888
¹²C(d,d), incident ion binding energy effects on scatt., qualitative anal. 9-9600
 CdMnTe crystals, exciton binding energy, magnetoabsorption and magnetoreflectivity 9-38523
 CdS(Se), single cryst., band parameters from optical exciton spectra 9-47021
 γ -Ce, valence band exam. by XPS and UPS 9-37977
 Cu clusters, valence band and core binding energies, UPS meas. 9-38721
 Cu, on polystyrene, unusual core level spectra, XPS obs., core electron binding energy 9-24415
 Fe series dimers, bonding, density functional theory calcs. 9-45650
 Fe:He, BCC, process of interstitial trapping by impurities 9-46697
 Fe-C, electronic structure of interstitials 9-1583
 Fe-compounds, K-absorption edge energy shift 9-4870
 GaAs, exciton ground state and oscillatory absorption spectra in mag. fields, variational calc. 9-11071
 GaAs oxide films grown by anodization in electrolytes, electron spectroscopy exam. (German) 9-15837
 GaP, camel's back induced stabilisation of electron-hole liquids 9-19524
 GaP oxide films grown by anodization in electrolytes, electron spectroscopy exam. (German) 9-15837
 GaP₂As_{1-x}, N, impurity electron states, binding energies and wavefunctions 9-42488
 GaSb oxide films grown by anodization in electrolytes, electron spectroscopy exam. (German) 9-15837
 Ge, electron-hole drop binding energy, optical threshold studies 9-38652
 Ge₂, multiplet struct. and charge distrib. 9-26881
 H atoms on liquid He surface, interaction and bound states 9-18131
 H, transition probabilities and expectation values, in intense mag. field 9-10066
 H₂, binding energy, MINDO/3 calcs. (German) 9-3366
 H₂⁺, binding energy, MINDO/3 calcs. (German) 9-3366
 H₂, (n=5 to 13), ion-induced dipole clusters, binding energies and geometries 9-41261
 H₂S, valence momentum distrib., binding energies, binary (e,2e) spectrosc. meas. 9-31713
 H₂S, valence shell binding energy spectrum, 8-34 eV, electron scatt. simulation of photoions. 9-10213
³He, adsorbed on Grafoil surface, ground state, thermodynamic anal. 9-19421
 Hg-Cd, behaviour of Cd d-bands, comparison with Au and Ag alloys 9-37972
 In, oxidised surface, bonding of Cd arachidate monolayers, XPS 9-15011
 InI, orthorhombic, reflection spectra, exciton transition 9-24333
 InSb oxide films grown by anodization in electrolytes, electron spectroscopy exam. (German) 9-15837
 k, adsorption on Re (1010) surface, electron-adsorption props. 9-33192
 K, binding energy and equilib. struct., pseudopot. calc. (Russian) 9-47037
 Li, binding energy and equilib. struct., pseudopot. calc. (Russian) 9-47037
 Lu, binding energies for metal and 4d, 4f atomic levels from XPS data 9-15586
 Lu₂O₃, binding energy from XPS data 9-15586
 Mg, chemisorption of H₂, calc. of adsorption sites and binding energy 9-46953
 Mg, K α hypersatellite spectrum, K-shell electron double ionisation cross section, binding energy 9-36577
 Mn-compounds, K-absorption edge energy shift 9-4870
 Mo:He, interaction of He with edge dislocation, influence of interatomic pot. 9-33014
 Na, binding energy and equilib. struct., pseudopot. calc. (Russian) 9-47037
 Na, chemisorption of H₂, calc. of adsorption sites and binding energy 9-46953
 Ni (001) and (001)c(2 \times 2)S adsorbed, electronic surface resonances by LEED 9-24051
 Ni clusters, FCC and icosahedral structs., relax. and stability, cohesive energy minimization 9-42479
 Ni clusters, valence band and core binding energies, UPS meas. 9-38721
 O₂, X-ray spectra determ., agreement with ESCA data 9-41186
 Pd clusters, valence band and core binding energies, UPS meas. 9-38721
 Pt surfaces, clean and S covered, desorption of CO, binding energy meas. 9-46950
 Rh, oxidised surface, bonding of Cd arachidate monolayers, XPS 9-15011
 Si, inversion layer binding energy of bound state associated with self-consistent pot. 9-28415
 Si, oxidised surface, bonding of cadmium arachidate monolayers XPS 9-15011
 Si:Au, diffusion of Au anal. 9-23786
 Si₂, multiplet struct. and charge distrib. 9-26881
 SiC (15 R), polytype, many valleyed polar semicond., electron-hole-liquid, obs. from excitation and time delayed spectra 9-28289
 SiO₂, chem. shift of Si 2p core level, relax. contrib. 9-47141
 Sn, oxidised surface, bonding of cadmium arachidate monolayers, XPS 9-15011
 V₂O_{5-x}, O₂ equilib. press. as measure of O₂ binding energy in oxide system 9-16030
 Xe, solid, luminesc. from self trapped excitons (excimers) 9-1785
 Xe₂, near metal surface, proximity effects 9-36797
 ZnO, existence of biexcitons, reson. two-photon Raman scatt. 9-19889

binding energy continued

- ZnS:MnF₂ films, effect of Mn conc., XPS obs. 9-33886
 ZnTe, single cryst., electron-hole drop conc. (Russian) 9-11460

Bingham plastics and solids *see rheology***biocoustics**

- see also biological effects of acoustic radiation; biomedical ultrasonics; hearing; sonar*
 action potential latencies, narrow-band, in normal and recruiting human ears 9-43929
 bat, obstacle avoidance for moving and stationary objects 9-2086
 biomechanical spatial motion, data collection method using sonic digitiser 9-39441
 biosonar signals, moustache bat, auditory information processing 9-11943
 cardiac sound frequency shifting stethoscope 9-29647
 delphinid porpoises, sound production and air recycling, cineradiography 9-48275
 dog lungs, input impedance from Fourier anal. of response to transient pulse pressure excit. 9-5309
 dolphins, importance of isolation and anal. of emotional signals (Russian) 9-43934
 electrophonocardiographic systolic time intervals, influences on 9-34681
 lung, airway network geometry inference, broadband reflection data 9-29560
 lung, amplitude-frequency response of pulmonary air tract 9-20574
 marine biological choruses observed in tropical waters near Australia 9-2085
 mynah bird imitation of human speech, comment on first formant resonance 9-43939
 pathological knee joint cartilage damage, electroacoustic evaluation 9-20702
 piezoceramic cardiovascular acceleration transducer 9-39536
 scanning laser acoustic microscope, principles and analytical capabilities 9-18655
 sharks, rapid withdrawal from underwater sound source 9-16224
 striated muscle, frog, longitudinal pulse propag. 9-16246

biocommunications

- see also biocybernetics; hearing; learning systems; speech*
 dolphins, importance of isolation and anal. of emotional signals (Russian) 9-43934
 mynah bird imitation of human speech, comment on first formant resonance 9-43939

biocontrol

- see also biocommunications; biocybernetics*
 artificial hand, myoelectrically operated with dynamic control (German) 9-8571
 artificial hand, myoelectrically operated with dynamic control, practical trial (German) 9-12029
 biofeedback therapy technique and application (German) 9-16341
 bipedal locomotion, simple model of step control 9-11958
 blood pressure control, mechanical-chemical balloon implant 9-20712
 blood pressure control system dynamic behaviour identification 9-2097
 cell cycle kinetics stability and control, cancer chemotherapy appl. 9-34521
 cell functional activity regulation, human, by laser emission 9-43957
 central and peripheral nervous control mechanisms (German) 9-5271
 central nervous system interaction with peripheral motor system, voluntary human movement 9-8499
 disturbed cell renewal control system modelling and simulation 9-29510
 EMG envelope spectral anal., muscular control process appl. 9-5390
 heart rate and sinus arrhythmia obs. during health-resort treatment 9-43855
 mammal locomotion, role of joint receptors in limb control (Russian) 9-43938
 motor neuron firing pattern in Aplysia 9-48244
 movement detection, one-way, in fruitfly visual system 9-39415
 muscle control system Ia feedback-pathway correlations, origin and nature 9-24977
 muscle stretch reflex system, multi-channel, focused signal transmission mechanism considerations 9-24978
 muscular activity in pasture maintenance, control mechanisms study via spectral anal. 9-5306
 neuromuscular system electrical stimulator using biopotential amplifier 9-48315
 phototaxis in walking fly, water balance and phototactic response 9-20577
 respiratory system, human, modelling and parameter identification 9-39444
 striated muscle contraction, intracellular control of force development 9-48228
 structural constitution and function (German) 9-5256

biocybernetics

- see also brain models; learning systems; neural nets*
 adaption model evaluation for vestibulo ocular reflex 9-11931
 aorta, dog, simulation via adaptive model 9-11964
 aural signal central spectral pattern anal. based on cochlear neural timing and freq. filtering 9-5300
 biped locomotion dynamics, control theoretic study (Japanese) 9-11963
 cancer chemotherapy, cell kinetics system model 9-48229
 cardiovascular parameter estimation, nonlinear filter statistical parameters optimal choice 9-5308
 cell growth regulation modelling 9-2014
 central nervous system interaction with peripheral motor system, voluntary human movement 9-8499
 communication between two self-organizing systems modelled by controlled Markov chains 9-39335
 endocrine tumours, silent, feedback system cell number change effects, steady-state anal. 9-20526
 entropies in living systems, thermodynamic, informational and structural (Russian) 9-20511
 evoked response estimation 9-43841
 evolution model 9-12060
 foveal vision, mental scanning mechanism 9-2066
 Gaussian process testing method 9-1993
 haemoglobin molecule from cybernetic and thermodynamic viewpoint (German) 9-1998
 human body model, health, disease and treatment use 9-48205
 human psychophysics: functional interpretation for contrast sensitivity versus spatial frequency curve 9-48265
 light adaption model and Weber's law 9-8508
 Markovian biological system modelling via optimisation operators 9-1994

biocybernetics continued

- mathematical modelling in biological research, role of computers (Chinese) 9-1996
 motor response of hemiparetic patients, model of hypnosis influence (Slovenian) 9-2037
 motor unit action potential study using computer simulation 9-11914
 nerve action potential, cybernetic elucidation 9-48243
 object fixation and spontaneous pattern preferences in *Drosophila melanogaster* 9-43903
 photophobic accumulations model, blue-green algae in light traps 9-11965
 physiological system, nonlinear, Volterra kernels representation determ. 9-2034
 radiation therapy of malignant growths, optimisation 9-5337
 respiratory system model, identification via mathematical pattern recognition 9-2096
 rhythm phase response curve study, homotopy theory 9-8491
 self-organizing systems, nonequilib. ensembles, simulation study 9-24933
 spatial contrast visual detection, influence of location in visual field, target extent and illuminance level 9-2067
 structure-function relationships of biologically active molecules, programs (Russian) 9-16137
 transformations theory, dynamical similarity 9-34469
 transformation functions, constrained, essential features 9-1997
 visual processor, human colour-vision discrimination, statistical-communications approach 9-5288
 visual system, hyperacuity decision model 9-5294
 visual texture discrimination 9-43902
 white-noise analysis of biological systems 9-1995

biodiffusion

- biomembranes, immobilised protein, intrinsic electric fields and proton diffusion 9-24964
 breathing process analogue model (German) 9-16228
 capillary-tissue diffusion in multicapillary system, anal. 9-2095
 erythrocytes, gas reactions, shape changes microspectrophotometry obs. 9-8488
 haemoglobin in solution, conc. depend. of diffusion coeff. 9-29546
 membrane, molecular motion determ. using periodic pattern photobleaching 9-34719
 membrane-moderated controlled release, dynamics 9-2016
 model chemical reaction bifurcation diagram, time-periodic soln: stability changes 9-47886
 nerve fibres, myelinated, diffusion of ions 9-24965
 platelet diffusivity estimation in flowing blood 9-25010
 respiration model analytical soln. 9-48282
¹⁸F ion diffusion in dental enamel at pH 7, obs. 9-29553

bioelectric phenomena

- see also bioelectric potentials; biomagnetism*
 acupuncture, search for elec. located skin stimulation points 9-43976
 acupuncture, transient impedance between stimulation points 9-43977
 acute myocardial infarction, electrophysiological aspects 9-43858
 atrioventricular and His bundle conduction disorders in noncoronarygenic diseases 9-43848
 axon, squid giant, compensation of potential changes produced by Er ion with applied potentials 9-16181
 axonal membrane transport, elec. field distrib., ionic selectivity and permeability 9-34532
 bacteriorhodopsin, enthalpy changes during photochemical cycle 9-34602
 bacteriorhodopsin in model membranes, new component of displacement photocurrent 9-43827
 bacteriorhodopsin-containing membrane fragments, quantum yield of flash-induced proton release 9-34601
 biofeedback, student demonstration 9-44677
 blink reflex, afferent pathways, human 9-43864
 blood, flowing, electrical resistivity changes (Japanese) 9-2015
 bone tissue, dry, piezoelectric model 9-25015
 cardiac Purkinje fibre, Na current model 9-43861
 cardiac Purkinje fibres, rabbit, Na channels 9-43828
 cardiac Purkinje fibres, sheep, intercellular clefts effect on elec. props. 9-34522
 cardiac tissue resistivity, intramural meas. 9-39388
 cell separation, local conc. gradient determ. by conductivity meas. (German) 9-5411
 cell suspension physiology and induced pathophysiology, noninvasive analysis using EM method 9-2125
 cerebellar Purkinje cells, synaptic action depression by inferior olive destruct. 9-34544
 coherent electric vibrs. in active microorganisms due to microwave radiation 9-2106
 dental implant fixation, electrically mediated process, interfacial strength 9-16348
 electrocutaneous nerve stimulation, humans and toads 9-11909
 electrocutaneous nerve stimulation, stimulus waveform selection 9-48236
 electromyography measurements, human soleus muscle, stretch and Hoffmann reflexes 9-16193
 electrons, advantage to low mobility in biological systems 9-39346
 electrophysiological measuring, unity gain follower with buffer 9-12048
 electroretinogram, human, real-time computer for first- and second-order Wiener kernels 9-12046
 electroreticle two point discrimination obs. 9-43975
 EM boundary-value problem in cylindrical conductor, appl. to limb tissue elec. cond. meas. 9-7055
 exercise vectorcardiogram changes rel. to left ventricular function at rest 9-43859
 eye crystalline lens, frog, elec. props. of struct. components 9-24982
 fish, lorenzian ampullae detect. of geomag. variations 9-39381
 gramicidin ion pore, potential variation 9-34506
 Halobacterium species, passive elec. props., membrane ionic flow 9-24970
 heart, muscle cells, Na current, electrophysiological studies, rat 9-43838
 Hodgkin-Huxley model of electrical excitability novel molecular interpretation 9-2024
 lipid bilayer, planar, light guide effect, bilayer spectrosc. appls. 9-29509
 lipid bilayer membranes, discrete charge effect, dipicrylamine anions surface absorption 9-16159
 lipid bilayer membranes, ionic displacement current 9-34503
 lipid membranes, buried charges, virial expansion 9-16158
 melanin, wet, elec. switching, aggregated electrons emulsion inversion as possible mechanism 9-38139

bioelectric phenomena continued

- membrane noise, spectral props. of physical processes of Markov-correlated events 9-21665
- membrane surface charge distributions, discrete, fluctuations near individual channels 9-16160
- methylglyoxal-protein complexes, hopping conduction, theory 9-24935
- mitochondrion, elec. props. and struct. transitions 9-24943
- muscle, excitation and contraction processes, book contrib. 9-5262
- muscle, striated, charge movement in membrane, book contrib. 9-5263
- nervous membrane, excitable, charge density due to optical irradiation 9-8526
- nervous tissues, Ca dependent K activation, book contrib. 9-5266
- network thermodynamic two-port element, representation of salt, current coupled flow 9-34505
- paroxysmal ischaemia, vectorcardiogram and rheokinetocardiogram relationship 9-44047
- peripheral nerve, single unit detection by real time correlation 9-12047
- plethysmography, elec. admittance, blood flow meas., evaluation of theory and accuracy (*Japanese*) 9-43979
- primary T-wave determ., spatial ventricular gradient change factors 9-43850
- protein-methylglyoxal complex, electronic props., energy band cond. 9-24936
- proteins, hopping conduction, theory 9-24935
- proteins, role in electron transport at large distances 9-34480
- respiratory rhythm, synchronisation by electrical stimulation of phrenic nerve 9-11910
- retina, on-centre bipolar cell, effect on polarisation of horizontal cells in carp 9-16207
- sensory fibres, amphibian, spike freq. adaptation due to slow K channels 9-2025
- skeletal muscle of frog, displacement currents, K cond. channel contrib. 9-39409
- skin impedance, Laplace plane anal. 9-39458
- skin impedance parameter dispersion and correlation 9-29518
- sleep spindles, automatic detection with a phase locked loop device 9-16316
- spruce budworm visible glow as UFO explanation 9-16361
- squid giant axon, response of delayed K^+ channels to time-dependent clamping functions 9-39382
- subesophageal ganglion, cricket, descending interneurons, impulse patterns and ventilation 9-29519
- synaptic conductance changes, nonlinear effects 9-2045
- thoracic electrical impedance sensitivity to blood volume changes 9-34543
- tracheal epithelium, effect of Ca on ion transport and elec. props. 9-34527
- transducer noise in locust photoreceptor, intracellular responses 9-34560
- transthoracic impedance curve processing, patient-computer interface 9-34686
- ungulate cardiac electrical activity peculiarities and evaluation methods 9-39394
- ventricular Purkinje fibre, electrophysiological and histological props. 9-39396
- wrist actigraphic measures of sleep and rhythms 9-16315

bioelectric potentials

- see also *contact potential; electrocardiography; electroencephalography*
- auditory brain stem potentials, monkey, mapping following monaural clicks 9-16211
- auditory emitted potentials and temporal uncertainty 9-34575
- auditory evoked potentials, averaging and FM 9-34574
- auditory evoked response, effects of signal rise time and frequency 9-20552
- auditory evoked response, relationship of latency and amplitude with sound intensity 9-20551
- auditory evoked response correlate of symbol and significance 9-25000
- auditory evoked sustained potentials, nature of response 9-34572
- auditory evoked sustained potentials, stimulus relationships 9-34573
- auditory nerve fibre, insect, latency shift, neuronal time cue of sound direction 9-48274
- auditory time shift evoked potentials, generation technique 9-16354
- axon, giant squid, current fluctuations obs. 9-24973
- axon, motor, reflexes following intraneuronal regeneration 9-34541
- barnacle photoreceptors, initiation of light adaption, intracellular recordings 9-20542
- body surface and epicardial activity, computer-aided meas. system 9-39551
- body surface ECG potential mapping, data acquisition system 9-29653
- body surface mapping of cardiac field, computer-aided pattern recognition 9-39553
- body surface potential image recording and processing methods 9-20704
- brachial biceps, human, extracellular action potential radial decline 9-16192
- bulbar evoked potentials, olfactory bulb and cortex, spatial props. of EEG event 9-16223
- cardiac electric field probabilistic model 9-39387
- cardiac electromechanical field model and computation, inverse problems 9-39400
- cardiac rhythm disturbances, Markov process model (*German*) 9-2019
- cardioelectrical field, human, intraindividual variability obs. 9-39404
- cell membrane potential changes on X-irradiation 9-39369
- ciliary motor responses, intracellularly recorded receptor currents 9-11916
- corneal-retinal, production of EEG α -rhythm by eye tremour modulation 9-34535
- coronary artery disease diagnosis, exercise ECG, VCG and body surface mapping 9-44046
- cortical visual evoked potential, normal humans, bibliography of research 9-5278
- cortical visual evoked potential, normal humans, main chapters of research 9-20537
- dendritic membranes, active vs. passive effects on simulated neuron transfer properties 9-24976
- ECG, effects of filtering His-Purkinje system pots. 9-48355
- ECG preauricular O wave, embryonic origin 9-39390
- ECG solid angle interpretation, myocardial fibre orientation implications 9-39397
- electro-oculographic ratio, rod and cone contribution 9-11925
- electro-oculographic response, binocular synchronism monitoring, prolonged monolateral occlusion 9-20543

bioelectric potentials continued

- electro-oculographic response, diagnostic tool for principal ocular disorders (*Italian*) 9-5391
- electro-oculographic response, interocular comparison while reading printed material 9-20536
- electro-oculography, on-line system for quantitative study of ocular kinetics 9-34699
- electrocardiology 4th International Congress, Balatonfured, Hungary (Sept. 1977) 9-39384
- electrocortaneous tracking, evaluation of sensory feedback codes 9-25004
- electromyograph signal characteristics, various muscle tension levels and during fatigue 9-34537
- electromyographic activity of jaw muscle and mandible static loading 9-43951
- electromyographic biofeedback, facial palsy treatment 9-34701
- electromyographic recordings, perioral reflex amplitude variation 9-20558
- electromyographic shimmer in normal human muscles 9-34538
- electromyographs of limb tremor, normal and alcoholic withdrawal 9-29544
- electromyography, ulna nerve, slowing of motor conduction vel. in sulcus 9-34548
- electromyography and nerve conduction, digital memory recorder 9-43999
- electromyography during arm swing in human locomotion, mathematical model 9-39434
- electroculogram recording, single channel method for vertical and lateral eye movements 9-16205
- electroretinogram, human, DC registered, influence of ethyl alcohol 9-2052
- electroretinogram, human, nonlinearities reflected by Wiener kernels 9-34556
- electroretinogram, human, white noise analysis 9-1995
- electroretinogram, mechanisms of visual latency in *Bufo marinus* 9-48255
- electroretinogram, primate cone sensitivity to flicker during light and dark adaptation 9-43900
- electroretinogram, retinal degeneration in RCS rats raised under ambient light levels 9-43887
- electroretinogram e-wave, frog, rel. to ganglion cell activity and rod responses 9-48254
- electroretinogram signals computer anal. 9-8559
- electrospinothogram, human, recorded from intrathecal, epidural and cutaneous levels 9-16182
- EMG envelope spectral anal., Parkinson's disease diagnosis and treatment appl. 9-5390
- EMG in moving finger muscle, pattern recognition by linear prediction 9-8555
- EMG surface power density spectral bandwidth rel. to electrode parameters 9-29517
- epicardial activation sequence rel. to body surface maps, right bundle branch block induced in dogs 9-39402
- evoked action potentials, muscular and sensory 9-34530
- evoked frequency stabilisation in cat brain electrical activity 9-34533
- evoked potentials in same hand, normal subjects rel. to capral tunnel syndrome patients 9-48231
- evoked response averaging for schistosome activity monitoring 9-34613
- evoked response estimation 9-43841
- evoked spinal cord and nerve root potentials in humans using a non-invasive recording technique 9-39377
- extraocular motor unit activity, electromyographic recording in man during fixation and saccades 9-16203
- eye movement monitoring, signal detect. via phase-locked sampling in mag. search coil 9-25124
- gastroelectric surface signal analysis, phase-lock system design 9-34687
- gastroelectric surface signal analysis, phase-lock system performance 9-34688
- heart, electrical activity observability, singular value decomposition 9-11913
- inverse electrocardiology regularisation method, isolated canine heart expt. 9-39393
- ischaemic myocardium ST segment electrical alternans obs. 9-43857
- ischaemic triaxicardiographic changes induced by exercise 9-39407
- left ventricular potential quantitative assessment rel. to echocardiographic meas. 9-44042
- limb muscle dynamic force meas. by surface EMG 9-34689
- membrane potentials meas. using the dye safranin 9-48386
- mitochondrial membrane charging by cytochrome oxidase, role of protons 9-43807
- multiunit spike train sampling control by peak discriminator 9-34717
- muscle fibres, computed extracellular pots. 9-43843
- muscular fatigue, EMG meas. and analogue model (*Japanese*) 9-8498
- myoelectrically controlled artificial hand, with sense of touch 9-12035
- nerve action potential, cybernetic elucidation 9-48243
- nerve cell information conversion mechanisms 9-43862
- nerve conduction model, FitzHugh-Nagumo, repetitive activity and Hopf bifurcation under point-simulation 9-11915
- nerve fibre, active, in finite volume conductor, surface action potentials, model 9-24980
- nerve membrane response due to time depend. stimulus 9-24974
- nerve trunks, method for determ. of conduction velocity distribns. 9-48241
- neuromuscular system deterministic neuron models 9-29523
- neuromuscular system electrical stimulator using biopotential amplifier 9-48315
- neuron activity, optical monitoring methods, book contrib. 9-2030
- neuronal response analyser with microprocessor (*French*) 9-20730
- neuronal response in rat hippocampus, dynamic model 9-34547
- orbicularis oculi reflex, diagnostic significance of reflex amplitude 9-34540
- pacemaker transmembrane potential generation in fish heart sinoatrial cells 9-39395
- pericardial potential simulation and mapping in dog 9-39399
- post-operative human gait, EMG mes., pattern recognition appl. 9-34599
- radial nerves branching quotient, determ. in healthy adults 9-34539
- retina, pigeon, graded pots. accompanying antidromic invasion 9-43882
- retina, teleost, enhancement of hyperpolarising S-potentials of surround illumination 9-2051
- retina electrical activity and lipid peroxidation 9-43885
- retinal ganglion cells action pots., goldfish, function of lighting conditions 9-43888
- retinal R/G horizontal cells, light intensity and response amplitude relation 9-5281

bioelectric potentials continued

- scotomata, effect on responses to pattern reversal in one half visual field 9-39417
- sensory evoked potentials in nervous system clinical disorders, book contrib. 9-2029
- single motor unit, recording during strong effort 9-11908
- single myocardial fibre model, source-field relationships 9-39385
- somatosensory evoked potential, effects of interaction between large and small diameter fibre systems 9-16188
- somatosensory evoked potential, scalp-recorded, normal and neurologically disordered patients 9-16186
- somatosensory evoked potentials, conduct. time in central pathways in man 9-39408
- somatosensory evoked potentials, cortical and thalamic activity in cat 9-16187
- somatosensory evoked potentials, recovery function of short latency components, cat 9-34534
- somatosensory evoked potentials obs., human and monkey 9-43842
- striate cortex cat, orientation selectivity of single cells 9-2053
- surface charge density variation of excitable nerve membrane exposed to optical radiation 9-34542
- sympathetic ganglia, synaptic potentials and cyclic nucleotides 9-11912
- synctia, spherical, electrical props. 9-24962
- thoracic surface, human, heart potentials distrib. with left bundle branch blocks 9-39403
- torso model for potential distrib. from VCG data 9-39401
- ventricular myocardial excitation, elec. field theory and integral topogram analysis 9-39386
- ventricular surface excitation wave spread and collision obs. in dog 9-39398
- visual electrophysiological examinations of flying personnel 9-11929
- visual event related potentials of the late positive complex in visual discrimination tasks 9-39416
- visual evoked potential, cortical, normal humans, bibliography 9-39414
- visual evoked potentials, during hypothermia, prolonged circulatory arrest 9-16204
- visual evoked potentials, usefulness in multiple sclerosis diagnosis (*Italian*) 9-34555
- visual evoked potentials rel. to pattern reversal stimulus frequency (*German*) 9-16322
- visual evoked response, diagnostic tool in demyelinating diseases 9-20538
- visually evoked cortical potentials in renal failure, latency changes 9-16200
- visually evoked potentials, latency and reaction times as power functions of luminance in peripheral field 9-11928
- visually evoked potentials, visual anomalies in human ocular albinos 9-43875
- waveform analysis, computerized method for electronystagmogram anal. (*Croatian*) 9-20697
- Wiener filtering, estimation of evoked potentials 9-48235

biographical dictionaries see biographies

biographies

- Bergeron, Tor (1891-1977), meteorologist 9-2589
- Cailliet, liquefaction of air, from Cailliet and Pictet to microkelvin 9-40
- Chamberlin, geological methodology compared with Gilbert 9-17182
- crystal tuning fork development and biography of Jurgen Staudte (*German*) 9-30182
- Darwin, Charles, meteorological notes from voyage of the Beagle 9-17173
- de Saussure, H.-B., first mountain meteorologist 9-21513
- Einstein, Albert (1879-1955), memorable quotations 9-40342
- Einthoven, Willem, (1861-1927), electrocardiological work 9-35514
- Friedmann, Alexander Alexandrovich, cosmology in modern context (*French*) 9-2581
- Gay-Lussac, biography 9-25815
- Gilbert, geological methodology compared with Chamberlin 9-17182
- Glaisher, James (1809-1903) 9-36
- Goodricke, John (1764-86), variable star studies 9-44690
- Harriot, Thomas, 1560-1621, biography, astronomical instruments and obs. 9-35512
- Herschel, Friedrich Wilhelm, possible obs. of Uranus' rings 9-48733
- Holmes, Arthur and continental drift hypothesis 9-12559
- Infield, Leopold, research on problem of motion (*Polish*) 9-35513
- Jansky, Karl Guthe, and extraterrestrial radio emission detection 9-17144
- Jeans, Sir James Hopwood (1877-1946) 9-35
- Joseph Everett, and King's College Observatory, Nova Scotia 9-34
- Joseph Henry (1797-1878) (*Czech*) 9-44689
- Lambert, Johann Heinrich, 1728-1777, contribs. to philosophy, mathematics, astronomy and cartography (*German*) 9-17174
- Lemaitre, Georges, cosmology in modern context (*French*) 9-2581
- Lise Meitner, nuclear pioneer 9-30184
- Marconi's scientific activity, role of his discoveries in radio research 9-17172
- Michell, John and early 'black hole' theory 9-44691
- Pauling, Linus 9-21514
- Pictet, liquefaction of air 9-40
- Pigott, Edward (1753-1825), variable star studies 9-44690
- Tyndall, John (1820-1893) 9-35511

biological cybernetics see biocybernetics

biological effects of acoustic radiation

- see also *biomolecular effects of radiation; cellular effects of radiation*
- aircraft noise, effects on mental health 9-5316
- aircraft noise and premature birth 9-5324
- animal experiments on effects other than on hearing, review 9-5314
- bleeding, inner-ears of chinchillas, caused by simulated sonic boom 9-16247
- blood pressure, industrial noise effects on man, cardiovascular disease risk factors 9-5321
- cardiovascular function, effects of noise, rhesus monkey study 9-5322
- central nervous struct. stimulation in invertebrates by focused US 9-20576
- children, auditory thresholds, noise exposure and biological factors 9-16219
- defensive activation toward noise 9-5318
- ear, acoustic-reflex dynamics for pulsed signals 9-20549
- environmental noise, conclusions and recommendations of conf. Gothenburg 1977 9-5325
- environmental noise, health effects of noise exposure, review 9-5313

biological effects of acoustic radiation continued

- environmental noise, medical effects, Conf., Gothenburg, Sweden, 1977 9-5311
- environmental noise, review of non-specific responses in humans 9-5315
- environmental noise exposure, medical effects, review of basic considerations 9-5312
- immunological effects of auditory stress 9-5323
- industrial noise, biological effects other than on hearing 9-5320
- mammalian liver structural changes, US thresholds 9-48287
- mouse uterine smooth muscle, US induced contractions 9-25028
- noise, bias assessment in surveys of symptoms 9-3852
- noise, effect of intermittent truck noise on deep sleep 9-5310
- pea roots, effects of localised US irradiation 9-48285
- radiation hazards from emissions of thermal and nuclear power stations, comparative study 9-34460
- sleep disturbances, noise induced, effects on health 9-5317
- small peptide antibiotic and protein solns., US absorption 9-48286
- startle reactions to simulated sonic booms, influence of habituation, boom level and background noise 9-39326
- subjective analysis of acoustic noise (*German*) 9-46109
- urban noise, field study, noise sources, effects on humans 9-5319
- US effects on experimental bruising in guinea-pig pinna 9-16248
- US tissue characterisation practice and risk 9-48309

biological effects of gamma-rays

- see also *biomolecular effects of radiation; cellular effects of radiation*
- Asiatic clams, biocide expts. using ⁶⁰Co source 9-16255
- bone marrow colony-forming units in beagles, response to whole-body γ irradiat. 9-25043
- breast carcinoma, appearance of non-specific suppressor cells in the blood after local irradiation 9-20597
- bronchial tumour reaction to combined neutron-telecobalt therapy 9-20642
- cervical spinal cord, radiation myelopathy, time, dose and volume factors 9-20658
- Chinese hamster cell, γ -dose survival, seasonal variations 9-43959
- corneas, canine, γ and negative pion irradiation of microvasculature 9-43964
- cumbu seeds, effects on R₁ and R₂ progenies 9-29571
- diploid yeast, liquid-holding recovery, nature of damage 9-16256
- DNA, damage from ionising radiation 9-11987
- dominant lethality in spermatogonia of mice after acute and chronic gamma-irradiation 9-25039
- dose assignment criteria, beagles, bilateral exposure to ⁶⁰Co γ -rays 9-16305
- E. coli, relative rates of repair of single-strand breaks and postirradiation DNA degradation 9-16149
- fast neutron and photon therapy, randomised clinical trials 9-20638
- ferric haemoglobin, EPR studies before and after irradiation 9-29503
- foetus, human, effect of a high dose from ²²⁶Ra 9-25104
- gamma-ray dose rate conversion and buildup factors 9-34671
- gram (cicer arietinum L.), γ irradiation effects 9-34609
- haematological findings significance for medical exam. of radiation employee (*Japanese*) 9-11971
- haemoglobin, bovine type A, γ -induced changes obs. 9-43811
- head and neck, advanced cancers, low dose rate irradiation 9-34649
- heritable lesions, radiation induced, in proliferating mammalian cells, review 9-20602
- human whole body irradiation, fluence- and exposure-to-dose conversion 9-5371
- hyperthermia and cancer therapy, 2450 MHz microwave and γ -radiation effects on flour beetle 9-2103
- intestinal tolerance in mice, effect of dose rate, implications in radiotherapy 9-29568
- jejunum, mouse, effect of hyperthermia on radiation response 9-25038
- lymphocytes, comparative radiosensitivity of T and B cells in mice 9-11968
- mammalian cells, thermal enhancement of γ -irradiation effectiveness of reproductive death induction 9-34509
- mammary adenocarcinomas, effects on tumor cell survival after irradiation, mice 9-25036
- melanoma cell strains, human, γ -radiosensitivity and growth parameters 9-29574
- microdosimetry, energy deposition distrib. patterns 9-20600
- mung bean seeds, induced variation in resulting plant morphology 9-43960
- nuclear medicine, intrastitutional mobile, health physics considerations 9-8546
- nuclear-dockyard workers, radiation-induced chromosome aberrations 9-34606
- polygenic variation induced in wheat and rice 9-43962
- radiation therapy, fractionation in ⁶⁰Co teletherapy, weekly intervals 9-34650
- radiobiological aspects of supralinear photographic emulsions, modelling appl. 9-8549
- seed radiosensitivity of winter hexaploid triticale 9-20583
- seedlings, Vicia faba, effects of different radiation types on growth (*German*) 9-43961
- skin γ and neutron responses, dose fractionation effects 9-20593
- skin injury, pig, relationship of acute to late injury in fractionated radiation doses 9-34604
- skin injury, pig, relative biological effectiveness of neutrons and γ -rays 9-34605
- spermatogenesis in sugarcane root borer, γ irradiation effects 9-34608
- sugarcane, evaluation of mathematical methods for optimum γ -dose prediction 9-29630
- testes, morphological changes after long term γ -irradiation in mice (*Russian*) 9-20601
- testicular stem cell, mouse, regeneration after γ irradiation 9-25048
- testis mass loss, mouse, induced by tritiated thymidine, tritiated water, ⁶⁰Co γ -irradiation 9-39452
- thymine, EPR study of post-radiolysis growth of spin-trapped radicals 9-16155
- tobacco plants, enhanced bud formation after γ -irradiation 9-48293
- valyl-tRNA synthetase from chick embryo brain, effect of ⁶⁰Co γ -radiation 9-34490
- wheat seedlings, effect on growth and abscisic acid concs. 9-29570

biological effects of ionising particles

- see also *biomolecular effects of radiation; cellular effects of radiation*
- alpha particles, ²³⁹PuO₂, cancer risk, max. permissible conc. in air 9-25108

Biological effects of ionising particles continued

- alpha-dose rates, upper limit calc. method for aquatic organisms, re ^{239}Pu , plankton 9-2133
 bacterial spores, thermorestitution of mutagenic radiation damage 9-20524
 bone marrow cell-culture, RBE of different-energy neutrons 9-34508
 bronchial tumour reaction to combined neutron-telecobalt therapy 9-20642
 cancers, genetic defects, resulting from use of various energy sources 9-16259
 carcinogenic risk estimation, comparison of radiation therapy and chemotherapy 9-20592
 cell survival as function of depth, modulated negative pion beams 9-43966
 cell survival dependent dose rate effects, radiation carcinogenesis theory 9-11973
 chromosomal aberrations for tritiated water dose, Swiss albino mice 9-2112
 corneas, canine, γ and negative pion irradiation of microvasculature 9-43964
 cutaneous and spinal cord response to accelerated charged particles 9-20586
 diploid yeast, liquid-holding recovery, nature of damage 9-16256
 DNA, ion beam effects, review (*German*) 9-43968
 DNA, repair mechanisms 9-11987
 DNA strand breaks, lymphoma cells, detected by hydroxyapatite chromatographic technique 9-43819
 DNA synthesis by DNA-membrane complexes from electron irradiated *E. coli* 9-16167
Drosophila melanogaster, repair of electron irradiation damage 9-11983
E. coli, DNA repair in radiation resistant and radiation sensitive strains 9-34489
 electron energy loss spectra, yield calcs. in H_2O , biological implications 9-7641
 electron microscope superconducting lens system for reduction of radiation damage 9-34718
 electron microscopy, high-resolution imaging of biological specimens, radiation damage, review 9-5331
 electron probe analysis, effects of electron irradiation of sample 9-43969
 fast neutron and photon therapy, randomised clinical trials 9-20638
 fast neutron sublethal damage and cell division delay expts. 9-20588
 fast neutron teletherapy, preliminary clinical results 9-20639
 fast neutron therapy with medical cyclotron, clinical results 9-20643
 fast neutrons in normal tissue, early and late damage obs. 9-20590
 fast particle therapy status and prospects in Europe 9-20641
 fibroblast cells, human, comparative response to 50 MeV neutrons 9-34512
 haematological findings significance for medical exam. of radiation employee (*Japanese*) 9-11971
 haematopoietic stem cells, susceptibility to ^{55}Fe radiation damage 9-11975
 heavy ion and He effectiveness on tumour systems 9-20587
 heavy ion and He inactivation of mammalian cells, radiobiological characterisation 9-20585
 heavy-ion and He fractionated radiation therapy, clinical trial 9-20632
 heavy-ion radiography and autoactivation techniques 9-20624
 heritable lesions, radiation induced, in proliferating mammalian cells, review 9-20602
 immune capacity suppression, mice to intestinal cestode, comparison of fast neutrons to X-rays 9-16257
 inhalation exposure of miniature swine 9-11976
 leukemia risk from neutron exposure 9-39509
 liver, mouse, effects of tritiated water rel. to age 9-43967
 lung, ^{210}Po , ^{214}Po , α -particle effects in Syrian golden hamster 9-16304
 lung cancer, expt., effect of dose distrib. of α -particles in Syrian hamster 9-16254
 lymphocytes, human, chromosome aberrations induced by ^{252}Cf neutron radiation 9-16169
 mammalian cells, Chinese hamster, human kidney, radiation studies with modulated C ion beam 9-11978
 medical neutron dosimetry, standards 9-12013
 microdosimetry, energy deposition distrib. patterns 9-20600
 monkey mortality, X-ray and neutron exposure, effect of autologous bone marrow transplantation 9-29572
 multiple neutron fractions, RBE for late spinal cord injury 9-25051
 neutron dosimetry, international intercomparisons 9-12014
 neutron flux density for irradiation of human tissue, max. permissible dose calc. 9-43992
 neutron personnel dosimetry, need for improved standards 9-12012
 neutron radiation therapy, cyclotron biological intercomparisons 9-20589
 neutron relative biological effectiveness in different exptl. tumours, 15 MeV neutrons 9-20591
 neutron therapy clinical trial programme in USA 9-20640
 neutrons, fast, bone-tissue interface, dosimetry 9-25113
 neutrons, fast, calcs. of charged particle recoils, slowing down spectra, LET, event-size distrib. 9-25040
 neutrons, fast, review of current usage in radiation therapy 9-16270
 neutrons, system for meas. total body Ca, in man using $^{40}\text{Ca}(n,\alpha)^{37}\text{Ar}$ reaction 9-25083
 nuclear-dockyard workers, radiation-induced chromosome aberrations 9-34606
 ovarian cancer, stage III, maximal treatment technique 9-25063
 pion $^-$ biological effectiveness and O_2 enhancement ratio obs. 9-20595
 proton and heavy-ion therapeutic advantages 9-20628
 pulmonary collagen turnover after β -emitting radionuclide inhalation 9-25049
 and radiation therapy, conference, Berkeley, USA (1976) 9-20619
 radiation therapy, electron beam dose distributions, magnetic field modification 9-5376
 radiation therapy, electron-dose distrib. in tissue, lung phantoms, magnetic modification 9-5377
 radiation therapy, low linear energy transfer alternatives 9-20648
 radiation-damage artefacts in biological electron microscopy, technique for visualisation 9-20726
 rhabdomyosarcoma, rat, response to Ne and He ion irradiation 9-25042
 seed radiosensitivity of winter hexaploid triticale 9-20583
 seedlings, *Vicia faba*, effects of different radiation types on growth (*German*) 9-43961
 skin, α -irradiation, possibility of late effects, U miners 9-20584
 skin γ and neutron responses, dose fractionation effects 9-20593

Biological effects of ionising particles continued

- skin acute response, human, pion $^-$ relative biological effectiveness 9-20596
 skin injury, pig, relative biological effectiveness of neutrons and γ -rays 9-34605
 skin nodules, comparative effects of pion and X-irradiation 9-20659
 skin tumour, rat, following proton irradiation 9-11982
 spine and forearm Ca changes, meas. apparatus using ^{252}Cf neutron activation anal. 9-39490
 structural damage at low temps., effects on microanal. 9-39453
 testis mass loss, mouse, induced by tritiated thymidine, tritiated water, ^{60}Co γ -irradiation 9-39452
 thick inhomogeneity effects on charged particle beams 9-25041
 tumour response to neutron radiation therapy, animal expts. 9-20594
 visual phenomena induced by relativistic $^{6}\text{C}^+$ ions with and without Cherenkov radiation 9-24991
 ^{131}I metabolism in amphibian and reptile thyroid (*Italian*) 9-20579
 O_2^- in air, effects on environmental hygiene 9-16258
 ^{238}Pu , factors affecting particle mobility in rats 9-12003
 ^{239}Pu , subparticle formation expt. by α -decay 9-6520
 $^{239}\text{PuO}_2$, inhaled particles, toxicity and translocation in baboons 9-2109

Biological effects of microwaves

- see also biomolecular effects of radiation; cellular effects of radiation
 carcinoma cell metabolism, Ehrlich ascites, effects of microwave radiation 9-2104
 cataract formation in rabbits and monkeys 9-5326
 cells in vitro, microwave radiation effects study using waveguide exposure chamber 9-5327
 cellular, subcellular and molecular effects (*Russian*) 9-16249
 cholinesterase, microwave radiation interaction studies 9-39363
 coherent electric vibr. in active microorganisms due to microwave radiation 9-2106
 cranial structure model exposed to microwaves, heat potential distrib. 9-2105
 enzyme-substrate system, potential difference changes 9-29565
 exposure limits proposal, in Canada 9-5375
 fetuses, mouse, obs. after 2.45 GHz irradiation of mothers 9-20578
 hyperthermia and cancer therapy, 2450 MHz microwave and γ -radiation effects on flour beetle 9-2103
 hyperthermia induced by microwaves, dose definition 9-2135
 hyperthermia induction in small animals using microwave system 9-2118
 hyperthermia of expt. mouse cancers using 2450 MHz microwaves 9-2119
 lipid metabolism disorder in mice (*French*) 9-34600
 local tumour hyperthermia in animals, microwave system for controlled prod. 9-34624
 mapping of near-field pattern in simulated biological tissues 9-39445
 membrane level, athermal electrophysiological mechanisms and experimental test 9-2108
 nonlinear membrane capacity effects, theory 9-29563
 protein coagulation and internal dielec. heating, surgery and cancer therapy appls. 9-5336
 radiation therapy, microwave hyperthermia applicators, development of 9-25059
 tumour and normal cell microwave transmission 9-2107
 tumour growth inhibition in mice, microwave irradiation, 3000 MHz 9-2101
 tumour microwave heating for thermographic detection enhancement 9-2124
 yeast survival rate obs., millimetre-waves influence (*Russian*) 9-2100

Biological effects of radiation

- see also biological effects of acoustic radiation; biological effects of gamma-rays; biological effects of ionising particles; biological effects of microwaves; biological effects of ultraviolet radiation; biological effects of X-rays; biomolecular effects of radiation; cellular effects of radiation; dosimetry; radiation therapy
 antenna, whip, effect on human body (*Czech*) 9-43958
 biological systems, photochemical reactions, excitation by pulsed LED (*German*) 9-16250
 Biophysical Society, 23rd annual meeting, conf., Atlanta, USA (Feb. 1979) 9-34468
 brain tissues, temperature rise induced by EM field 9-29564
 chemical pollutants and radiation, comparative biological hazards 9-25035
 corneal epithelium, predictive equation for IR laser damage 9-25031
 corneal temperatures, normal and laser injured rabbits 9-11919
 electron microscopy, high-resolution imaging of biological specimens, radiation damage, review 9-5331
 EM field effect on living organisms, standard magnetic field measurements methods (*Polish*) 9-39450
 EM power absorption in cylindrical tissue models excited by loop antenna 9-39446
 EM pulse environment, tests of biological integrity in dogs 9-39448
 EM wave biological effects, interdisciplinary and international contribs. 9-48288
 embryo, human, radiation effects on pre-natal development 9-29566
 encephalic receptors, photostimulation in sparrows, induction of Zugunruhe 9-24985
 energy deposition in simulated human operators of 800-MHz portable transmitters 9-8525
 extrapolation from exptl. animal to human (*Japanese*) 9-11972
 eye, human, max. permissible exposure to 1.54 μm laser radiation 9-11966
 eye maximum permissible exposure to 1.06 μm picosecond laser pulses 9-25033
 indoor natural radiation environment and dose distribution in man, multi-compartment models 9-12015
 laser action, possible head surgery appl. of Ar laser 9-8529
 laser hazards calc., for various viewing conditions 9-39447
 laser irradiation of biological tissue, temp. distrib., thermodynamic analysis 9-29562
 non-ionising EM radiation, biological response research perspectives 9-48289
 nuclear power, effect on the environment, general radiation level and waste product disposal 9-18051
 ocular hazard of short pulse Ar laser irradiation, primates 9-25030
 ocular rivalry suppression, effect of 9 Hz flashing light 9-34566
 optical, hazards assessment of IR, visible and UV ranges 9-20580
 photophobic accumulations model, blue-green algae in light traps 9-11965

biological effects of radiation continued

- phototaxis in walking fly, water balance and phototactic response 9-20577
 radiation exposure and other hazards, comparison of relative risks 9-2111
 radioactive releases from nuclear installations, eval. of accidental atmos. discharges 9-39529
 radiogenic cancer, estimate of life shortening per rem absorbed dose 9-11967
 solar flare, dose at Earth's surface 9-25109
 surface charge density variation of excitable nerve membrane exposed to optical radiation 9-34542
 tissue, temp. distrib. during laser irradiation 9-39449
 tissue heating by laser radiation, temp. profile and scatt. determ. (*German*) 9-2099
 tumours, biological effect of 27.12 MHz SW diathermy 9-2102

biological effects of ultraviolet radiation

- see also biomolecular effects of radiation; cellular effects of radiation*
 alga, filamentous blue-green, effects of high and low UV fluences 9-48294
 amides, substituted, aqueous solns., EPR and spin-trapping study of free radicals 9-16154
 bacteriophages, T7 and MS2, effect of UV light (*Hungarian*) 9-16153
 blue-green alga, UV dose modifying effects of acriflavine 9-43963
 cell killing, UV and X-ray damage interaction in Chinese hamster cells 9-11977
 DNA, damage from ionising radiation 9-11987
 DNA base damage detection method, UV induced pyrimidine dimers in human cells 9-44067
 E. coli, DNA double-strand breaks from single photochemical events 9-16151
 E. coli, DNA single-strand breaks and alkali-labile bonds 9-16152
 E. coli, relative rates of repair of single-strand breaks and postirradiation DNA degradation 9-16149
 E. coli inactivation, 365 and 254 nm radiation synergism 9-25044
 E. coli, radiation response of thymine-starved bacteria 9-11981
 ethenoadenosine, influence of pH and metal complexation on fluorescence parameter 9-34483
 fetal fibroblasts, UV induced chromosomal abnormalities, New Zealand Black mice 9-43836
 flavins, photoemission of electrons in polar media 9-29507
 hazards assessment 9-20580
 mammalian cells, DNA repair kinetics 9-20513
 nucleic acid, multiphoton photoreactions of aq. soln., picosec. UV pulse 9-34487
 orthopedic surgery, prevention of deep wound infection 9-16265
 Pollen, Pinus Sylvestris, effect of X, UV irradiation on NAD(P), NAD(P)H, hydroxyproline levels 9-20582
 wallaby cells, absence of effect of photoreactivation on sub-lethal damage accumulation 9-11970
 yeast cell, caffeine inhibition of liquid-holding recovery from UV induced budding delay 9-11985
 HeLa cells, synchronised, DNA damage from UV irradiation 9-25034

biological effects of X-rays

- see also biomolecular effects of radiation; cellular effects of radiation*
 amino acids, EPR determ. of radical yields 9-34491
 biochemical indicators of radiation injury 9-34607
 blood vessels, radiation induced damage, mouse, dose-effect time relationship 9-34603
 bone marrow cell-culture, RBE of different-energy neutrons 9-34508
 cancers, genetic defects, resulting from use of various energy sources 9-16259
 cell killing, UV and X-ray damage interaction in Chinese hamster cells 9-11977
 cell membrane permeability changes after X-irradiation 9-39370
 cell membrane potential changes on X-irradiation 9-39369
 cellular chromosome condensation and X-induced G₂ arrest 9-34510
 cervical carcinoma, external small-field X-irradiation 9-16269
 Chinese hamster cells, DNA replication after X-irradiation 9-11986
 chromosome aberrations in spermatogenesis of mature monkeys, single and fractional dosage (*Chinese*) 9-39451
 chromosome aberrations of peripheral lymphocytes in rabbits exposed to whole body X-irradiation 9-43834
 collagen, rat tail, radiation damage during X-ray small angle scattering using energy dispersive methods 9-12051
 Crepis seed, influence of post irradiation moisture alteration on biological after-effect 9-20581
 cumbu seeds, effects on R₁ and R₂ progenies 9-29571
 cyclic nucleotide changes in X-irradiated synchronized Tetrahymena 9-25046
 DNA, damage from ionising radiation 9-11987
 DNA, X-irradiation production of alkali-labile lesions 9-43820
 DNA and chromosomal proteins syntheses in rat thymus after whole body irradiation 9-34492
 DNA damage of Chinese hamster ovary cells on X-irradiation after preheating 9-34493
 ear, mouse, effect of prior heat treatment on thermal enhancement of radiation damage 9-48291
 E. coli, radiation response of thymine-starved bacteria 9-11981
 Ehrlich ascites tumour cells, influence of O₂ tension of X-ray-induced fall in anodic mobility 9-34526
 ferric haemoglobin, EPR studies before and after irradiation 9-29503
 heritable lesions, radiation induced, in proliferating mammalian cells, review 9-20602
 ilium, exteriorised upper segment in rat, glucose, proline uptake 9-11984
 immune capacity suppression, mice to intestinal cestode, comparison of fast neutrons to X-rays 9-16257
 liver cell proliferation, rat, failure of X-ray hepatoma production 9-25050
 lung damage, mouse, plethysmographic method for pulmonary function meas. 9-20721
 malignant melanoma, relationship between total dose, fraction number, fraction size 9-5341
 mammalian cells, lack of correlation between heat and radiation sensitivity 9-20599
 mammalian cells, replicon sizes estimated by X-ray plus bromodeoxyuridine photolysis method 9-16353
 mammary gland cells, rat, survival after X-irradiation under different endocrinological conditions 9-34513
 micro-organisms, effect on colony-forming ability 9-11969
 microdosimetry, energy deposition distrib. patterns 9-20600

biological effects of X-rays continued

- mitochondria, rat liver, vitamin E deficient, effect of X-irradiation on proteins 9-34511
 monkey mortality, X-ray and neutron exposure, effect of autologous bone marrow transplantation 9-29572
 parabiont rat pairs, late effects of successive massive radiation doses 9-29573
 pollen, Petunia, post irradiation effects in vitro and in vivo 9-29569
 Pollen, Pinus Sylvestris, effect of X, UV irradiation on NAD(P), NAD(P)H, hydroxyproline levels 9-20582
 radiation safety, diffraction and fluorescence anal. equipment 9-12017
 steric chromatid exchanges, cultured mammalian cells 9-43832
 skin, pig, blood flow clearance changes after single X-ray doses 9-29567
 skin growth regulation, mouse, possible role of chalones 9-16168
 skin nodules, comparative effects of pion and X-irradiation 9-20659
 small intestinal cryptogenic cells in W/W^v mutant mice, survival curves 9-11980
 small intestine, rat, crypt survival under conditions of radioprotection 9-11979
 somatic dose index, human, typical beam quantities and exposures 9-16306
 splenocyte locomotion, X-ray inhibition and bacterial protection 9-25047
 thoracic tissues, attenuation coeffs., comparison with tissue substitutes 9-16307
 tumour, effect of vascular occlusion on thermal sensitization and X-irradiation in mouse 9-16253
 tumour model, potentiation of radiation lethality by hyperthermia 9-25037
 tumour response, mouse, effect of chronic reduction of arterial partial O₂ pressure 9-16252
 tumour response to combined heat and X-rays in the mouse 9-48290
 vascular permeability in rat ears after X-irradiation 9-5330

biological fluid dynamics

- see also haemodynamics*
 aerosol, electrostatically charged, particle deposition in hollow cast of human larynx-tracheobronchial tree 9-43953
 aerosol sedimentation in closed finite tubes in random orientation 9-24841
 aqueous humor flow rate determination by fluorescein tracer model 9-43943
 bile fluid, system for meas. small flow velocities (*German*) 9-39534
 bioengineering, international conf., Cape Town, S.Africa (April 1977) 9-20695
 botany, transpiration from plant leaf, simulation expts. 9-48279
 breath volume and time components, computer aided meas. using magnetometers 9-16332
 breathing process analogue model (*German*) 9-16228
 bronchial elasticity and ventilation mechanism inequalities, theoretical anal. (*French*) 9-48281
 cardiovascular and respiratory system dynamics (*French*) 9-34585
 cerebrospinal fluid pressure meas. and controlled withdrawal 9-39538
 chest radiology, introduction to physiological aspects 9-25071
 collapsible duct, flow properties study (*French*) 9-34587
 coughing, fluid mech. expts. 9-11960
 craniospinal mechanical fluid systems, dysfunctioning as revealed by stress/strain diagrams 9-25024
 flexible elastic tubes cross-sectional area for varying transmural pressures 9-48276
 hip joints, human, study of synovial fluid, friction and lubrication 9-11956
 intra-osseous circulation, human and animal, investigation method (*French*) 9-34593
 intracranial pressure dynamics modelling 9-25026
 intraoral air pressure, production of /p/ and /b/, children, youths, adults 9-20560
 kidney, countercurrent transport, book contrib. 9-5307
 kidney counter current mass transport spatially discrete models 9-39442
 kidney modelling, numerical continuation method 9-43944
 lung, airway network geometry inference, broadband reflection data 9-29560
 lung, amplitude-frequency response of pulmonary air tract 9-20574
 lung, canine input impedance meas. by transient forced oscillations 9-16359
 lung, effects of body position and respiration on regional differences 9-25073
 lung, effects of smoking on regional differences 9-25075
 lung, inert gas A-A differences, direct reflection of dV/dQ distrib. 9-20567
 lung, inert gas elimination characs., computer model 9-20566
 lung, maximum expiratory flow-volume curves, anal. of configuration 9-20565
 lung, mechanical response at high frequencies, input impedance computation method 9-16239
 lung, precision meas. of anatomic dead space, theory 9-29536
 lung, regional distrib. of (dV/dt)/A (dQ/dt) in man, at rest and with exercise, meas. with ^{81m}Kr 9-16232
 lung, roentgenfilm densitometry and linear lung expansion relationship 9-25074
 lung airways aerosol deposition, two-component theory 9-34582
 lung compliance loop recovery eliminating cardiac interference by digital filter 9-20570
 lung physiology and chest radiology 9-25072
 lung regional differences, effects of left heart failure 9-25076
 lung simulation model, simultaneous He and N₂ single-breath washout 9-16233
 lung tissue volume and blood flow, rebreathing methods for determ. 9-20569
 lung ventilation, gated regional spirometry (GRS) 9-25097
 lung washout, multibreath, modelling and moments 9-43940
 neonatal pulmonary assist membrane oxygenator 9-25159
 nephron operating model 9-48283
 pathological synovial fluids, viscoelastic props. at different shear rates 9-32430
 pneumodynamics, basic eqns., for flow in human air passages 9-34594
 pneumodynamics, enforced smoothing techniques for recovering dV_A/dQ distrib. 9-43946
 pneumodynamics, servo control of end-tidal CO₂ in paralysed animals 9-39607
 pneumodynamics, theoretical study of nasal deposition 9-34581

biological fluid dynamics continued

- pulmonary airways, longitudinal mixing, impulse response of He, SF₆ 9-20568
- pulmonary conductance, elastic recoil, computerized meas. 9-16317
- pulmonary function, plethysmographic meas. method to assess X-irradiation damage in mouse 9-20721
- pulmonary physiology, pathology, and ventilation-perfusion studies 9-29613
- renal network flow eqns. anal. 9-11961
- renal perfusion dynamics during preservation 9-25006
- respiration rate automatic meas. device (*German*) 9-2146
- respiratory flow integrator with improved stability 9-16331
- respiratory function indices, microprocessor based analyser 9-25131
- respiratory parameter interval estimation using least squares techniques 9-48277
- respiratory system, human, modelling and parameter identification 9-39444
- respiratory ventilator model and design optimisation 9-20713
- synovial joints, rheology of synovial fluid, synthetic lubricants for degenerate joints 9-11955
- transthoracic impedance curve processing, patient-computer interface 9-34686
- US Doppler velocimetry, experimental appls. (*French*) 9-34610
- ventilation, human, twin exponential model fitting process development 9-48284
- water vapour circulation in human organism, model (*Russian*) 9-2093
- CO₂ circulation in human organism, model (*Russian*) 9-2093
- N₂ circulation in human organism, model (*Russian*) 9-2093
- O₂ circulation in human organism, model (*Russian*) 9-2093

biological macromolecules see macromolecules; molecular biophysics**biological sciences see biology****biological specimen preparation**

- algae, Lugol preserved, rapid preparation technique for SEM 9-39620
- blood cells, red, human, frozen section prep. for electron probe anal., fracturing or cutting 9-39625
- cerebral slices from rat brain, effects of embedding or freezing an area 9-25166
- critical point drying for SEM 9-17406
- cryosectioning for X-ray microanal. 9-39626
- DNA and chromatin molecule preparation for electron microscopy 9-25171
- free cells, preparation technique for electron microscopy using conical glass tube for centrifugation 9-34711
- freeze fracture replicas, removal of lipid contamination using chloroform 9-5426
- freeze-fracturing of biological material with a new specimen table 9-5425
- glycoprotein extraction from liver tissue during processing for TEM 9-25167
- human lung tissue, with asbestos exposure, particulate analysis, aspects of specimen prep. and a limitations of precision by SEM and TEM 9-17574
- hydrated, bulk-frozen, prep. for X-ray microanal. 9-39629
- low temp. techniques for SEM, X-ray microanal. 9-39627
- low temperature method, using biochamber for X-ray microanal. 9-39628
- lung, rapidly frozen under controlled physiological conditions, electron microscopy prep. technique 9-39619
- myocardial cells, cats, improved techniques for studying surface topography by SEM 9-34712
- myoepithelial cells, SEM examination 9-34713
- plasma incineration, O, of epon sections, for X-ray microanal. 9-17584
- protozoan cell preparation for SEM, freeze-drying technique 9-20724
- SEM, biological applications, state of art of specimen preparation 9-17581
- SEM, comparison of nature and mode of appl. of surface coatings 9-5421
- SEM, removal of epoxy resins from tissue 9-5424
- separation in space environment, electrokinetic phenomena and electrophoresis 9-48351
- TEM, methods for image processing, review 9-17405
- TEM, specimen damage and dehydration, struct. retrieval, instrumental limitations in biological struct. anal. 9-20735
- tissue element position fixing during processing for electron microscopy 9-25168
- ultrathin section mounting on supported grid, wrinkleless, double grid method 9-34714

biological techniques and instruments

- see also *biological specimen preparation; biomedical equipment; biomedical measurement; microelectrodes; specimen preparation*
- acoustic levitation technique appl. 9-44906
- aerosol, electrostatically charged, particle deposition in hollow cast of human larynx-tracheobronchial tree 9-43953
- anemometer, hot-film, appl. to blood flow velocity meas. (*Japanese*) 9-29678
- animal organs, small samples, simple apparatus to evaluate mechanical props. 9-12055
- antibiotic concentration assay, computer-aided method (*German*) 9-5414
- atomic absorption photometer for human serum anal. 9-34417
- auditory time shift evoked potentials, generation technique 9-16354
- automatic balance, for animal and organ weighing (*Japanese*) 9-25173
- bi-layer membranes, permeation of water mols. meas. using fluoresc. quantum yield solvent-isotope effect 9-34710
- binocular synchronism monitoring, prolonged monolateral occlusion, electro-oculographic response 9-20543
- bio-selective membrane electrode using tissue slices 9-48387
- biochemical research using sonicator processor 9-18639
- biochemical sensor devices, review (*Japanese*) 9-12050
- biofeedback thermometer, low-cost research-oriented, with digital readout 9-29673
- biological safety cabinet design, testing 9-16362
- biological tissue samples, normal and diseased, elemental comp., PIXE anal. 9-5364
- bioluminescence sensor, moving linear, for ocean light field meas. 9-20732
- biomagnetic fields, meas. and anal. 9-11952
- biomolecules, Fe-containing, appl. of spectroscopy 9-24956
- Biophysical Society, 23rd annual meeting, conf., Atlanta, USA (Feb. 1979) 9-34468
- biotelemetry interference minimisation techniques (*Russian*) 9-29685
- blind mobility aid, computerised instrumentation system for simulation and evaluation 9-12045

biological techniques and instruments continued

- blood, stored, microaggregation direct meas., effects of micro-filtration (*German*) 9-2168
- blood alcohol determ., spectrophotometric method (*German*) 9-5415
- blood cells, computerised spectral meas. 9-25058
- blood corpuscle settling rate automatic fast meas. (*German*) 9-5413
- blood erythrocyte count and haemoglobin determ. by mobile miniphotometer (*German*) 9-5416
- blood gas analysis data processing system (*German*) 9-5419
- blood gases, meas. of O₂ and CO₂ concs. using P electrodes 9-20725
- blood pressure recording transducer, arterial and venous 9-34708
- bone, marrow and leucocyte preservative freezing apparatus 9-39617
- bone density and cortical thickness, meas. by photon absorptiometry 9-8535
- C-filter: a method for filtering of biomedical specimens 9-20736
- calorimeter, AC, high-resolution, for organic- and biological-material melting study 9-6127
- capsular organ observation, technique for direct SEM observation, based on epoxy removal 9-20728
- cardiac tachometer, instantaneous, with extendable range 9-20700
- cataract microstructure meas., picosecond range-gated light scatt. technique 9-8584
- cell analysis, fast feature extraction for medical image structural analysis (*German*) 9-5393
- cell analysis, high speed light scattering system 9-12042
- cell counter, electronic, model 927-TC for cell culture laboratories 9-39616
- cell discrimination, paraxial anal. of light scatt. in flow system 9-11907
- cell freeze conservation control unit (*German*) 9-5410
- cell handling, leucocytes, differential counts, comparison between light and electron microscopic results 9-5429
- cell separation, local conc. gradient determ. by conductivity meas. (*German*) 9-5411
- cell size meas., laser flowthrough microphotometer, double-beam technique, internal calibrated 9-17391
- cell sorting, automated, with flow systems, review, book contrib. 9-5435
- cellular microsurgery, microscope vertical illuminator adaptation by laser microbeam 9-20727
- chemical analysis, electron energy loss spectroscopy anal. appl. 9-39269
- chemical relaxation spectrometry, new electric field methods 9-8586
- chlorella, delayed fluoresc., ns laser pulse excited, fast phase kinetic anal. 9-24951
- chromatin structure of cell nuclei using scanning microphotometry and TV image anal. 9-34720
- chromatography, gas, for drug determ. in biological samples 9-34388
- chromatography, reversed liq. phase, biochem. application, review 9-34371
- chromatography, reversed-phase liquid, hydrophobic effect 9-34385
- chromatography for amino acid composition determ. of proteins 9-44070
- computerised EEG signal averager, flexible and low cost 9-43998
- computerized GCMs solid state magnet control, metabolic disorder study appl. 9-12879
- current injector for Coulomb titration of chloride 9-29684
- cytochemical leucocyte differentiation and radioimmune assay (*German*) 9-5412
- cytological preparation evaluation, optical preliminary data reduction (*German*) 9-5392
- differentiating circuit for LF signals 9-12044
- DNA base damage detection method, UV induced pyrimidine dimers in human cells 9-44067
- EEG biotelemetry, multielectrode, for remote monitoring and stimulation of ambulatory monkeys 9-5386
- electric field probe, dielec. insulated, for field meas. in finite heterogeneous biological bodies 9-2170
- electron micrograph image processing and synthesis 9-25180
- electron microscope autoradiographs, iterative anal., sample sizes and confidence limits 9-35896
- electron microscope autoradiographs, iterative anal. method 9-35895
- electron microscope examination of alveolar brush cells of rats 9-34517
- electron microscope film, image reversal process 9-2892
- electron microscope image real-time processing 9-25181
- electron microscope superconducting lens system for reduction of radiation damage 9-34718
- electron microscope visualisation of chromatin, DNA-protein complexes, book contrib. 9-5434
- electron microscope with electrostatic decelerator (*German*) 9-30620
- electron microscopic examination of Birbeck granule-containing cells of mice, occurrence of cored tubule 9-34515
- electron microscopic investigation using tilting technique, for ribosomal particles 9-34514
- electron microscopy, application in modern science, review 9-26182
- electron microscopy, high-resolution imaging of biological specimens, radiation damage, review 9-5331
- electron microscopy, LV, biological appls. 9-6223
- electron microscopy study of tissue, Sephadex spheres used for localising specific regions 9-5428
- electron probe analysis, effects of electron irradi. of sample 9-43969
- electron probe analysis, ZAF-correction procedures 9-44073
- electronic circuits implanted in freely moving animals, wireless power supply 9-29682
- electrooculogram recording, single channel method for vertical and lateral eye movements 9-16205
- electrophysiological measuring, unity gain follower with buffer 9-12048
- elemental anal. of biological specimens by proton excitation by charact. of X-ray emission 9-1976
- EM method for noninvasive analysis of cell suspension physiology, and induced pathophysiology 9-2125
- emission photometer for human serum anal. 9-34417
- enzymolysis technique for study of aortic mechanics 9-43941
- epidermal imprinting by celloidine 9-25170
- EPR and saturation transfer EPR spectra at high microwave field intensities 9-34488
- Euglena gracilis, motion parameters meas. by laser light scatt. 9-16173
- evoked response averaging for schistosome activity monitoring 9-34613
- eye, intact bovine lens protein, Raman spectroscopy with intensified Vidicon detectors 9-29525
- eye movement tracking and regulation test station (*German*) 9-16321
- ferritin particle visibility in SEM with field emission gun 9-25174
- ferromagnetic contact ring for two-dimensional eye movement meas. 9-5387
- food samples, determ. of fluorine conc. using ¹⁹F(p,γ) 9-5218

biological techniques and instruments continued

freeze-etch unit for rotary shadowing and low temp. freeze-fracturing 9-5423
 gradiometer, balancing, system of adjustable superconducting plates, bio-mag. signal meas. 9-25162
 haemocagulometer 9-39541
 head holder, orientable, for use in visual research 9-2171
 heart beat rate monitoring in animals, range 0.01 to 10 Hz, VLF meas. cct. (German) 9-34709
 heat loss measurement apparatus, evaporative and radiative, man in normal working mode 9-25178
 holographic interferometry meas. of eye deform. due to intraocular press. changes 9-20720
 holographic refractometer, for refractive index increments for macromolecules in soln. 9-27205
 holography in biology and medicine 9-8528
 horse's hoof movement/load relationship camera and multicomponent force meas. panel (German) 9-16352
 hyperthermia of expt. mouse cancers using 2450 MHz microwaves 9-2119
 image restoration and enhancement, conf., London, England (Dec. 1978) 9-25101
 immunofluorescence diagnosis using AR laser (German) 9-5335
 integrator with automatic reset, for respiratory activity obs. in expt. animals 9-29683
 internal reflection spectroscopy of biological samples (German) 9-5417
 inverted camera microscopes, IM 35 and ICM 405, for biology, medicine and metallography 9-30540
 ion electron-loss microscopy, high-energy, signal-to-damage ratio 9-25175
 ion microradiography, of hydrated cells with SEM imaging 9-16360
 isobaric contraction system for left ventricular performance analysis (Japanese) 9-29677
 lactate concentration meas., enzymatic and electrochem. methods (German) 9-2169
 laser microprobe mass analyser, development for biological specimens 9-17554
 laser microprobe mass analyser, for biomedical appls. 9-39630
 laser Raman spectroscopy for living cell metabolism obs. (German) 9-29577
 laser systems for on-line meas. of muscle sarcomere length 9-48383
 light scattering photometer, meas. of structural change dynamics in biological particles 9-39615
 light single particle scattering, asphericity effects 9-7069
 lipid bilayer, planar, light guide effect, bilayer spectrosc. appls. 9-29509
 lipid bilayers, bacteriorhodopsin containing, photoelectric activity investigation 9-16148
 lung, canine input impedance meas. by transient forced oscillations 9-16359
 lung, mechanical response at high frequencies, input impedance computation method 9-16239
 lung burdens of low-energy photon-emitters, interlaboratory comparison of meas. techniques 9-20671
 lung compliance loop recovery eliminating cardiac interference by digital filter 9-20570
 lymphocytes, human, radioactive labelling with ¹¹¹In 9-5354
 lyophilised solutions, electron probe anal., calibration curve linearity limits 9-44075
 macrophotography, simple flash equipment 9-17513
 magnetic focus generation for NMR biological meas. (Japanese) 9-12041
 magnetic recording of central nervous system, book contrib. 9-5304
 mammalian cells, replication sizes estimated by X-ray plus bromodeoxyuridine photolysis method 9-16353
 measured value preprocessing and direct sample identification (German) 9-5418
 membrane, molecular motion determ. using periodic pattern photobleaching 9-34719
 membrane architecture obs. by electron energy loss spectroscopy 9-25177
 membrane electron density profiles, determ. method on an absolute scale 9-16358
 membrane potentials meas. using the dye safranin 9-48386
 metal electrodes, impedance props., chronic recording from mammalian nerves 9-12043
 microbeam anal., conf., Ann Arbor, MI, USA (June 1978) 9-39258
 microcomputer-based system for rat locomotor activities meas. 9-20722
 microelectrode, glass, with piezoelectric drive for cell membrane penetration 9-5420
 microelectrode, Pt, potentials and small-signal impedances 9-34716
 microelectrode, W, potential and small-signal impedances 9-34715
 micromanipulator, hydraulic, versatile remote control and economic construction 9-25163
 microprocessor based telemetry demodulation system 9-20738
 microscope, laser-scanning, high resolution and depth of field 9-26118
 microstructure fabrication, using STEM and X-ray lithography and reactive ion etching, appl. 9-15844
 microthin film chromatogram evaluation by scanning fluorimetry and digital image analysis (German) 9-5188
 microwave appl., bio-clutter interference effects 9-11992
 microwave complex permittivity meas., noninvasive selective exposure 9-20729
 microwave generator for induced hyperthermia in small animals 9-2118
 microwave imaging, scatt. parameters, homogeneous, heterogeneous dielectric targets 9-20608
 microwave imaging, time delay spectroscopy 9-20609
 microwave imaging using water immersed microwave antennas 9-34623
 microwave system for controlled production of local tumour hyperthermia in animals 9-34624
 microwave temperature-jump apparatus, with spectrophotometric detection 9-20733
 molecular biology, use of MWPC 9-5433
 molecular models, semiautomatic coordinate meas. device using laser beams 9-37573
 morphometric cytology pictorial pattern recognition appl. 9-25179
 muscle contraction, time resolved studies using small angle X-ray diff., design of data collection system 9-12052
 negative staining of freeze-fractured envelopes of *Escherichia coli* K₁₂ 9-39622
 nerve tissue magnetic stimulation, capacitive stimulatory effect 9-2116
 neural stimulator, in vitro phrenic nerve diaphragm 9-25161
 neurological coaxial depth electrode development 9-29687
 neuronal response analyser with microprocessor (French) 9-20730
 neutron activation analysis, trace elements in biological samples 9-12058

biological techniques and instruments continued

neutron activation analysis of biosamples, ³²P radioactive interference 9-12059
 neutron data acquisition system, low angle, for molecular biology 9-12053
 neutron scattering, meas. of protein locations and radii of gyration in *E. coli* ribosomes 9-11892
 neutron scattering, small-angle, using time of flight method, spectrometer, appl. 9-1371
 NMR, human whole-body line-scan imaging 9-5334
 NMR and molecular biology research (Chinese) 9-39459
 NMR Fourier transform spectroscopy, high-field, of biological systems 9-39457
 NMR imaging, multiple sensitive point technique 9-11993
 NMR studies of ion binding in biological and model systems, quadrupole effects 9-39357
 noise generator for auditory neurophysiological and psychophysical experiments 9-29676
 nuclear Overhauser effect in ¹H spectra of proteins, appl. to lysozyme 9-43823
 ocean biological instrumentation requirements, review 9-12049
 oocytes, salamander, free and bound intracellular solutes, reference phase anal. 9-24966
 optical large format display, generation of generalised psychophysical stimuli 9-44072
 optical microscopes, scanning and reflection scanning 9-21809
 oximeter, noninvasive tissue reflectance, development and evaluation 9-20703
 oxytocin radioimmunoassay, human plasma 9-5353
 particle dimension distributions calc., general analytic method using scattering data 9-10753
 peak discriminator controlled sampling of multiunit spike trains 9-34717
 peripheral nerve, single unit detection by real time correlation 9-12047
 permittivity meas. using resonator terminated by infinite sample 9-21777
 phase contrast microscopic identification of cat neuron cytoplasmic lamellar bodies 9-48385
 phase-lock interference microscopy, real-time, design, appls. 9-17480
 photoelastic substrate technique for dynamic measurements of forces exerted by moving organisms 9-39621
 photoelectric colorimeter reconditioning methods 9-39618
 photometric phase-contrast microscopy, lamellarity determ. of artificial phospholipid membranes 9-39368
 photon correlation spectroscopy of light scattered from microscopic regions 9-44933
 photon counting and fluctuation of molecular movement 9-29686
 photosynthesis, primary, selectively excited by tunable ps parametric oscillator 9-48163
 picosecond phase shift measurements at 358 MHz using synchrotron radiation 9-44949
 picosecond spectroscopy, probe for ultrafast biological process inc, vision 9-8507
 PIXE, analytical applications 9-48008
 PIXE, external beam elemental anal. method, sensitivity obs. for biological samples 9-5227
 PIXE, trace element determ. in bovine retina rod outer segments and disc membranes 9-48012
 precision rate calibrator 9-20731
 protein data measured on oscillation camera, collection and reduction method 9-29672
 proton correlation NMR spectroscopy of living cells, appl. to *E. coli* anaerobic metabolism 9-43978
 proton induced X-ray fluoresc., anal. of lateral distrib. of trace elements in biological samples using microbeam scanner 9-5431
 pulmonary function, plethysmographic meas. method to assess X-irradiation damage in mouse 9-20721
 pulsed magnetic field gradient programme, meas. of water diffusion adsorbed on protein molts. 9-21794
 radiation-damage artefacts in biological electron microscopy, technique for visualisation 9-20726
 radioactivity, absolute measurement technique using a gamma camera and a computer 9-25087
 radioimmunoassay 9-43982
 radiolabelling of T gas, by microwave discharge, for amino acid sequence determ. of proteins 9-12057
 radiometric estimation of bacteria replication time in culture using ¹⁴CO₂ 9-16170
 radiotelemetry transmitter, for temp. meas. from unrestrained subjects 9-16356
 ratio analogue pulse height module for fluorescence activated cell sorter 9-20734
 reflectance spectrophotometer, non-contact for biometric meas. (German) 9-12865
 respirometer process appl. of Kalman filter (French) 9-5408
 RF powered cage system for implanted biotelemetry 9-20737
 RNA nucleotide sequence, determ using computer 9-29500
 scanning laser acoustic microscope, principles and analytical capabilities 9-18655
 scanning laser acoustic microscope for US vel. meas. of mammalian collagen threads 9-43972
 scanning microscope photometric image analysis, appl. to chromatin packings (German) 9-5409
 scintigram improvement by computer processing 9-16296
 sedimentation process for biological isotope separation 9-44066
 SEM, human erythrocyte surface area and vol. calcs. from micrographs 9-5259
 SEM, mitochondria in rat liver and monkey cardiac muscle 9-34516
 SEM, wet, live and frozen objects, review 9-26183
 SEM and X-ray microanalysis of biological material 9-39627
 SEM examination of myoepithelial cells 9-34713
 serial section models of human lung endothelial cell nuclei, estimation of mean caliper diameter 9-29679
 serial section models of rat lung cell nuclei, estimation of mean caliper diameter 9-25165
 serum, trace element anal. by PIXE 9-48008
 silastic strain gauge as in vivo muscle force transducer 9-29680
 SIMS anal. appl. to biological specimens 9-44074
 sinew dynamic elasticity modulus meas. apparatus (German) 9-2167
 skeletal Ca, facility for regional in vivo neutron activation anal. 9-25088
 specimens, quantitative electron probe microanal., analysed spot pX value 9-25169
 spectropolarimeter for analysis of scattering objects (Russian) 9-26110

biological techniques and instruments continued

- spermatozoa motility meas. by laser light scatt. (*German*) 9-12056
 STEM examination of *Bacillus subtilis* cell wall struct., S/N enhancement by interactive computation 9-5427
 STEM/SEM cold storage specimens, electron beam heating temp. profiles 9-5422
 stereo electron micrographs restitution, approximate soln. 9-26189
 stereo-fibrescope with magnetic interlens bridge for laryngeal observation 9-44068
 stopped flow kinetic studies, problems concerning mixers and detectors 9-8585
 strain gauge transduction of lip and jaw motion in midsagittal plane 9-44069
 tissue, trace element anal. by PIXE 9-48008
 tissue change detection in rabbit urinary bladder, holographic laser interferometry appl. (*German*) 9-34625
 tissue element position fixing during processing for electron microscopy 9-25168
 tissue metal detection, histochemical method 9-29681
 tissue mimicking materials for ultrasound phantoms 9-5333
 tissue sections, electron probe anal., improvement of peak/background ratios 9-39631
 tissue substitutes, comparison of X-ray attenuation with thoracic tissues for phantom calibration purposes 9-16307
 tissue substitutes in experimental radiation physics 9-20680
 tissues, soft, apparatus for mechanical testing 9-44064
 toxicity studies, TOXIPAC-300 data processing system (*Japanese*) 9-25172
 US generator, general purpose broad-band, for biological object handling 9-48381
 Vickers M85/M86 microdensitometer, film holder 9-21832
 visual cell stimulation in insect eyes, using blue SiC LED (*German*) 9-39623
 visual field testing, three-channel optical system (*Spanish*) 9-24993
 white blood cell images boundary finding 9-12021
 wood boring insects larvae study, acoustic amplifiers, activity integrator 9-16357
 X-ray absorption spectroscopy of biological molecules, book contrib. 9-5436
 X-ray diffraction pattern of biological mols., improved method for solvent contrib. calc. 9-16355
 X-ray diffuse scattering, large angle, conformation change obs. of proteins in soln. 9-12054
 X-ray fluorescence anal., importance to geometry 9-5430
 X-ray microanal. of epon sections after O plasma incineration 9-17584
 X-ray microanalysis of thin biological specimens, quantitation problems 9-25164
 X-ray non-isotropic small-angle scatt. curves from lamellar systems, collimation correction 9-10755
 X-ray photography of biological objects, using soft X-ray emission of laser plasma mirror 9-43983
 X-ray scattering, small-angle, of biological structures 9-11889
 X-ray small angle scattering, employing synchrotron radiation and energy dispersive techniques, proteins in solution anal. 9-12051
 X-ray small-angle data processing for planar multilayered structures, theory 9-37582
 X-ray small-angle scattering from lamellar structures, deconvolution method 9-10756
 XPS source area minimisation, appl. to 30µm trachelomonas cell surface anal. 9-48037
 CO₂-¹⁴C animal exhalation meas. by liquid scintillation counting (*French*) 9-48384
¹³C NMR spectroscopy, 270 and 90 MHz, ¹H noise decoupling field heating effects 9-38389
 Cd determ. in whole blood by atomic absorpt. spectroscopy 9-44071
 N depth distribution in barley seeds, use of ¹⁴N(d,p)¹⁵N 9-5221
⁸¹Rb, prod. and characts. for myocardial imaging studies 9-29628
 U atomic motion on thin C substrate, low-temp. obs., biomolecule marking appl. 9-25176

biology

- see also *biological fluid dynamics; biological techniques and instruments; biophysics; blood; cardiology; ecology; evolution (biological); medicine; physiology; zoology*
 algal density in Iowa lakes, rel. to water transparency 9-2308
 catastrophe theory, elementary approach 9-11881
 cathodoluminescence, bibliography of papers till 1977 9-21482
 forest canopy of mountain watershed with ski basin, influence on heavy metals pollution 9-20903
 marine plankton, C isotope ratio rel. to surface water masses 9-29783
 microbial activity in Recent Texas continental shelf and slope sediments, rel. to light hydrocarbons distrib. 9-2213
 ocean, trace metal enhancement in estuarine tidal front biotic component 9-2265
 ocean deserts and ocean oases 9-3500
 photosynthesis in British coastal waters, inhibition by Zn pollution 9-24921
 plankton in Massachusetts Bay, vertical displacements by tidally generated internal wave packets 9-44190
 plants, submerged, in Derwent Reservoir N.England, Zn, Cd and Pb contents 9-25286
 radioactive waste disposal and deep sea biology 9-29638
 water quality system, biological process models 9-5540

biology computing

- see also *computerised instrumentation; computerised signal processing*
 bacterial cell wall structure study 9-5427
 brain cortices large-scale simulation via BOSS system 9-2039
 cardiac electromechanical field model and computation, inverse problems 9-39400
 chromosome density profiles, description and classification 9-43830
 disturbed cell renewal systems simulation via microprocessor system 9-48227
 DNA hydrodynamic shearing model 9-39337
 eye readaptation after dazzle, multidimensional functional model (*German*) 9-16208
 kidney modelling, numerical continuation method 9-43944
 mathematical modelling in biological research, role of computers (*Chinese*) 9-1996
 myocardial electrical activity modelling, dialogue mode (*Russian*) 9-2021
 myocardial infarction dimension model and FORTRAN program (*Russian*) 9-2038

biology computing continued

- pericardial potential simulation and mapping in dog 9-39399
 protein data measured on oscillation camera, collection and reduction method 9-29672
 pulmonary gas exchange function model (*Russian*) 9-2092
 radionuclide concentrations in food products, FOOD II interactive code calc. 9-48348
 radionuclide intake by man through terrestrial pathways, TERMOD II interactive code analysis 9-48349
 RNA nucleotide sequence, determ using computer 9-29500
 serial section alignment by serial filtering 9-20723
 serial section models of human lung endothelial cell nuclei, estimation of mean caliper diameter 9-29679
 structure-function relationships of biologically active molecules, programs (*Russian*) 9-16137
 Wiener kernels, first- and second-order, real-time estimates 9-12046
³H biological half-life estimation in man 9-20689

biomagnetism

- auditory magnetic evoked fields, human 9-16212
 biomagnetic fields, meas. and anal. 9-11952
 central nervous system, magnetic phenomena, book contrib. 9-5304
 cerebral magnetic field meas. and personnel selection 9-2026
 direct and indirect action of constant magnetic field on biological subjects 9-34580
 EEG, magnetoencephalogram, current dipole model, central nervous system disease diagnosis applications 9-48238
 egg lecithin membranes, magnetic anisotropy obs. 9-20520
 fish, lorenzian ampullae detect. of geomag. variations 9-39381
 genetic and physiological process control by magnetic methods (*Russian*) 9-2088
 gradiometer, balancing, system of adjustable superconducting plates, bio-mag. signal meas. 9-25162
 heart attacks correl. with geomag. activity 9-39424
 human perception tests, 60 Hz moderate strength magnetic fields 9-11951
 magnetocardiogram recording on normal subjects, morphological and multipole analysis 9-39426
 magnetocardiography in hospital environment, normal aspects 9-39550
 magnetotherapeutic apparatus and application statistics (*German*) 9-16340
 mammalian cell growth and genetics under constant mag. field exposure 9-34520
 mammalian tissue mitotic activity inhibition by strong mag. fields 9-34519
 mammary tumours, paramagnetic changes during development in rat 9-39425
 nerve bundle magnetic stimulation, capacitive coupling effect 9-48242
 nerve tissue magnetic stimulation, capacitive stimulatory effect 9-2116
 photosynthetic systems, magnetooriented, fluorescence polarisation theory 9-16165
 pigeon homing performance, correlation with magnetic storm due to sun-spots 9-2087
 somatosensory cerebral evoked potential changes under constant mag. field 9-39383
 SQUID applications in biophysics 9-29640
 static and LF mag. field biological effects and hazards 9-34579
 Ca ions activity change due to magnetisation as possible mechanism of biological effect (*Russian*) 9-39423

biomechanics

- see also *biological fluid dynamics*
 abdominal aorta, human, mech. characts. w.r.t. atherosclerosis 9-20571
 abdominal wound strength, meas. method for expt. animals 9-44003
 above-knee prosthesis, polycentric knee-ankle mechanism 9-48379
 animal organs, small samples, simple apparatus to evaluate mechanical props. 9-12055
 ankle compliance, human, dependence on joint angle 9-11959
 aortic mechanics, canine, interaction of smooth muscle cells and collagen 9-43941
 aortic valve mechanics, material props. of natural porcine valves 9-39440
 arm, lower part, statics and equilib., for 1st yr. medics 9-35505
 arm swing in human locomotion, mathematical model, electromyographic recordings 9-39434
 arterial smooth muscle, pig, estimates of cellular mechanics 9-16229
 articular cartilage, function of collagen fibril ultrastruct. 9-34597
 articulation mechanical properties and physical aspects of lubrication (*French*) 9-34591
 articulations lubrication, global anal. (*French*) 9-34592
 artificial hip joint biomechanical test procedures (*German*) 9-8577
 artificial hip joint construction compatible with femoral natural stress distrib. (*German*) 9-8576
 artificial knees, mobility, stability and stress 9-12032
 bioengineering, international conf., Cape Town, S.Africa (April 1977) 9-20695
 biotelemetry, conf., Garmisch-Partenkirchen, W.Germany (May, June 1978) 9-43980
 biped locomotion dynamics, control theoretic study (*Japanese*) 9-11963
 bipedal locomotion, simple model of step control 9-11958
 bone, internal remodeling induced by medullary pin 9-29552
 bone, orthogonal machining, forces and energies 9-29559
 bone remodelling, adaptive elasticity theory 9-25016
 bone stress distrib., apatite crystal orientation 9-39431
 bone tissue, dry, piezoelectric model 9-25015
 bony tissue, human, mechanoluminesc. during rupture 9-20572
 buttock deformations and stresses, sitting person, finite element arial. 9-16241
 cardiac mechanical function assessment methods (*Japanese*) 9-2148
 cardiac muscle fibre, stresses in left ventricular wall, biaxial stress-strain relations 9-29558
 cartilage/bone plugs, impact stress/strain data 9-43950
 cervical spine, human, stability under tension 9-16236
 cochlear model vibration mode visualisation by holographic interferometry 9-2083
 cortical bone, anisotropic anal. of strain rosette information 9-16237
 dental implant fixation, electrically mediated process, interfacial strength 9-16348
 erythrocyte membrane, viscoelastic props., theoretical and expt. studies 9-16157
 extraocular muscles, relative tensions 9-34554
 eye, direction of gaze, determ. method using Listing's law 9-34677

biomechanics continued

- femora, bovine, fracture toughness, critical crack length, plastic zone size 9-43948
- femoral stress and strain calc., finite element method (*German*) 9-2089
- femur, flexural coupling to hip-prosthesis stem, theoretical anal. method 9-39428
- femur compact bone, adult human, relation between torsional props. and histology 9-16234
- film data reduction and anal. using PLATO system 9-35873
- flagella bend propagation, dynein cross-bridge kinetics 9-43942
- gait anal. tracings and computerized analysis through a PDP-11/45 9-29643
- glenohumeral joint biomechanics, mathematical treatment 9-43956
- horse's hoof movement/load relationship camera and multicomponent force meas. panel (*German*) 9-16352
- human body angular momentum about three orthogonal axes through centre of gravity 9-29551
- human skull, stresses due to pulse loading 9-48280
- jaw, growth anal. in human using kinematic fundamentals 9-16243
- jaw muscle, electromyographic activity and mandible static loading 9-43951
- joint displacements, finger and wrist, relationship with extrinsic finger flexor tendons 9-8520
- joint instantaneous centre of rotation, least square analysis 9-29555
- joints, cartilage swelling, congruity of regularly curved joints 9-8523
- juvenile T-wave pattern incidence rel. to age and QRS transition zones 9-43849
- knee arthrograph for study of stiffness 9-12022
- knee movement measurement with variable axis electrogoniometer 9-44012
- knee prosthesis, influence of cyclic loading on loosening of cement bone interface 9-44056
- left ventricular function, correlation with myocardium deformation 9-16244
- leg muscle forces, normal human walking, optimisation methods 9-16240
- ligament length calculation technique, appl. to human knee joint 9-43949
- limb muscle dynamic force meas. by surface EMG 9-34689
- limb tremor, normal and alcohol withdrawal, nature and etiology 9-29544
- lipid bilayers, curvature elasticity 9-48222
- locomotion, human, multi-link chain model anal. 9-8518
- lumbar spine, lateral flexion, radiographic studies 9-8522
- lung, canine, strain variations in excised lobe, finite element anal. 9-8517
- lung compliance loop recovery eliminating cardiac interference by digital filter 9-20570
- mammal locomotion, role of joint receptors in limb control (*Russian*) 9-43938
- mammalian tendon, struct.-strength relations 9-16230
- mammalian tendon stress/strain relations obs. and structural model 9-29554
- mathematical function fitting to exptl. data 9-48278
- metacarpophalangeal joint, human, kinematic investigation 9-8519
- mitral valve leaflets, mathematical anal. 9-39435
- muscle, frog, vacuolation and subcellular comp. in fatigue, electron probe anal. 9-24963
- muscle, human, physiological and metabolic studies in health and disease 9-39443
- muscle fibres, fibrillar, tension transients affected by stretch-dependent binding of AMP-PNP 9-20562
- muscle fibres, rabbit psoas, stiffness and tension after sudden length changes 9-25007
- muscle force prediction, use of optimisation techniques 9-16242
- muscle force transducer, in vivo meas. using silastic strain gauge 9-29680
- muscular activity in pasture maintenance, control mechanisms study via spectral anal. 9-5306
- muscular fatigue, EMG meas. and analogue model (*Japanese*) 9-8498
- muscular strength, relationship with muscle energy sources, Wistar rat 9-11904
- musculo-skeletal shock absorption, relative contribs. of bone and soft tissues 9-29549
- musculoskeletal joint systems, graphical interpretation of redundant problem solution 9-29561
- myocardial local tension, strain gauge transducer 9-48357
- myosin heads movement during a heart beat 9-48207
- ocular contusion injury from propelled objects, evaluation model 9-43955
- peristalsis, review of functions and waveforms, book contrib. 9-16245
- photogrammetric method for estimating biomechanical props. of three body types 9-43947
- post-operative human gait, EMG meas., pattern recognition appl. 9-34599
- prosthesis mechanical efficacy determ. by holographic strain meas. (*German*) 9-8573
- prosthetic knee, control by biofeedback training 9-34700
- shoulder complex in arm elevation, mechanism approach 9-29547
- sinew dynamic elasticity modulus meas. apparatus (*German*) 9-2167
- skeletal muscle, excitation-contraction coupling, blockade by high extracellular concs. of Ca buffers 9-20528
- skeletal muscle rhythmic contractions, temp. distrib. study 9-11901
- skin, human abdominal, volume compressibility 9-16238
- skin and subcutaneous tissue, human, influence of strain rate on mech. props. 9-20575
- soleus muscle, human, stretch and Hoffmann reflexes during phasic voluntary contractions 9-16193
- spatial motion, data collection method using sonic digitiser 9-39441
- sports activities, velocity meas., stroboscopic photography, teaching appl. 9-44679
- striated muscle contraction, intracellular control of force development 9-48228
- tendon, digital, human, viscoelastic deform. activation, energy, creep T-jump expt. 9-37264
- tibial bone reaction to hydromech. implant dynamic loading (*German*) 9-8574
- tissues, soft, apparatus for mechanical testing 9-44064
- trabecular bone-porous coating-hip prosthesis interface, mechanical behaviour 9-39436
- urinary bladder passive props., collection phase model 9-34596
- uterine contraction promotion and bleeding suppression cryococulator 9-39591
- uterine muscle, passive mech. props. in vitro 9-16235
- uterine muscle penetration by flexible IUCD shield 9-29556
- ventricular aneurysms, mechanical behaviour, mathematical model 9-11953

biomechanics continued

- viscoelastic lubricants reln. to human joints 9-39430
- walking, computer animation of gait 9-11957
- biomedical applications of computing** *see medical computing*
- biomedical electronics**
see also electrocardiography; electroencephalography; microelectrodes; patient monitoring; patient treatment; prosthetics; sensory aids
- analogue multiplexer for FM tape recording 9-34691
- artificial heart operation and monitoring system (*German*) 9-8583
- blind aids, Spanish electronic devices (*Spanish*) 9-39613
- blood-pressure meter, IC, using pressure transducer microprocessor controlled 9-35709
- cardiac arrhythmia monitor, solid state delay unit 9-25126
- circuit breaker, recording and stimulation from same electrode 9-34680
- echocardiographic tracking, digital range-gating 9-16260
- educational course, BSc level option, Lanchester Polytechnic, England 9-17158
- electrostimulator for percutaneous nerve stimulation, chronic pain treatment (*German*) 9-16342
- electrostimulator three-mode control unit 9-20693
- engineering in medicine and biology, conf. Atlanta, USA (Oct. 1978) 9-39332
- IC four-channel EEG amplifier 9-39535
- integrated circuit technology in MBE (*Japanese*) 9-44014
- intravascular O₂ measurement, current-to-voltage converter 9-34684
- leg-load alarm system for partial-weight-bearing walking exercise (*Japanese*) 9-29658
- LF meter with instantaneous response 9-40539
- microprocessor applications and costs 9-44011
- microprocessor based telemetry demodulation system 9-20738
- neuromuscular system electrical stimulator using biopotential amplifier 9-48315
- noise generator for auditory neurophysiological and psychophysical experiments 9-29676
- oximeter, noninvasive tissue reflectance, development and evaluation 9-20703
- partial weight-bearing walk, limb load alarm system 9-29661
- peak discriminator controlled sampling of multiunit spike trains 9-34717
- phase locked loop device for sleep spindles automatic detection 9-16316
- phase-lock techniques, for gastric elec. signal analysis from surface electrodes 9-34688
- phase-lock techniques, for gastric elec. signal analysis from surface electrodes 9-34687
- phase-lock-loop principles appl. foetal breathing movement electronic anal. 9-2152
- problems of computer applications (*German*) 9-20696
- quality health care and cost containment, conf., Washington, USA (Mar.-Apr. 1978) 9-39333
- radiotelemetry transmitter, for temp. meas. from unrestrained subjects 9-16356
- respiration, artificial, servo control of end-tidal CO₂ in paralysed animals 9-39607
- respiration rate automatic meas. device (*German*) 9-2146
- respiratory flow integrator with improved stability 9-16331
- scintigraphic image motion blurring, centroid following circuit 9-39493
- sphygmomanometer, direct and indirect methods for blood pressure meas. 9-25125
- thermistors simple device for mean skin temp. meas. 9-2151
- thermometer with digital display 9-25129
- timer, for use with Farmer dosimeter type 2502/3, in radiotherapy units 9-25114
- timer for plasma viscosity measurement 9-20690
- tympanic contactless membrane thermometer 9-34692
- voice controlled system for the disabled 9-5407
- biomedical engineering**
see also biomedical electronics; biomedical equipment; orthotics; patient treatment; prosthetics; sensory aids
- Canadian biomedical engineering research for handicapped persons, review 9-29662
- conference, engineering in medicine and biology, Atlanta, USA (Oct. 1978) 9-39332
- Nigeria, 3 years' experience of practical problems 9-2147
- NIGMS evaluation workshop recommendations for research, inc. physiology 9-12018
- operating theatre safety fundamentals (*Japanese*) 9-2149
- quality health care and cost containment, conf., Washington, USA (Mar.-Apr. 1978) 9-39333
- Yugoslav university training 9-35442
- biomedical equipment**
see also biomedical electronics; biomedical measurement; orthotics; prosthetics; radiography; radioisotope scanning and imaging; sensory aids
- acoustic impedance meter, principle aspects of development 9-24999
- air sampling pump, personal, for hospital operating staff 9-12019
- angio-tomographic device, posterior fossa midline visualisation 9-34642
- angiostomography in the diagnosis of intracranial tumours 9-48333
- anthropomorphic phantom, assess. of bulk element lacks by neutron activation anal. 9-39497
- arterial US scanner, colour coded differential velocity display 9-34617
- arthrographic equipment for double contrast knee exam. 9-48320
- artificial blood circulation system, thermoelectric heat exchanger control unit 9-25149
- audiometric earphones influence of cushion dimensions on output 9-41547
- Bioconverter for upper extremity rehabilitation 9-48364
- biotelemetry, conf., Garmisch-Partenkirchen, W.Germany (May, June 1978) 9-43980
- bipolar suction electrode catheter for intracavity ECG 9-44018
- blood gas catheters, flow-dependent, in vivo calibration 9-16330
- blood microfilter materials and designs 9-48352
- blood pressure recording transducer, arterial and venous 9-34708
- blood pressure transducers, technical evaluation 9-44002
- blood pulse wave velocity, digital meter (*Japanese*) 9-39546
- Canadian biomedical engineering research for handicapped persons, review 9-29662
- cardiac sound frequency shifting stethoscope 9-29647
- cardiac tachometer, instantaneous, with extendable range 9-20700
- cardiac valve prosthesis simulator, role in prosthesis design 9-12033
- Carshalton halo-pelvic traction apparatus, design improvements 9-39594
- catheter-tip electrode for continuous pO₂ and pCO₂ meas. 9-34693

biomedical equipment continued

- cell freeze conservation control unit (*German*) 9-5410
 chronic sphenoidal electrodes, material improvement 9-16328
 computer graphic optokinetic stimulus pattern for study of optokinetic nystagmus 9-44008
 computerised EEG signal averager, flexible and low cost 9-43998
 computerised tomography scanning, review of technical aspects 9-34635
 conference on nuclear power systems, Washington, USA (1978) 9-41045
 corrosion resistance and mechanical performance in medical instruments 9-39537
 cryocoagulator for uterine contraction promotion and bleeding suppression 9-39591
 cryosurgical applicator, temp. distrib. reproducibility 9-39589
 cryosurgical instruments, open and closed circuit supplies compared 9-39592
 dental suction system, at Guy's Hospital, London 9-8556
 Diagnost 73 P, universal diagnostic system for paediatric radiology 9-48334
 Diagnost C, localisation of intracavity Rn applicators 9-48331
 digital memory recorder, electromyography and nerve conduction appls. 9-43999
 drug assessment system, elec. interf. and bubble free induction of thrombi 9-44017
 echocardiography, binocular stereoscopic display system 9-48297
 Echophthalmograph-21, appl. to cardiovascular disease diagnosis (*Russian*) 9-39456
 echosonography, real-time, computer controlled bidirectional phasing 9-12023
 EEG biotelemetry, multielectrode, for remote monitoring and stimulation of ambulatory subject 9-5386
 EEG telemetry time-multiplex unit, ambulatory patients 9-44007
 electrodynamic earphone, mag. field probe 9-34690
 electrogoniometer, variable axis, for knee movement meas. 9-44012
 EMI brain and body scanners, patient radiation dose 9-48341
 endoscope with rigid to flexible imaging multifibre coupling, MTF 9-23052
 engineering in medicine and biology, conf. Atlanta, USA (Oct. 1978) 9-39332
 equipment safety in diagnostic X-ray departments 9-48346
 esophagogastroscope, flexible fibre optic instrument, experience of use of 9-34622
 eye, internal pressure meas., early diagnosis of glaucoma 9-25140
 femur fractures, reduction apparatus 9-16343
 ferromagnetic contact ring for two-dimensional eye movement meas. 9-5387
 fetal breathing movements, US meas. device 9-34616
 fibre optic catheter tip pressure transducer, for intracardiac press. meas. 9-2150
 fibre optics in medicine, diagnostic and therapeutic appls. 9-39466
 film projection system, eye movement monitoring of cerebral palsied children 9-16329
 FM electronics system for biomedical data recording 9-44010
 foot scale plantar pressures, meas. device 9-44004
 gamma camera, line spread function meas., practical considerations 9-17585
 gamma cameras, performances under high counting rates 9-16277
 gamma-camera for gated carotidovascular imaging 9-5367
 grey-scale image recording systems, comparison of 9 different types 9-16319
 grey-scale to colour convertor for foot pressure distrib. pattern meas. 9-20691
 haemocoagulometer 9-39541
 high density proportional counter, medical imaging of e^+ radioisotope distrib. 9-5399
 hybrid MWPC gamma ray detecting system for applications in nuclear medicine 9-5397
 hydroelastic wave oscillator for treatment of human body tubular diseases (*Chinese*) 9-39588
 hyperthermia induction apparatus for neoplasia treatment 9-44048
 image intensifier fluorography, low-dose studies of infant hip dysplasia 9-48343
 ion selective electrodes, appl. 9-44022
 knee arthrograph for study of stiffness 9-12022
 laser beam applications in medicine and surgery, review (*French*) 9-34626
 laser endoscopic photocoagulation of bleeding lesions, using Ar laser (*French*) 9-34627
 laser pupillometer, especially suitable for anaesthetised cats 9-48317
 linear accelerator, SL 75-20, clinical results with 9-48332
 liver Cd, transportable in vivo meas. system 9-39496
 maintenance programme for electronic communications systems and biomedical equipment 9-5385
 manometer system, cerebrospinal fluid pressure meas. and controlled withdrawal 9-39538
 mass production of medical instruments, quality control (*Hungarian*) 9-48354
 microcomputer system for urethral pressure profiles meas. (*Slovenian*) 9-2154
 microelectrode, Pt. potentials and small-signal impedances 9-34716
 microelectrode, W. potential and small-signal impedances 9-34715
 microprocessor based respiratory function analyser 9-25131
 microprocessor equipment to analyse eye movements during radiograph scanning 9-25130
 microwave, Gaussian beam launcher, for selective partial body exposure of biological substances 9-29578
 minicomputer system, automatic visual stimuli, hand and eye movement monitoring (*French*) 9-34682
 Monitor DKS4T-01 system, surveillance of severely ill patients 9-34679
 multichannel audio monitor for detecting electrical signals, neurophysiological expt. appl. 9-20694
 multimode square waveguide applicator, for microwave therapy 9-34630
 MWPC, appl. to radiation localisation problems in medicine and biology, review 9-5432
 MWPC positron camera, two detector, appl. medical imaging 9-5398
 neurological coaxial depth electrode development 9-29687
 nuclear medicine display systems 9-16298
 nuclear-medicine image display system, dynamic physiological function visualisation 9-5396
 optical monofibres for medical practice, appls. (*French*) 9-39462
 optical system for automatic eye refractor 9-25127

biomedical equipment continued

- opto-electronic appls. for reducing electrical shock hazards with ECGs 9-44016
 oral neoplasm geometry stomatoscopic apparatus 9-39539
 paediatric chest stand, working procedure and radiation exposure 9-48337
 parodontosis treatment portable vacuum apparatus 9-39593
 patient topology, optical process for three dimensional assessment 9-20692
 phantom, perspex, for assessment of nuclear medicine imaging equipment 9-25089
 piezoceramic cardiovascular acceleration transducer 9-39536
 PIGMI, 250 kV proton injector system 9-45467
 PIGMI, accelerator control system 9-45475
 PIGMI, linear proton accelerator, mechanical description 9-45474
 PIGMI program at LANS, proton linac development for medical appl. 9-45471
 Pneuma-Tonometer, evaluation of for intraocular pressure meas. 9-34678
 positron imaging device for dynamic brain studies 9-48327
 power supplies, energy conversion Conf., San Diego, CA, USA (Aug 1978) 9-48038
 quality health care and cost containment, conf., Washington, USA (Mar.-Apr. 1978) 9-39333
 radiographic screen-film system, determination of charact. curve and its gradient 9-5362
 radiographic table, remote-controlled, clinical experiences 9-43987
 radiographic transmission wedge for anatomical localisation, prior to radiopharmaceutical injection 9-16333
 radioisotope scanner performance improvement, subtraction of Compton scattering 9-16273
 Refractor III system, computer-assisted eye examination 9-34698
 respiration monitor, microwave Michelson interferometer 9-8557
 retinal camera with infrared TV obs. (*German*) 9-2145
 scintigrams recorded on X-ray films, simple method for copying and photographic data processing 9-16283
 scintillation cameras, deadtime meas., scatter conditions simulating nuclear cardiology 9-16276
 scintillation cameras, effect of photon energy on field uniformity tests 9-16278
 slow scan SIT detector for X-ray diffraction studies using synchrotron radiation 9-48382
 solid state track recorders in nuclear medicine 9-26830
 sonic digitiser method for biomechanical spatial data collection 9-39441
 speech trainers, with visual display system, systematic use for hard of hearing children (*Japanese*) 9-39596
 speech trainers using visual display system, for hard of hearing children (*Japanese*) 9-39595
 spine and forearm CA changes, meas. apparatus using ^{252}Cf neutron activation anal. 9-39490
 SQUID applications in biophysics 9-29640
 standing aids for physically handicapped assessment of 4 types 9-12026
 strain gauge plethysmograph, automated 2-channel 9-29648
 strain gauge transducer for myocardial stimulation, local tension meas. 9-48357
 supraventricular tachycardia, diagnosis and management, instrumentation and therapeutic techniques, review 9-39598
 sweat test equipment safety improvement 9-29649
 tachystoscope, computer-controlled, for eye accommodation time and rest position meas. (*German*) 9-2143
 Therac 6 linear accelerator, computer controlled evaluation for X-ray therapy 9-5363
 Therac 6 linear accelerator, field elongation effects on depth-dose curves, central-axis output of X-rays 9-5361
 thermistor stability, ageing in constant temp. baths 9-21745
 tissue-equivalent liquid bolus, physiologically compatible, for microwave tissue heating 9-39465
 TV pupillometer, anal. of dynamic performance (*Japanese*) 9-39545
 US equipment for intra-rectal prostate imaging 9-48296
 US scanner, real-time rotating transducer, for heat and abdomen exams. 9-20603
 US transducer, wideband, for tissue characterisation, 1 to 10 MHz 9-16262
 video cassette recorder for analogue data 9-44009
 video patient monitoring system for clinical seizures, long term time-lapse, EEG synchronisation 9-39461
 voice controlled system for the disabled 9-5407
 wheelchair, power reclined back 9-12027
 X-ray image intensifier tube, 14 in 9-16285
 X-ray imaging gas scintillating proportional counters, performance in medical appl. 9-2153
 $^{81}\text{Kr}^{\text{m}}$, new type generator using cellulose chromatography paper, for hospital use 9-8541
 O_2 consumption, monitoring instrumentation using replenishment technique 9-39547

biomedical measurement

- see also biological techniques and instruments; biomedical equipment; electrocardiography; electroencephalography; radiography; X-ray apparatus
 abdominal wound strength, meas. method for expt. animals 9-44003
 acoustic impedance meter, principle aspects of development 9-24999
 antibiotic concentration assay, computer-aided method (*German*) 9-5414
 auditory thresholds in children, forced-choice adaptive procedure 9-29644
 bile fluid, system for meas. small flow velocities (*German*) 9-39534
 biofeedback thermometer, low-cost research-oriented, with digital readout 9-29673
 biological tissue samples, normal and diseased, elemental comp., PIXE anal. 9-5364
 biomagnetic fields, meas. and anal. 9-11952
 biomagnetic signal, adjustable supercond. plates for gradiometer balancing 9-25162
 biomechanical spatial motion, data collection method using sonic digitiser 9-39441
 biotelemetry, conf., Garmisch-Partenkirchen, W.Germany (May, June 1978) 9-43980
 blood, stored, microaggregation direct meas., effects of micro-filtration (*German*) 9-2168
 blood alcohol determ., spectrophotometric method (*German*) 9-5415
 blood erythrocyte count and haemoglobin determ. by mobile miniphotometer (*German*) 9-5416

biomedical measurement continued

blood flow, comparison of methods of meas. from digital angiograms (*German*) 9-39468
blood flow values in iliac artery, angiocine densitometry meas. in conscious humans 9-25022
blood gas analysis data processing system (*German*) 9-5419
blood gas and acid-base calculations, electronic data computing 9-25139
blood indicator dye microconcentration meas. instrument 9-39565
blood K⁺, Ca²⁺ concs. in rat, technique for continuous vivo meas. (*German*) 9-39533
blood O₂ affinity variability, automated meas. method 9-39544
blood plasma, vol. meas. in man using ^{99m}Tc, ¹³¹I labeled serum albumin 9-29602
blood pressure, using electronic sphygmomanometer 9-25125
blood velocity in brain capillaries, microkinematic obs. (*Russian*) 9-5366
blood velocity meas., absolute, US Doppler method (*Japanese*) 9-43974
blood velocity waveform display by spectrum analysers, direction Doppler signal preprocessing 9-34611
bone, X-ray fluorescence technique for in vivo determ. of Pb conc. 9-25084
breath volume and time components, computer aided meas. using magnetometers 9-16332
cancellous bone, Compton scatter densitometry meas. 9-39489
cardiac function, reliability of noninvasive methods for meas. during exercise 9-16231
cardiac output and shunts, automatic computation from indicator dilution curves 9-48359
cerebral blood flow, confidence limits with positron emission 9-11994
cerebral blood flow meas., lateral counting corrections 9-8536
cerebral magnetic field meas. and personnel selection 9-2026
cerebral regional blood volume, variations meas. by computerised axial tomography 9-29583
cerebrospinal fluid pressure meas. and controlled withdrawal 9-39538
chest motion due to heart action, imaging by holographic interferometry 9-20699
circulatory variables, power spectra of spontaneous variations 9-29538
clinical perimetry, glossary of basic information (*Italian*) 9-39413
cornea O₂ flux, meas. when covered by soft contact lens 9-34705
cornea thickness, human, topographic pachometry meas. 9-11921
digital memory recorder, electromyography and nerve conduction appls. 9-43999
education, applied science CNAA degree course at Kingston Polytechnic 9-35454
eight-channel computer controlled scanning electromyograph 9-29674
electro-oculographic response, diagnostic tool for principal ocular disorders (*Italian*) 9-5391
electrophonocardiographic systolic time intervals, influences on 9-34681
EMG surface power density spectral bandwidth rel. to electrode parameters 9-29517
engineering in medicine and biology, conf. Atlanta, USA (Oct. 1978) 9-39332
eye, direction of gaze, determ. method using Listing's law 9-34677
eye, intact bovine lens protein, Raman spectroscopy with intensified Vidicon detectors 9-29525
eye, internal pressure meas., early diagnosis of glaucoma 9-25140
eye, refractive state, optical system for autorefractor 9-25127
eye accommodation time and rest position, computer-controlled tachyscope meas. (*German*) 9-2143
eye axial length, meas. by ultrasonography, obs. on Hirschberg test 9-34551
eye deformation due to intraocular press. changes, holographic interferometry meas. 9-20720
eye movement, minicomputer processing of dual Purkinje image eye-tracker data 9-29645
eye movement during radiograph scanning, microprocessor equipment for analysis 9-25130
eye two-dimensional movement meas. with ferromag. contact ring 9-5387
fetal breathing movements, US meas. device 9-34616
fibre optic CRT recorder appl. 9-27389
foetal breathing movement electronic anal., phase-lock-loop principles appl. 9-2152
foot pressure distribution pattern, using grey-scale to colour convertor 9-20691
foot scale plantar pressures, meas. device 9-44004
gait analysis tracings and computerized analysis through a PDP-11/45 9-29643
gastroelectric surface signal analysis, phase-lock system design 9-34687
gastroelectric surface signal analysis, phase-lock system performance 9-34688
hip dynamic contact force distribution meas. 9-39624
hyperaldosteronism screening test with rectal potential difference probe (*German*) 9-16323
intracardiac pressure measurement, using fibre optic catheter tip press. transducer 9-2150
intraocular pressure, evaluation of Pneuma-Tonometer 9-34678
intravascular O₂ measurement, current-to-voltage convertor 9-34684
intravascular O₂ sensors, Monopolar, in vitro evaluations 9-34683
joint wear in humans, ferrography appl. 9-34694
knee movement measurement with variable axis electrogoniometer 9-44012
laser pupillometer, especially suitable for anaesthetised cats 9-48317
limb muscle dynamic force meas. by surface EMG 9-34689
liquid crystal thermometry, optically active binary mixture 9-42952
liver Cd, transportable in vivo meas. system 9-39496
lung, maximum expiratory flow-volume curves, anal. of configuration 9-20565
lung, precision meas. of anatomic dead space, theory 9-29536
lung compliance loop recovery eliminating cardiac interference by digital filter 9-20570
lymphocyte sensitisation meas., electrophoretic mobility test improvements 9-25138
magnetic recording of central nervous system, book contrib. 9-5304
magnetocardiography, magnetometers for very weak fields 9-30510
metreological support, state-of-the-art and development 9-16318
microdensitometry applications (*Czech*) 9-30524
microprocessor appl., advantages 9-44065
microwave interferometers appl., physiological movements meas. 9-25137
Moire topography, theoretical aspects and practical appls. 9-39463
Moire topography imaging system, evaluation of 9-39464
myelinated nerve fibre simultaneous meas. and counting grid 9-39540

biomedical measurement continued

myocardial blood flow, meas. by fractional uptake of ⁸⁴Rb and microspheres 9-34656
myocardial contractility, real time meas. by analogue computer with digital displays (*Japanese*) 9-44015
myocardial local tension, miniature strain gauge transducer 9-48357
myocardium, regional wall motion, assessment by radionuclide kymography 9-39478
nasal mucociliary transport, mucous velocity meas. using roentgenographic method 9-29600
nerve trunks, method for determ. of conduction velocity distrib. 9-48241
NMR relaxation time of particular target measured by magnetic focusing method 9-34621
ocular axial dimensions, development following eyelid suture in cat 9-43870
oral neoplasm geometry stomatoscopic apparatus 9-39539
oxytocin radioimmunoassay, human plasma 9-5353
parametric interactions in EEG period analysis 9-29675
patient topology, optical process for three dimensional assessment 9-20692
physiological fluid, human, identification in situ by proton relax. (*French*) 9-48316
plethysmography, elec. admittance, blood flow meas., evaluation of theory and accuracy (*Japanese*) 9-43979
portable X-ray imaging system for small-format applications 9-21886
post-operative human gait, EMG mes., pattern recognition appl. 9-34599
pulmonary conductance, elastic recoil, computerized meas. 9-16317
pulmonary regional perfusion, comparison of ^{81m}Kr continuous intravenous infusion, ^{99m}Tc macroaggregates 9-39477
pupillary near reflex static and dynamic characteristics (*Japanese*) 9-29524
pupillometer, Fick-Broca, modification to overcome problems 9-5276
quality health care and cost containment, conf., Washington, USA (Mar.-Apr. 1978) 9-39333
renal perfusion dynamics during preservation 9-25006
residual latency techniques and related physiological procedures 9-44001
respiration rate automatic meas. device (*German*) 9-2146
respiratory function indices, microprocessor based analyser 9-25131
retinoscopic and subjective measurements, discrepancy, effect of age 9-34550
sensing devices, biochemical, review (*Japanese*) 9-12050
simplified constant temperature electrolytic respirometer 9-12040
skeletal Ca, facility for regional in vivo neutron activation anal. 9-25088
skin, human, impedance circuit 9-20607
skin electrical impedance, search for elec. located acupuncture points 9-43976
skin impedance, Laplace plane anal. 9-39458
skin temperature, mean, simple meas. device using thermistors 9-2151
skin transient impedance between acupuncture stimulation points 9-43977
spermatozoa motility meas. by light scatt., appl. to reproduction immunology (*French*) 9-34628
spine and forearm Ca: changes, meas. apparatus using ²⁵²Cf neutron activation anal. 9-39490
strain measurement in bone and prosthetic materials (*French*) 9-34695
subcutaneous temperature meas., for thermoregulation obs., using passive microwave sensors 9-34721
thermogram enhancement by tissue-condition correction 9-39460
thermograph, use of pyroelectric vidicon camera 9-25060
thermometer, using a thermistor bead 9-21741
tissue O₂ electrode design criteria and perform. characts., recessed cathode 9-39543
urethral pressure profiles, meas., microcomputer system (*Slovenian*) 9-2154
US Doppler velocimetry, experimental appls. (*French*) 9-34610
US probes for blood stream meas. using Doppler technique (*German*) 9-2113
ventricular, pressure, noninvasive meas. based on Doppler effect 9-5384
vibration detection of living bodyparts, holographic interferometry appl. (*Swedish*) 9-43981
videodensitometry and image analysis, minimum computer system 9-34664
visual acuity, amblyopic children, before and after treatment (*Italian*) 9-20540
visual acuity meas. computer-aided system (*German*) 9-2144
visual acuity test letters, with and without serifs, comparative expts. 9-34564
whole-body K content, ⁴²K calibration of whole-body counters 9-25086
Ca, system for meas. total amount in human body using ⁴⁰Ca(n, α)³⁷Ar reaction 9-25083
Cl determination in small samples of healthy and burnt skin 9-5343
K determination in small samples of healthy and burnt skin 9-5343
⁴²K, whole-body content, sex-dependent calibration factor of NaI scintillation counter 9-29593
N human whole body measurement, using neutron activation anal. 9-29594
¹⁴N(n, γ)¹⁵N reaction for clinical total-body N meas. 9-29589
Na determination in small samples of healthy and burnt skin 9-5343
O whole-body meas. by neutron activation analysis 9-29590
Pu assay, in vivo methods for humans 9-20674

biomedical phenomena

see also biomagnetism

antibodies, fluorescent, bound to murine EL-4 tumour cells, motion determ. 9-34719
heart attacks correl. with geomag. activity 9-39424
thermoregulation, subcutaneous temp. meas. using passive microwave sensors 9-34721

biomedical ultrasonics

A-scanners, performance assessment using system transfer functions 9-23169
abdominal aortic aneurysms, comparative study of computerised tomography and ultrasonography 9-29586
annular array design and logarithmic processing 9-34615
antischistosomal drug screening in vitro by multichannel US activity monitor 9-20604
arterial US scanner, colour coded differential velocity display 9-34617
blood, US backscattering, determ. of variation with haematocrit 9-43970
blood flow imaging model eqns. and implications 9-48308
blood flow velocimeter, MTF filter, with inherent A/D 9-16263
blood velocity meas., absolute, Doppler method (*Japanese*) 9-43974

biomedical ultrasonics continued

- blood velocity meas., US Doppler velocimetry, experimental appls. (French) 9-34610
 blood velocity waveform display by spectrum analysers, direction Doppler signal preprocessing 9-34611
 blood vessel bubble detection and flow evaluation 9-34612
 bone acoustic emission diagnosis, soft tissue effects 9-48362
 bovine femur crack detection by acoustic emission 9-48312
 bubble detection in decompression sickness, US imaging method 9-8527
 cancer treatment by ultrasound with radiotherapy or chemotherapy 9-48299
 cardiovascular disease diagnosis, US appls. (Russian) 9-39456
 carotid artery disease, Doppler and pulse-echo detection techniques 9-11989
 chronic liver disease, ultrasonic detect. method 9-48295
 collagen threads, mammalian, US meas. using scanning laser acoustic microscope 9-43972
 computerised topography scanner evaluation 9-48301
 conference, international congress of radiology, Rio de Janeiro, Brazil (Oct. 1977) 9-16284
 contact B-scanners, calibration method 9-23161
 decompression studies using ultrasonic imaging of bubbles 9-11988
 diagnostic Doppler systems, development in Brazil 9-39455
 diagnostic equipment progress in Japan 9-25053
 diagnostic ultrasound techniques, status report in biomedical field 9-43971
 diagnostic uses of US, bibliography 9-34619
 Doppler blood flowmeter modulation (Japanese) 9-2115
 Doppler US system, for internal organs imaging 9-5332
 echocardiographic tracking, digital range-gating 9-16260
 echocardiography, binocular stereoscopic display system 9-48297
 echocardiography, safe method for acquiring morphological and functional data (German) 9-16261
 echosonography, real-time, computer controlled bidirectional phasing 9-12023
 electronically scanned ultrasonic imaging systems (Japanese) 9-25054
 engineering in medicine and biology, conf. Atlanta, USA (Oct. 1978) 9-39332
 etched arrays for medical imaging 9-25057
 evoked response averaging for schistosome activity monitoring 9-34613
 excised breast tumour US attenuation meas., 6 to 10 MHz 9-48311
 eye axial length, meas. by ultrasonography, obs. on Hirschberg test 9-4551
 fetal breathing movements, US meas. device 9-34616
 foetal breathing movement electronic anal., echoscope connected to time-dist. recorder 9-2152
 G 9-18498
 grey-scale image recording systems, comparison of 9 different types 9-16319
 hepatic tissue characterisation by US reflection, estimator variance reduction 9-48307
 holographic visualisation (Slovak) 9-41527
 holography in biology and medicine 9-8528
 imaging, analogue fast Fresnel transform methods 9-46116
 imaging, computerized, digital data acquisition system 9-39454
 impediography, US propag. theory for stratified media (French) 9-11990
 implantable SAW pressure transducer/transmitter 9-29575
 inhomogeneous media model for acoustic vel. calc. in tissues 9-43945
 kidney stone contactless destruction by US shock waves 9-48300
 layer-by-layer endography of multiply scattering objects 9-48303
 left ventricular hypertrophy with bundle branch block, ECG/VCG and echocardiogram correlation 9-44035
 left ventricular potential quantitative assessment rel. to echocardiographic meas. 9-44042
 low-loss wide-band US transducer design for noninvasive medical appls. 9-44021
 merits rel. to computerised tomography and radionuclide imaging 9-48324
 multiple freq. array for improved diagnostic imaging 9-14170
 myocardial and hepatic tissue US backscatter comparison 9-48310
 myocardial dimensioning system, pulsed ultrasound method 9-48298
 myocardial tissue, relationship between collagen and US attenuation 9-43973
 phased array beam steering, phase error grating lobes 9-48313
 phased array US imaging, real-time digital scan conversion and multi-dimensional processing 9-48363
 porcine skin, acoustic impedance variations at burn-nonburn interfaces, burn depth determ. 9-2114
 probes, main parameters and characterisation 9-25056
 problems of computer applications (German) 9-20696
 prostate, intra-rectal US imaging, equipment for 9-48296
 pulsed Doppler system, differentiation of bile ducts and blood vessels in liver 9-34618
 pulsed US grating obs. in optical farfield 9-41534
 quality health care and cost containment, conf., Washington, USA (Mar.-Apr. 1978) 9-39333
 quantitative, US attenuation tomography, effects of phase cancellation, reflection and refraction 9-48302
 resolution improvement techniques and C-mode scan for patient diagnosis 9-25052
 scanner, real-time rotating transducer, for heat and abdomen exams. 9-20603
 scanning laser acoustic microscope 9-7263
 sonography, diagnosis of tumours, comparison with other methods (German) 9-34614
 tissue characterisation by backscattered field space-time processing 9-48305
 tissue characterisation practice and risk 9-48309
 tissue characterisation using wideband US transducers, 1 to 10 MHz 9-16262
 tissue mimicking materials for ultrasound phantoms 9-5333
 tissue pulse-echo US absorption estimation model 9-48304
 tissue US absorption thermoelectric meas., beamwidth and thermocouple size effects 9-48306
 transducer characterization methods at the NBS 9-27481
 transducer characterization standards, tissue equivalent testing for hospital use 9-29651
 transducer evaluation for inspection and diagnostic appls. 9-27480
 transducer routine eval. methods 9-23173
 transfer functions for describing ultrasound system performance 9-25055
 TV display of colour images tissue disease diagnosis appl. 9-29576

biomedical ultrasonics continued

- US probes for blood stream meas. using Doppler technique (German) 9-2113
 US transducer evaluation and calibration conf., London 1977, May 9-23167
 vectorcardiographic P loop correlation with left atrial volume echocardiogram 9-44025
 wideband general-purpose US generator for biological object handling 9-48381
biomembrane transport
see also osmosis
 apical membrane of toad gallbladder, K⁺ selective channels 9-2018
 artificial kidney dialysis exchange model reliability tests (German) 9-2165
 axon, elec. field distrib., ionic selectivity and permeability 9-34532
 axon, giant squid, current fluctuations obs. 9-24973
 bacteriorhodopsin, enthalpy changes during photochemical cycle 9-34602
 bacteriorhodopsin in model membranes, new component of displacement photocurrent 9-43827
 bacteriorhodopsin-containing membrane fragments, quantum yield of flash-induced proton release 9-34601
 bilayer membranes, permeation of water mols. meas. using fluoresc. quantum yield solvent-isotope effect 9-34710
 biological n-compartment model, identification by filtering techniques 9-34507
 Biophysical Society, 23rd annual meeting, conf., Atlanta, USA (Feb. 1979) 9-34468
 black lipid membranes, permeability of cyclic nucleotides 9-39376
 cardiac Purkinje fibre, Na current model 9-43861
 cardiac Purkinje fibres, rabbit, Na channels 9-43828
 cardiac Purkinje fibres, sheep, intercellular clefts effect on elec. props. 9-34522
 catalysis, ADP/ATP carriers of mitochondria (German) 9-29512
 cell permeability changes after X-irradiation 9-39370
 chlorotetracycline transport by bacillus megaterium 9-24971
 dendritic membranes, active vs. passive effects on simulated neuron transfer properties 9-24976
 dynamics of a membrane-moderated controlled release 9-2016
 electrons, advantage to low mobility in biological systems 9-39346
 enteric bacteria, transport functions of the outer membrane, book contrib. 9-16179
 erythrocyte membrane, pulse NMR meas. of water exchange 9-43826
 erythrocyte membrane hydraulic cond. determ. 9-34528
 erythrocyte suspensions, human, HCO₃⁻, Cl⁻ exchange 9-8487
 global flow eqns. from local eqns. of motion, nonelectrolyte solutes plus water 9-34525
 gramicidin ion pore, potential variation 9-34506
 Halobacterium species, passive elec. props., membrane ionic flow 9-24970
 heart muscle cells, Na current, electrophysiological studies, rat 9-43838
 Henle's loop, transport equations for permeable elastic tubules 9-20519
 ionophoretic model for Na-Ca counter transport 9-2017
 lipid bilayer membranes, ionic displacement current 9-34503
 lipid membrane, black, adsorpt. of phloretin 9-34504
 lipid requirement of membrane-bound enzymes 9-20521
 liver, distributed model for transcapillary exchange and solute removal 9-34524
 microwave effects of membrane level, athermal electrophysiological mechanisms and experimental test 9-2108
 molecular motion determ. using periodic pattern photobleaching 9-34719
 molecular transport across biological membranes, quantum mech. theory 9-8489
 mucous membrane of dolphin tongue, neural struct. and function of taste receptors (Russian) 9-43937
 muscle, excitation and contraction processes, book contrib. 9-5262
 muscle, striated, charge movement in membrane, book contrib. 9-5263
 nerve fibres, myelinated, diffusion of ions 9-24965
 nerve membrane, steady-state finite cable model, complementary variational principles 9-34545
 nervous tissues, Ca dependent K activation, book contrib. 9-5266
 network thermodynamic two-port element, representation of salt, current coupled flow 9-34505
 neuron, dorid giant, K activation associated with intraneuronal free Ca 9-8494
 noise, 1/f, empirical relations and theories 9-24969
 permeability coefficient of the wall of a villous membrane 9-16177
 permeability of membrane system, basic property (French) 9-16175
 phospholipid bilayer membranes, voltage depend. channel form. by colicin K 9-8490
 photosynthetic electron transfer by radical pair mechanism, electron spin polarisation 9-34471
 protein membranes, immobilised, H⁺ ion transport, assoc.-dissoc. time-scale factor 9-34529
 proteins, immobilised, intrinsic electric fields and proton diffusion 9-24964
 reaction-diffusion problem, nth order, asymptotic anal. 9-11764
 respiration model analytical soln. 9-48282
 retinol-binding proteins in retinal pigment epithelium 9-20525
 skeletal muscle of frog, displacement currents, K cond. channel contrib. 9-39409
 tracheal epithelium, effect of Ca on ion transport and elec. props. 9-34527

biomembranes

- see also biomembrane transport; lipid bilayers*
 architecture obs. by electron energy loss spectroscopy 9-25177
 axon, squid giant, compensation of potential changes produced by Er ion with applied potentials 9-16181
 bacillus megaterium membrane lateral phase separations and chlorotetracycline transport 9-24971
 bilipid vesicles, theoretical shapes under conditions of increasing membrane area 9-24960
 bio-selective membrane electrode using tissue slices 9-48387
 biochemical reactions, fast, in solns. membranes and cells, conf., Airlie, USA (Apr. 1978) 9-8485
 cell membrane particles, max. density of random placing 9-44862
 cell membrane potential changes on X-irradiation 9-39369
 cell suspension physiology and induced pathophysiology, noninvasive analysis using EM method 9-2125
 chlorophyll black lipid membranes in dil. electrolyte solns., bifacial tension meas. 9-16162

biomembranes continued

- corneal stroma, small angle X-ray and neutron diff. study 9-11923
 cytochrome *a* interaction with mitochondrial matrix H⁺ ions 9-43806
 dioleoyl-phosphatidylcholine/dipalmitoyl-phosphatidylcholine bilayer membranes, phase transitions 9-39367
 discrete charge effect, dipicrylamine anions surface absorption 9-16159
 DNA synthesis by DNA-membrane complexes from electron irradiated *E. coli* 9-16167
 egg lecithin, magnetic anisotropy obs. 9-20520
 Ehrlich ascites tumour cells, influence of O₂ tension of X-ray-induced fall in anodic mobility 9-34526
 electron density profiles, determ. method on an absolute scale 9-16358
 erythrocyte ghost membrane, collimation correction for non-isotropic small-angle X-ray scattering curves 9-10755
 erythrocyte ghost membrane, deconvolution method for evaluating small angle X-ray scattering 9-10756
 erythrocyte membrane, viscoelastic props., theoretical and expt. studies 9-16157
 excitable nerve membrane exposed to optical radiation, surface-charge density variation, comment 9-8524
 freezing injuries, membrane destabilisation of egg yolk membrane (*French*) 9-48221
 hydrophobic effect, organisation of living matter 9-11887
 light scattering from biological cells, backscatter depend. on membrane thickness and refr. index 9-48225
 lipid bilayer, of dipalmitoyl-lecithin, NMR dispersion of layers dispersed in D₂O 9-48223
 lipid layers and membranes, dynamic molecular organization 9-39364
 lipid-protein interaction in membrane bound Na⁺, K⁺-ATPase, spin label anal. 9-11902
 lipids, buried charges, viral expansion 9-16158
 liposomes, nanosecond relax. processes 9-8477
 liquid crystal biomembranes, struct. and energy characts. and appl. (*Chinese*) 9-16163
 liquid crystal technological appls., role in biological systems (*Croatian*) 9-10788
 lung membrane indentation anal. on elastic half space 9-20522
 N-methyl acetamide, Na⁺, Mg²⁺ binding to carbonyl O, lipid membrane permeation mechanisms 9-16134
 microviscosity measurement, light scatt. effects 9-39365
 mitochondrial membrane charging by cytochrome oxidase, role of protons 9-43807
 myelin, frog nerve, comments on the paracrystalline nature 9-16161
 myelin membrane, frog, with paracrystalline lattice distortions, X-ray determ. of electron-density profile 9-11903
 nerve membrane, excitable, charge density due to optical irr. 9-8526
 nerve membrane response due to time depend. stimulus 9-24974
 neuronal membranes, organisation book contrib. 9-2032
 NMR Fourier transform spectroscopy, high-field, of biological systems 9-39457
 organised molecular systems, monomolecular layers, micellar and bilayer membranes, conf., Elmau, W.Germany (April 1978) 9-39188
 pacemaker transmembrane potential generation in fish heart sinoatrial cells 9-39395
 parodontosis treatment portable vacuum apparatus 9-39593
 photoreceptor membrane viscosity and component dynamics, recombination kinetics method 9-39366
 photosynthetic, exciton dynamics, picosecond pulse train study 9-8483
 photosynthetic membranes, anal. of laser-induced fluorescence with Pauli master eqn. 9-39350
 photosynthetic systems, magnetoorientated, fluorescence polarisation theory 9-16165
 pigments, visual and purple membrane, charge stabilisation mechanism 9-34500
 potentials meas. using the dye safranin 9-48386
 protein-lipid interaction, appl. of surface tension meas. 9-24940
 protein-lipid interactions, in bilayer membranes 9-5254
 purple membrane, polarized IR spectroscopic struct. study 9-43809
 purple membrane fragments, Debye rot. relax. times, modulation excitation spectrophotometric obs. 9-3532
 purple membrane of halobacterium halobium, aggregate optical spectra, moment anal. 9-2007
 purple membrane topography of Halobacterium halobium 9-48211
 red cell membrane protein monolayers, viscoelastic props. 9-48224
 sensory fibres, amphibian, spike freq. adaptation due to slow K channels 9-2025
 structural constitution and function (*German*) 9-5256
 structure determination of asymmetric membrane profiles, iterative Fourier method 9-43810
 surface charge density variation of excitable nerve membrane exposed to optical radiation 9-34542
 surface charge distributions, discrete, fluctuations near individual channels 9-16160
 thylakoid, light collection and exciton dynamics 9-48215
 tumour cells, differences in fluidity between bilayer halves of plasma membranes 9-16164
 unilamellar lipid vesicles, Ca²⁺ initiation of fusion or lysis 9-2008
 vesicles containing chlorophyll, energy transfer and fluorescence quenching 9-39349
 virus envelopes, plasma membranes, review, book contrib. 9-5257

biomolecular effects of radiation

- see also biological effects of (type of radiation)*
 amides, substituted, aqueous solns. UV-irradiated, EPR and spin-trapping study of free radicals 9-16154
 amino acids, He(I) photoelectron spectra 9-34499
 amino acids, X-irradiated, EPR determ. of radical yields 9-34491
 bacterial photosynthesis, and model systems, electron transfer, ps studies 9-48214
 bacterial photosynthetic reaction centre, fast electron transfer processes 9-8479
 bacteriorhodophyll, *R. rubrum* reaction centres, selective ps laser excitation in condensed phases 9-48217
 bacteriophages, T7 and MS2, effect of UV light (*Hungarian*) 9-16153
 bacteriorhodopsin, excited state energy surface to explain photochemistry 9-48218
 bacteriorhodopsin, selective ps laser excitation in condensed phases 9-48217
 bacteriorhodopsin, subpicosecond spectroscopy, photochemical formation of bathobacteriorhodopsin 9-16156
 biomembrane architecture obs. 9-25177

biomolecular effects of radiation continued

- cholinesterase, microwave radiation interaction studies 9-39363
 chromosomal proteins and DNA syntheses in rat thymus after whole-body X-irradiation 9-34492
 cytochrome c and related metalloproteins, fast electron transfer processes 9-8478
 cytochrome c conformationally-nonequilibrium state reactivity obs. by pulse radiolysis 9-43816
 damage model in cells, radiation chemistry approach for direct and indirect effects 9-11974
 DNA, X-irradiation production of alkali-labile lesions 9-43820
 DNA base damage detection method, UV induced pyrimidine dimers in human cells 9-44067
 DNA bases, selective ps laser excitation in condensed phases 9-48217
 DNA damage of Chinese hamster ovary cells on X-irradiation after preheating 9-34493
 DNA strand breaks, lymphoma cells, detected by hydroxyapatite chromatographic technique 9-43819
 DNA-acridine orange complexes, energy transfer after dye laser excitation 9-2005
E. coli, DNA repair in radiation resistant and radiation sensitive strains 9-34489
E. coli, relative rates of repair of single-strand breaks and postirradiation DNA degradation 9-16149
E. coli, UV-irradiated, DNA double-strand breaks from single photochemical events 9-16151
E. coli, UV-irradiated, DNA single-strand breaks and alkali-labile bonds 9-16152
 electron microscope superconducting lens system for reduction of radiation damage 9-34718
 ethenoadenosine, influence of pH and metal complexation on fluorescence parameter 9-34483
 ferric haemoglobin, EPR studies before and after irradiation 9-29503
 fetal fibroblasts, UV induced chromosomal abnormalities, New Zealand Black mice 9-43836
 flavins, photoemission of electrons in polar media 9-29507
 greening bean leaf low-temp. fluorescence induction obs. 9-39354
 haemoglobin, bovine type A, γ -induced changes obs. 9-43811
 ion electron-loss microscopy, high-energy, signal-to-damage ratio 9-25175
 lecithin bilayers, reaction kinetics of radicals, OH, e_{aq}⁻ 9-11886
 lipid bilayers, bacteriorhodopsin containing, photoelectric activity investigation 9-16148
 mammalian cells, replica sizes estimated by X-ray plus bromodeoxyuridine photolysis method 9-16353
 mammalian cells, UV-irradiated, DNA repair kinetics 9-20513
 microorganisms, photobehaviour, review, book contrib. 9-5329
 microwave cellular, subcellular and molecular effects (*Russian*) 9-16249
 myoglobin conformationally-nonequilibrium state reactivity obs. by pulse radiolysis 9-39353
 myoglobins, kinetics studied by picosecond spectroscopy 9-43804
 nucleic acid, multiphoton photoreactions of aq. soln., picosec. UV pulse 9-34487
 pheophytin reduction obs. in higher plant photosystem II 9-43817
 photoreceptor membrane viscosity and component dynamics, recombination kinetics method 9-39366
 photosynthesis, fluoresc. and energy transfer, time resolved obs. 9-48216
 photosynthesis, picosecond fluorometry in primary events 9-8476
 photosynthesis, primary, selectively excited by tunable ps parametric oscillator 9-48163
 photosynthetic membrane, in vivo, light collection and exciton dynamics 9-48215
 photosynthetic membranes, anal. of laser-induced fluorescence with Pauli master eqn. 9-39350
 photosynthetic membranes, exciton dynamics, picosecond pulse train study 9-8483
 photosynthetic reaction centre, chlorophyll function, review, book contrib. 9-5251
 photosynthetic reaction centres, primary electron transfer rate 9-8481
 picosecond flash photolysis in biology and biophysics, book contrib. 9-5328
 pigment reversible changes due to illumination of leaves 9-43818
 purple photosynthetic bacteria, in vitro duplication of primary light-induced charge separation 9-39361
 rhodopsin, excited state energy surface to explain photochemistry 9-48218
 thymine, γ -irradiated, EPR study of post-radiolysis growth of spin-trapped radicals 9-16155
 trypsin, study by pulse radiolysis 9-8480
 L-tryptophan.HCl, irradiated single crystals at 295K, EPR study 9-11900
 valyl-tRNA synthetase from chick embryo brain, effect of ⁶⁰Co γ -radiation 9-34490
 X-ray fluorescence anal., importance to geometry 9-5430

biomolecules *see macromolecules; molecular biophysics*

bionics *see biocybernetics*

biophysics

- see also biological fluid dynamics; biomechanics; cardiology; cellular biophysics; haemodynamics; hearing; molecular biophysics; speech; vision*
 book, inc. bioengineering, annual review 9-5246
 botany, transpiration from plant leaf, simulation expts. 9-48279
 β -carotene glass, photoconductivity mechanism 9-28368
 catastrophe theory, statistical biophysics applications 9-39334
 coherent mode excitations, Bose condensation-like, Frohlich vibr. model, Boltzmann eqn. approach 9-39336
 desert plants' temperatures, adaptability of leaf size 9-24957
 ear, mouse, induced thermal resistance 9-48220
 horizons in biochemistry and biophysics, book 9-16118
 introductory biophysics, personalised system of instruction course 9-5929
 medical physicists, training, survey of program directors 9-17159
 neutron scattering techniques in applied research, medium-flux research reactors 9-13514
 nuclear and atomic data sources 9-25081
 phase boundaries and multiphase systems, conf., Tokyo, Japan (Sept. 1977) 9-29415
 phase transitions in physics and biology 9-43803

Biot-Savart law see *electromagnetism*

biotite see *mica*

biotransport

see also *bioidiffusion; biological fluid dynamics; biomembrane transport; cellular transport and dynamics; neurophysiology*
nasal mucociliary transport, mucous velocity meas. using roentgenographic method 9-29600

O₂ biomolecular transport proteins and metabolism 9-24946

bipolar integrated circuits

collector diffusion isolation bipolar technology, assessment of radiation tolerance 9-45430

bipolar transistor circuits

Used for general papers and papers where use of bipolar transistors is significant

avalanche transistor switchout, high performance, for external pulse selection at 1.06 μ m 9-7158

injection laser temperature-compensating drive circuit 9-45971

logarithmic converters and amplifiers, principle and appl. (German) 9-9233

temperature regulator circuits, using thyristors and triacs (Spanish) 9-6115

temperature regulators using Darlington cct. as sensor and controller (German) 9-30467

thermometer, for 0 to 100°C (German) 9-6122

bipolar transistors

see also *bipolar integrated circuits*

burst noise, physical sources 9-24033

carrier-domain magnetometer, novel Si mag. field sensor 9-9224

Gaussian graded p-n junction under high forward bias, depletion region width calc. 9-47157

heavily doped semiconductor devices, review 9-47039

junction breakdown voltage, temp. effects 9-7882

magnetotransistor, lateral with two meas. collectors, characts. 9-7887

p-p structure, two-dimensional carrier transport at high injection rate 9-15213

Si, defect obs. using stroboscopic SEM 9-9261

Si single-junction magnetotransistor, characts. 9-24066

Si transistor damage characts. by neutron displacement cross section 9-42118

bipoles

see *network analysis*

birefringence

see also *flow birefringence; Kerr electro-optical effect; light polarisation; magneto-optical effects; mechanical birefringence; optical constants; optical rotation*

anisotropic dielectric crystal, EM fluctuations 9-19857

antiferromagnetic crystal, birefringence, optical class lowering induced by longitudinal mag. field (Russian) 9-8127

atomic resonant lines, ang. momentum depend. of laser-induced birefr. and dichroism 9-10367

biaxial crystal, light perpendicular to axis 9-8117

boracites, spontaneous birefr., meas. and appl. 9-15434

borosilicate microporous glasses, structural anisotropy and birefringence 9-8114

chiral smectic liquid crystal, A-C phase change, electroclinic effect 9-42224

cholesteric, Grandjean lines, optical study (French) 9-46560

cotton, optical anisotropy, multiple-beam interferometric obs. 9-8115

DNA, calf thymus, flexible polyelectrolyte, elec. birefr. meas. 9-16126

dye solution, induced birefringence as result of illumination dichroism 9-28709

EBBA, nematic-isotropic transition, birefringence anomaly at clearing pt. 9-46788

fibres, birefringent single-mode, linear polarisation 9-10382

filter, birefringent, transmission expression derivation 9-18522

fluorene, mol. polarisabilities and opt. props. of cryst. 9-24285

glass fibre reinforced polyester, photoelasticity, optical characts. 9-18709

induced, electro-optical anisotropy in plane of light wave-front 9-8121

internal conical refraction of bounded light beams in biaxial crystals 9-28708

isopropyl ammonium chloroplatinate and chlorostannate, ferroelastic transition, thermal, optical, and elastic meas. 9-28096

isotropic solid, electrostrictive birefr. induced by high-intensity laser radiation 9-27340

large optical components for high-power lasers, coating birefr. meas. 9-44927

lipid liquid crystals, parabolic focal conics and polygonal defect arrays 9-37618

liquid crystals, high resolution birefr. meas. 9-2803

liquids, Cotton-Mouton effect 9-47417

magnetic crystals, intrinsic magneto-optical effects, phenomenological anal. 9-33679

MBBA, isotropic-nematic transition, birefringence for tricrit. exponents 9-37816

MBBA, nematic-isotropic transition, birefringence anomaly at clearing pt. 9-46788

near IR transparent material, birefringence meas. polarimeter 9-44925

nematic liquid crystals, appl. as acoustic image detectors 9-41537

nitrobenzene, boundary phase in 5-layered light guide, birefr., and equilib. thickness determ. 9-28711

Nylon 6,6 fibres, birefringence determination, using backscattered light intensity distrib. 9-42939

optical fibres, single-mode low birefr., prep. and polarisation characts. 9-7195

plastic dielects. with general work-hardening, birefringence, representation by index tensor 9-8113

poly(p-phenylene terephthalamide) fibres, optical anisotropy determ. 9-4786

polyamide, directionally solidified, morphology 9-10808

polyamide, directionally solidified, X-ray diff. 9-10809

polymer films, rod-like superstruct., small-angle light scatt., vol. fraction, orient. effects 9-1795

quartz, normalised dispersion 9-28713

quasi-homogeneous magneto-optically active media, Muller and Jones matrices 9-8126

retardation plate matrix representation 9-22894

sodium octyl benzene sulphonate, micellar aq. soln., Cotton-Mouton effect in mag. field 9-16047

spectroscopy, high-resolution polarisation, in 10 μ m region 9-6196

Stokes parameters, of light beam, polarisation modulation meas. 9-21803

birefringence continued

suspension of rod-like molecular particles, rot. diffusion coeff. from decay rate of birefr. 9-38520

symmetric slab waveguide in birefr. media, coplanar optical axis slab, modes 9-32053

time-dependent birefringence, linear dichroism, and optical rotation resulting from rigid-body rotational diffusion 9-47411

transparent medium, linear birefringence meas. turning birefr. method (French) 9-8112

uniaxial media, reflection (refraction) in directions of vanishing double refraction (German) 9-13894

vitamin B₁₂, circular dichroism and birefringence, polarisation modulation meas. 9-21803

waveguide, symm. slab, with optical axis not in slab plane, modes 9-996

wire grid polarisers, new optical model 9-902

Ag halide bleached photographic plate, uniaxial medium generation 9-2848

As-S chalcogenide glassy semiconductors, induced anisotropy 9-32013

B₂O₃-SiO₂ optical fibres, exposed cladding technique, birefr. and polarization props. 9-14094

Ba₂NaNb₃O₁₅, low temp. ferroelectric transitions, birefr. and dielec. meas. 9-38499

BaTiO₃, dielec. and optical props. using shell model 9-33654

Bi₂SiO₂₀ in insulator-semicond.-insulator struct., induced birefr., influence of kinetics of transient processes 9-24294

CaCO₃, aragonite, conical intensity distrib. 9-1747

CdS film, ellipsometry of natural boundaries (Russian) 9-4866

CdS, thermorefractance spectra, additional boundary conditions in terms of optical constants 9-15478

CsCaCl₃, birefringence, twinning and structural phase transitions 9-38480

CsPbCl₃, birefringence, twinning and structural phase transitions 9-38480

CsSrCl₃, birefringence, twinning and structural phase transitions 9-38480

CuF₂·2H₂O, powder, Cotton-Mouton-Voigt effect and EPR in Q-band (French) 9-8045

CuF₂·2H₂O, X-band ESR powder spectrum and related magneto-microwave effects 9-24214

GaP single crystal, direct obs. of dislocations by birefringence 9-14810

Gd₂(MoO₄)₃, ferroelec. temp. depend. of spontaneous birefr. and electrooptic response 9-33662

α -HIO₃, optically active biaxial crystal, conical diff. intensity patterns 9-4785

InSb-GaSb solid solution ingots, orientation, twinning and orientation depend. reflectance 9-28001

KD₃(SeO₃)₂, optical and dielec. props. near ferroelastic phase transition 9-38518

KH₃(SeO₃)₂, optical and dielec. props. near ferroelastic phase transition 9-38518

K₂Mn₂(SO₄)₃, optical and dielectric props. 9-11403

KNbO₃, dielec. and optical props. using shell model 9-33654

K₂Nd(MoO₄)₄, dielec. and optical props. 9-33590

K₂NiF₄, obs. of short range order by optical birefringence 9-11318

Li₂GeO₃ monocrystal conoscopic figure in polarised white light 9-15433

LiNd(PO₃)₄, crystallisation from LiPO₃ flux, exam. of optical props. (German) 9-11401

NH₄FeF₄, Mossbauer and optical evidence for crystallographic transition 9-14931

PLZT ceramics, transparent ferroelec., photorefractive and photocond. study 9-42581

(PLZT)(PLZN) system, ferroelec. transparent, prep. and study 9-42911

PbHPO₄, optical props. near ferroelec. transition 9-33663

PbTiO₃, single crystals, lattice parameters and birefringence as function of temp. 9-38517

RbCdCl₃, birefringence, twinning and structural phase transitions 9-38480

RbFeF₄, Mossbauer and optical evidence for crystallographic transition 9-14931

RbMnCl₃, birefringence, twinning and structural phase transitions 9-38480

SbSI, photoelectric current, modulated due to light intensity 9-19626

Sb₂Se₃ single crystals, phys. prop. anomalies, 400-450K (German) 9-38072

Si, nonlinear birefr. and dichroism at microwave freqs. and intervalley scatt. 9-19602

Sm₂Tb_{1-x}FeO₃ orthoferrites, crystallo-optical props. 9-42027

TbIG, mag. birefringence rel. to sublattices 9-28723

TiMnCl₃, birefringence, twinning and structural phase transitions 9-38480

YIG, and Ga-substituted YIG, mag. birefringence rel. to sublattices 9-28723

ZnPs, birefringence, circ. dichroism, temp. depend. (Russian) 9-1748

ZnSe in insulator-semicond.-insulator struct., induced birefr., influence of kinetics of transient processes 9-24294

ZnSe single crystals, birefringence due to native defects and electro-optic effect (French) 9-24293

bismuth

see also *nuclei with*

acoustic wave drag, acousto-elec.-mag. effects (Russian) 9-19638

acoustic waves, giant quantum attenuation at high mag. fields, angular depend. (Japanese) 9-4585

anodisation, electric breakdown 9-20377

atom, hyperfine structure 9-3375

atom, keV electron impact, L X-ray prod. cross section 9-18293

atom, optical activity, search for parity nonconservation 9-36574

atom, optical activity and HFS, neutral weak currents (Russian) 9-13660

atom, outer electron shielding, parity non-conserving optical rot. 9-18153

atom, search for parity nonconservation 9-36593

atomic polarisability, oscillator strength and radial integral, Dirac eqn. calc. 9-22620

atomic spectroscopy, search for parity-violating weak interaction of electrons with nuclei 9-36571

coadsorbed with Pb on Cu (100), Bi, LEED and AES meas. 9-15017

current states, symmetry and self-oscills., macroscopic mag. moment by RF irradiation (Russian) 9-19749

electrical resistivity due to electron-phonon scatt. on small cylindrical Fermi surface 9-4562

electron irradiated, displacement threshold energy (French) 9-23649

electron tunnelling and band struct., mag. field effect 9-37979

epitaxial films, grain boundary struct., electron microscopy obs. (Russian) 9-46671

bismuth continued

- epitaxial growth, decoration of Sb surface 9-28227
 film, evaporated, elect. and elastoresistance props. 9-33367
 film, influence of target texture on backscatt. yield of 2 MeV ^4He particles 9-4875
 film, initial stages of growth and orientation, TEM study 9-28237
 film, optical props., inverse problem of phenomenological theory 9-43053
 film, oxidation process rel. to X-ray diffraction (*Japanese*) 9-29273
 film, transparency meas. in mag. field, electronic isoenergetic surface cross section (*Russian*) 9-47532
 galvanomagnetic wave propag. obs. (*Russian*) 9-33301
 germanate glass: Bi^{3+} , time-resolved spectra, radiative and nonradiative processes 9-47501
 germanate glass: Bi^{3+} , Eu^{3+} , time resolved spectra for Bi-Eu energy transfer 9-33748
 hole relaxation time, temp. depend. 9-47108
 impurity, effect on morphology and growth mechanism of vapour grown crystals 9-23546
 island films, effect of surface press. on lattice spacings 9-11045
 liquid, electron component of entropy (*Russian*) 9-23747
 magnetoplasma waves, freq. doubling in propag. 9-28367
 magnetoplasma waves in strong mag. fields at 300 GHz 9-38116
 plastic deformation, and stored energy of cold work of polycrystn. samples 9-43348
 polymorphic transition up to 30 kbar, neutron diffr. investigation 9-14723
 powdered, mag. resistance (*German*) 9-28358
 pressure measurement, I-II transition at 25°C, equipment 9-21763
 Raman conversion of XeCl-laser radiation in metal vapours, up to 40% efficient 9-23025
 rhombohedral crystals, slip dislocations and slip systems 9-23617
 Shubnikov-de Haas effect (*Russian*) 9-7840
 Shubnikov-de Haas effect 9-28361
 stationary I-U curve, falling portion under phonon generation conditions 9-15195
 superconducting ultrathin film, metastable, supercond. props. (*Russian*) 9-7917
 surface, laser irradi., press. pulse 9-24392
 thermal conductivity at ultralow temp. 9-1532
 transverse magnetoresistance, field depend., static skin effect 9-11149
 vapour, parity violation in optical activity 9-26938
 weak charge, $\text{SU}(2) \times \text{U}(1)$ model anal. 9-26281
 Bi I, transition probabilities in 195-600 nm range 9-6898
 Bi, radiative lifetimes of excited states 9-3410
 Bi^+ , radiative lifetimes of excited states 9-3410
 $\text{Bi:Te}(\text{Sn})$, elec. resist., 1.8 to 77K, electron-phonon scatt. mechanism 9-15144
 $\text{Bi-Bi}_{0.5}\text{Sb}_{1.5}\text{Te}$ system, stratified medium with artificial anisotropy, transverse cooling effect 9-28364
 Bi-Sb, bicrystal rearrangement of grid of nonconformity dislocations on (111) interface during heating 9-28215
 $\text{Bi}+\text{NF}(\text{a}^1\Delta)$, near-reson. electronic energy transfer, rate const. and cross-section meas. 9-18273
 Bi_2 , optically pumped continuous laser oscill. 9-933
 BiI , multiconfiguration Dirac-Fock calc. of $6p^2$, $6p^27s$, and $6s6p^4$ configurations 9-3374
 ^{209}Bi , I, tunable CW dye laser spectroscopy, energy levels, lifetimes and hyperfine struct. 9-6905
 $\text{Cs}_2\text{NaYCl}_6\text{Bi}^{3+}$, luminesc., cryst. growth, Stockberger method 9-8174
 GaP:Bi , luminesc. decay kinetics 9-38646
 $\text{GdBO}_3\text{Bi}^{3+}\text{Eu}^{3+}$, vacuum UV excitation spectra and quantum efficiencies 9-28811
 HCl:Bi^{3+} solution, characts. of luminesc. spectra, 82 to 130K (*Russian*) 9-28835
 HCl:Bi^{3+} soln., luminesc., quantum yield and lifetime (*Russian*) 9-33834
 InP:Bi , isoelectronic impurity states, emission and absorpt. obs. 9-42491
 $\text{LiScO}_2\text{Bi}^{3+}$, luminesc., vibr. struct. 9-33790
 $\text{LaNdO}_2\text{Bi}^{3+}$, ($\text{Ln}=\text{La, Gd, Sc}$), luminesc., vibr. struct. 9-33790
 $\text{Pb}_{1-x}\text{Sn}_x\text{Te:Bi}$ film, polycryst., struct., elec., optical props. 9-42542
 Si:Bi standards, ion implanted, absolute Rutherford backscatt. yields, accuracy 9-47572
 $\text{YAl}_3\text{B}_2\text{O}_7\text{Bi}^{3+}$, luminesc., vibr. struct., energy transfer 9-38584
 $\text{YBO}_3\text{Bi}^{3+}\text{Eu}^{3+}$, vacuum UV excitation spectra and quantum efficiencies 9-28811
 $\text{YVO}_4\text{Bi}^{3+}$, absorpt. and emission props., excitons 9-38592

bismuth alloys

see also *bismuth compounds*

- Ag-Bi, melt, crystal growth of Ag, conditions for transition from round to face forms (*Russian*) 9-28906
 Al-Bi-(Fe), directionally solidified monotectic, growth parameters for aligned microstructs. 9-43236
 Bi-Sb, conditions for dendritic crystallisation, accompanying rapid cooling (*Russian*) 9-34020
 Bi-Sb, magnetoplasma waves in strong mag. fields at 300 GHz 9-38116
 Bi-Sb alloy film, elec. props. (*Russian*) 9-11245
 Bi-Sb mixed cryst., zone melting crystn. parameters (*German*) 9-43140
 $\text{Bi}_{1-x}\text{Sb}_x$, crystalline, vibrational, spectra, second order Raman scattering 9-47455
 $\text{n-Bi}_{1-x}\text{Sb}_x$, determ. carrier dispersion relation parameters 9-38107
 $\text{Bi}_{1-x}\text{Sb}_x$ epitaxial layers, effect of film thickness on elec. props. (*Russian*) 9-11244
 $\text{Bi}_{1-x}\text{Sb}_x$ epitaxial thin films, galvanomag. props. in semimetal and semicond. regions 9-11254
 $\text{Bi}_{1-x}\text{Sb}_x$, thin film, elec. props., composition variations (*Russian*) 9-7841
 $\text{Bi}_{1-x}\text{Sb}_x$ thin films, elec. props., 4.2-300K (*Russian*) 9-24087
 Cu-Bi (0.0115 wt.%), embrittled, grain boundary faceting, TEM study 9-27998
 In-Bi (2-33.3 at.%), phase diagram DTA, X-ray diffr. and supercond. T_c meas. 9-38795
 In_2Bi , press.-induced supercond. phase transform. 9-24099
 Mn-Bi film, amorphous, form. and crystn. 9-28923
 MnBi film, hologram form. at 2.76 μm , using $\text{CaF}_2\text{:Er}^{3+}$ crystal laser 9-10270
 MnBi , thin film, fine mag. domains, SEM obs. 9-24202
 MnBi , thin film, struct. and mag. props. 9-47315
 Mo-Bi amorphous films, supercond. transition temp. and residual elec. resist. (*Russian*) 9-19680
 Pb-Bi , elastic moduli, internal friction from US velocity meas. 9-15717
 Pb-Bi , supercond. tunnelling, effect of phase composition and press. 9-15261

bismuth alloys continued

- Pb-Bi amorphous films, supercond. transition temp. and residual elec. resist. (*Russian*) 9-19680
 $\text{Pb}_{0.9}\text{Bi}_{0.1}$, strong-coupled superconductor, quasiparticle recombination time 9-15259
 Se-Bi , liquid alloys, vapour phase effect on activity determ. (*German*) 9-43210
 Sn-Bi dilute alloys, thermo EMF (*Russian*) 9-33285
 Ti-Bi , eutectoid decomposition 9-24491
 Ti-Sn-Bi , liquid alloy, thermodynamic props. (*Russian*) 9-10968

bismuth compounds

see also *bismuth alloys*

- oxides, antiferroelec. and ferroelec., pyrochlore struct., struct. and dielec. props. 9-38488
 $[\text{Bi}_6\text{O}_5(\text{OH})_3](\text{NO}_3)_5 \cdot 3\text{H}_2\text{O}$, cryst. struct. determ. and refinement, X-ray anal. 9-7586
 AsTeBi_2 , chalcogenide glass, thin film crystallisation 9-7758
 $\text{Bi-Bi}_{0.5}\text{Sb}_{1.5}\text{Te}$ system, stratified medium with artificial anisotropy, transverse cooling effect 9-28364
 BiBr , empirical pot. energy curves for $\text{A}^3\pi(0^+)$ and $\text{X}^2\Sigma^-(0^+)$ states 9-22617
 BiCl_3 , nuclear electric hexadecapole interactions of ^{209}Bi 9-1722
 $\text{Bi}_2\text{Cl}_2\text{S}_5$, X-ray single cryst. struct. determ. 9-19199
 BiF , fine-structure in $\text{C}_1\text{-X}$ and $\text{C}_2\text{-X}$ systems 9-810
 BiF_3 thin films, optical props. 9-32005
 $\text{Bi}_{1-x}\text{Ge}_x\text{O}_{20}$, Czochralski single crystal growth 9-1823
 $\text{Bi}_{1-x}\text{Ge}_x\text{O}_{20}$, electromech. props. 9-38455
 $\text{Bi}_{1-x}\text{Ge}_x\text{O}_{20}$, electron beam recording 9-32075
 $\text{Bi}_{1-x}\text{Ge}_x\text{O}_{20}$, optical phonon freq. in vicinity of Brillouin zone, linear wave-vector depend. 9-19892
 $\text{Bi}_{1-x}\text{Ge}_x\text{O}_{20}$, reflectivity spectrum and band struct. 9-47474
 $[\text{Bi}_6(\text{H}_2\text{O})_4(\text{NO}_3)_4(\text{OH})_4](\text{NO}_3)_3$, X-ray cryst. struct. determ. and refinement 9-32958
 BiI_3 , photoacoustic spectroscopy 9-42992
 Bi_2O_3 additions in $\text{Fe}_2\text{O}_3\text{-BaO-CoO}$ system, effect on phase comp. and mag. props. 9-29032
 Bi_2O_3 anodic film form. on Bi, electric breakdown 9-20377
 Bi_2O_3 , elec. props. of α , β , γ and δ phases 9-23771
 Bi_2O_3 layer thermally grown on Bi film, thickness meas. by capacitance method 9-1554
 Bi_2O_3 , oxide film on polycrystalline Bi, exam. of oxide film growth rate using XPS (*German*) 9-11041
 Bi_2O_3 , powder diffr. patterns and struct. 9-27961
 Bi_2O_3 , thin film, oxidation of Bi rel. to X-ray diffraction (*Japanese*) 9-29273
 $\text{Bi}_2\text{O}_3\text{-BaO}$, ion cond. and oxide ion vacancy 9-28139
 $\text{Bi}_2\text{O}_3\text{-M}_2\text{O}_3(\text{M}_2\text{O}_3)$ (where $\text{M}=\text{V, Nb, Ta, Y, Gd}$) ion cond. and oxide ion vacancy 9-28139
 $\text{Bi}_2\text{O}_3\text{-MoO}_3$, ion cond. and oxide ion vacancy 9-28139
 $\text{Bi}_2\text{O}_3\text{-SiO}_2$, general features of reaction 9-11819
 $\text{Bi}_2\text{O}_3\text{-SrO}$, ion cond. and oxide ion vacancy 9-28139
 $\text{Bi}_2\text{O}_3\text{-WO}_3$, ion cond. and oxide ion vacancy 9-28139
 $\alpha\text{-Bi}_2\text{O}_3+\text{KCl}$, quantitative anal. of multicomponent powders, full-profile refinement of Guinier-Hagg X-ray film data 9-39249
 BiOCl , nuclear electric hexadecapole interactions of ^{209}Bi 9-1722
 $3\text{Bi}_2\text{O}_3\cdot 5\text{B}_2\text{O}_3$, viscosity, molar volume of melt and enthalpy of fusion 9-10924
 $\text{Bi}_{1-x}\text{Sb}_x$, elec. resist., 1.8 to 77K, electron-phonon scatt. mechanism 9-15144
 $\text{Bi}_{1-x}\text{Sb}_x$, semicond., photoconductivity (*Russian*) 9-7857
 $\text{Bi}_{1-x}\text{Sb}_{1-x}\text{Te}_3$ film, effect of struct. on thermal cond. 9-28257
 $\text{n-(Bi}_{1-x}\text{Sb}_x)_2\text{Te}_3$, magneto-Seebeck and Shubnikov-de Haas effect 9-42568
 $\text{Bi}_{18}\text{Sb}_2\text{Te}_{10.05}$, helicon dispersion, effect of slope of electron ellipsoids 9-28365
 BiSeI film, growth, effect of artificial nucleation centres 9-11032
 $\text{Bi}_{1-x}\text{SiO}_{20}$ crystal, for programmable optical guided-wave device 9-23069
 $\text{Bi}_{1-x}\text{SiO}_{20}$ crystals, phase-conjugate wavefront generation via real-time holography 9-27213
 $\text{Bi}_{1-x}\text{SiO}_{20}$, film and single cryst., optical absorpt. edge and optical transitions 9-33730
 $\text{Bi}_{1-x}\text{SiO}_{20}$, image recording possibility 9-27432
 $\text{Bi}_{1-x}\text{SiO}_{20}$ in insulator-semicond.-insulator struct., induced birefr., influence of kinetics of transient processes 9-24294
 $\text{Bi}_{1-x}\text{SiO}_{20}$, optical information recording, PROM device resolution 9-41443
 $\text{Bi}_{1-x}\text{SiO}_{20}$, pulling large crystals 9-11507
 $\text{Bi}_{1-x}\text{SiO}_{20}$ surface and pseudosurface wave props. 9-46908
 $\text{Bi}_2\text{SiO}_{12}$, culytine, change in band structure on transition to amorphous state 9-15081
 $\text{Bi}_2(\text{Te,S})_3$, thin crystal, min. metallic conductivity 9-1610
 $\text{n-Bi}_2(\text{Te,S})_3$ semiconducting solid solns., plastic deform. during hot extrusion 9-20143
 BiTe , X-ray powder cryst. struct. determ. and refinement 9-19203
 Bi_2Te_3 film, effect of struct. on thermal cond. 9-28257
 Bi_2Te_3 , layered semiconductor, angle resolved photoemission 9-28893
 $\text{Bi}_2\text{Te}_3\text{-Sb}_2\text{Te}_3$, $\text{Bi:Sb}=1:2$, 2:1, solid soln. deviation from stoichiometric cross section 9-43221
 $\text{Bi}_2\text{Te}_3\text{-Sb}_2\text{Te}_3$, plastically deformed by hot extrusion, diffusion meas. using micro-X-ray spectrum anal. 9-14954
 $\text{Bi}_2\text{Te}_3\text{-Sb}_2\text{Te}_3$ composite billet, diffusion during plastic deformation (*Russian*) 9-23767
 $\text{p-Bi}_2\text{Te}_3\text{-Sb}_2\text{Te}_3$ semiconducting solid solns., plastic deform. during hot extrusion 9-20143
 Bi_4Te_3 , X-ray powder cryst. struct. determ. and refinement 9-19203
 BiTe crystals, eutectic decomp. in transmission electron microscope 9-20024
 BiTe , elec. props., crystals grown from melt in excess iodine 9-4907
 BiTe-SbTeI , solid solns., phase diagrams, photocond., elec. props. 9-38125
 $\text{Bi}_2\text{Te}_{2.8}\text{Se}_{0.12}$, solid soln., single cryst. growth and doping, thermoelec. efficiency and Hall coeff. 9-33921
 $\text{Bi}_2\text{Ti}_2\text{Fe}_2\text{O}_{17}$, combined hyperfine interaction 9-28663
 BiTiO_3 , ferroelec., repolarisation in SEM 9-15424
 $\text{Bi}_2\text{TiO}_5\text{F}_2$, one-layer perovskite-like ferroelec., dielec. study 9-38486
 $\text{Bi}_2\text{W}_2\text{O}_9$, layered struct., 1 MV high-resolution electron microscopy obs. 9-27955
 $\text{Bi}_2\text{W}_2\text{O}_9$, struct., dielec. props., melting character and thermal stability 9-23572

bismuth compounds continued

- $\text{Ca}_2\text{Bi}_{1-2}\text{V}_x\text{Fe}_{3-x}\text{O}_{12}$ ferrogarnet, magnetis. distrib., correl. with morphological habit 9-42802
 $\text{CsBi}(\text{MoO}_4)_2$, low temp. phase transition, permittivity meas. 9-28698
 Ge-Pb-Bi-O glass, photoelasticity, glass transition limits 9-33670
 $\text{LiBi}(\text{MoO}_4)_2$, acoustooptic characteristics 9-8118
 $(\text{Pb}_{1-x}\text{Bi}_x)_2\text{Ge}_2\text{O}_{11}$, spontaneous and induced electrogyration 9-42946
 $\text{PbBi}_2\text{Nb}_2\text{O}_9$ ceramic, grain oriented, dielectric and piezoelectric props. 9-42896
 $\text{PbBi}_2\text{Nb}_2\text{O}_9$, hot-forged ferroelec. ceramic with layer struct. 9-43175
 $\text{PbBi}_4\text{Ti}_4\text{O}_{15}$, hot-forged ferroelec. ceramic with layer struct. 9-43175
 $\text{Pb}_2\text{Bi}_4\text{Ti}_4\text{O}_{13}$, hot-forged ferroelec. ceramic with layer struct. 9-43175
 $\text{Sb}_{1-x}\text{Bi}_x\text{Si}$, mixed cryst., ferroelec. phase transition 9-33629
 SbSi-BiSi , solid solns., phase diagrams, photocond., elec. props. 9-38125
 $\text{SrTiO}_3\text{-Bi}_2\text{Ti}_2\text{O}_7\text{-CaTiO}_3$ system, solid solns., elec., optical props. 9-11375
 $\text{Y}_{1.6}\text{Bi}_{1.0}\text{Ca}_{0.4}\text{Fe}_{0.4}\text{In}_{0.4}\text{V}_{0.2}\text{O}_{12}$, cation distrib. 9-19211
 $\text{Y}_{1.4}\text{Gd}_{0.6}\text{BiFe}_3\text{Ga}_2\text{O}_{12}$ film, bistable bubble domains, static, dynamic and optical props. 9-28574
 $(\text{YGdYbBi})_2(\text{FeAl})_2\text{O}_{12}$ films, substrate orientation influence on max. vel. of domain boundaries 9-15330
 $\text{ZnO-Bi}_2\text{O}_3$ ceramic semiconductor, injection currents 9-11141

bistable multivibrators see flip-flops

bitter patterns see magnetic domains

bitumen see materials

BL Lacertae-type objects

- 2A 1219+305, high latit. X-ray source identification with BL Lacertae object 9-48960
 absorption spectra origin, intervening galaxy hypothesis 9-5894
 AO 0235+164, radio polarisation, evidence for rot. in variable radiosource 9-48917
 AO 0235+164, relativistic blast-wave model for rapid flux vars. 9-9017
 AO 0235+164, search for X-ray emission 9-17106
 AO 0235+164, UBVI photographic magnitude obs. during flare 9-25724
 B2 1101+38 (Markarian 421=2A 1102+384), soft X-ray flux discovery 9-25721
 B2 1308+326, photometry and polarization during 1978 outburst 9-25718
 blue stellar objects, from MC2 and MC3 catalogue, polarisation obs., BL Lacertae objects 9-48918
 BL Lacertae, polarisation and flux density data, prolonged particle generation at single location 9-35376
 AP Librae, polarisation at 2.2 μm , nonthermal emission 9-2566
 Markarian 421, optical and radio obs., identification with 2A 1102+384 X-ray source 9-5899
 Markarian 421 and 501, X-ray obs. in 2-60 keV band 9-17094
 Markarian 501, identification with 4U 1651+39 by HEAO 1 modulation collimator 9-5918
 OJ 287, colour variability during flare-ups 9-9021
 Penrose pair production as power source 9-44352
 PKS 0548-322 (H0548-32), X-ray obs. in 2-60 keV band 9-17094
 PKS 0735+178, low absorption line redshift object, search for nearby faint galaxies 9-17121
 PKS 0735+178 spectrum, multiple components in $z=0.424$ absorpt. system 9-25707
 polarisation at cm., mm., IR and visual wavelengths 9-5913
 X-ray emitting BL Lacertae objects, location by HEAO 1 scanning modulation collimator expt. 9-48921

black holes

see also gravitational collapse

- Abelian Higgs and Goldstone models, no-hair theorems for black holes 9-17016
 accreting massive black holes, energy source and time variation of quasars and Seyfert galaxies 9-40214
 accretion disc, selfgravitating, model 9-25466
 black holes, reversible and irreversible transforms in Torimatsu Sato space times 9-2554
 Bogoliubov transformations, propagators, and the Hawking effect 9-2698
 charged, evolution of scalar perturbations near Cauchy horizon 9-35608
 charged, rotating, mag. trapping equilib. conditions 9-48845
 charged particle motion in an electromagnetic field on Kerr background geometry 9-9167
 charged particle trajectories in static Ernst space-time 9-17291
 charged rotating black hole, mag. torque effects 9-17010
 collapsing magnetized rotating spheroid, mag. dipole radiation 9-35106
 coloured cosmological black holes, soln. of Einstein-Yang-Mills system 9-12492
 compact X-ray sources, time-depend. spherically symmetric accretion 9-21462
 conformal invariance in general relativity, black hole nonexistence 9-25929
 conservation equations and the gravitational symplectic form 9-2679
 cosmic censorship, black holes, and particle orbits 9-44802
 cosmic exploration by X-rays, 1978 Bakerian lecture 9-48964
 counter-rotating relativistic disks 9-16822
 decoupling of fields from escaping sources in a de Sitter universe 9-12698
 definition 9-2555
 degenerate accretion disc model 9-25467
 dense stellar systems, collapse to massive black hole 9-25652
 Derrick's theorem in curved space 9-12658
 disc accretion onto magnetised compact objects, theory (Russian) 9-44467
 dissipative test EM fields in black hole background 9-25627
 early speculation by John Michell (1770s) 9-44691
 Einstein-Yang-Mills pseudoparticles and electric charge quantization of dyon black hole 9-12703
 EM energy extraction through charged tachyons 9-17013
 ergoregion instability of rotating stars, eigenfrequency calc. 9-8835
 ergosphere instability to scalar and EM perturbations 9-12489
 evaporation, Higgs particles producing Hawking particles 9-2553
 formation, entropy, temperature and radiation, review (Norwegian) 9-40211
 formation, gravothermal catastrophe of finite amplitude 9-2476
 formation by collapsing cloud of quantal particles 9-2552
 formation following stellar collapse and explosion, massive star core hydrodynamics 9-16995
 in galactic nucleus, recurrent outbursts explained 9-21423
 gamma rays from accretion onto rotating holes 9-48841
 gamma-ray bursts from primordial black holes 9-30085

black holes continued

- general relativistic plasma MHD conservation laws, black hole rot. energy 9-2685
 in globular clusters, close binary systems rel. to black hole form. 9-44530
 gravitation, charges, cosmology and coherence, elementary particles and Dirac large numbers 9-247
 gravitational field, existence outside black holes 9-9158
 GX 339-4, black hole candidate 9-48962
 Hawking radiation of scalar and Dirac quanta from a Kerr black hole 9-30334
 HD 152667=OAO 1653-40, black hole candidate 9-17021
 HD 152 667 companion 9-48848
 HD 72 754 companion 9-48848
 hydrodynamic evaporation (Russian) 9-48846
 interactions, gravitational wave emission 9-125
 Kerr black hole, gravitational perturbations 9-44819
 Kerr black hole, massive fermion superradiance 9-25948
 Kerr hole, elec. and mag. cond. 9-25625
 Kerr metric, null trajectories 9-25925
 Kerr naked singularities, accretion disks 9-30084
 Kerr source, energy extraction by tachyon injection 9-48844
 Kron 3, globular cluster, identification with 4U 0026-73 rel. to central black hole 9-5919
 linearized Einstein theory, twistors, plane fronted impulse wave backgrounds 9-30329
 massive black holes, existence in galaxies nuclei and quasars 9-25713
 massive extreme Kerr black holes, Penrose pair production 9-21322
 massive particle finite motion in Kerr and Schwarzschild fields (Russian) 9-8833
 massless scalar field in a de Sitter universe and its thermal flux 9-127
 massless Thirring model is curved space, black holes, thermal states, conformal anomaly 9-26221
 materials motion around a source whose luminosity changes 9-12394
 maximos, maximon swarm hypothesis (Russian) 9-48847
 MHD processes near compact superdense objects 9-40206
 multiply-connected space-time, black holes and tachyons 9-30315
 naked singularities in Kerr metric, relationship to black hole 9-21600
 naked singularity in scalar-tensor gravit. theory 9-8826
 Newman-Penrose formalism and its application in general relativity, review (Russian) 9-21595
 null surface quantization and quantum field theory in asymptotically flat space-time (German) 9-25959
 parity nonconservation and rotating black holes 9-12491
 particle creation due to Casimir effect 9-35607
 particle creations in the pseudoparticle gravitational fields 9-2704
 particle emission in the de Sitter universe for massless fields with spin 9-40434
 Penrose pair production in massive Kerr black hole, power source for active nuclei 9-44352
 plane EM wave diffraction by spherical gravit. lens, Poynting vector calc. 9-25945
 primordial, search for radio pulses 9-25626
 primordial black holes, self-similar growth for general sound speed case 9-5856
 primordial black holes and big bang nucleosynthesis (Russian) 9-17151
 primordial black holes evaporation, cosmological implications 9-21325
 primordial black holes explosions, limits on microsecond cosmic radio bursts 9-17119
 primordial black holes formation, hydrodynamics 9-21324
 primordial low mass black holes, effect on H recomb. kinetics (Russian) 9-17152
 properties and possible existence, review 9-48842
 quantum evaporation, vacuum definition in external grav. field 9-21642
 quantum evaporation in projective relativity 9-17014
 quantum gravity and path integrals, supersymmetric theory, virtual Planck-mass black holes 9-2706
 quantum linearization instabilities 9-44835
 radiant energy from hot black holes (Norwegian) 9-40212
 radiation accretion by primordial black holes in the early Universe 9-44519
 Reissner-Nordstrom, scalar perturbations inside the event horizon 9-2556
 Reissner-Nordstrom black hole, perturbation treatment using Newman-Penrose formalism 9-44820
 Reissner-Nordstrom-de Sitter metric, the third law, and cosmic censorship 9-35609
 rotating, gravit. waves emitted by particles in circular orbits 9-17009
 rotating black hole formation by dust cloud gravitational collapse 9-2557
 Schwarzschild, elastic scatt. and absorption of waves 9-5857
 Schwarzschild black hole, $\gamma>5/3$ gas accretion 9-17011
 Schwarzschild black hole, absorpt. and emission spectra, computational methods, cross sections 9-2558
 Schwarzschild space-time, electrostatics, electric fields and black holes (French) 9-40432
 V861 Scorpii=OAO 1653-40, black hold candidate 9-17021
 V861 Scorpii, IR obs. of black hole candidate 9-44538
 self-similar relativistic disks in rotation 9-16823
 singularities in general relativity theory 9-35591
 spherically accreting, radiation near Eddington limit 9-48843
 star clusters containing massive central black holes, Monte Carlo simulations 9-8955
 static plasma polarisation in Schwarzschild gravitation field (Russian) 9-16825
 stationary accretion disc, numerical anal. of struct. 9-17015
 stellar collapse and the black hole limit from a dynamical view 9-30081
 stellar collisions near Kerr black hole, compact extragalactic source model 9-12490
 stellar distrib. around black hole in cluster, Fokker-Planck eqn. 9-21364
 stellar flares caused by tidal action (Russian) 9-30086
 Sun possible companion, mass, vel., and luminosity 9-2490
 superluminal frames and tachyons, introductory view, book contrib. 9-44719
 supermassive, rel. to galactic nuclei and quasars energy source 9-40213
 tachyon detection 9-17012
 tachyons interaction with gravity, rel. to cosmology and black holes 9-25839
 Terzan 2, globular cluster, identification with XB 1724-31 rel. to central black hole 9-5919
 test particle motion in crossing Schwarzschild surface, book contrib. 9-44816
 ultrarelativistic black-hole encounters 9-30330

black holes continued

- variable quasars and active galactic nuclei, strong gravity effect on light curve 9-16812
- variable rest masses, black hole solutions and neutron star models 9-30162
- white holes, optical appearance 9-21323
- X-ray sources of galactic bulge, highly compact binary model 9-35430

blast waves *see shock waves***Bloch walls** *see magnetic domain walls***Blood**

see also haemodynamics

- alcohol determ., spectrophotometric method (*German*) 9-5415
- angiographic images, simulated, blood vessel detection, evaluation of observer performance 9-5357
- aorta, dog, simulation via adaptive model 9-11964
- arterial O₂ partial pressure, chronic reduction, effect on radiation response of tumour in mice 9-16252
- artificial liver support, protein-bound metabolite adsorbent equilibrium props. 9-20709
- artificial liver support, protein-bound substance removal kinetics 9-20710
- bone marrow colony-forming units in beagles, response to whole-body γ irradiat. 9-25043
- bone tumours, human, scintigraphic assessment of ^{99m}Tc-diphosphonate 9-20613
- bubble detection in decompression sickness, US imaging method 9-8527
- cardiac pool, dynamic radio-isotopic images, time-motion display 9-5347
- cell freeze conservation control unit (*German*) 9-5410
- cell separation, local conc. gradient determ. by conductivity meas. (*German*) 9-5411
- cells, computerised spectral meas. 9-25058
- chromosome aberrations of peripheral lymphocytes in rabbits exposed to whole body X-irradiation 9-43834
- coagulation, effect of polyurethane morphology 9-39610
- corpse settling rate automatic fast meas. (*German*) 9-5413
- cryocaulator for uterine contraction promotion and bleeding suppression 9-39591
- cytochemical leucocyte differentiation and radioimmune assay (*German*) 9-5412
- damage by artificial part-hearts and pumps, dwell minimisation model (*German*) 9-16345
- decompression studies using ultrasonic imaging of bubbles 9-11988
- disturbed cell renewal control system modelling and simulation 9-29510
- droplet deformation in Couette flow suspension, expt. (*German*) 9-16227
- erythrocyte, surface area and vol. calcs. from scanning electron micrographs 9-5259
- erythrocyte count and haemoglobin determ. by mobile miniphotometer (*German*) 9-5416
- erythrocyte membrane, pulse NMR meas. of water exchange 9-43826
- erythrocyte membrane, viscoelastic props., theoretical and expt. studies 9-16157
- erythrocyte membrane hydraulic cond. determ. 9-34528
- erythrocyte suspensions, human, HCO₃⁻, Cl⁻ exchange 9-8487
- erythrocytes, gas reactions, shape changes microspectrophotometry obs. 9-8488
- erythrocytes, motion and deform. in the microcirculation 9-29513
- erythrocytes, rat, ^{99m}Tc labelled, factors affecting splenic deposition of heat damaged cells 9-29596
- erythropoietic differences in mice after whole-body irradiation 9-25045
- ferric haemoglobin, EPR studies before and after irradiation 9-29503
- flow model, hydrodynamic study with blood simulant 9-25023
- gas analysis data processing system (*German*) 9-5419
- gas and acid-base calculations, electronic data computing 9-25139
- gas bubble motion, behaviour 9-10605
- gas catheters, flow-dependent, in vivo calibration 9-16330
- gases, meas. of O₂ and CO₂ concs. using P electrodes 9-20725
- granulocytes, human, spatial trajectories in isotropic medium 9-34523
- haematological findings significance for medical exam. of radiation employee (*Japanese*) 9-11971
- haeme-liganded sickle cell haemoglobin, spin label detection of intermolecular interactions 9-16122
- haemocoagulometer 9-39541
- haemofiltration control system (*German*) 9-5403
- haemofiltration experiments and application limits (*German*) 9-5402
- haemofiltration treatment, chronically intermittent, principles and results (*German*) 9-5404
- haemoglobin, conformational change, relation with CO binding 9-8473
- haemoglobin in solution, conc. depend. of diffusion coeff. 9-29546
- haemoperfusion, large agarose beads, prep., props. and appls. 9-16349
- IC pressure meter using pressure transducer, microprocessor controlled 9-35709
- indicator dye microconcentration meas. instrument 9-39565
- intra-osseous circulation, human and animal, investigation method (*French*) 9-34593
- leucocytes, differential counts, comparison between light and electron microscopic results 9-5429
- liver support, artificial, detoxifying enzymes bound to artificial carriers, extracorporeal application 9-25160
- lung tissue simulation, O₂ exchange in silicon rubber capillaries 9-44060
- lymphocytes, chromosome aberrations rel. to radiation dose, A-bomb survivors 9-43835
- lymphocytes, human, chromosome aberrations induced by ²⁵²Cf neutron radiation 9-16169
- magnetic relax. time of H₂O protons 9-11898
- membrane oxygenator, CO₂ transfer 9-25154
- membrane oxygenator effectiveness 9-48365
- microfilter materials and designs 9-48352
- nuclear-dockyard workers, radiation-induced chromosome aberrations 9-34606
- oximeter, noninvasive tissue reflectance, development and evaluation 9-20703
- oxygenator, bubble, blood damage test standardisation (*German*) 9-2158
- oxygenator, capillary membrane, semiautomatic fabrication 9-20711
- oxygenator, membrane envelope type, capacity improvement (*German*) 9-2157
- oxygenator gas transfer performance test standardisation (*German*) 9-2159
- placenta, human, rational modelling 9-11962
- plasma, vol. meas. in man using ^{99m}Tc, ¹³¹I labeled serum albumin 9-29602

blood continued

- platelet aggregation studies using TEXAC whole picture analysis 9-25133
- platelet diffusivity estimation in flowing blood 9-25010
- Poiseuille flow viscosity of a couple stress fluid 9-25011
- polymer modification and blood compatibility 9-39609
- pressure, industrial noise effects on man, cardiovascular disease risk factors 9-5321
- pressure control system dynamic behaviour identification 9-2097
- pulse diffusion in densely distributed scatterers, whole blood 9-3632
- purification methods and portable kidney machines (*German*) 9-5405
- radiopharmaceuticals, γ -emitting, in rat blood, continuous monitoring technique 9-2129
- red cell Ca pump, ATP regulation 9-29511
- red cell effect on blood flow velocity profiles in small tubes 9-25014
- red cell membrane protein monolayers, viscoelastic props. 9-48224
- red cells, human, frozen section prep. for electron probe anal., fracturing or cutting 9-39625
- renograms, single injection technique for subtraction of blood background 9-29581
- stored blood, microaggregation direct meas., effects of micro-filtration (*German*) 9-2168
- suppressor cells, non-specific, appearance after local irradiation of breast carcinoma 9-20597
- thrombi, induced, for drug assessment system 9-44017
- thrombogenicity of radiation grafted polymers, meas. by vena cava ring test 9-44062
- thrombosis, deep-vein, comparative imaging of ¹¹¹In platelets and ¹³¹I fibrinogen 9-29607
- thrombus formation, effect of contacting polymer surface roughness 9-48369
- tissue of new, proton spin-lattice relax. time study, blood, liver and tail samples 9-20515
- toxicity studies, TOXIPAC-300 data processing system (*Japanese*) 9-25172
- US backscattering, determ. of variation with haematocrit 9-43970
- vascular occlusion, effect on thermal sensitization and X-irradiation of mouse tumour 9-16253
- vascular system, haemorheology and two-phase flow (*French*) 9-34586
- venous thrombosis, deep, detection by ¹²⁵I fibrinogen testing 9-16282
- white blood cell images boundary finding 9-12021
- Ca²⁺, concs. in rat, technique for continuous vivo meas. (*German*) 9-39533
- Cd determ. in whole blood by atomic absorpt. spectroscopy 9-44071
- ¹⁴⁴Ce, intravenous injection, wound site absorption, comparison of metabolic behaviours in rats 9-8545
- K⁺, concs. in rat, technique for continuous vivo meas. (*German*) 9-39533
- O₂ affinity variability, automated meas. method 9-39544
- ^{99m}Tc-labelled red blood cells, kit preparations 9-11999

blood circulation *see haemodynamics***blood dynamics** *see haemodynamics***blood flow** *see haemodynamics***blood platelets** *see blood***blue brittleness** *see brittleness***boilers**

- Creys-Malville station, nuclear boiler studies and construction, Super Phenix 1 (*French*) 9-36301
- EBR-II steam generator tube bore side inspection probe and drive 9-9850
- fluidised bed, energy conversion, Conf., San Diego, CA, USA (Aug 1978) 9-48038
- Incoloy 800, design problems in steam generators of high temp. reactors 9-45352
- LMFBR steam generator tube thermal oscillation obs. 9-9672
- LMFBR steam generators, leak detection of steam or water into sodium 9-13434
- LMFBR steam generators, reliability considerations 9-22437
- nuclear power plant steam generator reliability, Canadian practice 9-22451
- Palisades Plant steam generator operation rel. to water chemistry 9-9854
- PWHR, forced circulation steam generator selection criteria (*Rumanian*) 9-3232
- PWR, forced circulation steam generator selection criteria (*Rumanian*) 9-3232
- PWR, German, U-tube steam generators, inspection findings 9-9849
- PWR, heat transfer equations for boiler tubes (*Rumanian*) 9-3189
- PWR, steam generators, design, subcooled and bulk boiling corrls. 9-611
- PWR boiler tubes, corrosion risk reduction methods 9-39045
- PWR occupational radiation exposure reduction techniques 9-9901
- PWR steam generator eddy-current inspection results 9-9855
- PWR steam generator tubing, corrosion problems 9-24683
- steam generating tube, with ribbon like dry-out patch, temp. distrib. calcs. 9-1085
- steam generator, heat transfer, surface ash and internal pipe deposit resistance calcs. 9-1089
- steam generators, steady 2-dimens. two-phase flow and heat transfer calc. 9-1237
- Super Phenix reactor vessel research and development (*French*) 9-30947
- thermionic topped steam power plant, conceptual design 9-48156
- Turkey Point nuclear power plant operation, steam generator tube denting effects 9-9852
- volumetric steam content determ. by noncontact neutron sensor 9-30904
- volumetric steam content determ. of steam generating channels by slow neutron method 9-30903
- Westinghouse steam generator experience with all volatile treatment 9-9853
- Zion Generating Station steam generator operating experience 9-9851
- Na-cooled fast reactors, tube material corrosion problems 9-36328

boiling

see also boiling point

- annuli with different lengthwise heat flux distrib., boiling crisis 9-1057
- bubbl nucleation in oscill. press. field 9-32216
- bubble growth and condensation in pure and binary systems 9-23191
- bubble growth at superheated horizontal wall, pure liq. and binary mixtures 9-41719
- bubble growth in variable press. fields 9-32215
- channels, transient boiling flow, two-phase two-fluid approach 9-41756
- channels with boiling and flow parallel to rod bundles, press. drop 9-1059

boiling continued

- convective, of refrigerants in horiz. tube, statistical anal. of heat transfer data 9-7283
- convective flow, forced, transition boiling boundaries meas. 9-27499
- critical heat flux, forced convection boiling in vert. annular channel, generalised correlations 9-46171
- critical heat flux prediction in uniformly heated vert. tube, generalised graphical method 9-46313
- cryogenic liquid, critical heat fluxes, effect of cylindrical heater dimensions 9-35756
- density wave oscillation in boiling channels (*Japanese*) 9-14400
- dryout in an SGHWR rod bundle, exptl. and calc. comparison 9-3192
- ethane, pool boiling heat transfer 9-1058
- ethanol, boiling in large enclosure, critical heat flux 9-18685
- ethylene, pool boiling heat transfer 9-1058
- film, instability, during quenching in subcooled water (*French*) 9-46167
- film boiling, hot sphere in subcooled liq. press. excursion of vap. film 9-14231
- film boiling from cylindrical surfaces, organic compounds 9-23194
- film boiling on sphere, in forced convection 9-32211
- flow boiling, critical heat flux, review 9-4074
- fluid bed boilers, temp. profiles 9-32663
- forced convective film boiling, math. model 9-18686
- Freon-11, forced convection boiling heat transfer in vertical annular passage 9-32509
- heated tubes, alternate dry and rewet, flow boiling, obstruction effects 9-1181
- internal boiling and superheating in vaporizing multicomponent droplets 9-3906
- liquid, superheated, gas content effect on boil-up and cooling 9-1061
- liquid metal boiling, mag. field effect on bubble growth 9-32217
- liquid microlayer form. and stability in pool boiling, dry area growth 9-18683
- LMFBR, acoustic anal. from Na boiling tests using THORS bundle 6A 9-31033
- LMFBR, bubble collapse reactivity increases in boiling fuel/steel pools 9-31025
- LMFBR, Na incipient boiling under forced convection in seven pin bundle 9-22401
- LMFBR, transient boiling of Na in 7-pin fuel bundle under loss-of-flow conditions 9-41007
- LMFBR 19-pin simulated fuel assembly, dynamic boiling tests 9-31029
- LMFBR boiling acoustic detection sensitivity, PFR commissioning expts. 9-13452
- LMFBR core disruptive accidents, flow regime obs. in two-phase volume heated boiling pools 9-31014
- LMFBR fuel subassembly, approach for treating two-dimensional coolant boiling 9-31030
- LMFBR Na-cooled 7-rod bundle acoustic and temp. noise obs. 9-13391
- LMFBR subassembly local boiling detection by outlet temp. fluctuation analysis 9-13390
- LMFBR unprotected loss-of-flow accidents, boiling incoherency effects 9-31007
- LMFBR wire-wrapped subassemblies, Na boiling behaviour 9-31031
- LWR, stationary boiling front in liquid film cooling of a vertical heated rod 9-45341
- methane-(ethane)-(N₂), heat transfer in nucleate boiling of liquified gases and binary mixtures (*German*) 9-18687
- modelling by bubbly liquid press. variation 9-1060
- molten metal-reactor coolant interaction, vapour film collapse expts. 9-13474
- nonvolatile liquid, nucleation eqn. in phase space 9-27495
- nuclear reactors, BWR and PWR, boiling mixing studies in water loops 9-26502
- nucleate, superheating, heterogeneous nucleation theory calc. 9-46170
- once-through boiling flow system, density wave instability 9-22367
- phase-change front propagation during reactor transients, appl. to LOCA in PWR 9-631
- pool boiling exptl., computer controlled temp.-controlled operation 9-14238
- pool-boiling and bubbling heat transfer, freely convecting liq. 9-32212
- post-dryout heat transfer, review 9-1094
- PWR, rod bowed to contact departure from nucleate boiling tests in cold-wall thimble cell geometry 9-30892
- rewetting, boiling heat transfer, one-dimens. cond. model 9-598
- rewetting model using generalised boiling curve 9-9675
- steady-state flow boiling curve, meas. using temp. controllers 9-32720
- superheat in heterogeneous nucleation on rough Cu surface 9-37146
- transient superheat on vertical surfaces in subcooled boiling 9-7282
- transition boiling curves from quenching expts., two-dimens. model with axial conduction 9-19360
- transition boiling heat transfer with forced convection, composite test section, steady state method 9-19361
- trifluorotrchloroethane, influence of porous coating of heating surface on rate of heat transfer on boiling (*Russian*) 9-10452
- tube, vert., uniformly heated, forced convection boiling, crit. heat flux 9-27498
- tube wall temperatures of an eccentrically located horizontal tube within a narrow annulus 9-32201
- water, boiling curves, subcooled and forced convective conditions 9-14230
- water, transmittance in laser radiation field, effect of thermal defocusing (*Russian*) 9-1745
- water boiling in annuli under forced convection, boiling noise 9-1062
- wedge, forced-convection film boiling, boundary layer flow 9-46366
- He, nucleate pool boiling, heat flux and press. effect on heat transfer 9-14235
- He, vapour formation and heat transfer in supercond. magnet cooling channels 9-32197
- ⁴He, liq., nucleate boiling crisis in supercond. magnet cooling channels 9-32196
- ⁴He, superfluid, liquid film, subcooled, film boiling Kapitza resistance of Al 9-23794
- ⁴He, superfluid, on electron-hole drops in Ge, threshold phenomena (*Russian*) 9-42462
- N₂, boiling curve, unsteady-state quenching method 9-14232
- N₂, heat transfer during nucleate boiling, heating wall and metallic coating thicknesses depend. 9-32210
- Na boiling acoustic emission burst detection in parasitic noise 9-3214
- Na boiling detection technique tests, FFTF capabilities 9-13395
- Na boiling expts. ref. to fast reactor safety (*Italian*) 9-9764

boiling continued

- Na, incipient boiling in the presence of a mag. field 9-37411
- Na test loop boiling, acoustic detection expts. 9-13487

boiling point

see also *boiling; heat of vapourisation*

- alkali halides, boiling, melting points rel. to mol. wt. 9-46785
- bubble point calc., iteration scheme 9-19359
- polarity parameters correlation with compressibilities at boiling point 9-19305
- sulphonyl compounds, H-bonding by methyl groups, Raman spectra obs. 9-24320

bolometers

- differentiated structure low heat capacity ³He cooled bolometer, performance 9-30544
- far IR polarimeter for balloon astronomy 9-35094
- IR spectrophotometry, device description, noise levels, and spectral and freq. characs. 9-6195
- submillimetric-wave negative-feedback-loop thermistor bolometer 9-44931
- superconducting bolometers, mm wave superconducting devices, present status 9-26119
- superconducting normal electron tunnel elements, interaction with 0.6-40 μ m EM radn., radn. detection appl. (*German*) 9-24103
- Ge, low-temperature bolometer, characs. 9-30561
- Ge surface ion implanted far IR composite bolometers 9-30549
- Ge:Sb, bolometer element, absorpt. spectra, bias depend. 9-30553
- Ni film, for measurement channels of actimetric apparatus of Meteor Earth satellite 9-35828

Boltzmann equation

see also *transport processes*

- anisotropic media transport theory, particle scatt., Boltzmann eqn. 9-26004
- approach to equilibrium for spatially homogeneous solutions 9-26007
- biological system, coherent mode excitations, Bose condensation-like, Frohlich vibr. model, Boltzmann eqn. approach 9-39336
- Boltzmann's theorem 9-40459
- boundary layer effect on transport phenomena in MHD generators, Boltzmann transfer eqn. 9-23463
- counting gas mixtures, calc. of electron transport coeffs. 9-32727
- DC resistivity as functional of generalised dynamical susceptibilities, solid state model 9-28330
- electron backscattering, X-ray prod., transport eqn. soln. 9-38698
- electron probe analysis, spatial distrib. of electrons in homogeneous, isotropic target 9-43687
- electron reflection from solid, elastic secondary electrons 9-43078
- fluid, infinite, non-uniform, validity of Boltzmann integrodifferential eqn. 9-7434
- forward and backward Boltzmann eqns., use in radiation damage calcs. 9-17360
- gas, two dimensional, initial value problem for model Boltzmann eqn. 9-44885
- H-space fluctuations, Boltzmann eqn., master eqn. for drift motion 9-146
- Hilbert asymptotic expansion method for evolution equations in Banach spaces 9-17368
- initial value problems, global soln. 9-44883
- linearised Boltzmann eqn., constructive soln., scalar BGK model eqn. 9-161
- linearised plane Couette flow, rarefied gas with infinite range molecular interactions, asymptotic anal. 9-23340
- many-body distrib. function, dilute system generalised Boltzmann equation 9-30351
- Maxwell models, exact soln. of non-linear Boltzmann eqn. 9-35646
- metal, quasi-one-dimensional, elec. resist. due to electron-electron scatt. 9-4549
- metal anisotropic normal metal, linearised Boltzmann eqn., Hall effect coeffs. 9-1595
- metal film, Hall coeff. and cond. using Boltzmann transport eqn. 9-11240
- metals, elec. cond., band mixing generalisation 9-38060
- metals, nearly-free-electron, holelike Fermi surface, Hall coeff. and magnetoc. tensor 9-4547
- neutron energy deposition calc. using adjoint Boltzmann eqn. 9-6723
- nonlinear, soln. of Cauchy problem 9-40497
- plasma, high-temperature, elec. cond. in uniform mag. field 9-4112
- plasma column, of electrons, transport across mag. field to thermal equilibrium 9-37531
- positive solution for spatially homogeneous situation 9-17369
- relativistic Boltzmann equation 9-17367
- relativistic Boltzmann equation and macroscopic eqns. of conservation 9-17359
- semiconductor, doped photoemission, calc. of escape probability of electrons (*Russian*) 9-24408
- solute transport in a saturated-unsaturated porous medium 9-23362
- solution for electron-LO phonon scatt. in a static elec. field 9-19586
- time-dependent boundary-value problem soln., half-range, orthogonality relations 9-14508
- Al, photoemission spectrum for exploding wire radiator source, Boltzmann eqn. soln. 9-26949
- Au, photoemission spectrum for exploding wire radiator source, Boltzmann eqn. soln. 9-26949
- CO₂-N₂-He laser mixtures, electron swarm parameters, Boltzmann eqn. anal. 9-18396
- Cl₂, electron-attachment rate const., room temp. and 250°C, in Ar(N₂) discharges 9-45841
- Ne discharge, numerical study 9-32838
- Xe, Townsend discharge, electron energy distrib. functions 9-4198

Boltzmann-Vlasov equation see *Vlasov equation*

bond angles

- aluminates, interdepend. between tetrahedral d(T-O) bond lengths, non-bonded d(T...T) separations and TOT angles (T=Al,Si,P), using regression anal. 9-19182
- bromochlorofluoromethane, struct., vibr. amplitudes, gas phase electron diff. obs. 9-31690
- 4-bromophenoxyacetyl-4-ethylbenzene, single crystal, X-ray struct. determ. 9-1426
- cyclopentadienyl cobalt dicarbonyl, mol. struct., gas phase electron diff. obs. 9-31688
- 2,5-diamino-1,4-benzoquinone, interpretation of bond lengths and angles 9-13836
- 2,5-dihydroxy-1,4-benzoquinones, interpretation of bond lengths and angles 9-13836

bond angles continued

- furan-2-aldehyde, mol. struct., electron diffr. and IR spectroscopic examination 9-10106
 model of bond geometry, lone pair stereoactivity 9-45649
 phenols, ^{13}C and D substituted, microwave spectra, substitution struct. and absolute dipole moment 9-31511
 phosphates, interdepend. between tetrahedral d(T-O) bond lengths, nonbonded d(T...T) separations and TOT angles (T=Al,Si,P), using regression anal. 9-19182
 polymer, deformation of interatomic bonds, IR spectral meas. 9-38918
 potassium oxalate monohydrate, cryst., O-H bond lengths, H-O-H angles, corrections 9-32945
 silica, and silicate minerals, interdepend. between tetrahedral d(T-O) bond lengths, nonbonded d(T...T) separations and TOT angles (T=Al,Si,P), using regression anal. 9-19182
 trifluoromethyl sulphonyl chloride, mol. struct., electron diffr. obs. 9-7016
 vinylfluoride, gas phase electron diffr. and microwave spectra, rot. const., struct., isotope shifts 9-31686
 Ba(ClO₃)₂·H₂O, cryst., O-H bond lengths, H-O-H angles, corrections 9-32945
 BeO₄ tetrahedra, variabilities in interatomic distances and angles 9-46594
 Cs₃O₃, ionic clusters in alkali metal suboxide cryst., struct., vibr. freqs., Raman spectra 9-37772
 DO₂, IR spectra, config. of $^2\text{A}'$ and $^2\text{A}''$ states 9-36636
 H₂O, excited states, pot. energy curves w.r.t. bond ang., one-centre expansion approx. 9-6886
 H₂O, pot. energy surface by MS X α method 9-13656
 H₂O, rot.-vibr. Schrodinger eqn. soln., bond lengths and angles, force const. 9-41151
 H₂O, valence shell electron pair interactions, VSEPR theory test 9-31393
 H₂S, valence shell electron pair interactions, VSEPR theory test 9-31393
 Li+O₂, semiempirical pot. surfaces, dynamical considerations 9-11766
 NH₃, pot. energy surface by MS X α method 9-13656
 Na₃H(SO₄)₂, cryst. struct. refinement, short asymmetrical H bond, S-OH vs. O-H...O correlation 9-37663
 Rb₃O₂, ionic clusters in alkali metal suboxide cryst., struct., vibr. freqs., Raman spectra 9-37772
 SiH₃NCO, geometric struct., ab initio MO calc. 9-13834
 W (100), adsorbed H-induced lattice reconstruction, surface vibr. obs. 9-19445

bond lengths

- alkali metal nitrates, Raman spectra, interionic interactions effect on bond lengths, dissociation energies and vibr. 9-36653
 aluminates, interdepend. between tetrahedral d(T-O) bond lengths, nonbonded d(T...T) separations and TOT angles (T=Al,Si,P), using regression anal. 9-19182
 benzenes, disubstituted, monosubstituted, effect of bonding electrons on molecular dimensions as determ. by X-rays 9-7595
 benzonitrile, excited single state B₁, electron-vibr. spectra and electronic struct. 9-26904
 bromochlorofluoromethane, struct., vibr. amplitudes, gas phase electron diffr. obs. 9-31690
 4-bromophenoxyacetyl-4-ethylbenzene, single crystal, X-ray struct. determ. 9-1426
 t-butyl bromide, bond lengths, nucl. quadrupole coupling, microwave spectrum 9-31512
 chloroperoxidase, ferric form, X-ray absorpt. fine struct., Fe-N and Fe-S lengths 9-48213
 core hole state, anharmonicity in Franck-Condon analysis 9-41186
 cyclopentadienyl cobalt dicarbonyl, mol. struct., gas phase electron diffr. obs. 9-31688
 cytochrome P-450, ferric form, X-ray absorpt. fine struct., Fe-N and Fe-S lengths 9-48213
 diatomic, molecules, interat. distances calc. from zero, second-order energy, modified PCILO method 9-36533
 formic acid, dimerisation energy, non-empirical MO SCF calc. 9-37656
 furan-2-aldehyde, mol. struct., electron diffr. and IR spectroscopic examination 9-10106
 lipid extract from lung surfactant, IR spectra, H-bond lengths 9-24941
 methanediol, bond length distortions and torsion pots., ab initio calcs. 9-6836
 optical fibres, material dispersion 9-27377
 periodic table of diatomic molecules, internuclear separation 9-45859
 phenols, ^{13}C and D substituted, microwave spectra, substitution struct. and absolute dipole moment 9-31511
 phenylacetylene, excited single state B₁, electron-vibr. spectra and electronic struct. 9-26904
 phosphates, interdepend. between tetrahedral d(T-O) bond lengths, nonbonded d(T...T) separations and TOT angles (T=Al,Si,P), using regression anal. 9-19182
 polymer, deformation of interatomic bonds, IR spectral meas. 9-38918
 polymethine coupling effect, long distance bonds between sp² hybridized C atoms 9-13836
 potassium oxalate monohydrate, cryst., O-H bond lengths, H-O-H angles, corrections 9-32945
 resonance Raman spectra intensity distrib. in soln. 9-22763
 silica, and silicate minerals, interdepend. between tetrahedral d(T-O) bond lengths, nonbonded d(T...T) separations and TOT angles (T=Al,Si,P), using regression anal. 9-19182
 TCNQ salt, HMTTF-TCNQ, Madelung energy, intermol. charge transfer, 1-dimens. disorder 9-7572
 tetrakis(trifluoromethyl)germane, gas phase electron diffr. struct., torsional force const., CNDO/2 calc. 9-31687
 trifluoromethyl sulphonyl chloride, mol. struct., electron diffr. obs. 9-7016
 vinylfluoride, gas phase electron diffr. and microwave spectra, rot. const., struct., isotope shifts 9-31686
 Al, chemisorption of H₂, calc. of bond lengths vibr. freq. and activation energy 9-46953
 ArF⁺, selected valence-electron split-shell MO calc., ground state props. 9-22585
 Ba(ClO₃)₂·H₂O, cryst., O-H bond lengths, H-O-H angles, corrections 9-32945
 BeO₄ tetrahedra, variabilities in interatomic distances and angles 9-46594
 BrCN, ICN, and isotopic forms, force field calc., freqs., rot. const. 9-22693
 C₂O₃, liq., mol. conform. and orientation correlation 9-32877

bond lengths continued

- C*O, core hole species at equilibrium, soft X-ray spectra examination 9-41186
 ClCN, and isotopic species, force field calc., freqs., rot. const. 9-22692
 Cs₂, fluoresc. at 6270 Å, rot. const. 9-45744
 Cs₃O₃, ionic clusters in alkali metal suboxide cryst., struct., vibr. freqs., Raman spectra 9-37772
 DO₂, IR spectra, config. of $^2\text{A}'$ and $^2\text{A}''$ states 9-36636
 FCN, and isotopic forms, force field calc., freqs., rot. const. 9-22691
 H bond length and vibr. freq., deuteration effect 9-26911
 H bond two-dimensional model dynamics, vibr. freq. rel. to equil. interatomic distances 9-26910
 H₂, $^3\Sigma_g^+$ state, improved adiabatic energy, dissociation energy 9-10011
 H₂O, pot. energy surface by MS X α method 9-13656
 H₂O, rot.-vibr. Schrodinger eqn. soln., bond lengths and angles, force const. 9-41151
 H₂O₂⁺, aq. soln., IR continua with polarisable H-bonds 9-26979
 KrF⁺, selected valence-electron split-shell MO calc., ground state props. 9-22585
 Li sites, determ. in cryst. structs. using method based on bond-strength calcs. 9-7514
 Mg, chemisorption of H₂, calc. of bond lengths, vibr. freq. and activation energy 9-46953
 NH₃, pot. energy surface by MS X α method 9-13656
 N₂⁺, core hole species at equilibrium, soft X-ray spectra examination 9-41186
 Na, chemisorption of H₂, calc. of bond lengths, vibr. freq. and activation energy 9-46953
 Ni₂ and Ni⁺, lowest electronic states, GVB and POL-CI calcs. 9-31409
 RbCaF₃, cubic to tetragonal phase transition, neutron diffr. obs. 9-23730
 Rb₃O₂, ionic clusters in alkali metal suboxide cryst., struct., vibr. freqs., Raman spectra 9-37772
 SO₃, rotational Raman spectrum, rot. const. and bond lengths 9-18195
 SeO₃, rotational Raman spectrum, rot. const. and bond lengths 9-18196
 V₂Se₂ ($\chi=1.04, 1.13, 1.15$), crystallographic parameters correlation to heats of formation and reduced length 9-27963
 XeF⁺, selected valence-electron split-shell MO calc., ground state props. 9-22585
 XeO, d $^1\Sigma^+ \rightarrow a^1\Sigma^+$ ($b^1\Pi$), green band emission spectroscopic anal., RKR pot. curves, bond lengths and dissociation energies 9-41181

bonds (adhesive) see adhesion**bonds (chemical)**

- see also binding energy; bond angles; bond lengths; crystal binding; hydrogen bonds; intermolecular forces; lattice energy*
 actinide compounds, bond lengths in oxygen and halogen compounds of d and f elements 9-37653
 alkali metal, chemisorpt. on Re surface, bond, valence energy level broadening (French) 9-33176
 alkanes, bonding, optical anisotropy and polarisability 9-22713
 alkenes, bonding, optical anisotropy and polarisability 9-22713
 alternant hydrocarbons, polarisabilities rel. to bond orders using Huckel's method (French) 9-31405
 amorphous thin film on crystalline substrate, computer simulation 9-15045
 anthracene, structural changes induced by UV irradiation (German) 9-42100
 benzene, trifluoromethyl derivatives, first ionis. pots., CF₃ group nature 9-27110
 benzocondensed five-membered heterocycles containing S and O, optical anisotropy, depolarised Rayleigh scatt. obs. (French) 9-31533
 biological and model systems, ion binding, from NMR quadrupole effects 9-39357
 black chrome, electroplated layer, field ion microscopy study 9-28246
 bond order, max. principle rel. to choice of basis orbitals and wavefunctions 9-36498
 bond order orbitals and eigenvalues 9-41088
 4-bromophenoxyacetyl-4-ethylbenzene, single crystal, X-ray struct. determ. 9-1426
 t-butanol and -d₁, deuteration effect on self-assoc., dielectric polariz. meas. 9-28672
 carbonyl frequency correlation of aromatic derivatives with nonaromatic analogues 9-22709
 cellulose acetate fibre and film, stabilisation, post UV-irrad. mech. strength (Russian) 9-24778
 chemisorption, charge-density maps 9-19453
 chemisorption of H on large cluster, bonding energy, HF calc. 9-39204
 chloromethanes, elec. bond moments calcs. (French) 9-36562
 cyanide, on Ag, at electrolyte interface, enhanced Raman effect 9-28767
 determ. of glass phases, phys. props. meas. 9-23526
 diatomic molecule polarity, nucl. charge depend., empirical formula 9-26870
 dimethoxyphenyl-1,1-dicyanomethylene, donor-acceptor systems, fluoresc., through-band interaction 9-13751
 electronic energies, determ. from exptl. electron densities 9-31365
 element+O bond energy, electrostatic contrib. rel. to water-rock partition coeff. 9-44200
 ethenediol, σ conjugative interactions role in rot. isomerism 9-31443
 ethenethiol, σ conjugative interactions role in rot. isomerism 9-31443
 ethenol, σ conjugative interactions role in rot. isomerism 9-31443
 ethylene, benzene, and fluorinated derivatives, photoelectron ang. distrib. of C-C π electrons 9-10146
 fluorides, chem. formulae, advances in preparative chem. 9-47915
 furan, trifluoromethyl derivatives, first ionis. pots., CF₃ group nature 9-27110
 glass systems, electronic props. 9-42495
 graphite nitrate, charge transfer, ionic salt model 9-11780
 halogen compounds, chem. bond, MO LCAO SCF calcs. 9-41104
 halogenonaphthalenes, bond and mol. polarisability, semi-empirical delta-function 9-31441
 heterocyclic molecules, ionisation pot. and heat of form., IOC- ω method 9-31733
 hydrocarbons, CH, bond moments, sense and magnitude 9-45861
 hydrocarbons, nonbenzoid, ionisation pot. and heat of form., IOC- ω method 9-31733
 inert gas compounds, chem. bond, MO LCAO SCF calcs. 9-41104
 inert gas dimer ions, electronic struct., chem. binding 9-31376
 inorganic molecules with polytopic bonds, motion of nuclei 9-41125
 intermetallic diatomic compounds, with multiple bonds, bond energy, VB calcs. 9-31440

bonds (chemical) continued

- intramolecular donor-acceptor systems, fluoresc., through-band interaction 9-13751
- ionic type function $\nu(\text{XH})$, non-monotonic freq. variations, effect on Hammett freq. factors (*French*) 9-22690
- IV-VI compounds, interaction of internal s states 9-10826
- IV-VI compounds, interaction of outer s states 9-10825
- ketones, bonding, optical anisotropy and polarisability 9-22713
- linear momentum operator expectation values calcs. in molecules, for AH and AB bonds (A, B=Li to F) 9-7566
- lone pair stereoreactivity, bond geometry model 9-45649
- rel. to mechanical strength of solids, temp.-time depend. 9-28040
- metal borides and carbides, thermal stability 9-8286
- metal complexes, theory of bonds (*Hungarian*) 9-3340
- metal-ligand bonds, frequencies, predominantly stretching vibrations 9-41154
- metal-rich compounds, pnictides, chalcides and halides, struct. and bonding, review 9-46626
- mica, crystal chemistry, review 9-46612
- MO, LCAO method, chem. bond order, ZDO approx. 9-41102
- molecular ions, negative, polar, thermally stable 9-7033
- molecule near metal surface, proximity effects 9-36797
- myoglobin, O₂ and CO bonds, flash light photolysis (*Hungarian*) 9-29501
- naphthalene, trifluoromethyl derivatives, first ionis. pots., CF₃ group nature 9-27110
- nitromethane, ab initio SCF MO calcs. of geom. and bond energies 9-31381
- nitromethyl anion, ab initio SCF ab initio MO calcs. of geom. and bond energies 9-31381
- orbital regions, density anal. (*French*) 9-9989
- organic compound, substituent π -conjugative effects, ab initio calcs. 9-45633
- organic molecules, bond polarisability, semi-empirical delta-function method 9-31442
- oxides, chem. formulae, advances in preparative chem. 9-47915
- polyatomic molecules, bond polarisability, semi-empirical delta-function method 9-31442
- polycyclic aromatic ring systems, localised MOs and wave functions 9-31398
- polyethylene, filled, linear, struct., strength 9-29149
- polymers, linear, melt crystallisation, intrachain trans double bonds influence 9-14701
- rare earth compounds, bond lengths in oxygen and halogen compounds of d and f elements 9-37653
- refractory metal compounds, electronic structure and chem. bonding 9-27948
- Schottky barrier heights, semi-empirical tight-binding calc. 9-28408
- solid-state theory, introduction, book 9-33215
- superconducting alloy, meas. and interpretation of electron distrib. 9-1572
- TCNQ salts, vibr. and electronic spectra 9-45704
- tetraselenotetracene, electronic structure, conductivity studied by ESCA 9-4889
- tetrathionaphthalene, electronic structure, conductivity studied by ESCA 9-4889
- tetrathiotetracene, electronic structure, conductivity studied by ESCA 9-4889
- transition metal clusters, bonding capabilities, MO calcs. 9-22589
- transition metal compounds, bond lengths in oxygen and halogen compounds of d and f elements 9-37653
- transition metal nitrides, liquid interactions, ab initio LCAO MO SCF calcs. 9-18256
- transition metal pentachlorides, photoelectron spectra 9-821
- transition metal hydrate complexes, struct., bond energies, CNDO calcs. 9-41111
- trifluoroformamide, thermal dissoc., shock wave study 9-34284
- uranyl pentafluoride complexes, normal coordinate anal. 9-22596
- valency concept development, reln. to chemical bonds, teaching approach (*Hungarian*) 9-756
- vinyl fluoride based polymer stabilisers, thermal degradation, post UV-irrad. mech. strength (*Russian*) 9-24778
- wheat germ agglutinin, struct. of binding sites, ligands with heavy atoms 9-24947
- Ag halide bonding LCAO-MO treatment 9-23561
- AgM (M=Mg, Ca, Sr, Ba, Zn, Hg) intermetallic mol., Ar matrix isolated, ESR investig. 9-811
- Ag₂Te, liq., elec. cond. at high temps. and pressures 9-11119
- Al complex of glycine, XPS study of glycine binding 9-41196
- Al-Ga(Sn), ab initio calcs. of partial enthalpy and result for enthalpy of mixing 9-43197
- AmO₂ and AmO₃, electronic struct. and chem. bonding and XPS line shape calcs. 9-33264
- As₂S₃(Se₃) evaporated films, struct. and thermally induced effects 9-41963
- As₂S₃(Se₃) evaporated films, optical absorpt. and thermally induced effects 9-42989
- As₂Se₃, liquid, strong covalent bonding between unlike atoms 9-23514
- B₂H₆ and B₂H₅NH₂, electronic struct. and bonding, comparative calcs. 9-31397
- BH₃CO, vibrational spectra in Ne matrices, pot. const., bond strengths 9-45696
- BeO₂, and anion, dimerisation energy and binding of electron, ab initio calc. 9-45628
- Bi_{1-x}Sb_x, crystalline, vibrational, spectra, second order Raman scattering 9-47455
- BkO₂ and BkO₃, electronic struct. and chem. bonding and XPS line shape calcs. 9-33264
- CS₂, high resolution X-ray emission, valence electron struct. and chemical bonding 9-31545
- CdHg(Mg), Ar matrix absorpt. spectra, vibronic spacing and bonding 9-3453
- Cl-containing molecules, hybridisation, bonding orbitals effects 9-36510
- CrO₂ and CrO₃, electronic struct. and chem. bonding and XPS line shape calcs. 9-33264
- Co complex, with p-amino salicylic acid, X-ray K-absorpt. discontinuity, shape, chem. shifts 9-47545
- Cr₂CO, bond energy and ionization efficiencies from SIMS 9-24400
- Cr₂O-MgO-SiO₂ system, glasses, crystn. prods., composition, props. 9-41961
- Cu complex, (Cu[H₂O]₆)²⁺ in MgSO₄·7H₂O, EPR and optical spectra anal. 9-38377

bonds (chemical) continued

- Cu complex, bis-L-tyrosinato copper(II) complex, electronic spectra and dichroism 9-41183
- CuCl, bonding, ab initio pseudopot. calcs. 9-6857
- Cu(II)-nucleic acid base interaction, MO calcs. 9-10013
- D₂SO₄, pure, IR and Raman spectra in liq. state, assignments and cryst. spectra comparison (*French*) 9-33699
- Eu pyrochlores, Eu₂Zr₂O₇ (Z=Ti, Ru, Ir, Mo, Sn, Zr, Pb, Pt and Hf), elec. field gradient, Mossbauer expt. 9-8077
- F₂, charge distrib. anal. rel. to Berlin's binding and antibonding regions 9-6875
- FeS, structural chem., influence of itinerant 3d electrons and valence-band holes 9-23563
- α -FeSe, site symm. and bonding mechanism 9-24239
- GaAs (110) surface, chemisorption of O₂, electronic struct. theory, oxidation, electron spectra interpretation 9-42376
- Ge-Te and Ge-Te-As system glasses, local struct., ¹¹⁹Sn Mossbauer obs. 9-41968
- GeSe₂ evaporated films, struct. and thermally induced effects 9-41963
- GeSe₂ evaporated films, optical absorpt. and thermally induced effects 9-42989
- GeSe₂, liquid, strong covalent bonding between unlike atoms 9-23514
- H chemisorption on Pd(111) bonding, photoemission spectra, SCF electronic struct. 9-33320
- H₂, chemisorbed on jellium, contraction of mol. band 9-28202
- H₂, electron correlation, dynamic description using boson Hamiltonian 9-26897
- H₂O, localised MO, basis set depend. 9-36525
- H₂SO₄, pure, IR and Raman spectra in liq. state, assignments and cryst. spectra comparison (*French*) 9-33699
- HfC, bond energy and ionization efficiencies from SIMS 9-24400
- HgI₂, Raman spectrum 114 cm⁻¹ line, differential analysis using covalence bonds modulation 9-24315
- HgZn(Cd), Ar matrix absorpt. spectra, vibronic spacing and bonding 9-3453
- HoCl₃, white line struct. in X-ray L_{III} absorption edge 9-15560
- Ho₂O₃, white line struct. in X-ray L_{III} absorption edge 9-15560
- In, oxidised surface, bonding of Cd arachidate monolayers, XPS 9-15011
- Kr-F₂, energy, photoionisation mass spectrometric study 9-45772
- LiBr, Compton profile anisotropies 9-27044
- LiH, cryst., Compton profile, position space anal. 9-47536
- LiH, directional Compton profiles 9-4867
- MgZn(Cd), Ar matrix absorpt. spectra, vibronic spacing and bonding 9-3453
- Mg²⁺.nH₂O+PO₄H₂⁻, binding mechanisms, SCF ab initio calcs. 9-22586
- Mo-Ni (40 at.%), exam. of ion transfer (*Russian*) 9-28127
- Mo₂C, bond energy and ionization efficiencies from SIMS 9-24400
- NH₃, 35 keV electron elastic differential cross section, bond formation, independent atom model 9-31683
- (NH₄)₂SO₄, ESR study of NH₃⁺ radicals 9-38367
- (NH₄)₂SO₄-K₂SO₄ mixed crystal, ESR study of NH₃⁺ radicals 9-38367
- NO dimer, asymmetric, characterisation, Raman, IR spectroscopy 9-41176
- Na+O₂, semiempirical pot. surfaces, dynamical considerations 9-11766
- NaBr, Compton profile anisotropies 9-27044
- Na₂O-CaO-P₂O₅:Co glass, bonding, symmetry meas. 9-46572
- Na₂UO₂F₆, IR and Raman spectra, struct. (*French*) 9-11409
- Na₂WO₄, bronze, composition-dependent microhardness, rel. to bonding 9-24606
- Na⁺.nH₂O+PO₄H₂⁻, binding mechanisms, SCF ab initio calcs. 9-22586
- Nb complex, NbCl₅ complex with O- and S-containing ligands, prep., and characterisation 9-14729
- NbC, bond energy and ionization efficiencies from SIMS 9-24400
- NbC_{0.86}, single crystal work function, thermionic emission and contact pot., microhardness and binding 9-19649
- Ni (001) surface, chemisorbed O₂, electronic struct. and overlayer struct. theory 9-28391
- Ni, electroplated layer, field ion microscope study 9-28246
- Ni₂ and Ni₂⁺, lowest electronic states, GVB and POL-CI calcs. 9-31409
- NiCO, liquid interactions, ab initio LCAO MO SCF calcs. 9-18256
- Ni(111), chemisorption of H₂, geometry, LEED anal. 9-28200
- Np, ternary oxides, electronic and structural props., ²³⁷Np Mossbauer spectroscopy 9-33570
- NpO₂ and NpO₃, electronic struct. and chem. bonding and XPS line shape calcs. 9-33264
- O-containing anions of d-elements forming hydration-active phases, electron structs. and props. 9-42005
- P, bulk red amorphous, Raman scatt. and IR absorption 9-24323
- P compounds, solid, ³¹P NMR and π bond 9-4732
- PbO-SiO₂ and PbO-SO₃-SiO₂ system glasses, struct. and IR absorpt. spectra 9-41967
- Pd-H, nature of the 50K anomaly, residual resist. 9-7818
- PuO₂ and PuO₃, electronic struct. and chem. bonding and XPS line shape calcs. 9-33264
- ReO₃, Fermi surface, pressure induced anomaly 9-19505
- Rh, oxidised surface, bonding of Cd arachidate monolayers, XPS 9-15011
- SB₂, transient species, He(I) photoelectron spectroscopy, discrete variational HFS calc. 9-31594
- SeCd dilute liquid, perturbed ang.-correl. meas. of motional-correl. time 9-41930
- Sf₆, high resolution X-ray emission, valence electron struct. and chemical bonding, LCAO comparison 9-31545
- SiF₄, photoelectron spectra, bonding, MS Xa calcs. 9-18116
- SiH₄, photoelectron spectra, bonding, MS Xa calcs. 9-18116
- SiH₄-F₂ (n=1 to 3), photoelectron spectra, bonding, MS Xa calcs. 9-18116
- Si₃N₄ film, H₂ concentration profile, chem. bonding 9-33205
- Si₃N₄ film in MNOS memory struct., distrib. and role of N-H and Si-H bonds 9-33358
- SiO₂-GeO₂, synthetic, struct, IR spectra 9-42993

bonds (chemical) continued

- Sn, oxidised surface, bonding of cadmium arachidate monolayers, XPS 9-15011
 Ta complex, TaCl_5 complex with O- and S-containing ligands, prep., and characterisation 9-14729
 TaC, bond energy and ionization efficiencies from SIMS 9-24400
 TeSe₉, vitreous alloy, elec. and thermal cond. during crystallisation 9-7550
 Ti complex, bis cyclopentadienyl Ti:N_2 , liquid interactions, ab initio LCAO MO SCF calcs. 9-18256
 TiC, bond energy and ionization efficiencies from SIMS 9-24400
 TiN_2O_x , cubic, thermal expansion coeffs., Ti-Ti bond screening 9-10970
 TiSe_2 (1T), phonons and CDWs, inelastic neutron scatt. meas. 9-28059
 TmSe, nonstoichiometry, high temp. chem. and valence instability (*German*) 9-23743
 V-O coordination complexes, CNDO calcs. of stability and bonding (*German*) 9-31404
 VC, bond energy and ionization efficiencies from SIMS 9-24400
 W (100), adsorbed H-induced lattice reconstruction, surface vibr. obs. 9-19445
 WC, bond energy and ionization efficiencies from SIMS 9-24400
 Xe₂, near metal surface, proximity effects 9-36797
 YSi_n , electronic struct., calc. and X-ray obs. (*Russian*) 9-13634
 $\text{ZnHg}(\text{Mg})$, Ar matrix absorpt. spectra, vibronic spacing and bonding 9-3453
 Zr complex of glycine, XPS study of glycine binding 9-41196
 ZrC, bond energy and ionization efficiencies from SIMS 9-24400
 $\text{ZrO}_{0.84}$, single crystal work function, thermionic emission and contact pot., microhardness and binding 9-19649

bone

- acoustic emission diagnosis, soft tissue effects 9-48362
 ankle compliance, human, dependence on joint angle 9-11959
 apatite crystal orientation, and growth, X-ray and neutron diffr. meas., effect of chem. and heat treatment 9-39431
 artificial hip joint, noncemented, with bone development stimulator (*German*) 9-8575
 artificial knees, mobility, stability and stress 9-12032
 bioceramic implants, surface structure (*German*) 9-44057
 bioceramics in orthopaedic surgery, internal struct. of inorganic parts in bones (*Polish*) 9-20714
 biomaterial microwave complex permittivity meas., noninvasive selective exposure 9-20729
 bovine bone, degraded, ESR study 9-39432
 bovine femur crack detection by acoustic emission 9-48312
 cancellous, Compton scatter densitometry meas. 9-39489
 cartilage/bone plugs, impact stress/strain data 9-43950
 cervical spine, human, stability under tension 9-16236
 cortical, anisotropic anal. of strain rosette information 9-16237
 dental implant fixation, electrically mediated process, interfacial strength 9-16348
 dosimetry model, surface and volume distribution of ^{239}Pu 9-8550
 erythropoietic marrow, recovery of Fe uptake following large field radiation therapy 9-20616
 femora, bovine, fracture toughness, critical crack length, plastic zone size 9-43948
 femora, dog, tissue ingrowth in porous sucrose filled acrylic cement 9-39611
 femoral head activity in Perthes' disease $^{99\text{m}}\text{Tc}$ tracer uptake estimation 9-29606
 femoral stress and strain calc., finite element method (*German*) 9-2089
 femur, flexural coupling to hip-prosthesis stem, theoretical anal. method 9-39428
 femur, rat, density and cortical thickness, meas. by photon absorptiometry 9-8535
 femur compact, adult human, relation between torsional props. and histology 9-16234
 femur fractures, reduction apparatus 9-16343
 glass-ceramic/bone histological and mechanical bonding (*German*) 9-8569
 hip joints, human, study of synovial fluid, friction and lubrication 9-11956
 jaw, growth anal. in human using kinematic fundamentals 9-16243
 joint displacements, finger and wrist, relationship with extrinsic finger flexor tendons 9-8520
 joint wear in humans, ferrography appl. 9-34694
 joints, cartilage swelling, congruity of regularly curved joints 9-8523
 knee arthrograph for study of stiffness 9-12022
 lumbar spine, lateral flexion, radiographic studies 9-8522
 machining, orthogonally, mechanics of, forces and energies 9-29559
 mandible static loading and jaw muscle electromyographic activity 9-43951
 marrow and leucocyte preservative freezing apparatus 9-39617
 marrow cell-culture, RBE of different-energy neutrons 9-34508
 marrow colony-forming units in beagles, response to whole-body γ irradi. 9-25043
 marrow transplantation, autologous, effect on monkey mortality after X-ray and neutron exposure 9-29572
 maxillary lesion evaluation by bone-conducted vowel spectral estimation (*Japanese*) 9-5395
 medullary pin, induced internal bone remodeling 9-29552
 metacarpophalangeal joint, human, kinematic investigation 9-8519
 musculo-skeletal shock absorption, relative contribs. of bone and soft tissues 9-29549
 piezoelectric model for dry bone tissue 9-25015
 remodelling, adaptive elasticity theory 9-25016
 skeletal Ca, facility for regional in vivo neutron activation anal. 9-25088
 skeleton, mouse, distribution of ^{239}Pu 9-12002
 skeleton, uptake of $^{95\text{m}}\text{Tc}$, ^{96}Tc pyrophosphate evaluated by autoradiography 9-29608
 space flight, bone formation inhibition in rat 9-48350
 spine, upper cervical, pathology evaluation using computerised tomography 9-29585
 spine and forearm Ca changes, meas. apparatus using ^{252}Cf neutron activation anal. 9-39490
 strain measurement, in-vivo (*French*) 9-34695
 substitute materials, sintered hydroxylapatite as bioceramic 9-12036
 synovial joints, rheology of synovial fluid, synthetic lubricants for degenerate joints 9-11955
 thick inhomogeneity effects on charged particle beams 9-25041

bone continued

- tibial bone reaction to hydromech. implant dynamic loading (*German*) 9-8574
 tissue interface, fast neutron dosimetry 9-25113
 trabecular, density and other parameters, normal values in adults and children using computerised tomography 9-20611
 trabecular bone-porous coating-hip prosthesis interface, mechanical behaviour 9-39436
 trabecular density, increased in children with chronic renal failure, computerised tomography expts. 9-20612
 tumours, human, scintigraphic assessment of $^{99\text{m}}\text{Tc}$ -diphosphonate 9-20613
 Pb, X-ray fluorescence technique for in vivo determ. of Pb conc. 9-25084

Boolean algebra

see also Boolean functions; formal logic

- Boolean systems, atomicity and determinism 9-35518
 mass spectra data identification, text search system based on Boolean logic 9-20480

Boolean functions

No entries

Boolean lattices see Boolean algebra**bootstrap models** see bootstrapping**bootstrap theory** see bootstrapping**bootstrapping**

- baryon models and the planar bootstrap condition 9-3005
 critical indices, conformally invariant bootstrap method 9-12955
 low mass diffractive dissociation in a simple t-depend. dual bootstrap model 9-13089
 low mass diffractive dissociation in a simple t-dependent dual bootstrap model 9-36042
 multiple scatt. in 1-D 9-44754
 soliton conservation laws, S-matrix bootstrapping approach (*German*) 9-9274
 statistical mechanics, relativistic formulation, appl. of bootstrap theory to thermodynamics and cosmology 9-40452
 tachyons, relativistically invariant hadron bootstrap, book contrib. 9-44721

bootstraps see bootstrapping**borate glasses**

- alkali borate, γ -irrad., paramag. SO_3^- radicals 9-42838
 alkali borate glasses, phase separation 9-41965
 fusion buttons with unknown sample/flux ratio, X-ray fluoresc. analysis 9-24851
 laser glass cladding composition and design criteria 9-18450
 laser glasses, Cl^- coordinated, Ti^{4+} , Mn^{2+} and Nd^{3+} impurities, absorpt. and X-ray obs. 9-38575
 mixed alkali borate glass, IR absorption spectra and structure 9-8148
 nuclear spin lattice relax. in amorphous state, review 9-11354
 XPS, chemical shift (*Japanese*) 9-34416
 B_2O_3 , vitreous, struct. obs. using small-angle X-ray scatt. 9-41966
 $\text{B}_2\text{O}_3\text{-Li}_2\text{O-Fe}_2\text{O}_3$, prep. by quenching methods, exam. of microcrystalline precipitates of $\text{Li}_2\text{O-Fe}_2\text{O}_3$ (*French*) 9-20019
 $\text{B}_2\text{O}_3\text{-Li}_2\text{O-LiCl}$, X-ray irradiation, EPR of Cl_2^- colour centres (*French*) 9-47333
 $\text{B}_2\text{O}_3\text{-M}_2\text{O:S}_2$ glass, ($\text{M}=\text{Li, K, Na}$), absorpt. spectra of S_2 mols. 9-24337
 $\text{B}_2\text{O}_3\text{-Na}_2\text{O-Fe}$ glass, mag. susceptibility 9-42733
 $\text{B}_2\text{O}_3\text{-NaK-O}$ glass, dielectric relaxation at low temp. 9-11384
 $\text{B}_2\text{O}_3\text{-PbO}$ glass-ceramic-cement composites, review 9-38783
 $\text{BaO-B}_2\text{O}_3\text{-GeO}_2$, exam. of glass formation and physicochemical props. 9-4959
 $\text{BaO-B}_2\text{O}_3\text{-V}_2\text{O}_5$ glasses, polaron hopping cond., optical absorpt. and ESR spectra 9-23966
 $\text{BaO-Fe}_2\text{O}_3\text{-B}_2\text{O}_3$ glass, Mossbauer study of struct. and mag. props. 9-47369
 $\text{CaO-Li}_2\text{O-B}_2\text{O}_3\text{:Dy}^{3+}$ glass, optical excitation energy transfer from Dy^{3+} to Nd^{3+} 9-15515
 $\text{CdO-B}_2\text{O}_3\text{-GeO}_2$ system, phase equilibria at 800°C, X-ray powder diffr. anal. 9-4956
 $(\text{Fe}_2\text{O}_3)_x(\text{3B}_2\text{O}_3\text{PbO})_{1-x}$ glass, X-ray diffr. struct. obs. 9-32915
 $\text{K}_2\text{O-Al}_2\text{O}_3\text{-B}_2\text{O}_3$, subsolidus compatibility relations determ. (*Japanese*) 9-4957
 $\text{K}_2\text{O-B}_2\text{O}_3$, laser decolorisation of colour centres 9-43008
 $\text{K}_2\text{O-B}_2\text{O}_3\text{-P}_2\text{O}_5$ glass struct. studies using NMR 9-24221
 $\text{K}_2\text{O-CaO-BaO-B}_2\text{O}_3$, calc. of network refraction and exam. of glass structure 9-4783
 $\text{Li}_2\text{B}_4\text{O}_7$ glass, phase separation 9-41965
 $\text{Li}_2\text{B}_4\text{O}_7$, melt-crystal interface temp. meas. during crystallization of melts 9-44908
 $\text{Li}_2\text{B}_4\text{O}_7\text{-xWO}_3$ ($x=0$ to 1 mol.) glass, random elec. dipole, cooperative phenomena 9-28693
 $\text{Li}_2\text{O-B}_2\text{O}_3\text{:Eu}^{3+}$ glass, laser induced fluoresc. line narrowing, struct. 9-38613
 $\text{Li}_2\text{O-B}_2\text{O}_3\text{-WO}_3$ glass, photochromic and electrochromic props. 9-28787
 $\text{Li}_2\text{O-LiCl-B}_2\text{O}_3$ system, new solid electrolytes, conductivities and activation energies 9-28137
 $\text{Na}_2\text{B}_4\text{O}_7$, melt-crystal interface temp. meas. during crystallization of melts 9-44908
 $\text{Na}_2\text{O-2B}_2\text{O}_3$ glass, numerical optimisation of ESR V^{4+} spectra 9-38370
 $\text{Na}_2\text{O-Al}_2\text{O}_3\text{-B}_2\text{O}_3$, kinetic study of $\text{Cu}^+\text{-Cu}^{2+}$ equil. 9-8448
 $\text{Na}_2\text{O-B}_2\text{O}_3$ glass, γ - or UV-irrad., laser and thermal bleaching of colour centre, absorpt. spectra 9-33744
 $\text{Na}_2\text{O-B}_2\text{O}_3\text{:SiO}_2\text{:Fe}_2\text{O}_3$, effect of liquid phase separated structure on transparency in near UV and visible regions 9-4823
 $\text{PbO-B}_2\text{O}_3$ glass exam. of Raman spectra (*Japanese*) 9-19894
 $\text{PbO-ZnO-B}_2\text{O}_3\text{:TiO}_2$ glass, circuit corrosion protection on alumina substrates 9-29236

Bordoni effect

- relaxation modes, internal friction and microdeformation rel. to dislocations (*French*) 9-37758

boron

see also nuclei with

- abundance in meteorites rel. to interstellar grain synthesis 9-16894
 atom, ground state static polarisability and hyperpolarisability, numerical SCF method 9-36567
 atomic correlation energies, perturbations and near degeneracy 9-3371
 carbonaceous chondrites, B concs. 9-16897
 channelled ions, meas. of stopping power in Si:Th 9-28025

boron continued

- chemical anal. in complex matrices by charged particle track registration in plastic detectors 9-18080
 CVD from $\text{BBr}_3\text{-H}_2$, thermodynamic anal. mixtures 9-47634
 diamond: B, doping by diffusion at high temp. and press. 9-19273
 diamond: B, synthetic, current-voltage characteristics, temp. depend. (*Russian*) 9-7825
 diamond: B, synthetic semicond., thermostimulated conductivity (*Russian*) 9-7834
 diffusion in X-ray interferometer analyser, effect on moiré pattern (*Russian*) 9-44994
 electron beam deposition, rotatable support for ultra high vacuum system 9-40586
 electronic structure, X-ray emission spectra (*Russian*) 9-33865
 fibre, plasticizing and wettability-enhancing coatings 9-29252
 fibre prep. 9-28983
 fibre reinforced Al, prep. by reaction sintering 9-38769
 fibre reinforced Al, stress redistribution in fibre elastic deformation failure (*Russian*) 9-47740
 fibre reinforced Al alloy, influence of bond strength on failure (*Russian*) 9-43387
 fibre reinforced Al alloy 6061, cross plied laminate, tension-compression fatigue 9-38940
 fibre reinforced Al composites, corrosion, electrochem. behaviour 9-20225
 filament, uncoated and SiC coated, high temp. physicochem. props. 9-20140
 galactic B abundance, rel. to cosmic-ray nucleosynthesis and extragalactic matter inflow rate 9-17084
 interstitials, in transition metals, electronic structure 9-1583
 ion implantation in Si, processing parameters for diffusion redistribution 9-10871
 isoelectronic sequence, ionization equilib. balance, solar and stellar atms. appl. 9-36587
 multidionate acceptors for electrophotography 9-19632
 properties of α - and β -rhombohedral, and tetragonal B, review 9-42532
 protective coatings, in situ prep. for controlled nuclear fusion devices 9-3238
 pyrocarbon: B, g-factor anisotropy (*Russian*) 9-47001
 β -rhombohedral, containing Zr, X-ray obs. of ZrB_{-51} 9-23574
 β -rhombohedral, optical absorpt. band, temp. depend., anomalies (*Russian*) 9-28772
 n-Si: B, ion implanted, rapid identification of faulted loops 9-19254
 sputtering yields on light ion bombardment 9-38702
 tetragonal, X-ray diff. and C doping obs. (*French*) 9-14731
 Am-B, neutron fluence-to-dose conversion factors 9-6771
 B fibre/Al laminates, use in neutron collimators 9-45506
 B⁺, metastable, electron affinity calcs. 9-31439
 B⁺, beam-foil excitation; absolute Auger yield meas. 9-45685
 B²⁺, ²S, ²P⁰ and ²D autoionising states, positions and widths 9-26944
 B-p fusion reactor advanced fuel development and confinement 9-13516
 B-N₂O₂ chemiluminesc. reaction, vibr. state distrib. 9-20354
 B+O₂ chemiluminesc. reaction, vibr. state distrib. 9-20354
 B⁴⁺+H₂ excitation distrib. following electron capture 9-36763
 B³⁺+He(C)(Ne), K-shell charge transfer cross sections, Bates-Born formalisms 9-45834
 Ge: B, epitaxial film, exam. of doping during chemical deposition from gas phase 9-1446
 Ni: B, impurity electronic struct. calc., ¹²B NMR data anal., magnetisation decrease 9-47046
 Si: B, amorphous, annealing effect on cond. (*Korean*) 9-15142
 Si: B, annealing mechanism of radiation change and dopants in pulsed laser irradi. ion implanted layers 9-46691
 Si: B, bound multiexciton luminesc., recomb. kinetics 9-38591
 Si: B, diffusion for very shallow defect free p⁺-n junc. for solar cells 9-15218
 Si: B, diffusion of B atoms and growth kinetics of oxidation induced stacking faults, correlation 9-37720
 Si: B, dopant density and temp. depend. of hole mobility and resistivity 9-38075
 Si: B, ESR at zero and small external stress, elastic strengths for point defects 9-19764
 Si: B, hole trapping by B atoms at low temps. 9-7837
 Si: B, implanted, laser-annealed, lattice dilatation 9-46690
 Si: B, ion implantation using B₂O₃-B mixture, Auger spectra, channelling anal. 9-4317
 Si: B, ion implanted, radiation defect accumulation and annealing, X-ray diff. obs. 9-37726
 Si: B, ion implanted, redistrib. of dopants by pulsed laser annealing 9-7620
 Si: B, ion implanted, SOS device struct., nonlinear impurity redistrib. 9-1625
 Si: B, ion-implanted, annealing by incoherent light source 9-19267
 Si: B, ion-implanted, influence of US waves on charged particle channelling 9-23668
 Si: B, ionisation-assisted annealing 9-23628
 Si: B, low noise avalanche photodiode fabrication by channelling implantation 9-35827
 Si: B, many-body exciton-impurity complexes, stress depend. of photolum. meas. 9-28833
 Si: B, P, high temp. diffusion, effects of laser irradi. on diffused layer 9-14834
 Si: B, polycryst., effect of laser annealing on struct. and elec. props. 9-11243
 Si: B, RF glow discharge sputtering damage centres, barrier formation 9-33329
 Si: B, recombination spectra of bound multiexciton complexes, Zeeman splitting (*Russian*) 9-38526
 Si: B, single crystals, oxidation investigations, 780°-1150°C 9-5068
 Si: B, sputtering influence on distrib. profile of ion-implanted impurities 9-42091
 P-Si: B, US spectroscopy, energy splitting of acceptor ground state 9-33260
 Si: B amorphous film, CVD prep., EPR, elec. and optical props. 9-4558
 Si: B effect of elec. field on carrier capture by attractive centres. 9-11145
 Si: B impurity conc. profile determ. by anodic oxidation 9-28010
 Si: B MOS structures, implanted laser beam irradi. effects on interface electrophys. props. 9-1627
 Si: B wafers, anal. by combined ion beam techniques and X-ray microanal. 9-5238
 Si: B⁺, TEM of lateral implantation effects near mask edges in wafers 9-37724

boron continued

- Si: P-B, wafer, long range enhancement of B diffusivity induced by high surface conc. P diffusion 9-46687
 Si: Se-B, diffusion of Se, solubility and ionization levels, Hall effect and photocond. meas. 9-42486
 Si-SiO₂ interface, ¹¹B implantation effects on charge density 9-10865
 Si: C-B, electroabsorption, 0.35-0.45 eV, under UV illumination 9-4831
 Zn: S-B, new luminesc. centre 9-38635
- boron alloys**
 see also boron compounds
 alkaline earth platinum borides, M_{0.67}Pt₃B₂, cryst. struct. and supercond. props. 9-38231
 amorphous ribbon, saturation magnetostriction, and electronically controllable delay line 9-1700
 austenitic solid solution, chem. evaluation of B and its correlations with hardenability and hardness (*German*) 9-39230
 metal-boron systems, correlation of phase equilibria, with boride crystal chemistry 9-11562
 Metglas 2605, and 2605 A, transport props., resist. and magnetoresist. 9-1590
 Nimonic alloy, effect of annealing on hardness, carbide phase strengthening (*Russian*) 9-34137
 steel, Ni-B, B effect on temperability and microstructure 9-15710
 steel, stainless, liquid boronizing, wear resistant coating (*Korean*) 9-43475
 steel, stainless, Ti stabilised, creep props. rel. to B conc. (*French*) 9-20132
 B-transition metal, amorphous thin film, crystallisation, TEM obs. 9-19483
 BMn, ferromag., ⁵⁵Mn magnon-induced pseudoquadrupole processes 9-19802
 Co-B alloys, amorphous, mag. moment and exchange stiffness constant 9-1662
 Co-B alloys, amorphous, saturation magnetisation, mag. moments, X-ray diff. obs. 9-4704
 Co-B glass, X-ray obs. of struct. 9-1399
 Co-Fe-B sputtered amorphous films, mag. props. and corrosion resist. 9-28567
 Co-Gd-B, rules of compd. form. in related systems 9-34010
 Co-Ni-Cr-B, centrifugally cast metallurgical coatings for wear resistance in plastics molding machines 9-29285
 CoB and Co₂B, electrochem. behaviour in H₂SO₄ 9-39030
 Co₄₀Ni₄₀B₂₀, spontaneous Hall effect and resistivity 9-19576
 ErRh₂B₄, supercond. and mag. props. 9-4631
 (Fe,Ni)₈₃B₁₅C₂, amorphous alloy, mag. props., possible appl. to power transformers 9-28558
 (Fe,Ni)₈₀P₁₄B₆, amorphous alloy, mag. props., possible appl. to power transformers 9-28558
 Fe-B, metallic glass, theoretical studies on structural models 9-37633
 Fe-B, rapidly solidified, metastable phases (*German*) 9-29045
 Fe-B (15-25 at %) glass, quasicryst. struct. Mossbauer expts. 9-4255
 Fe-B ferromag. film, props. 9-4709
 Fe-B glass, crystallisation kinetics, elec. resist. meas. 9-4254
 Fe-B glass, X-ray obs. of struct. 9-1399
 Fe-B metallic glass, struct. and crystallisation, Mossbauer spectra, calorimetry and magnetisation meas. 9-23528
 Fe-B metastable alloys, Mossbauer spectroscopy and electron microscopy 9-28653
 Fe-B-C amorphous alloys, room-temp. saturation induction over 17.5 kG 9-47300
 Fe-B(-Co), two amorphous phases form. and crystallisation 9-27924
 Fe-B(-Si)(-Ni), amorphous alloy, anelastic relaxation 9-4997
 Fe-C-B, exam. of phase diagram using neutron autoradiography 9-8279
 Fe-Co-Ni-Si-B amorphous alloy, magnetostriction and permeability, effect of annealing 9-1701
 Fe-Ni-P-B, amorphous alloy, anelastic relaxation 9-4997
 Fe-P-B, amorphous alloy, anelastic relaxation 9-4997
 Fe-Si-B sputtered amorphous films, mag. props. and corrosion resist. 9-28567
 Fe-Si-B-S, grain-oriented, high induction, B and S addition effect on magnetic props. (*Slovak*) 9-4697
 Fe_{100-x}B_x, amorphous, effect of metalloids on mag. props. 9-11304
 Fe_{100-x}B_x, amorphous alloys, magnetostriction meas. 9-19760
 Fe₈₀B₂₀, absolute thermoelectric power between 300 and 1000K 9-19579
 Fe₈₀B₂₀, amorphous, crystal. temp. under press. 9-23523
 Fe₈₀B₂₀ amorphous alloys, domain struct. exam., magneto-optic Kerr effect 9-28550
 Fe₈₀B₂₀ amorphous ribbons, magnetomechanical coupling constant and Young's modulus, mag. annealing 9-13333
 Fe₈₀B₂₀, elastic, magnetoelastic and thermal props. 9-19759
 Fe₈₀B₂₀, glassy, ferromag. anisotropy of resistivity 9-23939
 Fe₈₀B₂₀, hardness, elec. cond., photo emission, and mag. props. (*Norwegian*) 9-32909
 Fe₈₄B₁₆, amorphous, struct., X-ray diff. meas. 9-4252
 Fe₇₈B₂₂Si₁₀, amorphous, continuous versus discrete hyperfine field distrib., Mossbauer spectra 9-33583
 Fe_{100-x}Be_x, amorphous ribbon, saturation magnetostriction, and electronically controllable delay line 9-1700
 Fe_{40-x}Co₂₀B₄₀, spontaneous Hall effect and resistivity 9-19576
 (Fe_{1-x}Co_x)₇₇Si₁₀B₁₃ alloys, amorphous, induced mag. anisotropy by mag. annealing 9-4671
 (Fe_{1-x}Co_x)₇₇Si₁₀B₁₃, amorphous, mag. moments at 0K, Curie temp., mag. interactions 9-4670
 Fe₇₈Mo₂B₂₀, amorphous ferromag., mag. props. 9-38309
 Fe₇₈Mo₂B₂₀, glassy, ferromag. anisotropy of resistivity 9-23939
 Fe₄₀Ni₄₀B₂₀, amorphous, hyperfine field distrib., Mossbauer effect meas. 9-4755
 Fe₄₀Ni₄₀B₂₀, amorphous, hyperfine field distrib., Mossbauer study 9-28657
 Fe₄₀Ni₄₀B₂₀, amorphous and crystalline, resist. minimum 9-47079
 Fe_{80-x}Ni₂₀B₂₀, Fe_{80-x}Ni₂₀P₁₄B₆, amorphous, microhardness meas., dependence on mag. props. (*Croatian*) 9-11688
 Fe_{80-x}Ni₂₀B₂₀, spontaneous Hall effect and resistivity 9-19576
 (Fe_{81-x}Ni_{1-x})₈₀B₂₀, (Fe_{81-x}Ni_{1-x})₈₀P₁₄B₆, new soft amorphous ferromagnetic glasses (*Croatian*) 9-11298
 Fe₈₁Ni₁₉-x₂₀B₂₀, Fe₈₁Ni₁₉-x₂₀P₁₄B₆, amorphous Hall effect voltage meas. (*Croatian*) 9-11102
 Fe₃₃Ni₃₆Cr₁₄P₁₂B₆, elastic, magnetoelastic and thermal props. 9-19759
 Fe₃₃Ni₃₆Cr₁₄P₁₂B₆, glassy, ferromag. anisotropy of resistivity 9-23939

boron alloys continued

- Fe₄₀Ni₃₅Mo₄B₁₈ metallic glass, reorientation kinetics of magnetization 9-24155
 Fe₄₀Ni₄₀P₁₄B₆, amorphous ferromagnet, domain struct., Rayleigh region and coercive field 9-28559
 Fe₄₀Ni₄₀P₁₄B₆, amorphous, stress-induced mag. easy axis 9-33516
 Fe₄₀Ni₄₀P₁₄B₆, amorphous, continuous versus discrete hyperfine field distrib., Mossbauer spectra 9-33583
 Fe₄₀Ni₄₀P₁₄B₆, elastic, magnetoelastic and thermal props. 9-19759
 Fe₄₀Ni₄₀P₁₄B₆, glassy, ferromag. anisotropy of resistivity 9-23939
 Fe₄₀Ni₄₀P₁₄B₆, hardness, elec. cond., photo emission, and mag. props. (Norwegian) 9-32909
 Fe₄₀Ni₄₀P₁₄B₆ metallic glass, dynamic mechanical props. 9-10894
 Fe₄₀Ni₄₀P₁₄B₆, metglas 2826, amorphous, Hall resistivity, thermal cycling and annealing effects 9-38050
 Fe₄₀Ni₄₀P₁₄B_{20-y}, amorphous, mag. props. effect of metalloid elements 9-28658
 (Fe₆₅Ni₃₅)₇₅P₁₆B₆Al₃, amorphous ferromagnet, mag. excitations 9-7984
 (Fe₇₀Ni₃₀)₇₅P₁₆B₆Al₃, amorphous, spin wave excitations and low temp. magnetisation 9-33468
 (Fe_{1-x}Ni_x)₈₀PyB_{20-y}, local struct. disorder and crystallisation, Mossbauer exam. 9-1728
 Fe₇₅Si₁₀B₁₂ amorphous ribbons, magnetomechanical coupling constant and Young's modulus, mag. annealing 9-15333
 HfC-HfBr₂, preparation and high temp. antifriction props. 9-1918
 Li-B alloys, Li extraction and determ. using potentiometric titration 9-48016
 Mn_{0.8}Ni_{0.4}B_{0.02}, liqs., enthalpy of formation of B₄C at 1320K 9-11814
 Mo-B alloys, B distrib. in welds, nuclear track autoradiography study 9-43282
 Mo-C-Zr-B (0.004, 0.12, 0.002 wt.%) effect of grain size, cellular dislocation structure, on mech. props. (Russian) 9-34105
 Mo₈₀Pi₁₀B₁₀, amorphous supercond. high-κ, upper and lower crit. fields 9-4629
 Ni-B glass, X-ray obs. of struct. 9-1399
 Ni-Cr-B-Si, hard faced with WC, exam. of abrasion and wear props. 9-34202
 Ni-Cr-B-Si-Fe alloy, Cr content by X-ray fluoresc. 9-43654
 NiPB amorphous alloys, ³¹P and ¹¹B NMR near paramag.-ferromag. transition 9-33558
 Si-C-B eutectic alloys, struct. of crystallising graphite 9-38829
 Ti-B-W(Mo), annealed at 1400°C, exam. of phase diagram, using X-ray phase and metallographic analysis 9-1847
 TiC-TiB₂, preparation and high temp. antifriction props. 9-1918
 ZrC-ZrB₂, preparation and high temp. antifriction props. 9-1918

boron compounds

- see also boron alloys
 boracites, spontaneous birefr., meas. and appl. 9-15434
 borides, B rich, protective coatings, in situ prep. for controlled nuclear fusion devices 9-3238
 diamond: B₄C, doping by diffusion at high temp. and press. 9-19273
 phosphides, gas phase deposition from B-P-U-H systems, thermodynamics 9-11518
 salt toxic effect on activated sludge micro-organisms (Chinese) 9-24919
 semiconductors, props. review 9-42532
 ternary metal borides, struct. chem. 9-14769
 [(B₁₀H₁₂)₂Ni]²⁺, high resolution ¹¹B NMR 9-31553
 Al₂O₃-SiO₂-CaO-B₂O₃(1,1,1 wt.%) chemical analysis by photocolourimetry and titration 9-20483
 BaSO₄, XPS of cryst., inner shell binding energies of elements 9-43092
 BF₃-H₂ mixtures, B CVD, thermodynamic anal. 9-47634
 B₄C, enthalpy of formation, 1320K, appl. of high-temp. solution calorimetry 9-11814
 B₄C, morphology and struct. of vap. grown crystals 9-7562
 B₄C, solid-state ¹³C NMR spectra 9-24220
 B₄C-Al composite moderator rods, production and props. (Russian) 9-18006
 BCl₃, high-resolution polarisation spectroscopy in 10 μm region 9-6196
 BCl₃, strong IR CO₂ laser field, isotopically selective dissociation 9-18245
 BF₃, mol., nucl. spin-spin coupling, diamag. contrib. 9-36665
 BF₃, quadratic vibr. force const., from X-ray scatt. factors 9-45864
 BF₃, mass spectrometry, additional memory effect (Japanese) 9-29432
 BF₃, mean amplitude of mol. vibration, approx. calc. method 9-13697
 BF₃, threshold photoelectron, photoionisation and coincidence ion-threshold photoelectron spectra 9-820
 B₂F₄, mol. force consts. and vibr. amplitude, force field study 9-31729
 BH, A'' state, fluoresc. decay radiative lifetime meas. 9-13771
 BH, ab initio spin-projected EHF method pot. curve calcs. 9-10054
 BH, correlation energy, perturbation calc. using Gaussian-type geminals 9-10042
 BH, Franck-Condon factors, rot. quantum number effect 9-31613
 BH mag. susceptibility calc., coupled Hartree-Fock perturbation approach 9-868
 BH₂, potential energy surface, DIM method 9-18110
 BH₃, electron correl. quadrupole excitation in correl. energy theories 9-36538
 B₂H₆ and B₂H₅NH₂, electronic struct. and bonding, comparative calcs. 9-31397
 B₂H₆, quadratic valence force field, rel. to ethene 9-3382
 B₂H_n, struct., ab initio SCF calcs. (French) 9-22598
 B₂H_n, struct., ab initio SCF calcs. (French) 9-22598
 B_{n+3}H_{n+8}, n=1-7, ab initio 6-3G and 3G/MDPOT LCAO-MO-SCF calcs. 9-10026
 BH₃CO, vibrational spectra in Ne matrices, pot. consts., bond strengths 9-45696
 (BH₃)_n, band structure, ab initio calcs. 9-23895
 (BH₂NH₂)_n, band structure, ab initio calcs. 9-23895
 B(l) hydrides, ab initio calcs., proton and hydride affinities 9-10029
 BN, degree of conversion from cubic to hexagonal, determ. method 9-15887
 BN, deposition of wurtzite type layers, by reactive pulse plasma crystallisation 9-28953
 BN, electron spectra, regularisation method (Russian) 9-41215
 BN films, elec. resist., depend. on relative humidity 9-4609
 BN, hexagonal, electronic struct. from X-ray emission and XPS 9-47009
 BN, high pressure synthesis, exam. of relationship between synthesis condition, and crystal shape, size (Japanese) 9-20018
 BN, low-Z material, outgassing expts. 9-209

boron compounds continued

- BN, martensitic character of transition from wurtzite-type to graphitlike modification 9-43248
 BN, polymorphic modifications form. under low and high press. 9-15597
 BN, Raman scatt. exam. of high press. effects on force const. anisotropy 9-38542
 BN, solubility product in Fe-Si (3.1 wt.%) 9-10955
 BN tetrahedrally bonded valence crystals, SCF perturbation theory appl. 9-37658
 BO, Franck-Condon factors, rot. quantum number effect 9-31613
 BO, transition moment of diatom., ρ-evaluation 9-31612
 BO₂, A²Π_g-state, Hanle effect, press. and Zeeman broadening 9-18239
 BO₂, intermodulated fluoresc. spectra using stabilised dye laser 9-27020
 BO₂, photoexcitation and fluoresc. spectra, rot. transitions, assignment and deconvolution 9-27003
 B₂O₃, spray coated, reaction with Si, IR investig. 9-39197
 B₂O₃-Li₂O-Fe₂O₃, prep. by quenching methods, exam. of microcrystalline precipitates of Li₂O-Fe₂O₃ (French) 9-20019
 B₂O₃-NaKO glass, dielectric relaxation at low temp. 9-11384
 B₂O₃-SiO₂ optical fibres, exposed cladding technique, birefr. and polarization props. 9-14094
 BP coatings, on Mo by CVD and their composition and microhardness 9-28942
 BP, epitaxial growth using B₂H₆-PH₃-H₂ system 9-28937
 BP, semicond., ³¹P nuclear mag. shielding 9-33549
 BP+N₂(NH)₃, dissoci. reacts. 9-43627
 BPO₄, XPS of cryst., inner shell binding energies of elements 9-43092
 BPO₄-AlPO₄, non-equil. phase diagram, electron microscope obs. 9-43225
 B₂P₂O₄, temperature programmed desorption, depend. on P/B ratio 9-23288
 BaO-B₂O₃-V₂O₅ glasses, polaron hopping cond., optical absorpt. and ESR spectra 9-23966
 BaTiO₃-PbO-B₂O₃, liquid phase sintering, effect on props. (German) 9-33980
 3Bi₂O₃·5B₂O₃, viscosity, molar volume of melt and enthalpy of fusion 9-10924
 CsB₃H₈, IR, Raman and inelastic neutron scatt. spectra 9-42966
 MnO-B₂O₃, polycryst. cpds., mag. susceptibility and ¹¹B NMR 9-8056
 Na₂B₄O₇, nuclear spin lattice relax. in amorphous state, review 9-11354
 PbO/PbF₂/B₂O₃ solvent system, density, surface tension and expansivity data, effect of B₂O₃ conc. 9-19985
 Si-B₂O₃, analytic study of Si-B phase formed 9-19269
 α-SiC, sintered, influence of B, C additives on microstructure, SEM exam. 9-8262
 SiO₂-Al₂O₃-CaO-MgO-NaO-K₂O-B₂O₃-ZrO₂, glaze, exam. of zircon crystallisation 9-19155
 SiO₂-Al₂O₃-Fe₂O₃-CaO-MgO-Na₂O-B₂O₃-SO₃, exam. of white flaky inclusions, causes and formation time 9-29237
 ZnO-PbO-B₂O₃, exam. of glass formation and its props. 9-8283
- borosilicate glasses**
 aluminoborosilicate, working props. during microfibre and ultrafine fibre prod. 9-24486
 at temp. below annealing range (Czech) 9-43305
 chemical acceptance tests for use as neutron absorbers in nuclear reactors 9-22446
 holograms, photoinduced anisotropic recording media 9-41354
 leach rates of high activity waste from borosilicate glass 9-36358
 microporous, structural anisotropy and birefringence 9-8114
 optical fibre fracture stress and mirror size obs. 9-37020
 rain erosion mechanisms 9-34154
 Simax glass, internal and surface temp. during heating (Czech) 9-42285
 US attenuation temp. dependence rel. to γ irradi. 9-46755
 viscoelastic characterisation using harmonic dispersion of longit. reson., for KG-33 Kimax 9-10538
 Al₂O₃-B₂O₃-SiO₂ system, metastable liq.-liq. phase separation 9-42263
 B₂O₃-SiO₂, glass synthesis by hot pressing of gels 9-15637
 GeO₂-B₂O₃-SiO₂ optical fibres, optical transmission loss as function of drawing conditions 9-32038
 Na₂O-Al₂O₃-B₂O₃-SiO₂-AgBr(Cl), photochromic glass, exam. of role of O and Cu ions, using luminescence spectra 9-4849
 Na₂O-Al₂O₃-B₂O₃-SiO₂, CuCl crystal activated photochromic glasses, absorpt. spectra 9-27353
 Na₂O-B₂O₃-SiO₂ glass, type DB-1, exam. of distrib. of rare earth activators, by absorption study 9-4832
 Na₂O-B₂O₃-SiO₂ glass, phase separated, HCl leaching rate and microstruct. 9-29242
 Na₂O-B₂O₃-SiO₂/AgNO₃, thermodynamic characteristics of ion exchange process 9-8452
 Na₂O-B₂O₃-SiO₂/AgNO₃ exam. of ion exchange equilibria 9-5178
 Na₂O-SiO₂-B₂O₃-Al₂O₃, comp. changes as evidence for spinodal decomposition 9-11549
 PbO-B₂O₃-SiO₂ glass enamel, heat treated, exam. of microstructure and chemical durability 9-29254
 PbO-B₂O₃-SiO₂-Li₂O-MgO(CaO)(ZnO)(Al₂O₃)(TiO₂)(ZrO₂), glass enamel, heat treated, chemical durability, MgO, CaO, ZnO, Al₂O₃, TiO₂, ZrO₂ addition effects 9-29255
 PbO-B₂O₃-SiO₂-Li₂O-ZrO₂-CdO(CoO)(CuO), glass enamel, chemical durability, microstruct., CuO, CdO and CoO addition effects 9-29256
 SiO₂-Al₂O₃-B₂O₃-CaO-Na₂O-K₂O system glasses, relax. of struct. stresses rel. to forming process 9-34088
 SiO₂-B₂O₃-Na₂O-K₂O system glass, phase separated, loss of oxides during acid leaching, atomic absorpt. anal. 9-11716
 ZnO-B₂O₃-SiO₂ glass-ceramic-cement composites, review 9-38783
- Borrmann effect** see X-ray crystallography; X-ray diffraction
Bose-Einstein statistics see quantum statistical mechanics
Bose gas see boson systems
boson fluids see boson systems
boson systems
 see also liquid helium-4; quantum statistical mechanics
 λ-transition, time development of coherent and superfluid props. 9-4439
 alpha matter, abnormal boson occupation 9-26387
 binary boson mixtures, thermodynamics ground state 9-35630
 biological system, coherent mode excitations, Bose condensation-like, Frohlich vibr. model, Boltzmann eqn. approach 9-39336
 Bose fluids, normal, conserving evaluation of dynamic struct. factor 9-14975
 Bose lattice gas, statistical systems with well defined entropy 9-30395
 Bose modes, spin-1/2 approx. in quantum theory 9-6047
 boson scattering, variational method 9-255

boson systems continued

- continuous boson system, entropy density of quasifree states 9-142
- diffusion equation for semichalcogen bosons and fermions 9-40446
- dynamical model, space reflection operator and boson fermion puzzle 9-36118
- energy spectrum determ. from thermodynamic functions (*Russian*) 9-35631
- Euler-Lagrange equations and hypernetted chain calculations of boson matter 9-40871
- fluid, pairing function, cluster anal. 9-4441
- fluid, Wigner representation, Fourier transform, replacement by series (*French*) 9-9181
- Fokker-Planck equation, generalised for three interacting fields 9-3663
- Fokker-Planck equation, generalised for three interacting fields 9-3664
- generator coordinate method and the theory of metals 9-28299
- ground state, mean energy, binary distrib. function calc. 9-40456
- hard disc Bose gas, integral solns. 9-44856
- hard-spheres, analytical treatment of hypernetted-chain and Percus-Yevick eqns. 9-30359
- Hartree approximation, time-dependent, 1-D boson system with δ -function interactions 9-9184
- high-density Bose model, validity of Bogoliubov approx. 9-30355
- interacting boson problem, appl. to diffusion constant of Brownian particles 9-164
- IR divergence in field theory of Bose system with condensate (*Russian*) 9-2944
- irreducible cluster expansion for the logarithm of the s-particle density matrix of a many-boson system 9-21657
- many boson systems, representation of coherent states 9-30363
- negative bosons interacting with positive particles via Coulomb forces, $N^{5/3}$ law 9-44792
- one particle reduced density matrix, one-dimens. impenetrable bosons, zero temp. 9-17336
- para-Bose coherent states 9-96
- paramagnet and ferromagnet, multibeam spin wave representation 9-4664
- phase transition in an exactly solvable nonpolynomial model 9-40455
- pion gas, relativistic, kinetic props., non-equilib. statistical operator method 9-30718
- quantised rotator, classical correspondence of Schwinger boson representation 9-9492
- quantum crystal, soln. of Fermi-Bose quasiparticle 9-28173
- quantum crystals, approx. second quantisation method 9-23804
- quark liberation in (1+1)-dimensions 9-324
- relativistic charged Bose gas, excitation spectrum 9-17334
- relativistic quantum ideal gas of massive particles, eqns. of state 9-2721
- restricted geometry, coherent states, suppression of Bose-Einstein condensation 9-46854
- rigorous second-order cumulant expansion 9-44853
- self-interacting boson field, interaction with classical current, S-matrix elements 9-21963
- series expansion; spin 1/2 operators, coeffs. 9-30358
- spectral distrib. method for approximated level densities, validity in boson space 9-462
- statistical mechanics of bosons with attractive interaction 9-12717
- strongly coupled charged Bose gas, ground state energy calcs. 9-6050
- superfluid as a source of all interactions 9-21620
- superfluid Bose liquid, hydrodynamics allowing for dissipative processes 9-23796
- superfluidity of two weakly interacting Bose gases at finite temp. 9-19411
- time depend. Hartree eqn. quantisation, boson expansion, particle hole excitations 9-13230
- time dependent Hartree eqn. quantisation, finite and infinite boson expansions 9-13231
- two-body density matrix of Bose fluids 9-40875
- H₂, electron correlation, dynamic description using boson Hamiltonian 9-26897

bosons

- see also *alpha particles; boson systems; deuterons; gravitons; intermediate bosons; meson resonances; mesons; photons*
- axions, possible evidence from existing exps. 9-436
- extended objects from Goldstone bosons in relativistic quantum field theory 9-285
- leptoquark bosons, confinement in SU₄ theory 9-45052
- pseudoscalar bosons rule in astrophysics (*French*) 9-44361
- unification of fermions and bosons, interacting model 9-21629
- unification of fermions and bosons, math. structures and phys. questions 9-21630
- unification of fermions and bosons, physical foundations of local (algebraic) approach 9-21628

boundaries see *boundary layers; boundary value problems; grain boundaries; metal-insulator boundaries; semiconductor-insulator boundaries; semiconductor-metal boundaries*

boundary layer flow see *boundary layers*

boundary layer turbulence

- see also *atmospheric boundary layer*
- anodic dissolution of metal turbulent stream of electrolyte, laws (*Russian*) 9-39156
- axial flow compressor stator blade, anal. by ensemble-averaging technique 9-4002
- axisymmetric slow viscous flow past a symmetric tumbler-shaped body (*Korean*) 9-23308
- binary mist flow, heat and mass transfer anal. (*Japanese*) 9-14467
- bluff body, two-dimens., mean vel. profile characs. 9-37301
- blunt nosed body, arbitrary shape, surface heat transfer and curvature effects, numerical soln. 9-1173
- cascaed blades with injection or suction, boundary layer theory and cascade tests 9-18878
- Cebeci-Smith eddy viscosity model 9-10553
- channel, axisymmetric, with axial press. gradient injection, turbulent boundary layer characs. 9-37304
- channel, temp. field 9-4005
- compressible fluid, turbulent boundary layer on permeable plate 9-1169
- computational modelling by finite elements 9-1163
- convection in fluid layer with internal and external heating, reactor safety anal. 9-32514
- convection in vertical boundary layer 9-32501
- convective turbulent heat transfer from rough surfaces 9-27638

boundary layer turbulence continued

- curved wall with vertical compression shock, separation onset criterion (*German*) 9-14431
- cylinder based bodies, turbulent boundary layers, three dimens., soln. method 9-1167
- cylinder in cross flow, turbulence effect on heat transfer 9-1075
- cylinder in flow close to plane boundary, boundary turbulence and vortex shedding 9-32484
- cylinder in viscous fluid, circular oscillations 9-14387
- cylinders, aerodynamic noise vs. drag relationships 9-32550
- developing turbulent boundary layer, in bounded flow, props. 9-46298
- difference method, for turbulence calc. (*Ukrainian*) 9-37303
- duct, annular, turbulent flow and heat transfer over backward facing step, finite difference soln. 9-1175
- film cooling, from single hole and hole row, free stream turbulence effect 9-46310
- film cooling effectiveness of tube wall, axially and radially flowing coolant 9-1186
- flame jet, premixed, impinging on plane surface, turbulent heat transfer 9-4054
- flow around rotating cones and discs, momentum, heat and mass transfer 9-1203
- flow over body, Fredholm integral eqn., spline fit approx. 9-37302
- flow structure in immediate vicinity of wall 9-1215
- forced convection heat transfer from cylinder in cross flow, turbulence intensities 9-1190
- forced convective heat transfer, wall capacity and resistance effects 9-1192
- free convection in fresh and salt water, characs., visualisation 9-18888
- gas bubble boundary surfaces in turbulent liq. flow, equivalence of photographic, chem. determs. (*German*) 9-32630
- gas flow through pipes, inside wall liquid film effects (*Russian*) 9-41755
- growth of turbulent layer of fluid, lab. study 9-1170
- heat and mass transfer and friction under complex thermogasdynamical conditions 9-1209
- heat transfer, effect of conduction error on hot wire meas. in turbulent flow near wall 9-7423
- holonomic formulation of boundary layer eqns., use of tensors 9-1153
- incompressible Newtonian fluid, flow past wall with small particle injection (*French*) 9-46384
- jet, 3-dimens., at wall, two-point statistical props. 9-1223
- large-scale structure, temp. contamination investigation 9-32483
- laser, elec. discharge type, flow generated by an array of eccentric porous tubes 9-965
- linear shear flow and around cylinder, velocity gradient effects (*Japanese*) 9-23305
- liquid film flow affected by streaming turbulent gas (*Russian*) 9-14386
- liquid-gas mixer, perforated disc stirring cascade type, power dissipation, mechanism and correlation 9-1238
- mass transfer in turbulent falling film with or without chem. reaction 9-41766
- MHD flow over flat plate, boundary layer function 9-27696
- momentum, heat and mass transfer during flow around a sphere, free stream turbulence effects (*German*) 9-41677
- momentum, heat and mass transfer during flow around a sphere, free stream turbulence effects, mathematical model (*German*) 9-41678
- momentum exchange by coherent motions in turbulent wall boundary layer, quantitative model 9-7372
- moving equilibrium turbulent boundary layers, in adverse press. gradient, dimensional anal. 9-32486
- nozzle, subsonic and supersonic, turbulent boundary layer heat transfer 9-1229
- nozzle of rocket, compressible turbulent boundary layers, heat transfer and skin-friction 9-14451
- numerical method, fourth-order 9-1174
- ocean, wind mixed layer deepening theory (*Russian*) 9-8638
- ocean surface, turbulent layer self-similar development in homogeneous fluid 9-44196
- oceanic bottom boundary layer, struct. and dynamics 9-20842
- one-equation turbulence model, finite element anal. 9-7371
- open channel flow, turbulent intensity modelling 9-1172
- outer flow turbulence, influence on boundary layer friction law 9-46300
- passage, arbitrary cross-section, fully developed flow prediction method 9-1254
- permeable plate, with injection, heat transfer 9-1247
- permeable plate gas screen region, heat transfer and friction laws 9-1250
- pipe, struct. similarity in radial correlations and spectra of longitudinal vel. fluctuations 9-32482
- pipe, turbulent vel. components during ejections and sweeps (*French*) 9-1166
- pipe, unstable phase following turbulent flow past sudden enlargement (*French*) 9-1157
- pipe outflow, turbulent, with wall suction, dynamic and thermal fields (*French*) 9-4082
- pipe wall, temp. distrib. 9-32668
- plate, flat, two-dimensional turbulent boundary layers 9-32478
- polymer solutions, turbulent, mass transfer rate, frictional force (*French*) 9-37357
- polystyrenes, toluene soln., turbulent drag reduction, mol. wt. and struct. influence 9-7373
- power laws for turbulent jets wakes and shear layers, marginal instability 9-32458
- prandtl's mixing length hypothesis and the spectrum of turbulent compression stress (*German*) 9-10554
- recirculating flow, numerical prediction 9-1152
- rough permeable surface, compressible boundary layer with heat transfer 9-1176
- rough-wall incompressible boundary layer, calc. model 9-1165
- seawater-clay suspension, turbulent boundary layer 9-20858
- separation at curved wall with shock 9-46343
- separation of flow, and displacement 9-4001
- shock wave interaction in turbulent boundary layer 9-41711
- shock-wave boundary-layer interaction, wall shear stress meas. 9-1212
- slender conical flow, separation from smooth surface 9-32479
- solid propellant erosive burning, reacting turbulent boundary layer approach 9-32703
- spinning disc causing laminar and turbulent flow, mass transfer 9-41691
- stratified flow, vel. profile (*Russian*) 9-10601
- streamflow turbulence effect on bottom topography 9-39780
- suction or blowing flows through openings in the wall of a boundary layer (*French*) 9-18947

boundary layer turbulence continued

supersonic turbulent surface flow around yawed cone 9-4037
temperature fluctuations, correlations and probabilities 9-46303
temperature fluctuations, local isotropy 9-1191
thermal and dynamic fields analogy, with wall suction (*French*) 9-1249
thermal energy storage by latent heat of fusion (*French*) 9-3893
thermal layers on flat plates 9-23307
three-dimensional, in turbomachinery rotor, experimental study 9-32490
transonic flow about lifting aerofoil 9-4032
transonic normal shock-turbulent boundary layer interaction, Reynolds no. and mass transfer effects 9-37353
transonic shock wave-turbulent boundary layer interaction, integral computation method 9-1213
tube banks in turbulent flow, heat transfer prediction 9-1080
tube wall, gas film-cooled, turbulent heat exchange, coolant turbulence intensity influence (*German*) 9-18895
turbulence characteristics in 3D layer 9-46297
turbulent core of boundary layer 9-1168
turbulent shear flow using hot-wire probe, effects of orientation 9-27722
velocity distribution in cylindrical pipes 9-37299
viscous drag reduction by polymer injection at high Reynolds number (*Chinese*) 9-32582
viscous-inviscid flow interaction method, using blowing and suction flows 9-1154
wake, heated, interface statistics 9-27645
wall flux, down-stream from linear heat source in turbulent boundary layer (*French*) 9-32489
water, flowing, eddy patterns rel. to wall scallops and ripples sizes 9-27628
water, turbulent flow, effect of polymeric additives 9-1216
water adjacent to vertical uniform flux surface, buoyancy driven flow, transition and transport 9-27631
weak polymer solutions, wall region turbulence models (*Russian*) 9-14440

boundary layer turbulent flow see *boundary layer turbulence*

boundary layers

see also *atmospheric boundary layer; boundary layer turbulence*
ablating boundaries, algorithm for automatic tracking 9-32240
aerodynamic ablation of melting bodies, effect of temp.-depend. heat capacity 9-37431
aerodynamic ablation of spinning steel shells, side force 9-37347
aerosols, particle-droplet inertial collisions 9-47989
air, dissociated, hypersonic flow over blunt axisymmetric body, nonsteady heat exchange 9-37319
air bubbles, rising in glycerine-water mixture, boundary surface velocity (*German*) 9-32631
air flow over water surface instability 9-46290
air-atomised water mixture, high temp. surface impact, heat transfer (*French*) 9-4015
air-solid flow in pipe bends, circ. and elliptical, press. drops 9-32642
airborne dusts collection by bluff bodies 9-4065
airfoils placed near ground or in tunnels, flow with separation (*German*) 9-37345
algebraic decay, solns. of boundary layer eqns. 9-37280
annular gap with axial flow and rot. inner cylinder, heat transfer coeffs. 9-27489
annulus, spherical, rot., forced thermal convection of viscous fluid 9-27634
atmosphere, large scale flow, quasigeostrophic approx., Ekman layer effects 9-2355
blades in transonic flow, shocks and boundary layers, time marching method 9-4036
Blasius boundary layer, non-parallel flow stability 9-41668
Blasius boundary layer, sound and Tollmien-Schlichting waves 9-10578
Blasius eqn., generalised, boundary value problem 9-35567
Blasius type boundary layer subject to blowing or suction, transition behaviour 9-18869
blunt nosed body, laminar or turbulent flow, heat transfer and curvature effects, numerical soln. 9-1173
body shape optimisation at small Reynolds number 9-41659
boiling, nucleate, superheating, heterogeneous nucleation theory calc. 9-46170
boiling, transition type, in forced convective flow, boundaries meas. 9-27499
Brownian particles, reversible adsorption and reversible coagulation, kinetic eqns. 9-16045
bubble columns, large diameter, liq. phase duration (*German*) 9-32632
bubble of gas rising in fluid filled tube, wall effects (*French*) 9-7399
canal, converging, unsteady 2-D compressible boundary layer flow 9-20885
cascade, high-deflection, transonic two-dimens. flow (*French*) 9-27664
cavity, cylindrical in compressible liq., dynamics, underwater explosion appl. 9-7385
cavity flows, two and three dimens., multistep technique with implicit difference schemes 9-37398
channel thermal inlet zone, heat transfer in laminar boundary layer 9-1178
compressible flow past profile set between permeable walls 9-46335
condensation, flow of vap. over cylinder, two-phase boundary layer eqns. 9-46306
conducting fluid film drainage over permeable wall in transverse mag. field 9-41761
convection, forced, over rot. bodies with non-uniform surface temp. 9-23315
convection, free, in saturated porous medium boundary layer with lateral mass flux 9-27689
convection, mixed, about sphere with uniform surface heat flux 9-32519
convection, past hot porous circ. cylinders, of 2nd-order liq. 9-14476
convective diffusion to drop, large Peclet no., finite Reynolds no., asymptotic soln. 9-41742
cylinder, permeable, in viscous fluid, friction coeff. 9-46385
deep ocean, bottom boundary layer short-term variability 9-2269
double boundary layers on an electrically conducting plane surface in a rotating environment 9-46397
double boundary-layer model of mass transport in progressive interfacial waves 9-10573
downstream development of velocity-profiles behind flat plates 9-18870
drag in Stokes' couple stress fluids 9-14379
drop, centrally-located with thin jet in infinite viscous fluid 9-32614
drops, column, vertical, approaching interface, shape 9-32725
elastoviscous flow along plane wall with periodic suction 9-10594

boundary layers continued

electroconvective instabilities overstable 9-27706
electrodialysis desalination plant, boundary layer thickness, effect on plant perform. and design 9-26725
electrolyte layer, convection onset condition 9-14492
emulsion, relative drop-drop and drop-wall motions, slow 9-32641
Falkner-Skan boundary layer problem, asymptotic solns. 9-18860
ferromagnetic fluid rotating about vertical axis, convective instability of layer 9-27698
film, liq., flowing down inclined plane with heat transfer, interfacial shear, stability 9-37290
film condensation inside pipes, heat transfer, general correlation 9-46312
film cooling, leading edge effectiveness 9-1185
film cooling, with upstream injection and intermediate panel temp. 9-1184
film cooling at separated zone 9-1187
flame jet, premixed, impinging on plane surface, turbulent heat transfer 9-4054
flat plate boundary layer flow model and spherical particle drag expt. 9-18871
flat plates, transitions considered as cascade of instabilities 9-41676
flow near wall and dividing streamline intersection 9-3994
flow on continuous axisymmetric elastic surface (*Ukrainian*) 9-37285
flow past cone with large wall injection velocity, model 9-32561
flowing viscoelastic fluid, bubble and solid particle separation through apertures (*German*) 9-37389
flows from fixed to moving surfaces, gap effects 9-14377
fluctuating boundary layer on a heated horizontal plate 9-4004
fluid, convective heat transfer with alternating circulation, mathematical model (*Rumanian*) 9-14208
fluid motion in open basin, free boundary problem (*Italian*) 9-18868
forced and free convective flow past a semi-infinite vertical plate 9-37286
form drag of in-line tube banks in water cross-flow (*Russian*) 9-7412
free-convection boundary layer on an isothermal horizontal cylinder 9-41688
freon-114 boundary layer, stability, press. gradient and heating effects 9-18891
frictional force and torque in anisotropic spatially inhomogeneous viscosity fluid, variational principle 9-37367
fuel, condensed, combustion and extinction in stagnation pt. boundary layer 9-29356
Galerkin-finite element formulation in viscous flow 9-14367
gas, oscils. in tubes at reson. freq., shock wave heating (*Russian*) 9-32570
gas flow, high-temp., heating of graphite body, numerical soln. 9-37318
gas flow behind supersonic spheres (*Russian*) 9-14423
gas mixture, binary, condensation in boundary layer flow, numerical method 9-1236
gas-liquid reacting flow, interfacial area and liq.-side mass transfer 9-37420
gas-liquid transient flow in horizontal pipes, flow pattern transitions 9-32629
glassy material, destruction at critical point in radiative gas stream (*Russian*) 9-32910
gravity wave, internal, propag. in shear layer, discontinuity form. 9-32543
Gyarmati principle appl. 9-3993
Hagen-Poiseuille flow, natural transition freq. 9-32459
heat transfer bibliography, Japanese works 9-23317
heat transfer coefficient, interpolating eqns. between two limiting cases for flow along vertical plate 9-37309
heat transfer dynamics in channel, anal., impulse function method 9-37317
heat transfer from blunt plate, separated and reattached flow 9-32500
heat transfer in a second-order fluid for flow around a circular cylinder 9-41683
heat transfer with flow reversal 9-37313
holonomic formulation of boundary layer eqns., use of tensors 9-1153
hydraulic drag on banks of profiled twisted tubes in cross-flow of gas (*Russian*) 9-7381
hydromagnetic free convection flow, similarity solutions 9-27639
hydromagnetic thermal instability of rotating fluid layer, Hall current effects 9-27699
hypersonic flow, nonequilibrium gas mixtures past blunt bodies, Navier-Stokes equation (*Russian*) 9-18909
hypersonic laminar heat transfer to cones at angle of attack 9-1211
hypersonic shock layer, screening of selective heat radiation in boundary layer (*Russian*) 9-32497
ice growth in laminar flow through a channel with two parallel flat walls 9-3908
ideal gas in plane asymmetric nozzles, calcs. in overexpanded flow regimes 9-41730
inclined surface, natural convection flow, transition, vortex system, meas. method 9-27632
infinite oscillating plate in viscoelast. fluid 9-27670
integral spline method, boundary layer eqns. 9-32450
internal solitary waves prod. by tidal flow over three-dimens. ridge, ocean appl. 9-46332
jet, cross stream injection boundary layer, flow and temp. field 9-1225
jets, adiabatic, spatial form 9-46284
kerosene drops in crystallising $MgCl_2$ brine, direct contact cooling 9-1053
laminar, extraction through slots of finite width (*Russian*) 9-27692
laminar, fourth-order numerical method 9-1174
laminar, local self-similarity method 9-32453
laminar, regular separation free from Goldstein singularity (*Italian*) 9-41657
laminar, separation in water, heating and suction, comments 9-14378
laminar, solution of the Falkner-Skan equation by quasilinearization 9-1156
laminar boundary layer, optimal control, group theoretic approach 9-32452
laminar boundary layer, optimal control by wall suction or blowing 9-1242
laminar boundary layer eqns. soln. by inverse series method 9-41662
laminar boundary layer flow with suction (blowing) and pressure gradient, finite element anal. 9-18866
laminar boundary layer heat transfer over rot. bodies 9-32517
laminar boundary layer on heated plate, numerical results 9-10545
laminar boundary layer on rot. sphere 9-27648

boundary layers continued

- laminar boundary layer solns. on moving surfaces, series method 9-32455
 laminar boundary-layer reattachment in supersonic flow 9-46342
 laminar channel flow, heat transfer in entrance region 9-32518
 laminar compressible boundary layer flow at stagnation pt., vectored mass transfer 9-27661
 laminar compressible boundary layer flow at stagnation pt. 9-10583
 laminar compressible MHD boundary layer flow, effect on heat transfer 9-14489
 laminar condensation heat and mass transfer at stagnation point of droplet in ternary mixture 9-14227
 laminar convection, in vertical cylinder const. heat flux 9-46307
 laminar forced convection to turbulent free convection transition over heated plate 9-32516
 laminar jet at wall, heat transfer 9-41725
 laminar non-Newtonian falling liquid films, dynamics 9-7393
 laminar shear layer on oscill. plate 9-32454
 laminar unsteady flow past flat plate, finite difference method 9-18864
 laminar vapour flow between parallel disks with asymmetric sublimation 9-18865
 laminar water boundary layer on heated cones, variable viscosity effect, heat transfer, shear stress 9-32520
 latex suspension liquid film flow, local thickness meas. 9-4070
 liquid film, falling, laminar, evaporation model 9-46305
 liquid film breakdown, numerical anal. 9-46285
 liquid film flow down inclined plane, deflection toward underside 9-18867
 liquid layer on rot. Archimedes spiral, mass transfer 9-14413
 liquid metals with variable thermal cond. and capacity, forced convection 9-37310
 liquid slip inside channel exit 9-10612
 liquid vertical layers, convective flows with spatially modulated temp. distrib. at boundaries (*Russian*) 9-32496
 liquids, immiscible, convection at interface induced by coupling between chem. reacts., hydrodynamics (*French*) 9-41682
 local supersonic zone near wing profile of infinite span flow calcs. 9-32565
 mainstream acceleration effect on heat transfer and wall temp. downstream of gas injection 9-1251
 mass transfer in laminar flow between two plane parallel plates 9-37321
 MBBA, nematic phase, effect of elec. field on flow alignment angle 9-10792
 MHD channel and boundary layer flows, rel. to energy sources, review 9-37403
 MHD flow in annular and linear channels, boundary layer conditions (*Chinese*) 9-37404
 MHD flow near a time-varying accelerated porous plate 9-23372
 MHD flow over flat plate, boundary layer function, asymptotic behaviour 9-46393
 MHD generator, non-equilibrium, ionisation instability, finite boundary layer effect calc. 9-19098
 MHD stability of laminar boundary layer flow along flat plate with transverse mag. field 9-27709
 micropolar fluid, heat transfer in boundary layer flow, past curved surface 9-46316
 micropolar fluid boundary layer flow past circular cylinder 9-41658
 micropolar fluid flow, circular cylinder asymptotic boundary layer 9-18916
 moving surface, thermal laminar boundary layer under forced and free convection (*Russian*) 9-46286
 multi-layered liquid films, instability 9-1158
 multibody flow problems, boundary-fitted coords. for accurate numerical soln. 9-37289
 multiplanes, design theory 9-37284
 Newtonian liquid, coating on to rotating roll 9-41692
 non-Newtonian fluid, mass transfer due to rot. disc 9-41717
 non-Newtonian fluid, purely viscous, Rayleigh problem, pseudosimilarity soln. (*German*) 9-37364
 non-Newtonian fluid, rot. liq. film, free surface instability 9-37294
 non-Newtonian fluid, unsteady laminar incompressible boundary layer eqns., flow, heat and mass transfer, similarity solns. 9-32590
 nonstationarity near cylinder in air cross-flow (*Russian*) 9-7382
 nozzle, heat transfer of transonic air flow 9-1230
 nozzle discharge coefficients, boundary layer soln. 9-32626
 oblatting heat shield, Jupiter probe, C vaporisation into nonequilib. stagnation point boundary layer 9-1264
 ocean, wave-induced mass transport in stratified bottom boundary layer 9-2282
 ocean benthic boundary layer, diffusion-controlled model for deep-sea Mn nodules growth 9-2212
 ocean-atmosphere interface, coupled energy transfer, turbulent and radiative 9-2290
 oceanic fronts, circulation due to cabelling and double diffusion 9-2263
 optimally controlled boundary layer eqns., group fibering 9-41663
 Orr-Sommerfeld eqn., eigenvalue series representation 9-7364
 parallel flow stability, numerical calc. 9-32460
 parallel tube banks in transverse viscous flow, heat transfer and hydraulic drag (*Russian*) 9-10450
 passage, arbitrary cross-section, fully developed flow prediction method 9-1254
 perturbations, three freq. wave resonance (*Russian*) 9-32538
 pipe, horizontal, straight, heated, entry flow 9-32675
 pipe, particulate suspension flow, sticking probability and erosion, data correlations 9-41744
 pipe, swirled flow, friction law and form parameters 9-37329
 pipe, swirled flow, integral calc. method 9-37402
 pipe flow, laminar with nonlinear wall heat fluxes, axial cond. 9-27636
 plate kinematics in oscillatory bending, particle trajectories (*Russian*) 9-37209
 PMMA, struct. of boundary layers on solid substrate determ. by total internal reflection (*Russian*) 9-32922
 polymer solutions, viscoelastic, tubular entry flow, vortex characts. in stable flow 9-32428
 porous boundary with blowing, numerical exponential box scheme 9-1240
 porous surface, heat exchange optimal control 9-32661
 potential flow around axisymmetric bodies 9-41656
 power law fluids, mass transfer into boundary layers 9-32588
 pseudoplastic liquid film, wave motion 9-32583
 PVC, emulsion, melts, slip, visual observations 9-4047
 PVC cpds., rigid, plasticised, capillary flow 9-4046

boundary layers continued

- quench front motion, heat transfer coeff., surface approx. using boundary layer anal. 9-43342
 radiating laminar boundary flow over flat plate at large free stream Mach no. 9-1270
 rarefied hypersonic flow on wedge, numerical anal. (*Japanese*) 9-32580
 recirculating flow, numerical prediction 9-1152
 reflection, of obliquely incident waves, at permeable quaywall with reservoir (*Japanese*) 9-32546
 ripple formation, growth and decay in oscillatory flow (*Polish*) 9-25227
 ripple induced bed roughness, effect on surface waves attenuation (*Polish*) 9-25262
 rivulets, flowing down vertical solid surface, contact angles, roughness effect 9-27731
 rotating fluid, waves due to sources and internal boundaries 9-37323
 secondary flow beside cylinder in complex sound field 9-14376
 semi-bounded slow viscous flow past cylinder 9-41660
 separated supersonic boundary layer, moderate injection with reattachment, shear layer 9-32562
 separation, variational methods, book contrib. 9-32456
 separation of flow along line of regular surface (*French*) 9-41661
 shock capturing application of the finite element method 9-27665
 shock layers, flow over blunted cone, finite difference scheme 9-32435
 shock wave, laminar to turbulent boundary layer transition, effect on current flow 9-41709
 similarity problems, unified approach 9-10543
 slender cones, drag meas. in hypersonic flow using mag. suspension and balance 9-4039
 sliding interfaces and impact, numerical treatment 9-41631
 small body in nonuniform flow, stability 9-18873
 sonoprobe survey, automatic recognition of submarine sediments (*Japanese*) 9-39985
 sphere with fluid source at centre, heat transfer to fluid stream 9-18887
 spheres, concentric, cooling by forced convection, at low Reynolds no. 9-1183
 spinning disc causing laminar and turbulent flow, mass transfer 9-41691
 stability of catalytically recombining gas 9-41768
 stagnation point boundary layers, unsteady, three dimensional, compressible, numerical soln. 9-37335
 stagnation point flow impinging obliquely on wall 9-27617
 stationary Ekman flow, bifurcation into stable periodic flow 9-32449
 steady low Reynolds number flow, past circular cylinder, soln. and drag calc. 9-37287
 steady vortex driven by heat line source, math. anal. 9-23329
 steel, stainless, cylinder, in thermal aerodynamic tube, nonsteady heat transfer method 9-37147
 steel target-supersonic plasma impact effect, boundary layer role 9-32780
 stellar atmospheres, free convection effects on unsteady laminar boundary-layer flow 9-35237
 Stokes' problem for vertical infinite plate with variable temp. 9-23301
 Stokes flow, eddy structure between two spheres with relative vel. 9-27647
 Stokes flow, Faxen relations generalisation 9-32438
 Stokes flow, separation, appl. of bipolar coordinates to two-dimensional creeping motion of liquid 9-14375
 stokes flow due to circular scraping 9-46329
 stratified liquid flow around submerged body, wave motion (*Russian*) 9-14453
 streaming, uniform, past fixed semicirc. infinite strip 9-23299
 suction effects on shock wave-boundary layer interaction, numerical Navier-Stokes soln. 9-1243
 suction or blowing flows through openings in the wall of a boundary layer (*French*) 9-18947
 supersonic boundary layer flow about cones, method of integral relations 9-10589
 supersonic combustion past a conical body with normal surface blowing 9-41770
 supersonic corner flow, boundary region 9-32559
 supersonic corner flow, viscous-inviscid interaction 9-32563
 supersonic flow, nonstationary separation of laminar boundary layer, numerical method (*Russian*) 9-14425
 supersonic flow, viscous, past corner, energy eqn., asymptotic solns., heat transfer 9-32564
 supersonic flow past flat faced cylinders, second order shock capturing finite difference method (*Japanese*) 9-4038
 surface wave generation of stationary flow (*Russian*) 9-39731
 thermal, thickness for Poiseuille flow past permeable bed 9-46299
 thin cylindrical body acceleration in viscous fluid 9-10571
 transient temperature field approx. in cylindrical and spherical bodies (*Polish*) 9-32192
 transonic unsteady flows calc. using integral eqn. method, aerodynamics 9-32554
 transonic viscous flow around 3D wings 9-37346
 tube, vert., uniformly heated, forced convection boiling, crit. heat flux 9-27498
 tube, vert., uniformly-heated, crit. heat flux prediction, generalised graphical method 9-46313
 tube flow, charged particle suspension deposition 9-37416
 turbulence models for heat transfer, review 9-4017
 turbulent heated wake, interface statistics 9-27645
 turbulent jet mixing layers, exptl. investig. of large scale structs. (*French*) 9-41728
 turbulent shear flow with streamline curvature, algebraic stress-heat flux model 9-27625
 two-dimensional laminar flow between porous walls 9-14477
 two-phase boundary layer, successive approx. method 9-32647
 two-phase flow, transient, interfacial heat and mass transfer, surface renewal model 9-27683
 unsteady boundary layer flow, past suddenly cooled vertical plate 9-32480
 unsteady boundary layer over an impulsively started flat plate using finite elements 9-14366
 unsteady compressible boundary layer equations, generalised soln. 9-32463
 unsteady forced convection heat transfer from impulsively started circ. cylinder 9-27633
 unsteady free convection flow past a vertical porous plate with variable suction and transverse magnetic field 9-32691
 unsteady heat transfer effect on boundary layer growth at forward stagnation point 9-10555
 unsteady three dimens. laminar boundary layer separation, anal. 9-32451

boundary layers continued

- unsteady two-dimensional and axisymmetric compressible boundary layers 9-27616
- viscoelastic fluid, MHD flow past porous plate in slip flow 9-4084
- viscoelastic fluid fluctuating flow past infinite porous wall in slip flow regime 9-18917
- viscoelastic fluid in channel entrance, hydrodynamic and thermal boundary layers 9-18915
- viscoelastic layer, flow down inclined plane, finite amplitude long wave stability 9-37365
- viscous drag reduction by polymer injection at high Reynolds number (*Chinese*) 9-32582
- viscous flow in oscillatory spherical annuli 9-32542
- viscous flow past multiple planar arrays of small spheres 9-37288
- viscous fluid magnetic throughflow in slot, inertia effect 9-37418
- viscous-inviscid flow interaction method, using blowing and suction flows 9-1154
- wall, plane, nonsteady heat transfer, conjugate problem soln. 9-37128
- wall jet negotiating a trailing edge 9-41726
- water, vertical boundary layer convection, salinity and press. depends. 9-37316
- water adjacent to vertical uniform flux surface, buoyancy driven flow, transition and transport 9-27631
- water waves, oscillatory boundary layer meas. using laser Doppler anemometry 9-27719
- wave drag, rel. to momentum and pseudomomentum fluxes 9-37332
- wedge, forced-convection film boiling, boundary layer flow 9-46366
- Ar ionised gas flow, quasi-steady laminar boundary layers 9-10544
- He, supercritical, laminar free convection heat transfer, analytical study 9-23311
- MHD flow and heat transfer, porous disc eccentric rotations at infinity 9-18965
- N₂O₄, dissociating, nonsteady flow in steam-generating channel 9-37422

boundary-value problems

- see also initial value problems*
- a mixed boundary value problem in elasticity 9-23274
- acoustic reflection from liquid surface, influence of condensation and evaporation 9-46097
- acoustic scattering at rough boundary to inhomogeneous ocean 9-7247
- acoustic waveguides, Holmholtz eqns., radiation conditions for boundary value problems 9-14134
- antenna, null field approach, computational method 9-13877
- anti-vibration systems, Fick boundary value problem soln. (*Russian*) 9-35540
- arc, cathode region, easily ionised admixture effects calcs. 9-14633
- astrodynamics, perturbed boundary-value problems, variational formulae 9-21161
- asymptotic results for model eqn. for low Reynolds no. flow 9-14371
- asymptotic solution of a class of singularly perturbed nonlinear boundary value problems via differential inequalities 9-5970
- atmosphere, boundary layer structure of axisymm. vortex, lower boundary condition effect 9-25298
- atmosphere, quasigeostrophic models, horizontal boundary condition 9-5576
- beam, homogeneous, initial boundary value problem of transverse vibr. 9-40367
- beam, homogeneous, initial boundary value problem of transverse vibr. 9-41601
- beams, finite, curved, stress anal. under general equilb. loading 9-14258
- Blasius eqn., generalised 9-35567
- boundedness, definiteness of functional eqn. for nonconforming trial functions, finite element method, variational principle 9-2608
- capillary surface problems with prescribed contact angle, max. and min. principles 9-37907
- charge redistribution in system of conductors in relative motion (*Russian*) 9-41267
- charged particle in box, nonlinear integrodifferential eqns. with delay, soln. existence 9-27124
- circular cylinders with longitudinal slots, rigorous solution of excitation problem (*Russian*) 9-18340
- circular plates resting on viscoelastic half space, dynamic response 9-18801
- contact friction stress problems, soln. using superposition principle 9-32394
- convective diffusion to drop, large Peclet no., finite Reynolds no., asymptotic soln. 9-41742
- coplanar parallel charged strips, electrostatic problems 9-31765
- coplanar parallel strips, electrostatic problems 9-31766
- cylinder, elastic, equilb. difference scheme, deformation tensor approx. 9-41583
- cylinder with internal hole, dynamic excitation 9-18712
- demagnetising field, calc. by FFT 9-38355
- diffraction of plane EM wave by grating at interface 9-27139
- diffusion-reaction equations systems, existence, stability 9-20365
- domain with conical point, elliptic boundary value problem, asymptotic behaviour of soln. 9-17195
- elastic spatial problems in 1-D 9-30236
- elastic wave propag., boundary friction effects 9-46242
- elastically bent crystal, dynamical Bragg diff. of X-rays 9-14639
- elastoplasticity, velocity discontinuities, variational formulation of boundary-value problems (*French*) 9-32284
- electromagnet pole-piece design, air gap field computation 9-41295
- electrostatic, boundary value problem of four strips inside grounded cylinder 9-13862
- elliptic, local mesh refinement with finite elements 9-9091
- elliptic boundary problems, reduction to elliptic systems of pseudodifferential eqns. (*Russian*) 9-12573
- elliptic equation, self-adjoint, with complementary boundary conditions (*Chinese*) 9-35526
- elliptic porous slider, fluid dynamics 9-18952
- EM field, in cylindrical conductor, AC excited, with circumferential electrodes, boundary-value problem 9-7055
- EM field problem with a non-linear condition 9-18326
- EM response of anisotropic conducting cylinder to external source 9-7059
- EM scatt. integral eqn. resonant solution elimination 9-45895
- estimation of parameters for a beam on an elastic foundation with large deflections and built in at both ends 9-27520
- evolving shells, postcritical deformations (*Ukrainian*) 9-32310
- exterior problems of acoustics, integral eqns. soln. 9-27455

boundary-value problems continued

- exterior regions containing moving conductors, finite element models 9-41291
- finite element moving boundary computation with an adaptive mesh 9-35536
- finite elements construction for natural boundary conditions satisfaction 9-2610
- fission reactor fuel rod geometry changes, mech. interactions calcs. 9-40993
- fission reactor loss-of-coolant accident, 3-dimens. flow with multiple interfaces 9-41024
- flow, potential type, surface source and vorticity panel method 9-46278
- flow, spatial free-boundary 9-46279
- flow through porous media, finite element anal., book contrib. 9-32665
- fluid dynamics, initial boundary-value problems for partial differential equations 9-30256
- fluid motion in open basin, free boundary problem (*Italian*) 9-18868
- forward Monte Carlo heat conduction, known-temp. boundary condition treatment 9-158
- gas, rotating, convective instability in gravitational field 9-27642
- geodesy, Molodensky's problem in gravity space, existence and uniqueness of soln. by Newton's method 9-12061
- Green's function methods for linear second order systems 9-12578
- Hadamard conditions in nonlinear elasticity theory (*Russian*) 9-46207
- heat conduction solution, using generalised differential equations (*Hungarian*) 9-14202
- heat conductors with randomly varying boundaries, Green's functions (*German*) 9-32188
- heat equation, time depend. reachable states in boundary control systems 9-44886
- heat exchanging bodies, inverse heat cond. problem, boundary conditions identification methods 9-37115
- heat transfer between bodies in gas-filled contact, integral equation numerical solution 9-37130
- heat transfer dynamics in channel, anal., impulse function method 9-37317
- heterogeneous reactor, neutron distrib. determ. by 1-D multiregion cylindrical cell 9-26488
- hologram grating, boundary conditions for diffracted EM fields 9-3660
- hyperelastic, dual extremum principles and global error bounds 9-30253
- ice accretion calc. 9-29799
- ice growth in laminar flow through a channel with two parallel flat walls 9-3908
- incompletely parabolic problems in fluid dynamics 9-44749
- index of problem with boundary condition containing derivatives (*Russian*) 9-9079
- inflows, density currents, and fronts 9-10542
- intensive air flow round thin and sharp axially symmetric bodies (*Russian*) 9-37330
- inverse problem for the heat equation, Neumann and Dirichlet data correl. 9-23184
- jet, liq., breakup, 3rd perturbation Cosserat soln. 9-32615
- kidney counter current mass transport spatially discrete models 9-39442
- laminar boundary layer, solution of the Falkner-Skan equation by quasi-linearization 9-1156
- least capacitance region, free boundary optimisation problem 9-13864
- least capacitance regions, free boundary optimisation problem 9-13865
- LF fields in linear media, two-dimensional finite element analysis 9-41297
- magneto-elastic plates under mixed boundary conditions 9-7328
- meteorological fields variational adjustment 9-39837
- MHD equilibria numerical analysis (*Japanese*) 9-41760
- model nonlinear problem with continuous locus of singular points, limiting values 9-12577
- monotony properties and inequalities for Green's functions for multipoint boundary value problems 9-30202
- Monte Carlo heat conduction using transport eqn. approximation 9-159
- multiedge corner, singular stress field, boundary value problem elasticity solns. 9-37174
- nematic liquid crystals, surface-aligned and bounded by two parallel substrates, orientational order 9-32885
- neutron flux optimum control during nuclear station load following 9-9761
- Newman's numerical technique for solns. 9-40352
- non-self-adjoint problems and essential boundary conditions 9-44732
- nonlinear, equilibrium of plasma in Tokamak machine 9-19080
- nonlinear elasticity, boundary value problems, finite element anal., recent developments 9-44737
- nonlinear elasticity strain energy, integral bound for displacement boundary value problem 9-37171
- nonlinear physical media, boundary value problem soln. by finite element anal. 9-17214
- nonlocal elastic half space, boundary forces in solvable integral model 9-35558
- ocean bottom roughness effects on LF propag. 9-41501
- Onsager model, time-depend. quantum efficiency 9-11194
- parabolic operators method for determ. unknown coeffs. 9-30209
- periodic solutions of semilinear elliptic equations in a strip 9-17196
- periodic structures, asymptotic anal., book 9-25851
- phase change problem, with temp. dependent thermal conductivity, noniterative soln. 9-27493
- plane elasticity theory, use of automorphic functions (*Russian*) 9-35563
- plane elastostatic boundary value problems, formulation as integral eqns. by singularity method 9-35556
- plane entry flows and energy estimates for Navier-Stokes eqns. 9-37278
- plane harmonic Dirichlet problems, soln. for canonical domains 9-21548
- plasma, Maxwell-Vlasov system 9-19001
- plasticity, dual extremum principles in rate boundary value problems 9-25845
- plate, circ., thin, elastic, containing Griffith crack, in infinite elastic medium, stress distrib. 9-32374
- plate, linear elastic, classical boundary value problem 9-14261
- plate, thick infinite, transversely isotropic, containing circ. hole, end effects 9-27510
- Plexiglas, spark energy balance 9-23474
- point heat source, natural convection in rotating environment 9-10445
- Poisson's equation, finite difference form, numerical soln., unconditionally stable scheme 9-50
- polytropic media, shock waves formation processes, boundary condition effects 9-46347
- preconditioning of indefinite problems by regularization 9-46214

boundary-value problems continued

- quasi-geostrophic equation, stationary solns. with nonlinear boundary conditions 9-48529
 radio transmission in Earth-ionosphere waveguide, concise theory 9-48616
 random walk on lattice, correl. of successive steps, absorbing walls 9-44863
 rotating disc with axisymmetric surface heat source distrib., in laminar flow, heat transfer 9-46314
 scalar wave transmission, through small apertures, appl. of isoperimetric inequalities 9-32109
 scattering theory for domains with non-smooth boundaries 9-30293
 seismic inversion for boundary shape between two layer stacks 9-16684
 seismic waves diffraction by finite crack, appl. to location of magma lens 9-16416
 sethlets, generalised singular points 9-46
 SH-waves refl. and refr. in presence of slip and friction 9-46243
 Signorini's problems, reciprocal variational inequalities soln. 9-41585
 simple fluid, energy stability method 9-27629
 simultaneous Wiener-Hopf equations, solvability in boundary condition case 9-44750
 singular perturbation of elliptic equation (*Chinese*) 9-35525
 singularly perturbed boundary value problem with turning point 9-5972
 singularly perturbed nonlinear boundary value problems with turning points 9-5971
 slip theory, boundary value problems soln. (*Ukrainian*) 9-41588
 slotted boundary machine field soln., conformal transformation and integral methods 9-41272
 Sobolev equations for nonlinear dispersive systems 9-21528
 solar magnetograph data, boundary-value problem for force-free mag. fields determ. 9-12445
 solar storage tank, buried, hemispherical, heat cond. to environment, series soln. 9-3891
 solution using net method (*Ukrainian*) 9-35524
 spectral resolution of boundary value problems in half space for partial differential matrix operators 9-25825
 spray, numerical computation, appl. to engines 9-37378
 star shaped membranes, new bounds of Poincaré const. (*French*) 9-25860
 stationary flow between water reservoirs separated by non-homogeneous dam, free boundary problem 9-10606
 Steklov const., bounds 9-25861
 stochastic, solns. using digital simulation of space-random fields 9-41510
 streaming, uniform, past fixed semicirc. infinite strip 9-23299
 surface field calc., floating random walk method 9-41273
 suspended sediment transport theory, elliptic boundary value problem 9-14466
 suspension, Brownian rotational-translational particles, at finite conc., dynamics and hydrodynamics 9-7401
 thermoelastic half-space transient response 9-32253
 thick infinite plate with circular hole, axisymmetric stress and displacement boundary value problems 9-27511
 Thomas-Fermi eqn. solns., iterative method 9-9185
 time-dependent boundary-value problem soln., half-range, orthogonality relations 9-14508
 trajectory, optimal, for lunar mass catcher 9-16844
 transformation operators and wave propagation in a spherically stratified medium 9-18569
 transmission line modelling of diffusion 9-26011
 transparent stagnation point shock layers, non-iterative solution of energy eqn. 9-18911
 transport-equation, with anisotropic scatt. in finite slab geometry 9-17364
 transversally isotropic layer, soln. of three-dimens. problem of theory of elasticity 9-40372
 tropical cyclone surge model, finite difference method 9-12132
 two or three electrons, interacting with localised mag. moment, wave function determ. (*French*) 9-12636
 uniqueness of Dirichlet, Neumann and mixed boundary value problems for Laplace's and Poisson's equations for a rectangle 9-9076
 upwindings of high order Galerkin methods in conduction-convection problems 9-3886
 viscoelastic fluid, flow induced by elliptic harmonic oscills. of disc 9-4044
 viscoelastic liquid, pulsatile flow in elliptic cross-section channel 9-7392
 viscoelastic liquid channel flow, boundary-initial value problem 9-4045
 water, thermally-stratified, cooled from above, free convection 9-46315
 wave equation mixed problem, method of potentials 9-40381
 wave propagation in random media, oceanic appls. 9-5987
 wedge, 3-dimens., functional equations of static elasticity theory (*Russian*) 9-46203
 x^4 potential, associated ground state wavefunction, sum rules 9-45036
 Si:B, ion implanted, SOS device struct., nonlinear impurity redistrib. 9-1625

bowing see bending**brain****see also neurophysiology**

- auditory information, anatomical and physiological basis 9-11944
 auditory space neural map, owl 9-8514
 blood velocity in brain capillaries, microkinematic obs. (*Russian*) 9-5366
 cell assemblies in the cerebral cortex 9-2033
 cerebral blood flow meas., lateral counting corrections 9-8536
 cerebral blood flow parameterisation, scintiangiography meas. 9-25025
 cerebral cortex function, rel. to blood flow 9-43988
 cerebral ventricle, intact, site for allografted mature superior cervical ganglion fragments in rats 9-8493
 cerebrovascular disorders, computerised tomographic diagnosis, review 9-34638
 computerised tomography, anatomic and pathologic correls. 9-34636
 computerised tomography, clinical interest of coronal and sagittal sections 9-29587
 computerised tomography, neurodiagnostic studies and head injury management 9-39470
 computerised tomography, role and relation compared to radionuclide imaging 9-34637
 computerised tomography scanning, traumatic and emergency patients 9-34639
 cortical visual evoked potential, normal humans, bibliography of research 9-5278
 cranioencephalic computer tomography in the neonate, review 9-34640
 craniopinal mechanical fluid systems, dysfunctioning as revealed by stress/strain diagrams 9-25024

brain continued

- EEG, magnetoencephalogram, current dipole model, central nervous system disease diagnosis applications 9-48238
 EMI brain and body scanners, patient radiation dose 9-48341
 encephalic receptors, photostimulation in sparrows, induction of Zugunruhe 9-24985
 evoked frequency stabilisation in cat brain electrical activity 9-34533
 gamma-angio-encephalographs, enhancement, reduction of statistical fluctuations (*French*) 9-5345
 hemispheric differential activation during complex visuomotor performance 9-16183
 intracranial cystic abnormalities, children, computerised tomography diagnosis, review 9-34641
 intracranial tumours, diagnosis by angiotomography 9-48333
 lateralization, induced by infantile stimulation in rat 9-48239
 magnetic field meas. and personnel selection 9-2026
 magnetic phenomena, central nervous system, book contrib. 9-5304
 metastasis, clinical symptomatology and computerised tomography 9-29584
 microtubule solns., calf, dynamic laser light scattering 9-16150
 midbrain reticular stimulation, brightness detect., Rhesus monkey 9-43919
 olfactory bulb and cortex, spatial props. of EEG event 9-16223
 positron imaging device for dynamic studies 9-48327
 posterior fossa, device for midline angio-tomography 9-34642
 radioisotope imaging, artifact in supine posterior projection 9-34661
 sella and parasella lesions, sagittal and coronal reconstructs. using computerised tomography 9-39471
 somatosensory cerebral evoked potential changes under constant mag. field 9-39383
 tumour destruction by 8 MHz implanted metal powder eddy currents (*German*) 9-16337
 visually evoked cortical potentials in renal failure, latency changes 9-16200

brain models**see also learning systems; neural nets**

- cerebellar Golgi-granular system simulation (*Japanese*) 9-29522
 cerebral dynamics model, information sources (*Spanish*) 9-29520
 cortices large-scale simulation via BOSS system 9-2039
 intracortical EEG relationship model (*German*) 9-16180
 large network models using the brain organisation simulation system 9-8496
 lateral-inhibitory neural fields, excitation pattern dynamics 9-5270
 neural net discrete-time model and applications (*Russian*) 9-2020
 neural network, aggregation simplifying simulation 9-8497
 ocularity domains and growth behaviour of axon terminals 9-48249
 pattern separability and the effect of the number of connections in a random neural net with inhibitory connections 9-20532
 recall and recognition in class of adaptive networks 9-48234
 temperature rise induced by EM field 9-29564
 visual cortex direction selectivity development model 9-48251
 visual cortex neural circuitry model for orientation sensitivity 9-11927

brass

- acoustic harmonic generation by long-range dislocation motion 9-42150
 adsorption of Hg, effect on mech. strength, creep, fatigue, embrittlement (*Russian*) 9-29267
 α/β bicrystal, dynamic obs. of fracture phenomena 9-5040
 α -bicrystal, grain boundary fracture at intermediate temp. (*Japanese*) 9-15774
 bicrystal, two-phase α/β , diffusion induced twins in α -phase 9-46967
 bicrystal, two-phase α/β , morphology and crystallographic relationships between phases 9-46966
 bicrystals, α/β two-phase interface struct., made by solid state diffusion couple method 9-28214
 cavitation during superplastic deform. 9-5011
 circular plate perforation and deformation by square section punch 9-34100
 corrosion by HNO₃ vap., holographic interferometry 9-3658
 creep of β and β' phases, influence of order (*French*) 9-38921
 cylindrical shells, thickness determ. by inductive meas. 9-12760
 deformation and ductility of α -phase single crystal at elev. temps. (*Japanese*) 9-5012
 dezincification testing in laboratory 9-34226
 diffused coating on steel from vapour-gas phase (*Russian*) 9-5080
 electron irradiated, vacancy migration props., effect on enhanced atomic mobility 9-46829
 fatigue, high temp., effect of mean stress 9-20153
 fatigue hardening and high cycle fatigue under reversed bending 9-20180
 fracture under influence of high power US waves (*Russian*) 9-5034
 grain boundary sliding and intergranular cavitation during superplastic deformation in α/β phase 9-5009
 Gruneisen parameter determ. using thermoelastic effect 9-28068
 hydroextrusion, effect of longitudinal US oscills. (*Russian*) 9-34071
 inface segregation in α/β two phase bicrystal and polycrystal (*Japanese*) 9-15675
 intrinsic stacking fault energy, effect on cyclic hardening 9-11638
 leaded, effect of Al, Sn, Fe on solidification, differential thermal analysis exam. (*Russian*) 9-29041
 liquid metal embrittlement, eval. by quasistatic crack propag. technique 9-29262
 neutron irradiated, α -phase, effect of voids on positron annihilation 9-15553
 nonradial diffuse streaks and complex diffuse scatt. patterns of electrons 9-7527
 α -phase, fracture behaviour, effect of deform. temp. and alloying content (*Japanese*) 9-20159
 plastic deform. under complex loading 9-38890
 plastically deformed, phase transforms. and diffusion phenomena (*Russian*) 9-20115
 positron annihilation in α and $\alpha+\beta$ phase, short-range order, clustering and lattice defects influence 9-29107
 pseudoelastic effects in single crystals 9-47739
 repeated friction contact, form. of thick hardened surface layer 9-39056
 serrated yielding, tensile tests and TEM obs. in α -phase 9-34110
 solid soln., ductility, comp. effect (*Japanese*) 9-43334
 α -solid soln., intermediate temp. embrittlement (*Japanese*) 9-20158
 stress corrosion cracking, effect of strain rate 9-20257
 stress corrosion cracking at low stress intensity factors 9-29264
 stress corrosion cracking in 15 N ammoniacal soln. of 2-phase 9-47802
 surface reddening during strip reduction process 9-43490

brass continued
whisker growth in Zn reduction, morphological change to dendrites 9-28261
AL bearing, alpha phase, high temp. relief cavitation SEM, STEM, TEM, SIMS and EDX anal. 9-5039
CuCl₂-brass, chemically deposited photosensitive cells, photovoltaic char-acts. 9-39303
 β (CuNi)Zn alloys, effect of normal stress on {112} {111} slip 9-47760
Bravais lattice see crystal atomic structure
brazing see also soldering
JET Tokamak toroidal field coil manufacture 9-31206
steel, C, brazed joint, corrosion mechanical strength 9-43491
steel, stainless and plain C. brazed joints used in thermal power plants, corrosion resistance 9-43492
Be lightweight optical substrate fabrication 9-23107
Mo alloy VM1 to stainless steel 1Kh18N10T 9-43551
n-Si, p-type regrowth layer formed by brazing with metal support disc, diode appl. (Japanese) 9-15833
breakage see fracture
breakdown (electric) see electric breakdown
breakdown (mechanical) see manufacturing processes
breakdown diodes see avalanche diodes; Zener diodes
breeder reactors see fission reactors
bremsstrahlung
see also electron radiation; gamma-ray spectra; gamma-rays; X-ray emission spectra; X-rays
Abell 2256, rich cluster, steep-spectrum radioisotope obs. 9-9016
Auger peaks, bremsstrahlung-induced, utility in spectroscopy 9-30618
auroral X-rays, visible arcs and precip. primary electrons, satellite correlated obs. 9-35029
elastic scattering and bremsstrahlung theory of fast charged particles in crystals (Russian) 9-28853
electron+atom, 1-500 keV, bremsstrahlung ang. distrib. prediction 9-41312
electron scattering from atoms, bremsstrahlung cross-section, near HF limit 9-18288
electron-ion collisions, stimulated multiphoton bremsstrahlung 9-19007
electron-photon cascades, Monte Carlo simulation of cascade development 9-44322
field interface of moving particles in statistically inhomogeneous medium 9-6063
flaw detection systems based on semicond. detectors and scintillation crystals, for hard bremsstrahlung 9-11748
free electron laser, collective and single electron interactions, book contrib. 9-27234
free electron lasers, mag. bremsstrahlung, Compton and Cherenkov, types (Chinese) 9-31851
galactic disc, bremsstrahlung gamma radiation emissivity and local inter-stellar electron spectrum 9-25417
galactic electron spectrum below 1000 MeV 9-5718
gluon bremsstrahlung and multiperipheral cluster models 9-22082
hadron-hadron, e^+e^- pair prod. calc., high energy internal conversion of bremsstrahlung photons 9-420
high frequency cross section limit for neutral ats. and ions 9-27142
influence on γ dose buildup factors rel. to penetration depth (Russian) 9-13542
inverse magnetic bremsstrahlung around the electron-cyclotron frequency 9-27781
isochromat spectroscopy using a modified XPS apparatus 9-35912
laser-induced bremsstrahlung beyond the dipole-approximation 9-3615
linear polarisation enhancement of bremsstrahlung in crystals, spin effects 9-11359
multiphoton inverse bremsstrahlung, plasma laser absorpt. coeff., corre-spondence principle method 9-32749
neutral atoms, high freq. limit, effect of resonance scatt. 9-31473
neutral atoms, high freq. limit 9-31472
neutrino bremsstrahlung in an intense magnetic field 9-30055
neutron activation anal., self attenuation of neutrons and gammas, Monte Carlo determ. 9-1980
particles accelerated by Alfvén waves, distrib. function self-similar solns. 9-32757
PIXE anal. of insulating samples, reduction of bremsstrahlung background 9-20489
plasma, bremsstrahlung of fast particles, collective effects 9-10645
plasma expanding into vacuum, bremsstrahlung radiation intensity (Rus-sian) 9-7448
plasma heating by laser beam, radial expansion effect, quasistatic model 9-37520
rare earth metal, 4f levels, obs. by bremsstrahlung isochromat and XPS spectroscopy 9-24411
relativistic positron and electron bremsstrahlung under conditions, theory 9-19301
secondary bremsstrahlung, contrib. in gamma quanta transport problems 9-40782
soft photon expansion and theorem, bremsstrahlung cross section 9-17728
solar flare transmission region radioemission, role of thermal bremsstrah-lung (Russian) 9-48763
solar hard X-ray bursts, thermal bremsstrahlung model with collisionless cond. front 9-44427
solar microwave bursts, source, energetic electrons (Russian) 9-21258
source spectra anal. in terms of integral moments, solar hard X-ray burst appl. 9-16810
spontaneous electron bremsstrahlung in field of intense EM wave (Rus-sian) 9-3616
substorms, satellite obs. of impulsive bremsstrahlung X-ray events, electron precip. 9-2438
X-ray emitting gas in clusters of galaxies, bremsstrahlung cooling evolu-tion 9-40266
pp bremsstrahlung, 1.38 GeV/c, differential cross section meas. 9-40796
²⁵As, level lifetimes, bremsstrahlung, reson. fluoresc. (French) 9-13248
⁷Be decay, radiative capture of orbital electrons, inner bremsstrahlung spectrum, decay energy 9-500
⁷Be, nucl. electron capture, inner bremsstrahlung spectrum, partial decay energy 9-6512
¹²C(p,p)¹²Cm bremsstrahlung near 1.7 MeV resonance 9-45249
H, electron and positron bremsstrahlung, differential cross sections 9-18294

bremsstrahlung continued
H, electron scatt. in EM field, reson. emission and absorpt. of photons 9-27087
H electron scattering bremsstrahlung cross section, laplace transform method in two-photon spectroscopy theory 9-10084
^AIr, A=191,193 photoneutron yield curves, nuclear shape and giant dipole resonances, 8-21 MeV (Russian) 9-13268
LiF film, guided wave excitation by fast electrons 9-24384
LiF, K α -satellites of F⁻ (German) 9-28864
^APt, A=194-8 photoneutron yield curves, nuclear shape and giant dipole resonances, 8-21 MeV (Russian) 9-13268
brick industry
calcining of clay, particulate emission removal using electrostatic precipita-tor 9-24925
bridge circuits
see also bridge instruments
electrical conductivity, of electrolytic solns., bridge cct. for cond. cell (Ger-man) 9-9220
errors due to changes in resistance thermometer conductor resistance 9-30473
semiautomatic bridge for high-precision DC resistance measurements on pure metals at low temperatures 9-35788
Tokamak EF coil energy transfer supercond. solenoids and phase-shifting bridge 9-31213
unbalanced, anal. of circuits with thermistors and pulsed supplies 9-30474
bridge instruments
see also bridge circuits
biomaterial microwave complex permittivity meas., noninvasive selective exposure 9-20729
cell and setup for elec. resist. meas. of semicond. ceramics, 300-1400°C 9-30488
closed Wheatstone bridge for tenso resistor, resistance meas. (Russian) 9-12821
environment protection when siting power station, temp. and humidity meas. methods (French) 9-12318
four-arm bridge measuring circuits with linearised characteristics (Rus-sian) 9-12820
high-resolution cryogenic resist. bridge using SQUID null det., construc-tion and performance 9-2792
Kelvin double bridge, precision, for capacitance meas. up to 1 F, ratio arm adjustment 9-21776
metal foil gauge, long-term stability of strain meas. 9-17417
phase-sensitive detector, programmable, for automatic bridge appl. 9-21773
piezoresistive C gauge for low shock pressure meas. 9-1278
RF voltage standard, precision, using thermistor bridge, HF-UHF range 9-21772
RLC bridge, with oscillator and having ten ranges 9-2785
temp. meas. of rotating object, non-contact method with thermistor and pyrometric voltmeter 9-35742
Bridgman method see crystal growth from melt
brightness
see also sky brightness
AO 0235+164, BL Lacertae object, relativistic blast-wave model for rapid flux vars. 9-9017
AO 0235+164, BL Lacertae object, UBV photographic magnitude obs. during flare 9-25724
Arakelian 120, Seyfert 1 galaxy, optical variability 9-40259
astronomical observations, brightness distrib. uniquely related to fringe visibility intensities 9-8842
3 C 31, radio jet brightness and shape rel. to beam and slingshot models 9-25741
clusters of galaxies, radiation intensity and space distrib. non-randomness (Chinese) 9-17111
clusters of galaxies, X-ray luminosities rel. to intracluster gas evolution 9-40266
comets, brightness variation and nucleus struct. 9-2521
comets, convolution of brightness profiles by circular diaphragms 9-12433
Crab Nebula, total intensity mapping at 2.7 GHz with 3.7×10 arcsec ang. resolution 9-40248
Earth surface, apparent radiance data appl. to groundwater flow pathways remote determ. 9-16522
galaxies, early-type, photometric determ. of twists in three objects 9-25703
galaxies, extrapolated central surface brightnesses 9-25705
galaxies, normal, X-ray luminosity evolution rel. to contrib. to diffuse X-ray background 9-17141
galaxies containing giant H II regions, absolute luminosities 9-8973
galaxy clusters, X-ray brightness distrib., gravitational potentials 9-12529
galaxy clusters X-ray sources, luminosity evolution and redshift depend. 9-17133
generalised radiance propag. through lenses 9-27359
gravitational lenses, high-intensification regions brightness 9-25463
intensity correlations in presence of additive background noise 9-27167
inverse problem for scalar planar sources radiometry and coherence, book contrib. 9-31797
irradiance distribution parameters fast meas. by image chopping tech-niques 9-36839
BL Lacertae objects, X-ray emitting, optical and X-ray flux vars. 9-48921
light source, radiance spectral density meas. 9-30527
luminance contrast effect on perception of chromatic blur, in colour TV images 9-39419
luminance difference thresholds of foveal vision, uniform surrounding luminance effects (Japanese) 9-24988
M32-1, planetary nebula in M32, forbidden O III 5007 Å luminosity 9-25664
M82, UVB colours and surface brightness distrib. of galaxy 9-9006
Markarian 231, Seyfert 1 galaxy, optical variability 9-40259
MCG 8-11-11, X-ray Seyfert galaxy, nucleus, brightness and colour vars. 9-25701
NGC 5383, barred spiral galaxy, optical surface photometry 9-9000
NGC 6251, radio jet brightness and shape rel. to beam and slingshot models 9-25741
periodic Comet Comas sola (1977n), total visual magnitude estimate (1978, November 29) 9-16889
Periodic Comet Schwassmann-Wachmann 1, total visual magnitude esti-mate, (1979 February 4) 9-30011

brightness continued

- Periodic Comet Tempel 2 (1977d), BV photometry, (1979, January 28 and 31) 9-30012
 PK 181+1.1, very low surface brightness planetary nebula near galactic anticentre, discovery 9-17049
 power luminance spectral density unit, USSR state standard, 0.05 to 0.25 micron wavelength range, synchrotron radiation principle 9-2819
 quasars, colour variability during flare-ups 9-9021
 quasistellar objects in $13^{\circ}+36^{\circ}$ field, optical variability from blue magnitudes obs. 9-40291
 radiant intensity from planar sources of any state of coherence 9-27163
 radio sources, brightness distrib. rel. to measured ang. dias. 9-12534
 radio sources, extragalactic, radiation intensity and space distrib. non-randomness (*Chinese*) 9-17111
 radio sources, jets brightness and shape rel. to beam and slingshot models 9-25741
 random arrays of grains, spectral props., jitter model, comment 9-41339
 random arrays of grains, spectral props., jitter model 9-45905
 relief objects on plane, brightness and illumination characts. calc. 9-904
 Saturn rings azimuthal brightness vars., obs. at tilt angle ($B \sim 11.5^{\circ}$) 9-48732
 Seyfert galaxies, type 1, nuclei props., UV emission, colour index (*French*) 9-48923
 solar chromosphere line brightness fluctuations (*Russian*) 9-21259
 solar faculae, mag., vel. and brightness struct. 9-25557
 solar luminosity variation, Ca H and K behaviour at solar minimum and cycle 21 onset 9-16907
 Sun, quiet, small-scale brightness struct. obs. at 8 millimetre wavelength 9-40149
 surface brightness distributions in elliptical galaxies 9-40268
 UV excess object, variable, discovery and UGR photometry 9-40280
 Venus, disc brightness distrib. from photometry rel. to models 9-40107
 vision, luminous efficiency functions determined by successive brightness matching 9-43906
 VV 8, galaxy, rot., mass and surface brightness obs. (*Russian*) 9-48937
 weak radio galaxies, relationship between radio power and enhanced emission regions separation 9-25726
 X-ray galaxy clusters, luminosity function 9-40277
 X-ray sources in SMC, max. luminosities from deep survey 9-25702
 zodiacal light, search at 1550 Å 9-16882
 zodiacal light brightness integral inversion 9-48738

Brillouin scattering *see Brillouin spectra***Brillouin spectra**

- see also stimulated Brillouin scattering*
 acetic acid, liq., sp. ht. of 2nd relax. step (*German*) 9-37766
 acetic acid, Rayleigh-Brillouin scatt., 20-115°C, viscoelastic theory anal. 9-28774
 n-alkanes, liq., hypersonic attenuation, temp. depend. of Brillouin spectra 9-11426
 amorphous polymer, Rayleigh-Brillouin spectroscopy 9-38556
 benzene, single crystals, Brillouin spectra, elastic consts. and intermol. pot. 9-42977
 carbon tetrachloride, liq., Brillouin scatt. for vibr. relax. time 9-4806
 computer-controlled Gabry-Perot interferometer for Brillouin spectroscopy 9-40622
 cyclohexane, plastic phase, Brillouin scatt., elastic consts. determ. 9-24324
 dipalmitoyl phosphatidylcholine-(cholesterol) aligned multilamella lipids, elastic props., Brillouin spectra 9-5255
 ethylene glycol, Brillouin scatt. and segmented motion 9-37609
 exchange and dipoles coupled ferromags., light scatt. from mag. surfaces, response theory 9-42820
 n-GaAs, semidegenerate, acoustoelec. gain and lattice attenuation, X-ray, Brillouin scatt. and elec. meas. 9-15193
 gas, nonequilibrium, kinetic theory 9-46421
 glass, laser, elastic, elasto-optic consts. and extinction coeffs., Brillouin scatt. meas. 9-11429
 2,4-hexadiene-1,6-di-ol-bis(p-toluene sulphonate), cryst., polymerisation, elastic consts., Brillouin scatt. 9-1950
 lithium ammonium tartrate, ferroelectric and ferroelastic transitions, Brillouin scatt. meas. 9-33716
 lubricant, glass transition, light scattering study 9-29228
 MBBA, hypersonic props., Mandel'shtam-Brillouin spectra obs. 9-4813
 multipass Fabry-Perot Brillouin scatt. spectrometer, optical alignment 9-35854
 nonequilibrium stationary states, light scatt., broken time reversal symm. 9-28776
 opaque crystal, Brillouin scatt., photoelastic and surface corrugation contr. 9-42980
 opaque media, Brillouin scatt. theory 9-19895
 optical fibres, single-mode, Brillouin spectrum 9-46032
 optical materials, elasto-optic coefficient determ. under static loading, by acousto-optic and Brillouin scatt. techniques 9-4787
 poly(4-methyl-1-pentene), semicrystalline, bulk and film, surface effects using Brillouin scatt. 9-42982
 polyethylene glycol, liquid, Brillouin scatt. and segmented motion 9-37609
 polyethylmethacrylate, Rayleigh-Brillouin light scatt. study 9-11425
 polyglycine, band struct., ab initio SCF LCAO calcs. 9-22874
 polymers, amorphous, Brillouin scatt., hypersonic relax. 9-4811
 Rochelle salt, phase transition mechanisms by optical spectroscopy 9-15411
 transparent solids, review (*Chinese*) 9-33714
 viscoelastic liquids, structural relax., fast and slow relax. limits 9-47465
 As₂S₃, amorphous, acousto-induced struct. change, Brillouin scatt. meas. 9-27928
 As₂S₃, amorphous, US attenuation obs. 9-46756
 BaMnF₄, incommensurate phase, Brillouin spectra 9-42981
 β-CD, single cryst., adiabatic elastic consts., at triple pt., Brillouin scatt. obs. 9-47466
 CdS, B exciton-polariton, reson. Brillouin scatt. 9-33717
 CdS, Brillouin scatt. of forbidden polaritons 9-33722
 CdS large- and small-signal lattice attenuation, Brillouin scatt. obs. 9-47130
 CdS, reson. Brillouin scatt. by longitudinal acoustic phonons 9-38555
 CdS, reson. Brillouin scatt., book contrib. 9-42983
 CdSe, resonant Brillouin scatt. via free and bound excitons 9-24330
 CdTe, reson. Brillouin scatt., book contrib. 9-42983
 CsH₂AsO₄, Mandel'shtam-Brillouin spectra and US vel. meas. near ferroelec. Curie point 9-38553

Brillouin spectra continued

- FeBO₃, weak ferromagnet, spin wave band struct. and microwave props. 9-1661
 GaAs, Brillouin scatt. from surface ripples 9-15472
 GaAs, reson. Brillouin scatt., book contrib. 9-42983
 GaSe, layer struct., fine independent elastic const. using Brillouin scatt. 9-19896
 p-H₂, solid, elastic consts., Brillouin scatt. obs. 9-8149
 He, liq., dynamical behaviour to λ-line, light scattering review 9-7717
 Hg₂Br₂, ferroelastic phase, softening of acoustic and optical modes 9-33064
 (KCN)_x(KBr)_{1-x}, Brillouin scatt. of elastic anomaly 9-28779
 LaP₃O₁₄, ferroelastic phase transition, thermal expansion and elastic consts. tensors 9-42236
 LiNbO₃:Ti, in-diffused waveguide, acousto-optical meas. of optical field profiles 9-23054
 (NH₄)₂BeF₄, ferroelectric, Brillouin scattering study 9-15470
 (NH₄)₂SO₄, phase transition mechanisms by optical spectroscopy 9-15411
 Ni film, ferromag., light scatt. from surface acoustic spin waves 9-33719
 PbHPO₄, ferroelec. phase transition, Brillouin and Raman spectra obs. 9-33683
 RbAg₄S₅, solid electrolyte, Rayleigh-Brillouin and low-frequency Raman spectra 9-33720
 Tb₂(MoO₄)₃, mode softening near ferroelec. transition, Raman and Brillouin spectra 9-33685
 Zn_{1-x}Cd_xTe, reson. Brillouin scatt., acoustic domain injection 9-38557
 Zn_{1-x}Cd_xTe, resonant Brillouin scattering (*Japanese*) 9-15474
 ZnTe(S), reson. Brillouin scatt., acoustic domain injection 9-38557

Brillouin zones*see also band structure*

- Bloch electrons, weak magnetism, spin and spin-orbit interactions (*Russian*) 9-33443
 chain crystals, interchain correlations and energy spectrum, Davydov splitting 9-28309
 lattice dynamics, normal modes vibrations, use of group of neutral elements of crystalline sites 9-37774
 metallic crystals, HCP, Brillouin zone representative points 9-33044
 metals, nearly-free-electron, holelike Fermi surface, Hall coeff. and magnetoelect. tensor 9-4547
 polyglycine chain with hydrated side group, electronic struct., transport props. 9-16146
 α-quartz, electronic energy band struct. calc. 9-23894
 semiconductor alloys, ternary, energy band calc., compositional disorder effect determ. 9-42442
 special point formulas from Gauss-Chebyshev integration 9-42001
 Be, electronic surface states, (001) surface, Brillouin zone 9-24047
 (BeH₂)_x, polymer, ab initio calcs., cryst. orbital method 9-37659
 Bi₂Ge₂O₉, optical phonon freq. in vicinity of Brillouin zone, linear wave-vector depend. 9-19892
 Cd alloys, spin and spin-orbit contr. to mag. susceptibility (*Russian*) 9-11287
 Cd, electronic surface states, (001) surface, Brillouin zone 9-24047
 Cd_{1-x}Ni_x, absorption and mag. circular dichroism, spectra, phonon density of states of Cd₂ deduced 9-19913
 Cd_{1-x}Mg_x, mag. props. and electron spectrum parameters (*Russian*) 9-33453
 CoCO₃, weak ferromagnet, optic study of spin wave spectrum (*Russian*) 9-47263
 Fe, photoemission study of (100), (110) and (111) surfaces, ferromag. band struct. 9-38714
 Fe-Al(Si), disordered, obs. of Kohn singularities in X-ray diffuse scatt. 9-28784
 H₂, solid, electronic struct., HF calc. using plane wave basis 9-7772
 Li linear chain, ab initio calcs., cryst. orbital method 9-37659
 LiC₆, Raman spectrum, rigid band model anal. 9-4800
 LiH, linear chain, ab initio calcs., cryst. orbital method 9-37659
 Mg, electronic surface states, (001) surface, Brillouin zone 9-24047
 MgO, chemisorption on (100) surface, surface electronic struct. 9-11016
 Mo (100), surface resonances, photoemission and field emission meas. 9-4593
 NbSe₂ (2H), metallic layer cpd., angle-resolved photoemission spectra 9-47593
 Ni film, ferromagnet (100), surface states above majority-spin d bands 9-1630
 PbI₂, ionic layer cpd., lattice dynamics, influence of static dipole moments 9-28057
 Pd, g tensor of d holes near X point in Brillouin zone 9-23890
 Rb₂Co₂Mg_{1-x}F₄, random 2D antiferromag., neutron inelastic scatt. 9-28505
 Si, (111) surface, electron inversion layers, obs. of sixfold valley degeneracy 9-38176
 Si, perfect crystal, dispersion surface of X-ray radiation, X-ray acoustic resonance method 9-41908
 W (100), surface resonances, photoemission and field emission meas. 9-4593
 W (110) surface states, characterisation and transferability obs. 9-33319
 WO₃, condensed phonon modes in successive phases 9-46765
 Zn, electronic surface states, (001) surface, Brillouin zone 9-24047

bristles *see fibres***brittle fracture***see also ductile-brittle transition; notch brittleness*

- adhered lap-shear and double cantilevered beam specimens, cyclic stress testing 9-15820
 alkali halide, brittle fracture of single crystals, and active struct. of cleavage surfaces 9-28039
 alkali halide, effect of lattice of point defects on activity and brittle fracture 9-15785
 alloy, dispersion hardened, particle size effect on fracture 9-43418
 angled elliptic notch problem in compression and tension 9-18824
 α-brass, Al bearing, high temp. relief cavitation, SEM, STEM, TEM, SIMS and EDX anal. 9-5039
 brittle fracture mech., review (*Russian*) 9-34139
 ceramic turbine disc, subjected to centrifugal stresses, failure probability, photoelastic model 9-18816
 cleavage crack, associated effective fracture energy 9-19316
 concrete continuum model for plastic-brittle fracture 9-27584
 crack propagation in non-proportionally scaled elastic structures 9-18807
 cracked elastic surface layer bonded to half-space 9-27586

brittle fracture continued

- critical stress for fracture propag. in brittle materials, crack interaction effects 9-25234
 cylindrical shell, stress intensity factor soln. for crotch corner cracks of tee intersections 9-23279
 earthquakes, brittle fracture model rel. to pore fluids and Q 9-39671
 glass containers, exam. of fragmentation 9-20148
 Griffith-Irwin-Orowan cracks, unification theory 9-10529
 HTR fuel spheres, ice cleavage and subsequent examinations 9-36319
 intergranular fracture energy, effects of segregated impurities 9-38928
 ionisation wave generation, microbreakdown mechanism 9-33032
 load-bearing structures, behaviour prediction of materials degradation 9-34133
 metal, cleavage plane prediction, Ayres-Stein method 9-29214
 metal, cleavage plane prediction, Ayres-Stein method 9-29213
 metals, liquid metal embrittlement, mechanism 9-43495
 mode I 3-dimens. problems, brittle fracture criteria 9-46267
 notch tip, strain velocity effects on critical crack opening displacement 9-18818
 polymer, ultimate lifetime at high loads 9-20184
 polystyrene, mol. conform., craze fracture 9-15835
 polystyrene, rubber-modified, impact-strength analysis 9-38972
 pressure vessels for LWRs, brittle fracture initiation, propagation and arrest, investigation 9-22422
 PVC products, initiation by defects or flaws 9-5042
 reactor pressure vessels, safeguards, American and German ductility requirements (*German*) 9-41017
 refractory ceramic, heterogeneous, significance of non-elastic deform. in fracture 9-47765
 rigid body collisions, spalling, tensile stresses on target, appls. 9-7324
 rock, continuum model for plastic-brittle fracture 9-27584
 rod, theory of resistance to failure of technical materials 9-10536
 silicate glasses, fused, cone cracks around Vickers indentations 9-29189
 size effects in abrasion of brittle materials 9-34131
 statistics in brittle materials with surface shear-sensitive cracks 9-41616
 steel, austenitic, 30KhGSA, grain size before quenching rel. to mech. props. 9-24553
 steel, C, cavitation erosion, exam. of mechanism and rates 9-5063
 steel, C, heterogeneous structure, fracture characts. 9-38961
 steel, C, type 1792AF 9-38966
 steel, cast, type 20, exam. of strain characts. in premelting temp. range (*Russian*) 9-29140
 steel, chemothermochemical treatment quality control by fractographic method 9-39080
 steel, Cr-Ni (32.8 wt.%), tensile props. and fracture of two phase Fe alloy austenite and ferrite (*Japanese*) 9-8344
 steel, low alloy, type 10KhN1M, heat-treated, struct. and resist. to thermal embrittlement 9-15788
 steel, low C, notched specimens, brittle fracture stress, effect of ferrite grain size, notch acuity and notch length 9-20187
 steel, low C, specimens with notch and fatigue crack, fracture surface features 9-43417
 steel, low-alloy, fracture resist. assessment from stable crack length (*Russian*) 9-15765
 steel, mild, grain size depend. of cleavage fracture toughness 9-8359
 steel, mild, microstructure effect on cleavage fracture stress 9-8358
 steel, stainless, ferritic, high CR penny shaped central bursting defect in cold drawing 9-20071
 steel, structural, brittleness susceptibility rel. to heat treatment 9-24620
 steel, weldable C and alloy, brittle fracture, metallurgical factor effects, NDT data, impact tests (*French*) 9-5128
 steel, welded joint brittle fracture susceptibility test 9-29168
 steels, strength reduction by adsorpt., stress corrosion (*Russian*) 9-29265
 unstable growth of thermally induced interacting cracks in brittle solids 9-23273
 Al-Mg alloy A99, intercrystalline fracture during US treatment 9-15795
 Al_2O_3 +TiC system, elastic and fracture charact. at elev. temp. (*German*) 9-43299
 Fe, Armco, fracture in liq. metals, Rebinder effect (*Russian*) 9-29266
 Fe, brittle fracture mech., review (*Russian*) 9-34139
 Fe, cavitation erosion, exam. of mechanism and rates 9-5063
 Fe-C (0.64 wt.%), quasicleavage during fatigue crack propag., pearlitic microstruct. effect 9-11702
 α -Fe-Cr, brittle fracture stresses under high hydrostatic press. and high temp. (*Japanese*) 9-43397
 Fe-Ni-C, martensitic delayed fracture (*Slovak*) 9-43401
 $Mn_{48}Co_{52}$, amorphous alloy prep. by high-rate sputtering, struct. and prop. charactis. 9-24462
 Mo single crystal, crystallographic feature of brittle fracture, AE study 9-43415
 NaCl, mechanoluminesc. peaks, microbreakdown mechanism, generation of ionisation waves 9-33032
 Nb, hydrogen embrittlement, deformation behaviour of Nb-H alloys 9-11687
 SiC, self bonded, exam. of fracture 9-20149
 Ti alloy, crack resistance limit, exam. in rotating discs containing cracks (*Russian*) 9-15766
 UO_2 , molten, fragmentation in flowing Na under TOP accident conditions 9-30978
 V-Nb-Ti-N alloy, dispersion hardened, fracture characts. 9-15794
 VC, exam. of brittle fracture props., using Hertzian indentation 9-11686
 WC-Co hard-alloy cermets, strength, fatigue, static tests 9-29314
 Zr-Nb (2.5 wt.%), fractographic aspects of H_2 induced delayed cracking 9-47767
 ZrC, destruction delay time under laser impact 9-38976

brittle materials *see* **brittleness****brittleness**

- see also brittle fracture; embrittlement; hydrogen embrittlement; notch brittleness*
 abrasive material, brittleness and contact endurance eval. by cyclic microhardness 9-15890
 crack energy release rates calc., inverse flexibility method 9-41617
 crystalline rocks, transient creep and semibrittle behaviour 9-16460
 fracture props. meas. by Hertzian indentation of brittle solid 9-11686
 glass and glass fibres, microbrittleness and strength depend. on chem. comp. 9-38937
 materials under complex loading systems, design parameters 9-38917
 muscovite, exam. of dislocations and props. using elasticity theory (*German*) 9-10854

brittleness continued

- refractory ceramic, heterogeneous, significance of non-elastic deform. in fracture 9-47765
 steel, C, weldable, ferrite-pearlite, Widmanstatten structs., resist. to fracture 9-29203
 steel, low alloy structural, heat treated, impurities effect on embrittlement susceptibility and temper brittleness 9-38955
 steel, structural, effect of rare earth metals on cold temper brittleness 9-29202
 surface science in metallurgy, review 9-42388
 Al/Sn interface, effect of plastic deformation on structure and adhesion strength of interface (*Russian*) 9-28218
 Al_2O_3 , corundum, abrasive, evaluation of brittleness, contact endurance by cyclic microhardness 9-15890
 Be, brittleness problems, elevated plasticity and superplasticity, temp. depend. (*Russian*) 9-15758
 Nb alloy, VN2AE, influence of nitriding on heat resist. and brittleness (*Russian*) 9-8380
 SiC, abrasive, evaluation of brittleness, contact endurance by cyclic microhardness 9-15890

broadcasting

- see also radio broadcasting; television broadcasting*
 satellite, rain scatter interference (*Japanese*) 9-16612
 school radio and TV broadcasts and Finnish educational system (*French*) 9-17171
 teaching projects, cost effectiveness evaluation 9-40312

bromine

- see also nuclei with*
 atmosphere quantitative analysis of aerosols 9-12179
 atom K-fluorescence yield determ. using MWPC 9-18140
 condensed phases, Raman spectra, spontaneous and stimulated, weak and strong radiation fields 9-3450
 diffusion coeff. in graphite 9-42310
 graphite-Br₂, in-plane intercalate lattice modes, Raman scatt. 9-42163
 intercalation in graphite, oxidation and residual Br effects 9-43565
 intercalation in graphitised C fibres and its removal 9-43561
 laser, electronic transition chemical, stimulated emission at 3685 cm⁻¹ 9-27249
 molecule, (B-X) band spectrum in laser induced fluorescence 9-47931
 molecule, continuum reson. Raman scatt., interference effects 9-6946
 molecule, reson. Raman scatt. (*German*) 9-26983
 particulate Br levels for Perth, W. Australia, 1971-6 var. 9-34455
 polyacetylene:Br film, Raman scatt. 9-47457
 Br, and Br₂, luminesc. assignments in excimer laser photolysis of CBr₄ and CF₃Br₂ 9-39184
 Br⁺, on Ge target, 55 MeV, K X-ray prod. 9-47547
 Br+Br+Ar, photoinduced recombination, numerical simulation 9-16018
 Br+H⁺, 4 MeV beam-foil X-ray production cross-section 9-7003
 Br+HI→HBr+I, thermal rate const., 220-400K, H/D isotope effect 9-47906
 Br + He(Ne)(Ar)(Kr), total electron detachment cross sections, near threshold energies 9-3555
 Br₂, organic solvent effects on Raman parameters 9-26998
 Br₂, UV laser transitions, electronic designation 9-944
 Br₂-CO₂ chem. pumped photodissociation laser, output energy increase by WF₆ addition 9-45939
 Br₂-pyridines, charge transfer complexes, ν_{Br-Br} vibr., Raman intensity obs. 9-36644
 Br₂+H(d)→HBr(DBr)+Br, reactive cross-section, collision energy depend. obs. 9-11784
 Br₂+NH₃, gas phase reaction, NHBBr₂ identified by ESCA 9-31599
 Br₂+SiAs(GeAs), high temp. Raman spectra, cryst. growth mechanism (*French*) 9-26999
³⁵Br, L-shell X-ray prod. by H(He) ion bombardment 9-47548
 Br(4P_{1/2})+¹²CO₂(¹²CO₂), electronic-vibr. energy transfer, temp. depend. meas. 9-10136
 K+Br₂(Cl₂), electron transfer crossed beam reaction, energy and ang. differential cross section 9-20358
 NaCl:Br, host-sensitized luminesc., energy transfer due to excitons and holes 9-38590
 Xe-Br₂ discharge, atomic state density determ. 9-36573
 Xe+Br₂→XeBr*+Br, rot. polaris. in chemiluminesc. 9-8432
 ZnS_{1-x}Se_x:Cu:Br ceramic, current oscils. and electrolum. under high elec. fields 9-38677

bromine compounds

- Br+NO→Br+NO₂, reaction rate const., mass spectrometric determ. 9-34288
 Br₂Al-Br-AlBr₃, Al₂Br₆, vibr. obs., normal coordinate anal. (*German*) 9-29667
 BrCN, ICN, and isotopic forms, force field calc., freqs., rot. consts. 9-22693
 BrCN photolysis, IR stimulated emission from CN 9-31888
 Br₂CO and Br₂CS, signs of dipole moment derivatives, semiempirical CNDO calcs. 9-26890
 BrF, He(I) photoelectron spectra, interpretation 9-13766
 BrHCN⁺, BrDCN⁺, IR spectra, rel. to mol. geom. 9-22702
 Br(H₂O)_n, geometric and electronic struct., CNDO/2 calc. 9-41113
 BrO⁻ from ozonation of Br⁻ in seawater 9-16518
 BrO₂, detection in oscill. Belousov-Zhabotinskii system (*German*) 9-29351
 Br-SO, A⁻-force consts., 4th-order secular eqn., L-matrix approx. vs. HLFS methods 9-36556

Brownian motion

- see also colloids*
 acetonitrile, liq., Brownian reorientation barriers (*Russian*) 9-27901
 aerosol, turbulent coagulation in pipe flow 9-37385
 aerosol particle capture by drops, thermodiffusionphoresis and Brownian motion effects (*Russian*) 9-39791
 benzene, liq., Brownian reorientation barriers (*Russian*) 9-27901
 Bogolyubov's method of abbreviated description 9-21669
 colloidal particles, interacting Brownian spheres, depolarised light scattering 9-34370
 convergence props. of new Monte Carlo simulation method, Brownian dynamics appl. 9-12719
 developments of theory 9-25990
 diffusion equation for semiclassical bosons and fermions 9-40446
 diffusion of Brownian particles, treated as many boson problem 9-164
 diffusive motion in periodic potential, correlation functions, Fokker-Planck eqn. method 9-165

Brownian motion continued

- diffusive motion in periodic potentials, low friction nonlinear mobility 9-35645
- distribution function, Fokker-Planck eqn., derivation by multiple time scale method 9-44861
- domain wall Brownian motion and diffusion constants 9-37775
- electrolyte solution, Brownian dynamics approx., time evolution and transport props. 9-37604
- generalized multiple Wiener integrals, anal. of nonlinear Brownian functionals 9-30370
- gravitational interactions in Brownian motion theory of quantum mechanics 9-12699
- Huygens' principle and Broglia waves (*French*) 9-21545
- interacting and noninteracting particles in periodic potential driven by external field 9-2726
- kinetic fluctuations of Brownian motion 9-25984
- linear polar molecule, rotational Brownian motion, spherical harmonics 9-30368
- material particles movement, differential equation, numerical solution (*Croatian*) 9-25983
- memory function approach to the dynamics of interacting Brownian particles 9-25979
- mobility in periodic pot. 9-35632
- Navier-Stokes eqn., derivation from Euler equation with Brownian motion 9-41650
- nonlinear oscillators, Brownian motion, projection operator method, double well potential oscillator appl. 9-2723
- nonparametric identification for diffusion processes 9-30374
- nonvolatile liquid, boiling, nucleation eqn. in phase space 9-27495
- one-dimensional diffusion, soluble model potentials 9-35649
- organic liquids, Brownian reorientation barriers (*Russian*) 9-27901
- particle with frequency depend. friction, probability distrib. function 9-17348
- periodic potential, hopping to free conduction transition 9-44860
- polarisable ion, Brownian motion in periodic pot., polarizability effect on cond. 9-4427
- polymer, conformational transitions, Brownian dynamics, simulation 9-45873
- polymer melts and solns., Brownian motion in equilb. state 9-41645
- polythene, across energy barrier for multidimensional transition 9-41256
- quantum mechanics, Fokker-Planck and Kramers-Chandrasekhar eqn. 9-9186
- quasi-deterministic evolution associated with the Brownian motion (*French*) 9-44857
- reversible adsorption and reversible coagulation of Brownian particles, kinetic eqns. 9-16045
- rigid particles, Brownian motion, hydrodynamic after-effects 9-30367
- rotation in external fields, Fokker-Planck eqn. 9-30372
- rotational diffusion in n-fold periodic pot., time correlation functions 9-21668
- Schrodinger eqn. with random potential, behaviour of Wiener integrals as $t \rightarrow \infty$ and density of states 9-2720
- spherical Brownian particles, interacting, wave vector dependent mutual diffusion 9-44859
- stochastic control system, integral inequalities 9-17341
- superconducting surface sheath, Brownian motion 9-19708
- suspension, Brownian rotational-translational particles, at finite conc., dynamics and hydrodynamics 9-7401
- threshold phase-transition analogy 9-40471
- toluene, liq., Brownian reorientation barriers (*Russian*) 9-27901

Brownian movement *see* **Brownian motion****brush discharges** *see* **brushes; discharges (electric)****brushes**

- magnetic brush xerographic development, image noise 9-17526

brushgear *see* **brushes****bubble chambers**

- BEB performance of external muon identifier 9-730
- CERN 2m HBC, automatic meas. of 12 GeV/c pp interactions 9-36471
- charmed particles and short lived new particle obs. 9-22543
- Gargamelle bubble chamber, neutrino physics, book contrib. 9-30728
- geometric reconstruction of events meas. on HPD 9-753
- rapid on-line spatial reconstruction, book contrib. 9-21890
- target trajectory detection in multi-target environment, pattern recognition approach 9-26865

bubble nuclei *see* **nuclear density****bubble point** *see* **boiling point****bubble points** *see* **bubbles****bubbles***see also* **foams**

- with adsorbed film, migration in Hele-Shaw cell, rel. to materials processing in space 9-28912
- air bubbles, rising in glycerine-water mixture, boundary surface velocity (*German*) 9-32631
- blood vessel bubble detection and flow evaluation 9-34612
- boiling, bubble growth at superheated horizontal wall, pure liq. and binary mixtures 9-41719
- bubble and droplet-type contactors, wake shedding 9-4060
- bubble of gas rising in fluid filled tube, wall effects (*French*) 9-7399
- bubble rising in pipe, upward flowing liq. 9-32676
- bubble swarm behaviour and gas absorption in non-Newtonian fluids in sparged columns 9-4061
- buoyant bubble demonstration 9-30180
- butane drops, nucleation in flowing water 9-1099
- Casson fluid, gas bubble motion, behaviour, appl. to bubble in blood stream 9-10605
- cavitation bubbles in water, elec. pulses production 9-47407
- columns, large diameter, liq. phase duration (*German*) 9-32632
- decompression sickness, bubble detection by US imaging 9-8527
- decompression studies using ultrasonic imaging of bubbles 9-11988
- diffusion of rare gases of solar wind origin from lunar fines as bubbles 9-48695
- dynamics in fluid, laser schlieren meas. 9-41773
- FBR, energy increase from bubble collapse following recriticality in large molten pools 9-31023
- FBR, void reactivity effects on hypothetical core disruptive accident excursion energy 9-31024
- fission gas bubbles, model of response to dynamic behaviour of U point defects in UO_{2+x} 9-37735

bubbles continued

- fission gas bubbles, nonequilibrium intragranular, role during transient heating of fuel 9-6740
- flow, gas-liq., hot-film anemometer signal anal. method 9-32639
- flowing viscoelastic fluid, bubble and solid particle separation through apertures (*German*) 9-37389
- fluid spheres, touching, motion along line of centres 9-4071
- formation during gas injection into liq. through orifice, interfacial area press. (*German*) 9-18937
- gas (*German*) 9-32630
- gas bubble dynamics in turbulent jet 9-41741
- gas bubbles, effect of backscattered acoustic wave on bubble oscillation 9-1021
- gas bubbles in vibrating liq., localisation and translational motion (*Russian*) 9-14455
- gas bubbles in vibrating liq., selective bubble drift (*Russian*) 9-14456
- gas-bearing water-saturated sediment, sound vel. as function of bubble distrib. 9-39703
- gas-liquid flow in tubes, bubble rise and liq. holdup 9-4059
- gas-liquid two-phase bubbles in immiscible liq. media, configs. 9-4068
- generating apparatus for single bubbles, motion in water (*Korean*) 9-23387
- geodetic surveying with bubble levels, apparatus for testing bubble vials 9-29871
- glass edge cladding-glass laser disc interface, reflection meas. 9-27300
- growth and condensation in pure and binary systems 9-23191
- growth dynamics, isothermal, gas bubble in liq. 9-14459
- growth in variable press. fields 9-32215
- heat transfer between a dispersed system and a vertical heating or cooling surface 9-1069
- Hele-Shaw cell, bubble motion, study of 2 phase flows under reduced gravity 9-14457
- ice-covered lakes (North Slope, Alaska), air bubbles rel. to radar return differences 9-2298
- insulating liquid, small air bubble formation, under strong nonuniform electric field 9-46373
- interconnected bubble system, equilb. states, for teachers 9-15
- interphase mass transfer in fluidised bed 9-7405
- jet drops from bubbles bursting in seawater, ejection height rel. to organic material 9-39727
- liquid and spherical particle permittivity meas. by dielectrophoretic levitation 9-17447
- liquid metal boiling, mag. field effect on bubble growth 9-32217
- LMFBR, bubble collapse reactivity increases in boiling fuel/steel pools 9-31025
- LMFBR core disruptive accident, effect of internal circulation vel. and noncondensable gas on vapour condensation from rising bubble 9-31017
- magnetoelectric composite, growth from melt, gas bubble form. ahead of solidification front 9-29044
- marine seismograms, source signatures debubbling 9-16692
- MBBA-cholesteril chloride mixture, liq. cryst., bubble domain texture, obs. of interference fringes 9-23520
- motion in vertical temp. gradient, buoyancy and Marangoni forces 9-46372
- motion of bubbles with adsorbed films through a viscous fluid in low-gravity environments 9-18933
- non-Newtonian fluid, gas bubble form. at single submerged orifice, model 9-32640
- non-Newtonian liquid flow from nozzle, bubble form. 9-23356
- nucleation, theoretical experimental review 9-41734
- nucleation in oscill. press. field 9-32216
- oxygenator, bubble, blood damage test standardisation (*German*) 9-2158
- polymer solution, bubble elongation dynamics, modelling with viscoelastic constitutive relations 9-37388
- pressure pulses generated by gas released from a breached fuel element 9-26557
- pulsation amplitude threshold for surface waves on oscillating bubbles 9-18900
- shape, fluid flow in Newtonian and non-Newtonian fluids (*French*) 9-46374
- shock wave amplification in nonequilibrium system of liq. and solvent gas bubbles 9-18936
- slug in fluidised bed, mass transfer, wall effect 9-4079
- soap film in a wedge, expts. for teachers 9-17169
- solidification in space environment, bubbles thermal migration and interaction with solidification interfaces 9-47670
- soliton interaction in liq. with gas bubbles (*Russian*) 9-14419
- spherical contaminated bubbles in viscous fluid at arbitrary angle of attack, terminal motion 9-27687
- spherical oscillating gas bubbles in fluids, fluid compressibility influence (*German*) 9-37383
- spherical particles, line of centre motion 9-4067
- steam bubbles, condensation, influence of noncondensable gases (*French*) 9-23717
- system pressure, thermophysical effects, interfacial area (*German*) 9-41745
- underwater explosions as acoustic sources, distrib. of measured bubble pulse periods 9-5495
- He, behaviour in metals and tritide 9-17981
- He gas, in Al, excited atom lifetime, optical absorption 9-38578
- He gas bubble lattice in Cu, Ni and stainless steel, TEM obs. 9-46726
- He, in ion irradi. FCC metals, electron diff. and TEM obs. 9-14858
- Mo, 29 MeV α -particle irradi. in He, micropore and dislocation loops form. 9-14859
- N_2 bubbles coalescence in dil. aq. solns. 9-4062
- Na pool fuel vapour and aerosol transport in HCDA 9-13455
- O_2 rising in water, dissolution mass transfer coeffs. 9-41737
- UO_2 , relative growth rates of fission-gas bubbles on grain faces 9-6739
- UO_2 vapour bubble characts. determ. in LMFBR 9-22390
- Xe bonded fission gas, in bubbles and pores, radial distrib. in mixed carbide fuel pins, electron probe anal. 9-36318

buckling

- annular plate with axisymmetric initial deflection, thermal buckling 9-32320
- axial impact buckling of a column with random initial imperfections 9-18762
- beam, buckled, forced oscillations, global bifurcations and chaos 9-27580
- beam, stability anal., paradoxical case 9-37200
- beam, stability anal., paradoxical case 9-37201

buckling continued

beam, unilaterally constrained, Euler critical and buckling load, variational theory 9-37203
 Beck problem for loaded cantilever column 9-3932
 bifurcation and stability of systems derived from a potential, buckling problems (*French*) 9-46240
 bimodal columns, buckling and immediate postbuckling behaviors 9-23232
 cantilever columns, spring hinged, post-buckling anal. 9-46235
 circular plates, elastic buckling 9-27555
 circular ring plates, finite deflections 9-27533
 clamped plate, finite element anal. of secondary buckling, comparison with expt. 9-1120
 column, long, buckling and stability under own weight 9-32307
 column buckling load problem, constrained minimum weight equivalence 9-7313
 columns and plates, lower bounds to fund. freq. and buckling loads 9-10469
 composite beams, vibration and buckling anal. 9-1123
 continuous beam resting on tensionless elastic foundation, soln. 9-46238
 creep buckling, effects of small deflexion approximations on predicted behaviour 9-7309
 creep buckling, influence of post buckling characts. 9-7308
 creep buckling theory, nonexistence of global solns. for nonlinear eqn. 9-30251
 cylindrical shells, loading history, effect on plastic buckling (*Russian*) 9-14288
 dynamic buckling of a damped imperfect column on a nonlinear foundation 9-7311
 dynamic buckling of axisymmetric spherical caps with initial imperfections 9-3934
 elastic lateral torsional buckling of unbraced and braced planar frames 9-46236
 elastic structure buckling models for higher order catastrophes 9-1122
 elastoplastic bars, instability modes (*Russian*) 9-10514
 epoxy resin parabolic shells, exam. of viscoelastic creep 9-43307
 Euler buckling eigensystem for a nonprismatic strut 9-18764
 ferromagnetic cantilevered beam plate, magnetoelastic buckling 9-18761
 finite element analysis by ASKA program system 9-18753
 graphite-epoxy composites, Thorne 300/Fiberite 1034, effects of thermal spiking on moisture absorpt. characts., tensile strength and buckling modulus 9-43330
 H-columns, local and member buckling finite strip method anal. 9-7306
 Hauger column critical load in presence of damping (*French*) 9-14291
 heavy fabric sheets, fabric folding obs. 9-18756
 infinitely long trapezoidally corrugated plates in shear, elastic buckling 9-32315
 interactive buckling analysis of box sections using dynamic relaxation 9-7304
 lattice columns with stochastic imperfections, buckling, Ritz method 9-18757
 light gauge steel diaphragms, buckling, bending anal. under concentrated loads 9-23233
 magnetoelastic buckling plate in uniform transverse mag. field 9-24208
 mechanical stability in creep conditions (*Russian*) 9-18758
 nonconservative continuous elastic systems, post-buckling behaviour 9-3931
 nonlinear sway-buckling of an eccentrically loaded frame of two Timoshenko-bars 9-37204
 nonlinear theory of shells, structural anal. 9-30230
 nonlinearly elastic plates, buckled states 9-1118
 orthotropic annular plates, general nonsymmetric postbuckling anal. 9-7307
 orthotropic skew plates, Fourier series soln. 9-14286
 pinched rigid-plastic cylindrical shell, mode of collapse, geometrical parameters 9-10492
 plate, annular circular, thin, of variable thickness, thermal buckling 9-32312
 plate, buckling, von Karman eqns., generic and nongeneric bifurcation 9-46239
 plate struts., buckling under arbitrary loading, finite strip method 9-27556
 plate struts., finite strip method for post-locally buckled anal. 9-30246
 plates, rectangular isotropic and orthotropic buckling and freq. of flexural vibrs., Rayleigh's method 9-32313
 plates, simply supported, plastic buckling under edge thrusts 9-10510
 polar orthotropic sector plates, stability 9-18765
 reactor core, uniform infinite lattice eigenvalue as function of buckling 9-609
 rectangular orthotropic plates, buckling strengths stress diagrams (*German*) 9-14289
 rectangular plate, Von Karman eqns., generic bifurcation theory, symmetry props. 9-44748
 rectangular plates, in-plane loaded buckling and vibr. by unified Ritz approach 9-3945
 reinforced open cylindrical shells, bending stability 9-41581
 rods, quasi-bifurcation within axial plastic compressive wave 9-10513
 shallow circular arch, spatial distrib. effect on dynamic snap-through 9-32318
 shallow circular arches, optimal shape against snap-buckling 9-37208
 shell, cylindrical, composite with viscoelastic filler, optimisation w.r.t. long-term stability 9-18760
 shells, internally pressurised 2:1 ellipsoidal, elastic and elastic-plastic buckling 9-37206
 short cylinders, buckling under 9-37207
 short tubes under external press. 9-14292
 simple frame subject to follower force, divergence buckling, limit point instability 9-18763
 snap-buckling of orthotropic shallow spherical shells 9-23234
 solid circular rod, generalised displacement function calcs. 9-7289
 spherical dome, rib-reinforcement arrangement effect on buckling 9-46237
 stayed columns, concise buckling, vibration and static anal. 9-18755
 stayed columns, concise buckling anal. 9-10511
 straight long rod, dynamical buckling under hammering 9-7312
 structural systems, elastic critical loads 9-18754
 tapered cantilever columns, post buckling finite element anal. 9-1119
 thin elastic bar, impact buckling, Monte Carlo calcs. 9-32317
 thin elastic plate, dynamic buckling, nonlinear theory 9-37160
 tie column of solid construction, Euler buckling load maximisation 9-23230

buckling continued

toroidal shell segment subject to external press., stability and postbuckling deform. 9-41595
 toroidal shell with external press., stability 9-41596
 toroidal shells and tubes, flexible shell theory and buckling 9-23231
 viscida, buckling and stretching, surface tension effects 9-10512
 Mg-Al cylindrical shells, loading history, effect on plastic buckling (*Russian*) 9-14288
buffer circuits
 two-dimensional buffer store based on a multichannel amplitude analyzer 9-26838
 unity gain follower with buffer for electrophysiological meas. 9-12048
buffers (circuits) *see* **buffer circuits**
building
see also architecture; civil engineering
 earthquake resistant design of offshore building structures 9-12089
 heat transmission of porous walls with air filtration ventilation 9-4016
 heating, ventilating and air conditioning, diesel-driven chiller system simulation, with multi-tank thermal storage system 9-48187
 heating of single family dwellings, heat pump appl., computer-aided analysis 9-43784
 housing estate heat supply methods comparison (*Hungarian*) 9-2366
 nuclear power stations, construction in the USSR 9-646
 thermal energy balance, method for including environmental modulation (*French*) 9-3900
 thermal insulation, heat conduction in disperse media (*Hungarian*) 9-1056
 Rn barrier, interior of building struts. foundations built on U mill tailings material 9-2138
bulk density *see* **density**
bulk diffusion *see* **diffusion in solids**
bundling *see* **packaging**
burning *see* **combustion**
burnout *see* **combustion**
burst noise *see* **random noise**
bushes *see* **bushings**
bushings
 Cu-C bushings, powder metallurgically prepared, exam. of friction and wear charact. 9-15813
BWT *see* **backward-wave tubes**
C invariance
 chiral symmetry spontaneous breaking, using vacuum stability condition 9-35986
 Dirac equation, two-component first-order equations for the quantum-relativistic electron 9-17649
 QED, depend. of sign on q^2 9-35974
 e decay, lifetime, charge nonconservation, paradoxes 9-6335
cable insulation
see also insulating oils
 flame resistant, for nuclear power stations, develop. and qualification tests 9-687
 International wire and cable symposium, Cherry Hill USA (Nov. 1978) 9-37018
 LAMPF mineral-insulated magnet experience 9-31248
 polyethylene, migration and solubility of antioxidants (*French*) 9-46839
cable jointing
 fusion-welded optical fibre splice loss expts. 9-37023
 optical fibres, meas. method of connection loss using steady-state power distrib. 9-46084
cable laying
 fibre-optic cable design, testing and installation 9-37026
 optical fibre 1.8 km cable, operational, installation underground (*German*) 9-3783
 optical fibre cable stress during manufacture and installation 9-37024
 power station fibre-optic system installation 9-37028
cable sheathing
 optical fibre ribbon cable sheath 9-7203
 satellite shielded cables, hardening techniques for reducing X-ray response 9-23642
cable sheaths *see* **cable sheathing**
cable television
 fibre optic Dial-A-Program CATV system, field trial in Holland 9-10262
 optical two-way TV transmission using single optical fibre and two light sources 9-27419
cables (electric)
see also coaxial cables; submarine cables; superconducting cables; telecommunication cables; underground cables
 flame resistant, for nuclear power stations, develop. and qualification tests 9-687
 International wire and cable symposium, Cherry Hill USA (Nov. 1978) 9-37018
 satellite shielded cables, hardening techniques for reducing X-ray response 9-23642
CAD
see also architectural CAD; computer-aided analysis; control system CAD; interactive systems
 2.6 T supercond. magnet design and manufacture for polarised target 9-31293
 Adone storage ring transverse wiggler magnet design 9-41054
 automatic lens design, pseudo-second-derivative matrix computation 9-14077
 disc impedance meas. and US transducer CAD program 9-46157
 engine muffler design, scaling rules using Buckingham's pi principle 9-14152
 forward-looking IR type optical system design programs 9-23047
 graphical designer work station link for ES computers 9-30442
 heat exchanger optimisation 9-3895
 LMFBR core orificing computer code 9-9681
 magnetic field computation, conference, Grenoble (1978) 9-41262
 minicomputer optical design and analysis program 9-14075
 optical design computer programs 9-36977
 optical multilayer synthesis program, Fourier transform model 9-7196
 optical spectral instrument CAD status and prospects 9-44939
 precision-mechanical design, stress distribution of frictional bonds, computing, w.r.t. elastic deformation (*Hungarian*) 9-14275
 pressure vessel, programs and appls. (*Japanese*) 9-21555
 prism, Fresnel rhomb, TI 58/59 program 9-32040
 ray trace program, TI59 calculator 9-32023

CAD continued

- ray tracing, generalised, caustic surfaces 9-23043
solar input determination and irradiance maps, analytical model and simulation code 9-34426

cadmium

see also nuclei with

- anisotropic thermal expansion 9-23750
atom, K-shell photoelectric cross section 9-22676
atom, L_{α} X-ray spectra, ^{40}Zr to ^{48}Cd , linewidths 9-41131
atoms, absorpt. spectra in nonreson. biharmonic radiation field 9-3400
background levels in air over S.Norway 9-12239
Burgers vector determ. of perfect dislocations obs. by X-ray topography of single cryst. 9-37711
carrier mean free path, temp. depend. 9-7822
creep mechanism at low temps. (Russian) 9-11659
Derwent Reservoir, N.England, Zn, Cd and Pb in water, sediments and submerged plants 9-25286
determination in blood by atomic absorpt. spectroscopy 9-44071
diffusion, in GaAs, from gaseous phase, time depend. 9-46844
distribution in Pacific Ocean bottom sediments surface layer 9-20809
distribution in waters of Yarra River estuary 9-16552
elastic constants, high press. finite strain theory (French) 9-1475
electrical resistivity and deviations from Matthiessen's rule of single cryst. 9-23943
electrode, evaporation rate from cathode spot in vacuum arcs 9-37566
electron phonon interaction, Azbel-Kaner high freq. cyclotron reson. meas. 9-11056
electronic surface states, (001) surface, Brillouin zone 9-24047
electroplastic deformation, stress relax. meas. (Russian) 9-38894
field gradients, temp. depend., electronic and lattice contribs., ab initio study 9-42501
film, vacuum deposited, microstruct. exam., X-ray diffr. profile anal. 9-46973
foil, monocrystalline, anisotropy of size effect 9-38048
grain growth, and mobility, effect of hydrostatic pressure 9-37717
HCP, phonon dispersion relations, effect of different dielec. functions on model pseudopot. calc. 9-33055
L shell prod. cross section of Zr, Mo, Ag, Cd and In for 75 to 150 keV p and e excitation 9-47552
Lindemann's rule and X-ray Debye temp., anisotropic single crystals. 9-28076
liquid, electron component of entropy (Russian) 9-23747
liquid, electron energy states calc. (Russian) 9-4506
liquid, isothermal compressibility, harmonic pot. model calc. 9-14870
liquid, resist. and thermoelectric power using corrected parameters of Shaw model 9-19566
liver Cd, transportable in vivo meas. system 9-39496
marine pollution determ. in Gulf of Fos, NW Mediterranean 9-12141
phonon dispersion, phenomenological model 9-7660
resistivity, existence of Einstein type phonon mode 9-42519
thin film, vac.-deposited, X-ray diffr. struct. obs., props. 9-37937
US attenuation due to conduction electrons 9-46754
vapour grown crystal, morphology and growth mechanism, Bi impurity effects 9-23546
AgCl: Cd, irradiated, surface defect centres, XPS study 9-28894
Cd II ($4d^{10}5s^2\ ^2D_{5/2}$), high order mode-crossing signals, g-factors 9-796
Cd ^{67}Ge , elec. quadrupole interaction temp. depend., PAC meas. 9-42877
Cd ^{67}Zn elec. quadrupole interaction temp. depend., PAC meas. 9-42877
Cd-He hollow-cathode laser, small signal gain 9-31881
Cd+H $^+$ (He^{2+}), L- and M-shell Auger electrons 9-27076
Cd+He $^+$, thermal energy charge transfer reaction, ion states, relative yields 9-45840
Cd+N $_2$, electronic-vibrational process, state-resolved products distrib. determ. 9-6956
 $^{113}\text{CdII}$, hyperfine level crossing, saturation induced in laser 9-18160
Cd($^1\text{P}_1$) excited state quenching by mols., cross sections, chem., phys. exit channels 9-779
Cd($^3\text{P}_1$)($^1\text{P}_1$)+H $_2$ (HD)(D $_2$) reacts., CdH(CdD) yields, quenching cross sections 9-1948
FeCl $_2$:Cd, thermodynamic phase diagram determ., using pulsed dye laser, piezoelectric modulator, and gated amplifier 9-7991
He-Cd, hollow cathode discharge tube, voltage, ion spectral line intensities and metastable states 9-46505
He-Cd, whitelight hollow-cathode type laser design based on cathode fall theory 9-27282
He-Cd hollow-cathode laser tube, description and performance (Bulgarian) 9-27279
He-Cd II hollow-cathode laser, 4416 Å pulse oscillation 9-7122
He-Cd laser, 442 nm, high order mode crossing signals from Cd II $4d^{10}5s^2\ ^2D_{5/2}$ state 9-796
He-Cd positive column laser power, effect of I $_2$ additive (Japanese) 9-7121
He-Cd segmental tube laser ageing (Bulgarian) 9-18441
He-Cd $^+$, laser, cataphoretic, power noise meas. 9-36885
He-Cd $^+$ laser, output radiation, influence of discharge-current fluctuations 9-10289
Hg+Zn(Cd), sensitized fluoresc., orientation and alignment transfers (French) 9-13808
p-InP: Cd, single cryst. growth by temp. gradient method 9-28907
InSb: Cd, diffusion props. of Cd, modified C-V technique meas. 9-19401
Se: Cd dilute liquid, perturbed ang.-correl. meas. of motional-correl. time 9-41930

cadmium alloys

see also cadmium compounds

- magnetic susceptibility, spin and spin-orbit contribs. (Russian) 9-11287
rare earth-Cd, dil., elec. field gradient, at ^{111}Cd impurities, temp. depend. 9-28642
Ag-Cd, α and β phase, XPS, effects of atomic order on band struct. 9-42440
Ag-Cd, behaviour of Cd d-bands, comparison with Hg and Au alloys 9-37972
Ag-Cd, dil., DPAD meas. on ^{107}Cd and ^{109}Cd , nucl. Larmor precession meas., role of hyperfine interactions 9-47363
AgCd-AgMg(AgZn), quasibinary alloys, phase relations 9-8273
Au-Cd, behaviour of Cd d-bands, comparison with Hg and Ag alloys 9-37972
Au-Cd, UPS exam. of valence bands 9-19511
Ba-Cd system, short-range order calc. (Russian) 9-23566
Cd-Cr, dil., mag. and supercond. props. 9-38237

cadmium alloys continued

- Cd-Mg, dil. alloy, single cryst., electrical resistivity and deviations from Matthiessen's rule 9-23943
Cd-Mn, dil., mag. and supercond. props. 9-38237
Cd-Ni, dil., mag. and supercond. props. 9-38237
Cd-Sb, liq., thermoelec. power meas. 9-40591
Cd-Zn (1.5 wt.%), warm worked, effect of grain size, texture, on mech. props. 9-4988
Cd-Zn single crystal, plasticity, 4 to 50K 9-43362
Cd $_{1-x}\text{Mg}_x$, mag. props. and electron spectrum parameters (Russian) 9-33453
Cu-Cd, exam. of diamagnetic susceptibilities (Russian) 9-28504
Cu-Cd (0.03 at.%), single cryst., deformed, dislocation arrangement 9-10856
Hg-Cd, behaviour of Cd d-bands, comparison with Au and Ag alloys 9-37972
In-Cd, shape memory (Japanese) 9-43243
In-Cd, soft mode, latent heats and entropies of fusion 9-46786
In-Te-Cd, dil., elec. field gradient, at ^{111}Cd probes, temp. depend. 9-28643
LiCd $_2$ -Ti $_2$, intermetallic, X-ray and Knight shift meas. of ^{205}Tl and ^{113}Cd 9-42851
Mg-Cd, plasmon loss and plasmon gain, X-ray photoemission and AES 9-23918
Mg-Cd, thermodynamic props., order-disorder transitions based on Helmholtz free energy 9-37853
Ni-In-Cd, dil., elec. field gradient, at ^{111}Cd probes, temp. depend. 9-28643
Pb-Cd eutectic composite, mag. flux entry in proximity effect regime 9-33418
Pb-Cd lamellar eutectic composite, pair potential meas. 9-33396
Pd $_2$ MnSn $_1$ -Sb $_2$ -Cd, dil., Heusler alloy, hyperfine mag. field on Cd, TDPAC obs. 9-8075
Pt-Cd, thermodynamic props. 9-43207
 β_1 -PtCd, structural parameters 9-27953
Sn-Cd, interface undercooling-growth vel. relationship, horizontal and vertical solidification 9-8294
TmCd, parastriation, magnetoelastic and quadrupolar exchange coeffs. 9-19758

cadmium compounds

see also cadmium alloys

- cathodoluminescence, bibliography of papers till 1977 9-21482
ethylenediammonium cadmium chloride, struct. and mag. props., vibr. spectra 9-10842
graphite/epoxy laminates, with CdO powder filler, stress meas. by X-ray diffr. from fillers 9-43331
nitroprussides, Mossbauer spectra, dehydration effects 9-24237
resist. and magnetoresist. meas., effect of donor impurities 9-19608
zeolites, synthetic, effect of sintering on elec. cond., porosity and microstruct. 9-29009
AgPO $_3$ -CdTe $_2$ glass, elec. cond. and Raman. spectra rel. to struct. (French) 9-10979
Al-CdS-Au structure, interfacial phenomena, complex impedance meas. (French) 9-42668
Al-CdTe-Al thin film VLF dielectric props. (Slovak) 9-7907
CdAs $_2$, thermodynamic functions 9-10961
Cd $_3$ As $_2$, cryst., gas phase growth, morphology 9-10821
Cd $_3$ As $_2$, thermoelectric power and transverse Nernst Ettingshausen coefficient 9-38104
CdBr $_2$, lattice vibr., IR absorpt. meas. 9-4380
CdBr $_2$:Ag $^{2+}$, strong Jahn-Teller coupling, EPR 9-28605
CdCa $_2$ Cl $_2$ ·12H $_2$ O, X-ray cryst. struct. anal. (French) 9-4291
CdCl $_2$, Coulomb energy, pot., field and dipolar moments, selfconsistent calcs. 9-18323
CdCl $_2$:Ag $^{2+}$, strong Jahn-Teller coupling, EPR 9-28605
CdCl $_2$ ·4H $_2$ O, cryst. struct. determ. by X-ray diffractometry (French) 9-37673
Cd $_{0.75}\text{Co}_{0.25}\text{Cr}_2\text{S}_4$, specific heats 9-11315
CdCr $_2$ S $_4$, EPR line profiles in paramag. and ferromag. phases 9-28602
CdCr $_2$ S $_4$, ferromagnetic semiconductor films, prep. and props. (Japanese) 9-47308
CdCr $_2$ S $_4$, Heisenberg ferromag., obs. of dynamic dipolar crossover, ESR linewidths meas. 9-24209
CdCr $_2$ S $_4$, phonon Raman scatt., mag. circular polarization effects 9-8134
CdCr $_2$ S $_4$, polycrystalline films, mag. semicond., spinel-type, magneto-optical effects (Japanese) 9-47415
p-CdCr $_2$ S $_4$, single cryst., elec. cond. 9-15148
CdCr $_2$ S $_4$, single cryst. prep. and elec. props. 9-38727
CdCr $_2$ S $_4$:Gd, ferromag. reson. and electrical cond. 9-28626
CdCr $_2$ S $_4$ (Se $_4$), ferromagnetic semiconductors, spinel-type, resonance Raman scattering and electronic structure (Japanese) 9-47421
CdCr $_2$ S $_4$ -Se $_x$ (O $_x$) X=0, 4, and solid solns., imperfect struct. model from cryst.-chem. investigs. 9-42053
CdCr $_2$ S $_4$, ferromag. semiconductor, mag. props. near Curie pt., doping effects 9-1670
CdCr $_2$ Se $_4$, excitation of spin waves by current carriers, magnetisation and elec. cond. reduction (Russian) 9-7981
CdCr $_2$ Se $_4$, ferromagnetic semiconductor, single cryst. growth (Japanese) 9-47612
CdCr $_2$ Se $_4$ film, electron irradiated, struct. 9-15032
CdCr $_2$ Se $_4$, optical absorption due to transitions between bands and local levels 9-38537
CdCr $_2$ Se $_4$, resonant Raman scatt. 9-4802
CdCr $_2$ Se $_4$, single crystals, mag. semicond., spinel-type, magneto-optical effects (Japanese) 9-47415
CdCr $_2$ Se $_4$:Ag, ferromag. linewidth and eddy current losses 9-33541
CdCr $_2$ Se $_4$ -ZnCr $_2$ Se $_4$, single cryst., mag. props. 9-28526
CdCr $_2$ Si $_2$ G $_4$, negative magnetoresist. effects near Curie temp. 9-11152
CdCr $_2$ S $_4$, press. depend. optical absorption edge shift and compressibility 9-28714
Cd $_{0.96}\text{Cu}_{0.04}\text{Cr}_2\text{S}_4$, single cryst., galvanomagnetic props. 9-7848
CdF $_2$, valence band struct. determ. by photoemission meas. 9-47591
CdF $_2$: ^{241}Am , alpha-decay, ^{237}Np charge state, Mossbauer obs. 9-47367
CdF $_2$:Eu $^{3+}$, luminesc., charge transfer states 9-33799
CdF $_2$:Mn, Y, deconversion due to vacuum heat treatment, elec. resist. and electron probe meas. 9-24025
CdF $_2$:Mn films, electroluminesc. meas. (French) 9-11471
CdF $_2$:Mn $^{2+}$, Y $^{3+}$, thermal stability under vacuum, effect of heat treatment on resist. 9-23969

cadmium compounds continued

- Cd_{1-x}Fe_xCr₂S₄, single cryst., mag. semicond., spinel-type, magneto-optical effects (*Japanese*) 9-47415
- CdGa₂, excimer visible emission spectra in RF discharge, vibr. struct. 9-18201
- CdGa₂Se₄CdIn₂Se₄ solid solutions, order-disorder transition 9-19181
- CdGa₂X₄, X=S,Se, Fourier IR and Raman spectra, cryst. struct. and symm. (*German*) 9-24313
- CdGeAs₂, electron irradiated, change in electrical props. 9-7829
- CdGeAs₂, optical and elec. props. 9-19590
- CdGeAs₂, tandem crystals, efficient freq. tripling of CO₂ laser radiation 9-45999
- CdGeP₂, cond. compensation by electron bombardment 9-15151
- CdGeP₂, photolum. spectra and kinetic coeffs. 9-19927
- CdGeP₂, In based surface barrier diode, photosensitivity 9-33330
- Cd₂Hg_{1-x}Te, photodetectors, recomb. processes, photoconductive decay obs. 9-38129
- Cd₂Hg_{1-x}Te, x=0.2 and 0.26, photomagnetolectric effect in strongly excited samples 9-47124
- Cd₂Hg_{1-x}Cr₂Se₄, photoferromag. effect and photocond. obs. 9-28376
- CdHg(Mg), Ar matrix absorpt. spectra, vibronic spacing and bonding 9-3453
- Cd₂Hg_{1-x}Se, carrier mobility, 4.2 to 300K, scatt. mechanisms 9-4561
- CdHgTe detectors, high-performance, for thermal imaging 9-40616
- CdHgTe detectors for CO₂ laser appls. 9-40615
- Cd_{0.2}Hg_{0.8}Te, annealing in saturated Hg vapour (*German*) 9-43447
- Cd_{0.24}Hg_{0.76}Te, mag. quantum oscils. in photovoltaic effect 9-19619
- n-Cd₂Hg_{1-x}Te, action of laser pulses, elec. characts. 9-11212
- n-Cd₂Hg_{1-x}Te alloys, x=0.19 to 0.21, electron optical heating influence on photoelec. effects 9-11183
- Cd₂Hg_{1-x}Te, Auger effect, temp. depend. of Auger lifetime 9-38097
- n-Cd₂Hg_{1-x}Te, conductivity inversion under laser radiation (*Russian*) 9-15198
- Cd₂Hg_{1-x}Te films, epitaxial growth, optical, elec., and photoelec. props. 9-11512
- Cd₂Hg_{1-x}Te, homogeneous mixed crystals with large segregation tendency, Bridgman growth (*German*) 9-33923
- Cd₂Hg_{1-x}Te magnetoresistor prep. and props. 9-7844
- Cd₂Hg_{1-x}Te, magnetoresistance in range 4.2 to 300K 9-11156
- Cd₂Hg_{1-x}Te narrow gap semiconductor, charge transfer device for IR detection appl. (*French*) 9-30563
- Cd₂Hg_{1-x}Te, strong elec. field effect on galvanomagnetic effects 9-11159
- n-Cd₂Hg_{1-x}Te, thermal EMF, in transverse quantised EM field (*Russian*) 9-23993
- Cd₂Hg_{1-x}Te, X-ray topographic assessment 9-37716
- Cd₂Hg_{1-x}Te, Auger and radiative recombination of acceptor bound excitons 9-47023
- CdI₂, luminesc., relaxed excitonic states 9-33758
- CdI₂ polytypes, defect struct., electron microscopy 9-14809
- CdI₂, thermoluminesc. of traps (*French*) 9-4856
- CdI₂-CdBr₂ mixed layer cpds., rigid layer modes and van der Waals interactions, Raman spectra obs. 9-33700
- CdI₂-Ni²⁺, absorption and mag. circular dichroism, spectra, phonon density of states of CdI₂ deduced 9-19913
- CdInGaS₄Au, single crystal, thermostimulated conductivity (*Russian*) 9-11142
- CdIn₂S₄, photocond. and electron trap distrib. 9-28373
- CdIn₂S₄, photoluminesc., thermal quenching and recomb. centres 9-24362
- CdIn₂S₄, valence band densities of states, XPS meas. 9-28892
- CdIn₂Se₄, needle-like cryst. X-ray exam. 9-42031
- CdIn₂X₄, X=S,Se, Fourier IR and Raman spectra, cryst. struct. and symm. (*German*) 9-24313
- CdMnTe crystals, exciton binding energy, magnetoabsorption and magnetorefractivity 9-38523
- Cd_{1-x}Mn_xTe, effect of Mn 3d⁵ states on band struct., exciton refl. struct. in mag. field 9-11094
- Cd_{1-x}Mn_xTe, magneto-optical props. of free excitons rel. Mn²⁺ ions spin alignment 9-47419
- CdMoO₄:Mn²⁺, EPR spectrum, temp. depend. of zero field splitting 9-15346
- Cd₂(NH₄)₂(SO₄)₃, X-ray and optical studies of ferroelec. phase transition 9-38495
- Cd(NH₄)₂(SeO₄)₂·6H₂O:Mn²⁺, EPR of Mn²⁺, spin-Hamiltonian parameters 9-33528
- Cd₂Na(VO₄)₃, X-ray single cryst. struct. determ. and refinement, Patterson synthesis 9-19196
- Cd₂Nb₂O₆S₂, pyrochlore struct., ferroelec., dielec. and structural study 9-38488
- CdO, effect of compacting pressure on consolidation and elec. cond. 9-29007
- CdO, spray coated, reaction with Si, IR investig. 9-39197
- CdO-B₂O₃-GeO₂ system, phase equilibria at 800°C, X-ray powder diff. anal. 9-4956
- CdO-TeO₂ glass, struct. and props. (*Japanese*) 9-32917
- CO₂, catalyst on isopropanol, surface active sites during dehydrogenation 9-43621
- CdP₂, light polarisation, self-induced optical rotation 9-19860
- CdP₂, energy band struct. and electron mobility at low temp. 9-37984
- β-Cd₂(PO₄)₂, high temp. form, X-ray cryst. struct. anal. (*French*) 9-32953
- Cd₂(PS₄)₂, synthesis by roasting, and exam. of props. 9-4926
- CdS, acoustoelectric current fluctuations 9-24020
- CdS, acoustoelectric fluctuations 9-7866
- CdS, anomalous behaviour of transient Langmuir dissociation 9-28092
- CdS, anti-Stokes excited crystals, luminescence band at 12K 9-19922
- CdS, Auger excitation mech. of 1.6-2.0 micron luminesc. band 9-8184
- CdS, Bi exciton-polariton, reson. Brillouin scatt. 9-33717
- n-CdS, bipolar photocond. and acoustoelectric current 9-19636
- CdS, Brillouin scatt. of forbidden polaritons 9-33722
- CdS, chemically precipitated film, optical spectra, annealing effects (*Russian*) 9-11424
- CdS, cryst. growth from vapour in sealed silica tubes, emission and mass spectra 9-43117
- CdS crystal growth with strong long-lived polarisation echoes 9-43113
- CdS, deep level transient spectroscopy (*French*) 9-11079
- CdS, defect struct., dark-field microscopy, anal. of decoration patterns 9-23506
- CdS detector, Voyager Sun sensor, evaluation of radiation interference, simulation 9-23644
- CdS, dislocation effects on radiative recombination processes 9-8186

cadmium compounds continued

- CdS, domain elec. instabilities, elec. field and temp. distrib., optical meas. 9-11405
- CdS, exciton spectrum of high-density gas of nonequilib. carriers 9-38567
- CdS, exciton-phonon interaction, interpretation of optical absorpt. data 9-14897
- CdS, excitonic polariton reflectance, quantitative anal. in spectral range of A-exciton 9-15480
- CdS film, ellipsometry of natural boundaries (*Russian*) 9-4866
- CdS film, exciton exhibiting spatial dispersion, reflectivity, polariton standing-wave struct. 9-4865
- CdS film, polycrystalline, photosensitive, struct., pseudoreplica method, using electron microscopy and microdiff. 9-15030
- CdS film, precipitation from solns., form. characts. 9-11524
- CdS film growth, with smooth surfaces through boundary layers 9-28244
- CdS films, electron irradi. effect on electrophys. props., prep. conditions depend. 9-28421
- CdS, granulated films, optical reson. 9-4863
- CdS, heavily doped compensated piezoelectric semiconductor, sound absorpt. coeff. calc. (*Russian*) 9-15194
- CdS heteroepitaxial films on ZnS, surface-wave acoustoelectric domain excitation and probing 9-46904
- CdS, highly excited cryst., biexciton, impurity transition and electron-hole plasma 9-15092
- CdS, highly photoexcited, picosec. luminesc. spectrosc. 9-47517
- CdS, hole-capture coeff. of deep charged centres, temp. depend., photocurrent meas. 9-7804
- CdS, ion irradi. damage, obs. using SEM in cathodolumin. mode 9-7633
- CdS large- and small-signal lattice attenuation, Brillouin scatt. obs. 9-47130
- CdS, laser, petal shaped cryst., high-temp. spectral characts. (*Russian*) 9-13968
- CdS, laser thresholds and stimulated emission, intrinsic recomb. processes 9-15489
- CdS, light scatt. by Bleustein-Gulyaev waves on refl. and transmission 9-24288
- CdS, local cathodolum. of single crystals under colour contrast conditions in SEM 9-8191
- CdS, luminesc. and gain spectra of two-photon excited excitons 9-33815
- CdS, magnetoabsorption, explained by D⁻ centres 9-38019
- CdS, nonlinear electronic absorption of US waves 9-15196
- CdS, nonlinear refr. index meas. by nonlinear lens method (*Russian*) 9-26111
- CdS, optical activity in exciton spectra region, reflectance spectra 9-28707
- CdS, optical axis inversion (*Russian*) 9-24284
- CdS, photocond., acoustoelec. fluctuations 9-24022
- CdS, photocond. cryst., stationary and non-stationary temperature-electric instabilities 9-7833
- CdS, photocond. cryst. characterisation of electron-trap responsible for acoustic holographic echoes (*French*) 9-19544
- CdS, photoconductive, transverse electric current effect on SAW propagation 9-47127
- CdS photoconductor, penetration depth of Bleustein-Gulyaev waves 9-28186
- CdS, photoexcitation, effect of elec. field (*Russian*) 9-1751
- CdS, photoexciton waves, restrictions imposed on nature of additional boundary conditions 9-28789
- CdS plate, amplification of elastic waves by transversely drifting injected carriers 9-7868
- CdS, polycryst., photoelec. props., pressure time influence (*Russian*) 9-19615
- CdS, porous, dynamic phase transition at high press. 9-23723
- CdS, props. of shallow acceptors, photocurrent meas. 9-7805
- CdS, psec time resolved spectroscopy, electron-hole plasma 9-47500
- CdS pulsed optically detected resonance, time depend. recomb. processor study 9-38411
- CdS, reson. Brillouin scatt. by longitudinal acoustic phonons 9-38555
- CdS, reson. Brillouin scatt., book contrib. 9-42983
- CdS, reversible threshold modification of luminesc. spectrum by uniaxial compression 9-38662
- CdS screen, laser electron-beam tube under scanning conditions 9-13983
- CdS, single cryst., band parameters from optical exciton spectra 9-47021
- CdS, single cryst., bound excitons in surface layers, luminesc. obs. 9-28294
- CdS single cryst., melt growth, improvement of elec. characts. 9-38734
- CdS single crystals, depend. of radiative props. on equil. carrier density 9-19932
- CdS, spectral anal. of luminesc. of high density excitons 9-11451
- CdS sprayed film, heat treatment effect on props. 9-7916
- CdS, sputter-deposited, electrical and optical props. 9-47181
- CdS, stimulated emission and optical gain in dense exciton system 9-33731
- CdS, submillimetre laser emission due to transitions between free exciton level 9-27261
- CdS, superconductor-semicond. device research, future prospects 9-28467
- CdS, surface elastic wave propag. in piezoelec. plate, elec. screening effect (*Russian*) 9-14999
- CdS, surface state meas. by SAW convolver 9-42617
- CdS, thermorefectance spectra, additional boundary conditions in terms of optical constants 9-15478
- CdS, thin film, dark- and photo-currents, annealing time effect 9-38199
- CdS, two-photon excitation of first vibr. state of biexciton, giant oscillator strength calc. 9-7789
- CdS:Ag, orange luminesc. at 77K and induced impurity photoconductivity 9-43035
- CdS:Cu, IR photolum. at 10K 9-28824
- CdS:Cu, US absorpt. in heavily doped piezoelec. semicond. 9-11189
- CdS:Cu,Pb reflectivity of Ni-salt coated powder, pre-irrad. effect on defect form. 9-27973
- CdS:In, two-photon absorpt. spectra exam. of effects of screening of exciton continuum 9-8166
- CdS:Li, TSC and optical photocurrent quenching spectra, Auger excitation of recomb. centres 9-33294
- CdS:Li, thermochemical changes in microstructure of anisotropic centres, polarisation modulation method meas. 9-38027
- CdS:Mn gamma-irradiated ESR meas. 9-11342
- CdS:Mn²⁺, temp. depend. of rate of spin-lattice relax. 9-42832
- CdS:Na, thin film, dark- and photo-currents, annealing time effect 9-38199

cadmium compounds continued

- CdS-CuInSe₂ solar cells, grain boundary and interface recomb. effects 9-39311
 CdS-LiNbO₃ layer structure, temp. depend. of acoustoelectric current 9-7867
 CdS-metal interface, chemical reactions and local charge redistrib. 9-19661
 CdS-PET photoreceptors, air space effects on electrophotographic props. (Japanese) 9-44962
 CdS-PbTe and CdS-Te heterojunctions, electron irradiation effect on electrophys. props., prep. conditions depend. 9-28421
 3CdSO₄·8H₂O:Gd³⁺, EPR, spin Hamiltonian 9-42833
 CdS_{1-x}Se_x, comp. disorder-induced broadening for free excitons 9-15479
 CdS_{1-x}Se_x gradient cryst., pseudointersection of dispersion curves $n_0(\lambda)$ and $n_e(\lambda)$ 9-15487
 CdS_{1-x}Se_x triode cathode sputtered films, electrophysical props. (Russian) 9-42642
 CdS_{1-x}Se_x triode sputtered films, photoelec. props. (Russian) 9-15179
 Cd_{1+y}(S_{1-x}Se_x) single crystals, vapour phase transport and stoichiometry control 9-28940
 CdS(Se)(Te), evap. onto electron bombarded NaCl substrates, epitaxial growth and characts. 9-28948
 CdS(Se)(Te), excitons detect., precision method 9-19906
 p-CdSb, elastic moduli depend. on hydrostatic press. up to 17 kbar 9-37755
 CdSb, monocrystalline film, prep., elec. props. 9-43159
 CdSb, phase diagram, region of homogeneity, elec. cond. 9-43219
 CdSb resistance thermometer, characts. of cryogenic temps. 9-21760
 CdSb single crystals, surface layer melting and recrystallisation due to laser irradiation (Ukrainian) 9-46699
 n-CdSe, bipolar photocond. and acoustoelectric current 9-19636
 CdSe, diffusion of Cu, effect of laser radiation on diffusion 9-10983
 CdSe films, electron irradiation effect on electrophys. props., prep. conditions depend. 9-28421
 CdSe, heavily doped compensated piezoelectric semiconductor, sound absorpt. coeff. calc. (Russian) 9-15194
 CdSe, NMR, chemical shift and linewidth determ. 9-19792
 CdSe, optical gain spectra, exciton collision processes and electron-hole plasma 9-28814
 CdSe photoelectrode, immersed in polysulphide soln., S/Se substitution, XPS obs. 9-19656
 CdSe, psec time resolved spectroscopy, electron-hole plasma 9-47500
 CdSe, radiative recomb. process, P-band, 2-psec time resolution 9-24346
 CdSe, resonant Brillouin scatt. via free and bound excitons 9-24330
 CdSe, saturation of optical absorpt. and photocond. 9-18487
 CdSe, signal and idler beam mixing device for optical parametric oscillator 9-14029
 CdSe, single cryst., band parameters from optical exciton spectra 9-47021
 CdSe, thin films, exciton piezotransmission 9-24380
 CdSe, wave propag. 9-28042
 CdSe:Cu,Cl film, induced impurity photocond., 0.6 to 1.2 eV 9-24012
 CdSe-metal interface, chemical reactions and local charge redistrib. 9-19661
 CdSe-SiO₂ thin film transistors, fabrication and electronic characts. 9-33351
 CdSe-ZnTe single cryst. film heterojunctions, prep. and props. 9-19652
 CdSe(Te), laser calorimetric meas. of two-photon absorpt. coeffs. at 1.06 μ m 9-44934
 CdSe_{1-x}Te_x triode sputtered films, photoelec. props. (Russian) 9-15179
 CdSe_{1-x}Te_x triode cathode sputtered films, electrophysical props. (Russian) 9-42642
 CdSiAs₂, electron irradiation, defects, elec. and optical props. 9-19282
 Cd₂SnO₄ film, sputter deposition and characterisation 9-43146
 CdTe, amphoteric behaviour and solubility of Sn 9-33008
 CdTe, anodic oxidation as thin-layer removal technique for impurity distrib. profile determ. 9-34169
 p-CdTe, bipolar photocond. and acoustoelectric current 9-19636
 CdTe, diffusion of Sn and intrinsic defects role 9-33116
 CdTe, dynamic holograms, diffraction characts. using laser beam 9-46048
 CdTe epitaxial layers on GaAs, cryst. struct. and phys. props. 9-33202
 CdTe, excitation spectra, resonant Raman scatt. versus hot electron effects 9-38645
 n-CdTe films, uniform trap distrib., transient photocond. effects 9-28423
 CdTe, films grown by hot wall epitaxy, elec. props. 9-28420
 CdTe KO-6 optical ceramic component antireflection coatings 9-27345
 CdTe metal-semicond.-metal detectors, degradation characts. due to e and γ irradiation 9-45543
 CdTe, n- and p-type, elec. and galvanomag. props. 9-7830
 CdTe, NMR, chemical shift and linewidth determ. 9-19792
 CdTe, near-edge absorpt., effect of light illumination and elec. field 9-38547
 CdTe, phonon conductivity, 2 to 300K, scatt. mechanisms 9-4436
 CdTe, photoelectron spectra at Schottky barrier (Korean) 9-11220
 n-CdTe, photolum., plastic deform. effects 9-15509
 CdTe, picosecond absorption spectroscopy 9-47482
 CdTe, reson. Brillouin scatt., book contrib. 9-42983
 CdTe, Schottky diode, AC small signal capacitance 9-7899
 CdTe, single crystals, plastic deformation and dislocation struct. 9-8321
 CdTe, sputter-deposited, electrical and optical props. 9-47181
 CdTe:Ag, with microscopic p-n junction, photopolarisation in anomalous photovoltage 9-11175
 CdTe:Ag film, photoelectret effect (Russian) 9-28676
 p-CdTe:Cl, mech. of electron recomb. 9-11176
 CdTe:Ge, negative thermally stimulated cond. 9-19621
 CdTe:In, photoconductivity exam. and IR quenching 9-11181
 CdTe:In, shift optical absorpt. edge with temp. and doping level 9-8165
 CdTe:Li, excitation spectrum of Li acceptor and valence band parameters 9-28795
 CdTe-Co(Mn) systems, reaction of components, DTA, microstruct. and microhardness obs. 9-38804
 CdTe-HgTe, neutron irradiation, rel. to elec. props. 9-15141
 CdTe-ZnSe pseudobinary system, phase diagram and equil., Bridgman single cryst. growth method 9-43213
 CdTeMoO₆, prep. and cryst. struct., X-ray diffraction obs. 9-1414
 Cd₂V₂O₇, elec. props. and EPR meas. 9-11114
 Cd_{1-x}Zn_xCr₂Se₄, mag. semicond., neutronographic obs. (Russian) 9-11297
 Cd_{1-x}Zn_xS, film, technical data, for low cost solar cell 9-48127
 Cd_{1-x}Zn_xS spray deposited film, for low cost solar cells 9-7915

cadmium compounds continued

- Cd_{1-x}Zn_xS, use of parallel and monochromatic beams for comp. determ. by X-ray fluorescence 9-48000
 Cd_{1-x}Zn_xS-Cu₂S, heterojunction interface double layer, dislocation field, charge compensation 9-7855
 Cd_{1-x}Zn_xTe, solid soln., vibr. spectra restructuring anomalies 9-4803
 CoS-CdS, phase study by X-ray obs., lattice const. 9-1854
 P-Cu_{2-x}S-CdS, heterojunction, energy band diagram 9-24070
 Cu₂S-CdS, solar cell, photocurrent, spectral depend. 9-7853
 Cu₂S-CdS solar photopiles, tunnel conduction mechanism (French) 9-29480
 Cu₂S-CdS sprayed layer solar photopiles, CdS sprayed layer props. (French) 9-24901
 (Hg,Cd)Te IR detector array, 72-element, 8-12 micron, performance, FLIR system appl. 9-2829
 Hg_{1-x}Cd_xSe, (x=0 to 0.15), Shubnikov-de Haas oscillations, influence of level broadening 9-11155
 n-Hg_{0.61}Cd_{0.39}Te single crystals, flicker noise due to grain boundaries, meas. 9-1611
 Hg_{0.68}Cd_{0.32}Te photodiode, minority carrier lifetime determ. 9-38084
 Hg_{0.72}Cd_{0.28}Te semiconductor, two-mode reson. polaron 9-15105
 Hg_{0.77}Cd_{0.23}Te, resonant four-photon and higher order mixing 9-41415
 Hg_{1-x}Cd_xTe, acceptor levels due to local impurity potential 9-11084
 Hg_{1-x}Cd_xTe, epitaxial layer, vapour phase growth 9-1829
 Hg_{1-x}Cd_xTe, far IR cyclotron reson., band edge effective mass and relax. time 9-19781
 Hg_{1-x}Cd_xTe films, Tamm surface states, Kane model 9-28395
 Hg_{1-x}Cd_xTe photoconductors, gamma ray effects on surface props. and detector props. 9-17489
 nHg_{1-x}Cd_xTe, single-phonon and plasmon recomb. lifetime effect, with magnetically tuned bandgap 9-38098
 Hg_{1-x}Cd_xTe-CdTe photodiodes, backside-illum., LPE growth and thermal noise characts. 9-40610
 HgTe-CdTe, mixed semiconductor with comp. fluctuation, kinetics of intraband absorpt. and magnetoabsorption coeff. 9-19865
 In-CdS-In, tunnel junction light-induced DC Josephson current 9-47204
 (InAs)_{1-x}(CdS)_x, solid solution, elec. props. 9-15146
 LiCBO₃, cryst. struct., X-ray determ. 9-19226
 Mn_xCd_{1-x}(NH₃)₂·Ni(CN)₄·2C₆H₆, Hofmann type mixed cryst., mag. props. 9-4659
 NH₄CdCl₃, X-ray cryst. struct. refinement by blocked least-squares method 9-1404
 (NH₄)₂Cd₂(SO₄)₃·Mn²⁺, UO₂²⁺, luminesc., vibr. modes 9-38629
 Na₂CO₃·2CaCO₃, shortite, cryst. struct. and space group, pyroelec. effect 9-23573
 (Na_{1-x}Cd_x)Cd₂(PO₄)(PO₃)₂(OH)_{1-x}, cryst. struct. determ. 9-23589
 Na₄Cd₂[Si₂O₇]₂, cryst. struct. determ. 9-14778
 NiO-CdO-Fe₂O₃ system, phase equilibria 9-11582
 P₂O₅-K₂O-CdO-Na₂O glass:Nd³⁺, highly doped, spectroscopic props. and CW laser action (French) 9-41385
 Pb_{1-x}Cd_x epitaxial layer, metastable, optical props. and electronic struct. 9-15543
 Pb_{0.95}Cd_{0.05}Te, solid solns., thermoelec. power and Hall effect under hydrostatic press. 9-23990
 PbO-B₂O₃-SiO₂-Li₂O-ZrO₂-CdO, coloured, glass enamel, chemical durability and microstruct., CdO addition effect 9-29256
 PbS photocells, multicolour detectors in combination with Si photodiodes (Czech) 9-26126
 Pd-CdS-In, tunnel junction, light induced DC Josephson current 9-47204
 Rb₂Cd₂(SO₄)₃, pyroelectric and dielectric props., ferroelectric transitions 9-38458
 Rb₂Cd₂(SO₄)₃ single cryst., growth and phase transitions 9-33918
 Ti₂Cd₂(SO₄)₃ single cryst., growth and phase transitions 9-33918
 ZnCdS:Cu, high field photoconduction in binder layer 9-47121
 Zn_{1-x}Cd_xS, granulated films, optical reson. 9-4863
 Zn_{1-x}Cd_xS, platelet single cryst. one-photon optical excitation, spatial distrib. and mode struct. of laser emission 9-31912
 Zn_{1-x}Cd_xS:Cu, photoluminesc., Birman effect (Russian) 9-28837
 Zn_{1-x}Cd_xTe, reson. Brillouin scatt., acoustic domain injection 9-38557
 Zn_{1-x}Cd_xTe, resonant Brillouin scattering (Japanese) 9-15474
 ZnCl₂-CdCl₂ melt, Raman spectra, struct. anal. 9-38549
 ZnS-CdS system, solid soln. form. mechanism 9-43177
 ZnTe-CdSe solid solutions, phase equilib. (Russian) 9-43224

caesium

- see also nuclei with
 adsorbed on Cu (100), work function influence of coadsorbed O₂ 9-15014
 adsorbed on Cu (111), XPS exam. of Cu surface state and Cs valence electrons 9-19647
 adsorbed on W (001) face, thermal desorption kinetics 9-28210
 adsorption, on W single cryst. faces, evap. isotherm 9-24829
 adsorption on n-GaAs (110) and p-Ge (111) surfaces, work function meas., adsorption site model 9-23839
 atom, 6s²S_{1/2} to 5d²D_{5/2} transition, stimulated electronic Raman scatt. 9-41411
 atom, core charge polarisation effects, dipolar contributions 9-45631
 atom, direct meas. of 7P doublet state lifetimes by pulsed dye laser 9-786
 atom, four-photon ionisation, reson. effects 9-45689
 atom, hyperfine struct. density and temp. shift coeffs., at high buffer gas densities 9-18138
 atom, natural and effective lifetimes meas. for 10 P states 9-26934
 atom, oscill. strengths of principal series doublets 9-13671
 atom, parity nonconservation in light absorption 9-10086
 atom, reson. multiphoton ionis. 9-41146
 atom, resonant multiphoton ionis. 9-36589
 atom, resonant multiphoton ionisation (Russian) 9-3421
 atom, self-broadening of Doppler-free two-photon lines 9-41135
 atom, two-photon ionisation rate, time depend. 9-31622
 atom+inert gas, D₂ line collisional broadening and shift, and HFS 9-22664
 atomic beam, optical pumping and detection of 0-0 transition 9-18158
 atomic clock, standard at Rascal Research Lab., Japan 9-21714
 atomic Rydberg states, principal series doublets, intensity ratio anomalies 9-18148
 coadsorption with Ba on W (110), work function of surface under equilibrium conditions 9-15025
 coated graphite emitter, for thermionic cell 9-11494
 crustacean neuromuscular junctions, synaptic facilitation obs. 9-39412
 diffusion in Silumin, CsSi phase form. 9-38798

caesium continued
 F states, radiative lifetime and g-factor determ. 9-41138
 frequency standard research at PTB, beam optics, Majorana transitions 9-21709
 frequency standards, freq. offset due to spectral impurities 9-21710
 gas diffusion of Cs atoms in Ar-methane, by reson. ionis. spectrosc. 9-18984
 gas fission product release, effect on LWR fuel performance calcs. 9-31054
 graphite, Cs-intercalated, melting and staging, X-ray scatt. obs. 9-19180
 ions, positive and negative, in thermionic converter, mass spectrometric study 9-19083
 L-shell X-ray prod. by H(He) ion bombardment 9-47548
 liquid, resist. and thermo-electric power using corrected parameters of Shaw model 9-19566
 monolayer on Cu(111), dilution of electron gas by O adsorption, plasmon energy losses 9-47036
 nerve fibres, myelinated, diffusion of ions 9-24965
 oxidation, adsorbate-induced struct., UPS obs. 9-47828
 photoelectron energy distrib. curves, depend. on light polarization 9-15591
 plasma, fully ionized dense, hollow cathode arc, V-I characts. and other props. 9-14627
 plasma, in through-flow hollow cathode arc mode 9-27837
 plasma, thermodynamics of nonideal low-temperature multicomponent plasma: chemical model 9-41796
 plasma source for ARAKS expt. 9-21142
 quantum current-frequency converter using optical orientation of ¹³³Cs (Russian) 9-10275
 SIMS, semicond. doping profile anal. appls. 9-39265
 superfluorescence of vapour, effective initial tipping angle 9-22923
 thermionic discharge, auxiliary discharge to reduce voltage drop 9-10724
 transport in soil, evaluation of combined sorption model 9-8554
 vapour, optically pumped, transverse relax. times and diffusion coeff., spin echo meas. 9-10062
 vapour, pressure meas. using electric-discharge gauge for 0.1 to 10 torr range 9-17432
 volatilisation from zeolite in radioactive waste soln. processing at high temp. (Japanese) 9-13441
 Cs I, 560 to 1050 Å 9-31455
 Cs inert gas, pot. energy curves, collision induced oscillator strengths 9-22659
 Cs⁺ in tetrahydrofuran soln., transient photoelectron nutation 9-3418
 Cs⁺ mass spectrometer quadrupole mass filter transmission 9-21851
 Cs-Ba Knudsen thermionic converter performance optimisation 9-27840
 Cs-N₂ discharge, Cs₂⁺ form. rate, mass spectra obs., N₂ press. depend. 9-27853
 Cs-O coated Ga_{1-x}In_xAs photocathode, negative electron affinity, photoelectron scatt. in coating 9-28899
 Cs+Cs, nP, dD excited states, assoc. ionisation, state and thermal energy depend. (Russian) 9-5153
 Cs+Cs, Rydberg states collisional disalignment determ. by fluoresc. quantum beat damping 9-13789
 Cs+H⁺, 4 MeV beam-foil X-ray production cross-section 9-7003
 Cs+He(Ne)(Ar), optical pumping, spectral line shape (Spanish) 9-22662
 Cs+UF₆, ion pair form. and atom abstraction reactions 9-1946
 Cs⁺+Cs, mol. ion form. rate, from mobility meas. 9-34299
 Cs⁺+Cs, reson. charge exchange cross section at thermal energies 9-854
 Cs₂, fluoresc. at 6270 Å, rot. consts. 9-45744
 Cs₂⁺, ²Σ and ²Π state pot. energy curves, two-centre model 9-26906
 Cs₂⁺ form. by electron impact in elec. discharge, low-press. vap. 9-10738
^ACs, A=133, 135, 137, isotope shifts and hyperfine struct. of 5s-7p transitions 9-13677
^ACs, A=138 to 142, nucl. moments and charge radii changes from hyperfine struct. and isotope shifts 9-17804
¹³³Cs, low energy ions systematic range meas. in Ar and N₂ gases 9-1472
¹³³Cs, high-field quantum beats for ⁷²P_{3/2} state 9-13682
¹³³Cs vapour external selective mirror for semiconductor laser 9-45961
¹³⁴Cs, errors in activity ratio determ. in reactor RA used fuel element 9-41061
¹³⁷Cs, coyote scats, Hanford Reservation, radioactive waste distrib. 9-25120
¹³⁷Cs, errors in activity ratio determ. in reactor RA used fuel element 9-41061
¹³⁷Cs in Straits of Malacca marine environment 9-12135
¹³⁷Cs, K, model for turnover in pike 9-8553
¹³⁷Cs needle implants, miniaturized, for radiation therapy 9-11995
¹³⁷Cs, radionuclide leaching from hardened cement grout, container dimension depend. 9-13439
¹³⁷Cs standardisation by ⁴⁴(PC)-^γ efficiency tracing method 9-13577
¹³⁷Cs, time variation of low concentrations in rain water 9-43994
¹³⁷Cs, uptake by cotton rats inhabiting banks of radioactive liquid waste pond 9-25121
 Cs₂⁺, optically excited, cascade predissoc. (Russian) 9-10159
 GaInAs:Cs-O, occurrence of Schottky effect 9-8227
 H+Cs-H⁺+Cs⁺, low energy cross sections 9-7009
 He-Cs, turbulent plasma, characts., electron energy balance (Russian) 9-27779
 He-Cs mixture, Cs ion conc. determ. by radn. absorpt. 9-34395
 He+Cs(Rb), interatomic pots., hyperfine shifts, diffusion coeffs., perturbation exchange theory 9-41220
 O₂+Na(K)(Cs), negative ion pair form., total cross sections 9-3550
 Si:Cs, high dose implantation profiles, determ. using low angle Rutherford He ion backscatt. 9-4327
 UO₂ in UO₂-PuO₂, fast reactor fuel pins, Cs interaction 9-6743

caesium alloys

No entries

caesium clocks see atomic clocks

caesium compounds

see also caesium alloys

caesium hydrogen tartrate, Cs L_{III}-edge anomalous X-ray scatt., meas. by synchrotron radiation 9-24389
 halide, optical response function from Jahn-Teller systems, F-band absorpt. band shape 9-43005
 halides, dielectric behaviour and optic mode Gruneisen parameters 9-10907
 halides, electronic struct. of self-trapped excitons magneto-optic props. 9-33805

caesium compounds continued

halides, photoelectric yield spectra, 10 to 40 eV photon energy 9-28887
 perfluoro-octanoate/D₂O, NMR of ²D nuclei, response to three-pulse sequences in inhomogeneous B₀ field 9-42861
 perfluoro-octanoate/D₂O, NMR of ²D nuclei, response to three-pulse sequence in homogeneous B₀ field 9-42860
 TCNQ salt, Cs₂(TCNQ)₃, cond. and thermopower meas., deep level acceptor model 9-42529
 tetracyanoplatinate conductors, IR and Raman spectra, cyanide stretching vibrs. 9-11415
 Cs-Cr-O, fission product compounds in irradiated nucl. fuels chemical thermodynamic data (Japanese) 9-22387
 Cs-Mo-O, fission product compounds in irradiated nucl. fuels, chemical thermodynamic data (Japanese) 9-22387
 Cs-mordenite, dehydrated, positions of cations and molecules 9-1418
 Cs-O adlayer on GaAs photocathode, negative electron affinity, core level photoemission 9-19965
 Cs-O coated Ag cathode, photoemission mechanism (Chinese) 9-19966
 Cs-O coated Ga_{1-x}In_xAs photocathode, negative electron affinity, photoelectron scatt. in coating 9-28899
 Cs-U-O fission product compounds in irradiated nucl. fuels, chemical thermodynamic data (Japanese) 9-22387
 CsAlCl₄, solid state Raman spectra, 298-80K, vibr., struct. 9-28745
 CsAl₂Fe_{1-x}(SO₄)₂, solid soln., Raman and IR spectrum study (French) 9-47453
 CsB₃H₈, IR, Raman and inelastic neutron scatt. spectra 9-42966
 CsB₂O₇, mol. struct. determ. by gas phase electron diff. 9-10227
 CsBi(MoO₄)₂, low temp. phase transition, permittivity meas. 9-28698
 CsBr, impurity absorpt. spectra after γ -irrad., aggregated colour centres 9-4829
 CsBr, luminesc., mag. circ. polaris., self-trapped excitons, EPR 9-33805
 CsBr solution, EPR of O₂⁻ luminesc. centres, 4.2K (Russian) 9-15339
 CsBr:Cu⁺ off-centre, optical absorpt. meas. 9-33740
 CsBr:Th, absorpt., excitation, fluorescence spectra 9-43032
 CsBr:Ti, emission bands, press. effect 9-33789
 CsBr:Ti³⁺, ESR of [X₂⁻] centres 9-33533
 CsBr-MgBr₂ system, thermochem. and struct. investigation (German) 9-1423
 CsC₈ intercalation compound, cryst. atomic struct. study (French) 9-42021
 CsCaCl₂, birefringence, twinning and structural phase transitions 9-38480
 CsCl, electrostatic energy calc. by planewise summation method 9-23564
 CsCl soln., radioactive, tilt-pour melt caster for encapsulation 9-26580
 CsCl solution, EPR of O₂⁻ luminesc. centres, 4.2K (Russian) 9-15339
 CsCl:Ti³⁺, ESR of [X₂⁻] centres 9-35533
 CsCl-NaCl melt, X-ray diff. struct. determ. 9-41925
 CsCoCl₃, antiferromag., spin wave spectrum 9-28514
 CsCoCl₃, Ising-like antiferromag., spin dynamics 9-42747
 CsCoCl₃, Ising-like antiferromag., instantaneous spin correlations 9-42746
 Cs₂CoI₂, cryst. struct. and thermal props. (German) 9-23578
 CsCr₂Fe_{1-x}(SO₄)₂, solid soln., Raman and IR spectrum study (French) 9-47453
 CsCuCl₃, Jahn-Teller effect induced phase transitions 9-47439
 CsD₂AsO₄, ferroelec. phase transition, NMR study (Chinese) 9-33644
 CsD₂AsO₄, Fourier transform plane superposition multiplier, for optical processing 9-7084
 CsDy(MoO₄)₂, effect of 38K phase transition on phonon spectrum, IR reflection spectra (Russian) 9-10902
 CsDy(MoO₄)₂, trivalent ion impurity effects on structural phase transition temp., new transition 20-30K (Russian) 9-19367
 CsF, cryst., Debye characteristic temp. calcs. 9-37796
 CsF, Stark effect, deviations from rigid rotor model 9-18234
 CsFeCl₃, linear chain cryst., quadrupole and mag. reson., rel. to RbFeCl₃ 9-38403
 CsFeCl₃2D₂O, cryst. and mag. struct., neutron scatt. and NMR expts. 9-7969
 Cs₂GeF₆4HF, cryst., H bond geometry, NMR obs. 9-42844
 Cs₂GeF₆4HF, molecular diffusion, spatial symmetry, HF molecule arrangement 9-42313
 CsH₂AsO₄, ferroelec., RF dielec. relax., loss mech. 9-38448
 CsH₂AsO₄, influence of γ -radiation on dielec. props. 9-46703
 CsH₂AsO₄, Mandelstam-Brillouin spectra and US vel. meas. near ferroelec. Curie point 9-38553
 CsHF₆, heat capacities, transitions and melting 9-10967
 CsH(NO₃)₂, inelastic neutron scatt. spectra, H bonds bending vibrs. 9-14893
 CsH₂PO₄, domain obs. in paraelectric phase 9-24277
 CsH₂PO₄, ferroelec., press. induced antiferroelectricity 9-4774
 CsH₂PO₄, ferroelec., X-ray and dielec. studies on phase transition 9-38477
 CsH₂PO₄, microhardness, expt. determ. 9-24603
 CsH₂PO₄, paraelectric phase, struct. exam. by neutron diff. 9-37679
 CsHSeO₃, and deuterated analog, vibr. spectra 9-24311
 CsHe absorption bands associated with forbidden Cs transitions 9-27005
 Cs₂HgBr₄, X-ray cryst. struct. determ. and refinement 9-46637
 CsI based powdered phosphors and screens possible appl. in X-ray radiography and fluorography 9-6245
 CsI, depth of emission of secondary photoelectrons 9-8228
 CsI, exposed to ultrasoft X-rays, thermal luminesc. and electron emission 9-8192
 CsI, luminesc., mag. circ. polaris., self-trapped excitons 9-33805
 CsI, pure, influence of strain on photolum. 9-15527
 CsI, secondary electron emission statistics, photomultiplier appl. 9-47564
 CsI, Wulf habits, ideal forms of soln. of crystals. 9-14718
 CsI:H⁻, U-centres, force consts. using Green's functions 9-46775
 CsI:Na, crystal, kinetics of decay of surface solid soln. 9-23810
 CsI:Na, tunnelling recomb. of electron-hole pair, optical detection of ESR and circ. dichroism 9-47360
 CsI:Na, UV irrad., thermoluminesc. 9-28846
 CsI:Na⁺(K⁺), (Cu²⁺), (Ti³⁺), (Eu³⁺), crystals, influence of impurities on yield stress 9-15748
 CsI:Ti, emission bands, press. effect 9-33789
 CsI:Ti, X-ray phosphor, influence of different factors on emission intensity 9-8171
 CsI:Ti, X-ray screens consisting of scintillating crystal fibers 9-6244
 CsI:Ti powdered phosphor screen for X-ray image intensifier 9-6246
 CsI:Ti single crystal gamma-optical converting screens, factors influencing relative afterglow intensity 9-8173
 CsI:Ti X-ray phosphor, spectral characts. 9-8172

caesium compounds continued

- CsI-Hg-Ar discharge, high-press., temp. and plasma comp. determ. 9-10709
 CsI-KI melt, X-ray diff. struct. determ. 9-41925
 $\text{Cs}_2\text{LiFe}(\text{CN})_6$, struct., phase transformations, temp. depend. Raman spectra 9-11416
 $\text{CsMF}_2\text{Mn}^{2+}$, ($\text{M}=\text{Ca}, \text{Cd}$), zero-field splitting of Mn^{2+} , superposition model (French) 9-15267
 $\text{Cs}^+\text{M}^{III}(\text{SO}_4)_2$, $\text{M}=\text{Al}^{3+}$, Cr^{3+} , Fe^{3+} , Raman and IR spectrum study (French) 9-47453
 $\text{CsMgCl}\cdot\text{Cr}^{3+}\cdot\text{Mo}^{3+}$, $\text{Cr}^{3+}\text{-Mo}^{3+}$ exchange coupled pair, EPR study 9-42830
 CsMnBr_3 , triang. antiferromagnet, spin wave theory 9-7978
 $\text{CsMnF}_3\cdot\text{Nd}^{3+}$, nearly 1-dimens. cryst., emission spectrum, extensive energy transfer 9-15516
 $\text{CsMnBr}_3\cdot 2\text{D}_2\text{O}$, mag. phase diagram near bicrit. point 9-15302
 CsMnCl_3 , electron resonance linewidth anisotropy 9-28588
 CsMnCl_3 , mag. anisotropy measurement 9-11310
 $\text{Cs}_2\text{MnF}_2\cdot\text{H}_2\text{O}$, X-ray cryst. struct. anal. 9-4289
 $\text{CsN}_2\cdot\text{Mn}_2\text{F}_3$, hexagonal perovskites, struct. evolution and mag. props., effects of high pressure 9-41987
 CsNO_3 , single cryst., γ -irradiated, X-ray diff. effects 9-46704
 $\text{Cs}_2\text{NaEuCl}_6$, mag. dipole transitions $^2\text{D}_{3/2}\text{-}^4\text{F}_4$, interpretation 9-42505
 $\text{Cs}_2\text{NaFe}(\text{CN})_6$, structural phase transformations 9-19178
 $\text{Cs}_2\text{NaLn}(\text{III})\text{Br}_6$, prep., cryst. genesis, and charact. by X-ray powder diff. (French) 9-43135
 $\text{Cs}_2\text{NaYCl}_6\cdot\text{Bi}^{3+}$, luminesc., cryst. growth, Stockberger method 9-8174
 $\text{Cs}_2\text{NaYCl}_6\cdot\text{Ce}$, ENDOR evidence of noncubic distortion 9-11357
 CsNaP_2O_7 , X-ray cryst. struct. anal. 9-7590
 CsNiBr_3 , double ordering in mag. linear chain system, sp. ht. and NMR data 9-28545
 CsNiCl_3 , double ordering in mag. linear chain system, sp. ht. and NMR data 9-28545
 CsNiF_3 , one-dimens. ferromag., spin wave dynamics, inelastic neutron scatt. study 9-47270
 CsNiF_3 , one-dimens. ferromag., solitons in external mag. field 9-19724
 CsNiF_3 , one-dimens. ferromag. phonon dispersion surfaces 9-42180
 CsNpF_6 , optical spectrum anal. 9-26963
 Cs_2O , ionic clusters in alkali metal suboxide cryst., struct., vibr. freqs., Raman spectra 9-37772
 $\text{Cs}_2\text{O-MgO-SiO}_2$ system, glasses, crystn. prods., composition, props. 9-41961
 $\text{Cs}_2\text{O-TeO}_2$ glass, struct. and props. (Japanese) 9-32917
 CsPbBr_3 , critical thermodynamic props. around successive phase transitions 9-33627
 CsPbBr_3 , CsPbCl_3 , ionic semiconductors, electronic and optical props. 9-38594
 CsPbBr_3 , optical and photoelectronic spectra 9-24410
 CsPbCl_3 , birefringence, twinning and structural phase transitions 9-38480
 CsPbCl_3 , critical thermodynamic props. around successive phase transitions 9-33627
 CsPbCl_3 , optical and photoelectronic spectra 9-24410
 $\text{Cs}_2\text{PbCu}(\text{NO}_3)_6$, α -modification, Jahn-Teller induced α to β transition, neutron diff. obs. 9-1498
 $\text{CsPr}(\text{MoO}_4)_2$, energy levels and mag. props. of Pr^{3+} ion (Russian) 9-7810
 $\text{CsPr}(\text{PO}_3)_4$, cryst. struct. 9-42022
 Cs_2S_2 , synthesis and cryst. struct. (German) 9-46618
 $\text{Cs}_2\text{SnCl}_6\cdot\text{UO}_2\text{Cl}_4^{2-}$, luminesc., vibronic anal. 9-33767
 $\text{Cs}_2\text{SnF}_6\cdot 4\text{HF}$, cryst., H bond geometry, NMR obs. 9-42844
 $\text{Cs}_2\text{SnF}_6\cdot 4\text{HF}$, molecular diffusion, spatial symmetry, HF molecule arrangement 9-42313
 CsSrCl_3 , birefringence, twinning and structural phase transitions 9-38480
 $\text{Cs}_2\text{UO}_2\text{Cl}_4$, fluoresc. decay rate of pure and impure cryst. 9-47487
 $\text{Cs}_2\text{UO}_2\text{Cl}_4$, low-lying excited electronic levels, fluoresc. decay meas. 9-47491
 CsUOF_5 , struct. obs. using neutron diff. and NMR 9-32962
 $\text{Cs}_2\text{VCl}_6\cdot 4\text{H}_2\text{O}$, magnetisation of ground state, field-induced level crossing 9-47068
 Cs_2VF_6 ($x=0.25, 0.19$), cryst. struct. examination by electron diff. using TEM 9-23583
 Cs_2WO_3 , cryst. struct. determ. 9-23569
 $\text{Cs}_2\text{ZrCl}_6\cdot\text{Np}^{4+}$, EPR obs. 9-33526
 $\text{Cs}_2\text{ZrCl}_6\cdot\text{UO}_2\text{Cl}_4^{2-}$, luminesc., vibronic anal. 9-33767
 $\text{Cs}_2[\text{Pt}(\text{CN})_4]\cdot\text{H}_2\text{O}$, polarised emission, correlation to cryst. struct. 9-19917
 $\text{FeCs}_2(\text{SO}_4)_2\cdot 6\text{H}_2\text{O}\cdot\text{VO}^{2+}$, EPR, spin Hamiltonian parameters 9-19771
 $\text{Na}_2\text{WO}_4\text{-Cs}_2\text{WO}_4\cdot\text{VO}^{2+}$ system form., melting point 9-43222
 RbF-CsF , solid solution, fundamental absorption 9-11433
 ScOH , electron collisions, integrated and momentum transfer cross sections, cond. integrals 9-41238
 $\text{TeO}_2\text{-V}_2\text{O}_5\text{-Cs}_2\text{O}$ glass, IR spectra of crystalline phases 9-38536
 $\text{ZnCl}_2\text{-CsCl}$, molten, density meas. (Japanese) 9-19383

caesium generators see plasma diodes

caesium plasma diodes see plasma diodes

calcium

see also nuclei with

- atom, electron impact excitation, identification of low energy autoionising levels 9-31703
 atom, intercombination line, at. beam saturation and reson. fluoresc. spectroscopy 9-36580
 atom, isotope shift in Ca I resonance line, nucl. charge distrib. 9-9461
 atom, weak intercombination line, Lamb-dips obs. by resonance fluorescence monitoring 9-3392
 axon, squid, Ca buffering, review, book contrib. 9-5267
 catalytic effect on chemisorption of O_2 on Au, AES 9-15021
 crustacean neuromuscular junctions, synaptic facilitation obs. 9-39412
 cystic fibrosis, mitochondrial Ca uptake and O_2 consumption 9-43839
 eye rod photoreceptors, vertebrate, opposing effects of Ca^{2+} and Ba^{2+} 9-24990
 interstellar Na I and/or Ca II lines, obs. towards 47 stars 9-25676
 ionophoretic model for Na-Ca counter transport 9-2017
 ions, adsorbed on porous SiO_2 glass in distilled water medium, determ. 9-24814
 isotope fractionation on Earth and other solar system materials 9-20835
 isotopic anomalies and lack of ^{26}Al in Allende meteorite unusual inclusion 9-40142
 isotopic comps. of magnetic spherules in marine sediments 9-44423
 K activation associated with intraneuronal free Ca 9-8494
 laser, pumped via collision-induced absorpt. in Ca-inert gas mixture 9-7117
 marine pollution determ. in Jordan Gulf of Aqaba 9-12142
 muscle, excitation and contraction processes, book contrib. 9-5262
 muscle mitochondria, fish, physiological correls. of Ca accumulating props 9-20527
 nervous tissues, Ca dependent K activation, book contrib. 9-5266
 neuron, intracellular Ca movement during pentylentetrazole induced bursting activity 9-8495
 red cell Ca pump, ATP regulation 9-29511
 skeletal Ca, facility for regional in vivo neutron activation anal. 9-25088
 skeletal muscle, excitation-contraction coupling, blockade by high extracellular concs. of Ca buffers 9-20528
 spine and forearm changes, meas. apparatus using ^{252}Cf neutron activation anal. 9-39490
 surface plasmons, excitation 9-28310
 tracheal epithelium, effect of Ca on ion transport and elec. props. 9-34527
 unilamellar lipid vesicles, Ca^{2+} initiation of fusion or lysis 9-2008
 Ca excess in snow and rain samples, Japan, from calcite source 9-39766
 Ca I 6573 Å and Ca II 7324 Å forbidden line, centre-to-limb behaviour 9-25572
 Ca II, solar H and K line profiles vars. at solar minimum and cycle 21 onset 9-16907
 Ca II emission from stellar chromospheres 9-30061
 Ca II H and K line profiles of active solar limb filament 9-44446
 Ca II H and K lines in solar prominences, emission line intensities rel. to model calcs. 9-44447
 Ca II K_2 -line and solar chromospheric feature lifetime rel. to rotation 9-44442
 Ca II K-line asymmetry in A-type star Sirius unconfirmed 9-30062
 Ca II K-line asymmetry in A-type star Sirius, comments 9-30063
 Ca II line width in late type stars, Wilson-Bappu effect 9-12464
 Ca II network, giant cell circulations on Sun 9-8895
 Ca ions activity change due to magnetisation as possible mechanism of biological effect (Russian) 9-39423
 Ca XVII, $2s2p(^3\text{P}_1^0)\text{-}2s^2(^1\text{S}_0)$ transition probabilities, CI calcs. 9-36544
 Ca^{2+} ATP driven pump in squid axon, physiological role 9-43865
 Ca^{2+} , K^+ , blood concs. in rat, technique for continuous vivo meas. (German) 9-39533
 Ca^{2+} role in multiplication regulation of normal and transformed cells 9-2012
 Ca/H ratio in RR Lyrae variable stars in globular clusters 9-16962
 Ca-Xe charge exchange system, optical gain meas. 9-10285
 Ca+Ca* (Rydberg Ca**), collision cross sections, Ca_2^+ pot. energy calcs. 9-27055
 Ca+H⁺, K X-ray production, 0.2-0.5 MeV, ionis. cross-section 9-31459
 Ca_2 in solid Kr, discrete reson. Raman scatt. and vibr. relax. 9-18188
 $^{40}\text{Ca}(n,\alpha)^{37}\text{Ar}$, system for meas. total body Ca in man 9-25083
 ^{41}Ca , possible use for radioactive dating 9-21063
 ^{43}Ca , isotope shift and hyperfine struct. by laser spectroscopy 9-41139
 $\text{Cl}^{3+}+\text{Ca}(\text{Sc})(\text{Ti})$ thick targets, 30 MeV, near symmetry collisions, double-K-vacancy sharing 9-3391
 KCl:Ba(Ca)(Sr), microstruct. and hardness, impurity distrib. effects 9-24529
 KCl:Ca, optical studies of Z_4 centres 9-24336
 $\text{KCl:Ti}^{3+}\text{Ca}^{2+}$, electrolytic colouring, colour centre form., optical absorpt. spectra 9-15497
 LiF:Mg:Ca detectors, variation of parameters of thermally stimulated luminesc. 9-6793
 NaCl:Ca^{2+} , highly doped, aggregation of point defects, NMR and dielec. loss meas. 9-10847
 YIG:Ca film, microwave losses induced by Fe^{4+} ions, ferromag. reson. study 9-1715
 calcium compounds
 aragonite, polymorphic transition kinetics, differential thermal anal. meas. 9-14722
 bytownite, quenched from 1723K, X-ray single cryst. struct. anal. and refinement 9-19193
 $\text{Ca}_3(\text{VO}_4)_2\text{-Zn}_3(\text{VO}_4)_2$, exam. of phase composition and phase diagrams 9-1851
 calcium di-DL-glycerate dihydrate, Ca binding, X-ray cryst. struct. determ. 9-46642
 calcium oxalate trihydrate and monohydrate, dissolution kinetics charact. by SEM 9-42250
 CaO-SiO_2 , wollastonite, exam. of synthesis by hydrothermal sintering (German) 9-4934
 chalk, grain size determ., sample preparation methods 9-24694
 dicalcium lead propionate, effect of particle size on dielec. behaviour 9-38429
 dicalcium strontium propionate, cryst. symmetry in low temp. phase 9-37693
 dicalcium strontium propionate, effect of particle size on dielec. behaviour 9-38429
 dicalcium strontium propionate, elastic stiffness const., determ. in US freq. region 9-37752
 dicalcium strontium propionate, temp. depend. of elastic const. c_{16} 9-28029
 hydroxylapatite, sintered bioceramic, prep. and props. 9-43174
 ilvaite, electron delocalisation obs. in Mossbauer spectrum 9-33581
 nifontovite, cryst. struct., H bonds 9-19232
 phthalate monohydrate, single cryst., X-ray cryst. struct. refinement 9-14790
 pyroxenes, high Ca, of diopside-hedenbergite series, change in struct. geometry with Fe^{2+} content 9-14783
 tris-sarcosine calcium bromide and chloride solid solns., Mn^{2+} doped, EPR linewidths and ferroelec. behaviour 9-24213
 tris-sarcosine calcium chloride, ferroelec., US attenuation and vel., elastic const., and permitt. near Curie temp. 9-37761
 vaterite, polymorphic transition kinetics, differential thermal anal. meas. 9-14722
 zeolites, type Y, containing catalysts, cryst. struct., IR spectra 9-42958
 $\text{Al}_2\text{O}_3\text{-SiO}_2\text{-CaO-B}_2\text{O}_3(1,1,1 \text{ wt.}\%)$ chemical analysis by photocolourimetry and titration 9-20483
 $\text{Al}_2\text{O}_3\cdot 3\text{H}_2\text{O-H}_3\text{PO}_4\text{-CaO}$, phase equilib., AlPO_4 solid soln. 9-11586
 Ba_2CaUO_6 , luminescence and equlib. migration 9-4837
 Ca-Mn-O system, isobaric phase diagram and subsolidus phase relations 9-24508

calcium compounds continued

- Ca₂Al₂Fe₂O₁₀, Portland cement clinker, formation kinetics 9-43191
 Ca₂Al₂GeO₇, gehlenite struct., synthesis and physicochem. props. 9-43181
 CaAl₂O₄ cement bond phases, corrosion in steam-CO at 199°C 9-29234
 CaAl₂O₄ hydration, US wave propag. study 9-39114
 CaAl₂O₄, phase transform. accompanying hydration, US and X-ray obs. 9-39115
 CaAl₂O₅, form by interdiffusion of CaO and Al₂O₃ 9-28998
 CaAl₂O₅, form. by solid state reaction of CaO and Al₂O₃, electric field effects 9-28997
 CaAl₂Si₂O₈-CaSiO₃-CaMgSi₂O₆, exam. of glass forming regions and properties of glasses 9-4958
 Ca₂Al₂SiO₇, gehlenite, new high-press. phase, rel. to Earth interior 9-29753
 Ca₂Al₂SiO₇, single cryst. growth by floating zone method, opt. microscopy charact. 9-47623
 CaB₆, electrodeposition from molten salt baths, cathodic behaviour 9-11529
 CaB₆ electronic structures calc. and obs., by APW method and X-ray photoelectron spectroscopy (*Japanese*) 9-15074
 CaB₂C₂, cryst. struct. (*French*) 9-32969
 CaBaFe₂O₈, Mossbauer study 9-38414
 CaBe₁₃, thermal cond. coeff. determ. 9-1531
 Ca₂B_{13-2x}V₂Fe_{2-3x}O₁₂ ferrogarnet, magnetis. distrib., correl. with morphological habit 9-42802
 CaC₂, solid-state ¹³C NMR spectra 9-24220
 CaCO₃, aragonite, conical intensity distrib. 9-1747
 CaCO₃, calcite, polaris. relax. meas. using synchronously mode-locked dye lasers 9-44952
 CaCO₃, calcite crystal, higher-order CARS spectra 9-14035
 CaCO₃ decomp., rel. to CO₂ transport in CaO 9-23780
 CaCO₃, decomposition in deep oceans 9-25270
 CaCO₃, dissolution rates in deep ocean, in situ expt. in N. Atlantic 9-34853
 CaCO₃, influence of precipitation by organic phosphate molecules 9-43119
 CaCO₃, precipitation induction errors, a method for determ. 9-5175
 CaCO₃, X-ray Ca K-edge meas. 9-6950
 CaCO₃:Mn, calcite, EPR and ENDOR absorpt. spectra of divalent Mn in single cryst. 9-47328
 CaCl₂, fused, exam. of hydrolysis at high temp. 9-11791
 CaCl₂, isopiestic studies of aqueous solns., 382 to 474K 9-24815
 CaCl₂-NaCl-H₂O, conc. solns., vap. press. meas. 9-23713
 CaCl₂+8NH₃ coolant for solar refrigeration (*French*) 9-24911
 α-CaCl₂·4H₂O, redeterm. of cryst. struct., H bonding and Ca coordination (*French*) 9-37676
 CaD, absorption spectra, extension of F-X system 9-18205
 CaF₂, 0.36 μ absorbance/fluence dependence obs. 9-15506
 CaF₂, additively coloured, photothermal bleaching of Ca colloids 9-15500
 CaF₂, adsorbed water film internal reflection spectroscopy 9-15549
 CaF₂, anion-void superlattices (*Danish*) 9-14796
 CaF₂, bulk loss coefficient obs. 9-15488
 CaF₂ chip, discrimination of twin orientation in Au island epitaxial films on (111) surface 9-46983
 CaF₂, F⁻ diffusion 9-14964
 CaF₂ film, refr. index and struct., deposition temp. depend. 9-4857
 CaF₂, fluorite, transmission spectrum 1200-800 cm⁻¹ band, spectrophotometer scale calibration 9-12837
 CaF₂ IR window refractive index var. with temp., -180° to +200°C obs. 9-14052
 CaF₂ laser window surface O₂ detection by X-ray photoelectron spectroscopy 9-14056
 CaF₂, stress fields of dislocation arrays (*German*) 9-23615
 CaF₂, substrate, for Au film, interphase coincidence boundaries 9-1560
 CaF₂, U-centre, electronic struct. and optical transition energies, SCF MS Xα calc. 9-4532
 CaF₂, whiskers and crystals, flux growth and charact. by morphology and fracture strength 9-19987
 CaF₂:Tm³⁺(Yb³⁺), axial g-values of 4f¹³ ions with trigonal symmetry (*Korean*) 9-24135
 CaF₂:²⁴¹Am, alpha-decay induced ²³⁷Np charge state, Mossbauer obs. 9-47367
 CaF₂:Co, X-irrad., F-centre form., optical absorpt. spectra and dichroism obs. 9-42998
 CaF₂:Co, X-irrad., luminesc. spectra 9-28801
 CaF₂:Dy, TLD phosphor, γ-induced sensitisation and residual thermolum. 9-28844
 CaF₂:Dy sensitivity to UV and ionising radiations, temp. treatment effect 9-26763
 CaF₂:Er³⁺, laser active media, nonradiative losses due to ⁴I_{11/2}-⁴I_{13/2} transition 9-31911
 CaF₂:Er³⁺ crystal laser, hologram form. at 2.76 μm, laser emission linewidth meas. 9-10270
 CaF₂:Eu²⁺, X-ray induced luminesc. kinetics, energy transfer processes 9-8181
 CaF₂:Gd, triply ionised, lowest energy 4f-5d transition 9-24345
 CaF₂:Mn, TLD phosphor, γ-induced sensitisation and residual thermolum. 9-28844
 CaF₂:Na, γ-irrad. cryst., spontaneous and induced colour centre emission 9-7131
 CaF₂:Na, tunable room temp. laser action of M-centres, luminesc. and absorpt. spectra 9-31907
 CaF₂:O₂, absorpt., ionic cond., and thermal depolarisation 9-14960
 CaF₂:O₂⁻, struct. and dynamics, EPR and ENDOR obs. 9-33562
 CaF₂:Pr³⁺, laser selective excitation and energy transfer 9-38612
 CaF₂:PrF₃, EPR of cubic Pr³⁺ 9-28607
 CaF₂:Sm²⁺, luminesc. spectra, vibronic wing, 2K 9-8182
 CaF₂:Tm³⁺, vibronic spectra and dynamics of impurity-containing lattice 9-1787
 CaF₂:U³⁺, charge compensation, struct. 9-15124
 CaF₂:Yb³⁺ vacuum UV absorpt. spectrum, rel. to other rare-earth ions 9-43001
 CaF₂-(Y,R)F₃ systems (R=rare earth), phase diagrams, limiting solubilities and non-stoichiometry 9-47665
 CaF₂-rare earth trifluoride, charact. of ordering of solid solns., superstructure form. 9-14725
 CaF₂-YF₃, fluorite- and tysonite-related ordered phases (*German*) 9-23725
 CaF₂-YbF₃ system, phase relationships (*German*) 9-24501

calcium compounds continued

- CaF₂+SiO₂+Mg(OH)₂ matrix, quantitative anal. of multicomponent powders, full-profile refinement of Guinier-Hagg X-ray film data 9-39249
 CaF₂SiO₂, dehydration product of fluorapophyllite, X-ray powder and cryst. data 9-37686
 Ca₂Fe₂Ge₂O₁₂, antiferromag. single crystal garnet, magnetostriction (*Russian*) 9-8027
 Ca₂Fe₂O₅, brownmillerite type, NO catalytic decomp. 9-43631
 Ca₂GeO₄, with K₂NiF₄-type struct., high press. decomp. 9-1507
 CaH absorpt. spectra 2480 to 2550 Å, new electronic states and rot. anal. 9-36662
 CaH, absorption spectra, extension of F-X system 9-18205
 CaH, Franck-Condon factors, rot. quantum number effect 9-31613
 CaH₂, proton chemical shift tensor, heavy ion effects 9-19791
 CaLaBO₄, crystallographic and Pb²⁺ luminesc. data 9-32971
 Ca₂LaFe₂O₈₊₃, influence of O₂ partial pressure on nature of point defects, characterisation by elec. cond. meas. (*French*) 9-42055
 Ca₂La₂(SiO₄)₂O₂, cation ordering, X-ray diff. meas. 9-23577
 CaMo₄:Mn²⁺, M=Mo,W, EPR spectrum, temp. depend. of zero field splitting 9-15346
 CaMg, matrix-isolated, laser photoluminesc., van der Waals ground state 9-41192
 Ca₃Mg(BO₃)₂(CO₃)·0.36 H₂O, natural sacchite, cryst. struct. determ. 9-23590
 CaMg(CO₃)₂, dolomite, reaction with ZrO₂, mineralisation during roasting 9-43180
 CaMgGe₂O₆-CaFeGe₂O₆, solid solns., phase equilibria, cryst. optical, X-ray struct. charact. 9-11577
 Ca₂MgSi₂O₇, single cryst. growth by floating zone method, opt. microscopy charact. 9-47623
 Ca₂MnO₄, with K₂NiF₄-type struct., high press. decomp. 9-1507
 CaMn[B₂O₅], synthetic Mn-kurchatovite, cryst. struct. 9-14777
 Ca₂Mn₂[Si₁₀O₂₈](OH)₂·5H₂O, inesite, cryst. struct., X-ray determ. 9-19227
 CaMoO₄, external lattice vibr. modes and elastic wave vels., dispersion relations 9-33050
 CaMoO₄, form. by CaO+MoO₃ solid-state reaction 9-43579
 CaMoO₄, precipitation induction errors, a method for determ. 9-5175
 Ca(NO₃)₂, conc. aq. solns., ionic hydration and secondary dielec. relax. 9-24882
 Ca(NO₃)₂-LiNbO₃, cryst. growth in baked mixture, Seignettelec. phase (*Russian*) 9-47395
 Ca₂Nb₂O₇, crystal synthesis and SHG, solid laser freq. manipulation 9-41421
 Ca₂Nb₂O₇, ferroelec., temp. depend. of SHG intensity 9-24267
 CaNd₂/Nb₃/2O₇, pyrochlore struct., synthesis elec. props. 9-42543
 CaO, additive, effect on sintering struct., props. of corundum ceramic 9-15630
 CaO, C-content determ. of single crystals grown by arc fusion 9-8456
 CaO, determ. in glass, at. absorpt. method (*Polish*) 9-24872
 CaO, EPR spectra of Mn²⁺ along different mag. field orientations 9-47327
 CaO, F⁺ centre, dynamic Jahn-Teller effect 9-28327
 CaO, F⁺ centre in octahedral Jahn-Teller system 9-42499
 CaO, soln., chemisorpt. on quartz powders, effect on lattice parameters 9-37918
 CaO, solubility in Er₂O₃, elec. cond. and nonstoichiometry 9-11112
 CaO surface, AES peak height calibrations 9-43072
 CaO, triplet state of F₄ centres, ODMR obs. 9-28639
 CaO, tunable optical gain at 3600 Å using F⁺ centres 9-45947
 CaO:Y phosphor, chemical instability, thermoluminescence study 9-38682
 CaO-Al₂O₃, binary slag, reduction of Al₂O₃ by C saturated Fe (*Japanese*) 9-24733
 CaO-Al₂O₃ molten binary slag, C dissolution rate (*Japanese*) 9-23739
 CaO-Al₂O₃-H₂O system, chemical degradation under high gaseous pressure and temp. 9-20464
 CaO-Al₂O₃-P₂O₅, electron beam irrad., temporal change in electric field produced 9-4760
 CaO-Al₂O₃-P₂O₅, exam. of electron beam irrad. effects on physical props. 9-4253
 CaO-Al₂O₃-SiO₂, rain erosion mechanisms 9-34154
 CaO-Fe₂O₃-SiO₂ glass, struct. behaviour at melting, Mossbauer exam. 9-10802
 CaO-Li₂O-B₂O₃:Dy³⁺ glass, optical excitation energy transfer from Dy³⁺-Nd³⁺ 9-15515
 CaO-MgO, doloma, composition effect on creep, impurity effects 9-43318
 CaO-MgO-Al₂O₃-SiO₂ system, pyroxenes subsolidus phase relations rel. to geothermometry and geobarometry 9-16440
 CaO-MgO-NaPO₃ system, subsolidus struct. 9-43215
 CaO-MgO-SiO₂, diopside, exam. of synthesis by hydrothermal sintering (*German*) 9-4934
 CaO-OSiO₂ system 9-24739
 CaO-SiO₂, cements, effect of additives on compressive strength, carbonisation shrinkage, frost resistance 9-1897
 CaO-SiO₂ melt, effect of cooling rate upon glass transition, X-ray analysis 9-27920
 CaO-SiO₂, molten, corresponding state principle with NaF-BeF₂ and appl. 9-11589
 CaO-SiO₂-Al₂O₃-Na₂O-CaF₂, surface tension and limit wetting angle in contact with C and CrNi steels (*Czech*) 9-37908
 CaO-SiO₂-NiO melt, viscosity and elec. cond., effect of NiO conc. (*Japanese*) 9-23760
 CaO-TeO₂ glass, struct. and props. (*Japanese*) 9-32917
 CaO+MoO₃-CaMoO₄, solid state reaction 9-43579
 Ca(OH)₂, energy storage medium for solar power systems 9-43790
 Ca₂(OH)(PO₄)₂, powder, precise study of electron diff. patterns, diff. interpretation at high tension (*French*) 9-37594
 (CaO)₂SiO₃, effects of polymorphism on hydration, X-ray and TEM obs. (*Japanese*) 9-20046
 12CaO·7Al₂O₃, hydration in presence of Ca(OH)₂ (*Japanese*) 9-20364
 12CaO·7Al₂O₃, single cryst. growth from melt 9-47614
 Ca(PO₃)₂:Eu³⁺, anomalous spectral props. 9-38614
 Ca₂(PO₄)₂, crystallisation kinetics 9-43119
 β-Ca₂(PO₄)₂, synthesis and fabrication, prosthetic appl. 9-24479
 Ca₂(PO₄)₂:F:Cr³⁺, spin-lattice relax. time and Debye temp., EPR obs. 9-28601
 Ca₂(PO₄)₂:F:Nd³⁺, selective site laser spectroscopy and ESR studies 9-19909

calcium compounds continued

- Ca₅(PO₄)₃(F_{1-x}(OH)_x) apatites, lattice struct. NMR obs. 9-42845
 Ca₁₀(PO₄)₆(OH)₂ hydroxyapatite, prep. by hydrotherm. recrystn. 9-33913
 Ca₁₀(PO₄)₆X₂ (where X is F, Cl, OH or Co), influence of mech. treatment on struct. and reactivity (*German*) 9-43272
 CaS, A²⁺-X²⁺ Franck-Condon factors and r-centroids 9-36700
 CaS:Ce, Na, photon sidebands in emission and excitation spectra, pseudolocalised vibrs. 9-28800
 CaS:Nd, Cu, phosphor, electroluminesc., spectral characts. 9-19936
 CaS:Zr phosphors, photoluminesc. 9-28806
 CaS:Zr phosphors, photoluminesc. 9-28805
 CaSO₄, gypsum, growth curves, growth affinity presentation, for growth from soln. 9-27936
 CaSO₄, hexagonal-orthorhombic transition kinetics 9-23724
 CaSO₄:Dy, thermolum., studies for dosimetry 9-29634
 CaSO₄:Dy embedded Teflon TLD phosphor photon energy dependence obs. 9-26761
 CaSO₄:Dy phosphor powder, effect of grinding on thermoluminescent sensitivity 9-33852
 CaSO₄:Dy TLD, temp. effect during UV and gamma irradiation 9-38684
 CaSO₄:Tm, TLD phosphor, γ-induced sensitisation and residual thermolum. 9-28844
 CaSO₄.H₂O (gypsum), hydration water isotopic comp. 9-20829
 CaSO₄.1/2H₂O-CaSO₄ solid solution, prepared by coprecipitation from solns., exam. 9-20034
 CaSb₁₀O₁₀S₆, sarabauite, X-ray cryst. struct. determ. and refinement 9-14754
 CaSe:Pb²⁺ phosphors, luminesc., refl., emission, and excitation spectra 9-11456
 Ca₁₁(Si₁₀Al)₄O₁₃Cl, alinite, cryst. struct. determ. 9-19215
 CaSi₂, X-ray spectr. valence band struct. (*Russian*) 9-1798
 β-Ca₂SiO₄, stabilisation, IR and Raman spectra 9-42265
 Ca₃SiO₅, P containing, hydrated, microstruct. and IR struct. 9-29074
 Ca₃SiO₅, thermomechanical effects on form. 9-15635
 Ca₃Si₂O₇.4H₂O, tobermorite synthetic crystals, hydrothermal growth, TEM and X-ray diffr. characterisation 9-43122
 CaSnO₃, ¹¹⁹Sn conversion electron Mossbauer spectroscopy 9-33575
 Ca(TCNQ)₂, electronic absorpt. spectra, vibronic struct., charge transfer bands 9-24331
 CaTeO₄, powder diffr. cryst. struct. determ. 9-42020
 CaTiO₃, electrostatic lattice energy, optimisation of convergence of Ewald series 9-7569
 CaTiO₃, O K_α X-ray emission band spectra (*Russian*) 9-15563
 CaTiO₃, synthesis kinetics 9-15632
 Ca₂TiO₃-La₂AlO₃, synthesis of solid solution by coprecipitation 9-1836
 Ca₂V₂O₇, elec. props. and EPR meas. 9-11114
 Ca₃(VO₄)₂, linear and nonlinear optical props. 9-23010
 Ca₃(VO₄)₂.Mg₃(VO₄)₂, exam. of phase composition and phase diagrams 9-1851
 CaWO₄, external lattice vibr. modes and elastic wave vels., dispersion relations 9-33050
 CaWO₄ phosphor, interaction between intrinsic and impurity emission 9-8198
 CaWO₄, single cryst. growth by Czochralski method and U incorporation, effective distrib. ratios, luminesc. characts. 9-42094
 CaWO₄:Fe³⁺, EPR, spin Hamiltonian parameters from anal. of Kramers' doublets 9-28595
 CaWO₄:Gd, site occupation 9-28608
 CaWO₄:Mn²⁺, polycryst., EPR spectra calc. using Bir's method, compared with expt. 9-1707
 CaWO₄:Mn²⁺, new EPR center (*Russian*) 9-1709
 CaWO₄:Tb³⁺(Tb⁴⁺), new EPR centres (*Russian*) 9-1709
 Ca₂(ZnSiO₄).H₂O, clinohedrite, cryst. struct., comparison with (Mn,Mg)Mg(OH)₂(ZnSiO₄), hercynite 9-19228
 CdCa₂Cl₆.12H₂O, X-ray cryst. struct. anal. (*French*) 9-4291
 CdS, diffusion length determ., resolution limit of EBIC technique 9-21865
 HfO₂-CaO, elec. field gradient at ¹⁸¹Ta, TDPAC meas. 9-33577
 K₂CaCl₃ impurity in NaCl cryst., precipitation and dissolution 9-42259
 K₂Ca(SO₄)₂.H₂O, single cryst., X-ray cryst. struct. refinement 9-14781
 K₂Ca(SO₄)₂.H₂O, thermal dehydration, isothermal kinetics 9-15982
 K₂O-CaO-Al₂O₃-SiO₂ glass, exam. of liquid phase separation phenomena 9-4417
 K₂O-CaO-BaO-SiO₂ (B₂O₃) (GeO₂), calc. of network refraction and exam. of glass structure 9-4783
 LiF-CaF₂, densities of binary molten salts (*Japanese*) 9-7644
 MgO-CaO-Al₂O₃-SiO₂-(TiO₂) systems, glass-ceramics, crystn. kinetics (*Russian*) 9-37626
 Na₂-CaO-SiO₂, rain erosion mechanisms 9-34154
 NaCaX zeolite, ion migration and Ni(CO)₄⁺ form., EPR obs. 9-33522
 NaO-CaO glass, melting speed, effect of struct. and grain shape (*Polish*) 9-29002
 Na₂O-CaO glass, atomic absorption spectroscopy 9-43656
 Na₂O-CaO-Al₂O₃-SiO₂ glass, exam. of liquid phase separation phenomena 9-4417
 Na₂O-CaO-P₂O₅:Co glass, bonding, symmetry meas. 9-46572
 Na₂O-CaO-SiO₂, dynamic hardness testing, pendulum attenuation, yield stress obs. 9-24699
 Na₂O-CaO-SiO₂, glass, surface charge in aqueous electrolyte soln. 9-29245
 Na₂O-K₂O-CaO-SiO₂ glasses, chemical durability, mixed alkali effect 9-8377
 NiO-CaF₂ two-phase material, press. sintering, activation energy and compaction mechanism 9-47651
 NiO-CaF₂, hot-pressed, mech. props., thermal expansion rel. to CaF₂ additive 9-43321
 PbCO₃-CaCO₃ system, solid soln. form., regions of existence 9-11581
 PbO-B₂O₃-SiO₂-Li₂O-CaO, glass enamel, chemical durability and microstruct., CaO addition effect 9-29255
 RbCaF₃, crit. scatt. at phase transition, Mossbauer diffraction 9-1733
 RbCaF₃, cubic to tetragonal phase transition, neutron diffr. obs. 9-23730
 RbCaF₃, influence of domains on struct. phase transition 9-28097
 SiO₂-Al₂O₃-B₂O₃-CaO-Na₂O-K₂O system glasses, relax. of struct. stresses rel. to forming process 9-34088
 SiO₂-Al₂O₃-CaO-MgO-Na₂O (1.58, 7.16, 3.59, 14.9 mole.%), polished sheet, strength in commercial state and after strengthening by ion exchange 9-1904
 SiO₂-Al₂O₃-CaO-MgO-Na₂O-K₂O-B₂O₃-ZrO₂, glaze, exam. of zircon crystallisation 9-19155

calcium compounds continued

- SiO₂-Al₂O₃-CaO-MgO-Na₂O, ion exchange and electrodiffusion of Li ions in surface layer 9-20227
 SiO₂-Al₂O₃-Fe₂O₃-CaO-MgO-Na₂O-B₂O₃-SO₃, exam. of white flaky inclusions, causes and formation time 9-29237
 SiO₂-CaO-Na₂O-M_nO₂ systems, M=Zr, Sn, Ti, Al, La, Ta, P, Mn, Fe, Pb, Cr, water, alkali, acid resist., chem. durability 9-34162
 SrTiO₃-Bi₂Ti₂O₇-CaTiO₃ system, solid solns., elec., optical props. 9-11375
 (Y,Ca)₃(Fe)₂(FeGe)₅O₁₂ film, exchange const., ferromag. reson. meas. 9-8023
 (Y,Sm,Ca)₃(Fe,Ge)₄O₁₂, garnet thin film, mag. anisotropy, Faraday effect meas. 9-42812
 (Y,Sm,Ca)₃(Fe,Ge)₅O₁₂, domain wall, radial motion, method of dynamic collapse of mag. bubbles 9-8026
 Y_{1-x}Bi_xCa_{0.94}In_{0.4}VO₂O₁₂, calc. distrib. 9-19211
 (Y_{3-x}Ca_x)(Fe_{2-x}Sn_x)(Fe₃)O₁₂, long and short range magnetic order 9-38419
 (YEuTmCa)₃(FeGe)₅ bubble garnet films, ion-implanted, mag. susceptibility meas. 9-47311
 (YEuYbCa)₃(FeGe)₅O₁₂ film, isolated straight stripe domain dynamic props. 9-33514
 (YEuYbCa)₃(FeGe)₅O₁₂ bubble films, Ne⁺-implanted, cryst. and mag. props., X-ray diffr. obs. 9-38362
 (YSmCa)₃(FeGe)₅O₁₂ LPE film, growth and coercivity 9-4707
 ZrO₂-CaO, partially stabilised, growth morphology of tetragonal phase 9-4968
 ZrO₂-CaO-SiO₂, relationship between texture parameters, and sintering, elec. cond. and mech. strength props. (*German*) 9-24474
- calculating** see calculation
- calculating apparatus**
 No entries
- calculating machines** see calculating apparatus
- calculation**
 see also graphs; nomograms
 No entries
- calculators** see calculating apparatus
- calculators (electronic)** see electronic calculators
- calculus**
 see also differentiation; integration; variational techniques
 No entries
- calibration**
 see also measurement standards; standardisation
 absolute ohm of ETL, determ. using calculable capacitance standard (*Japanese*) 9-6137
 accelerator calibration using ²⁷Al(p,n) threshold energy 9-36241
 aerosol centrifuge, at unmatched relative humidities between stream and aerosol air 9-41775
 analyzer, automatic, calibration system, zero and span standardization 9-16107
 anemometer, hot-film, appl. to blood flow velocity meas. (*Japanese*) 9-29678
 astronomical submillimetric multicolour photometry and calibration 9-35143
 atmosphere O₃ concentrations meas., UV photometric standards interagency comparison 9-35000
 atomic absorption spectrometers, calibration algorithm for improved accuracy 9-39233
 automatic digital magnetic recording system in Tihany Observatory 9-39989
 biological precision rate calibrator 9-20731
 biomolecular EPR and saturation transfer EPR spectra at high microwave field intensities 9-34488
 Bitter magnet development, stabilisation and calibration 9-30501
 broadband mm-wave calorimeter, design and calibration 9-26084
 capillary viscometry, systematic error source identification 9-18982
 Cherenkov Pb glass large counter array, LED monitoring system 9-45565
 computerised tomography X-ray beams, determ. of effective energies 9-20666
 conduction flowmeter with calculable and controlled calibration characteristics (*Russian*) 9-7428
 conductivity meter for in situ ocean meas., development, testing and calibration 9-5671
 conference on analysis instrumentation, Charleston, West Virginia, USA (May 1977) 9-16100
 contact B-scanners, calibration method 9-23161
 crack growth monitoring using finite element analysis, calibration of electric potential technique 9-32380
 cryogenically cooled IR sensors, calibration in space, AFGL expts. 9-5753
 digital phase shift for meter calibration 9-44898
 dosimeter, polymer sheets, calibration via differential calorimeter for electron radiation 9-6795
 dosimetry calibration, estimation of confidence levels 9-3247
 dynamometers, multicomponent, practical experimental designs for calibration 9-35729
 electric rainfall intensity sensor 9-39888
 electrochemical concentration cell ozonesonde, performance characts. 9-21039
 electron microscope, calibration using grating replica 9-2893
 electron probe analysis, of lyophilised solns., calibration curve linearity limits 9-44075
 EM meas. and instrumentation, conf., Ottawa, Canada, 1978 9-21731
 enthalpimetric analysis and calibration, new instruments and methods 9-43615
 exposure rate and absorbed dose meas. for 6-7 MeV 9-26766
 extragalactic distance scale, tertiary distance indicators calibration 9-25708
 Faint Object Camera calibration 9-25479
 fast neutron detector (long counter) absolute calibration by associated activity technique 9-6801
 fine γ spectrometry and release meas. (*French*) 9-3258
 flowmeters, transfer-standard, calibration in water test rigs for comparison of laboratories 9-23389
 force and meas. measurement, conf., Braunschweig, W.Germany (Sept. 1978) 9-35725
 force standard machines, mass standards (*German*) 9-35735
 force standards machines and measurement, 0.5 to 30 MN 9-35725

calibration continued

force transducers, calibration using theoretical calcs. 9-35719
gamma-ray detector calibration for extended sources 9-724
gauge blocks, contact deformation and corrections 9-26028
Grenvillian palaeopoles, calibration by $^{40}\text{Ar}/^{39}\text{Ar}$ dating 9-20778
heavy ion and He dosimetry and instrumentation 9-20675
hodoscopes for high intensity muon beam, high-rate photomultiplier-base and precise timing calibration 9-22544
hot-film probe, calibration in liquids 9-27723
hot-wire anemometer, for air flow measurements, calibration at low vels. 9-27724
hydrostatic pressure cells producing anisotropic strain 9-17410
implantation type accelerator, 400 kV, energy resolution, stability and calib. using (p,y) react. 9-30604
intensity meter calibration for 20 kHz to 300 MHz range 9-2786
ionisation chambers, NB2 P-2 secondary standard, calibration with photon calorimeter 9-36469
IR detectors, conf., Los Angeles, CA, USA (1978) 9-2822
IR sensors, long-wave, for astronomical obs., ground calibration 9-5749
laser energy meters, pulsed 9-27301
lateral induction logging, calibration of apparatus (*Russian*) 9-39941
LMFBR fuel pin power calibration prediction, transient correction factor analysis 9-9719
load cells, automatically controlled, method for digitizing measured values (*German*) 9-35721
loading machines, comparison with German PTB force scale (*German*) 9-35734
mass spectrometer leak detector, increasing sensitivity by selective gas accumulation 9-6215
microphone, method for measurement of peak amplitude response and step-function decay 9-41548
microwave reflection coeff. meas., calibration error evaluation 9-21768
minicomputerised pressure transducer data logging system (*Russian*) 9-6102
monochromator, grazing incidence, intensity calibration (*Japanese*) 9-32062
National Bureau of Standards, calibration and related measurement services 9-168
NDT 9-11738
nephelometer, meas. of Rayleigh scatt. props. of aerosols and gases 9-29865
neutrino source at LAMPF, calibration from stopped π^+ decays in Cu beam dump 9-45503
neutron calibration technique for detectors with low neutron/high photon sensitivity 9-31344
neutron counter (60 element) calibration in energy range 8.5 to 450 MeV 9-6798
neutron displacement cross section, radiation effects intercalibration, damage coeff. 9-23653
neutron filtered beams, 2 keV, 24 keV, 144 keV, calibration and use 9-9937
optical emission and X-ray spectrometry, synthetic calibration standards 9-24850
optical emission spectroscopy, emulsion calibration curve 9-43650
optical scintillometer, large-aperture, fine calibration, optical estimate of turbulence inner scale 9-21026
photogrammetry, distortion calibration, lateral chromatic aberration effects, operational data reduction 9-35881
photogrammetry, orientation and calibration method for nontopographic appls. 9-35875
photometric light attenuation systems, comparative analysis 9-12839
positron beam energy of NBS positron annihilation in flight facility 9-31306
pressure probe, omnidirectional, for wind meas. (*French*) 9-25349
punched artificial defects for calibration of NDT equipment 9-34228
radiation therapy, chamber factor reliability review, United States institutions 9-20685
radiation therapy machines, calibration discrepancies, US institutions, data anal. 9-20686
radioactive release monitoring equipment test gas standard production (*French*) 9-3252
radiocarbon chronology and calibration of Late Minoan IB 9-26200
radiometric field instruments, experiences with concrete calibration sources 9-5633
radiometric transfer standards calibration in UV and VUV by electron synchrotron radiation 9-12847
radiometry and photometry development and standards 9-6161
resistance thermometer, Cu and Pt sensors, method (*Polish*) 9-26055
rocks, igneous, crack porosity calibration from thermal cycling cracks 9-2759
seismometers, EM and hybrid instruments, developments 9-39906
solar simulator calibration photometer 9-26103
spectra calibration, using Edser-Butler bands, for teachers 9-21504
spectrometer for underwater gamma surveying, calibration 9-21066
spectrophotometer, photometric scale calibration using fluorite 1200-800 cm^{-1} transmission 9-12837
spectrophotometer calibrator, nonlinearity of transmission coeff. scale 9-30571
standard resistors, cryogenic current comparators, double constant current source, appl. 9-21775
stars, luminosity calibrations from trigonometric parallaxes, practical improvement method 9-40083
static and dynamic calibration using optical interferometric techniques 9-23178
stellar radiation, new absolute calibration of Vega 9-40193
strain gauge, resistance device for calibration of low temps. 9-17413
strain gauges, resist., in alternating sign deform., calibration 9-15901
surface barrier spectrometers for fast neutron calibration in MeV range 9-9961
thermometers and thermistors using diphenyl ether triple-point cell 9-21750
thin liquid films on inaccessible surfaces, thickness meas. 9-30412
US pulsed-echo thickness meters calibration using liquid-thickness model 9-37102
US thickness gauges calibration, thickness standards 9-35669
US transducer absolute calibration by impulse techniques 9-23179
US transducer calibration method using laser interferometry 9-23177
US transducer evaluation and calibration conf., London 1977, May 9-23167
vacuum ultraviolet wavelength comparison of two copper sources using an imaging system 9-35686

calibration continued

voltage standards for testing AC voltage calibrators 9-35786
voltmeter, digital, microprocessor appl. 9-40550
VUV light source, transfer standard, low-current AR arc with MgF_2 window 9-35856
water media, remote determ. of impurity conc. by laser spectroscopy, calibration by Raman scatt. 9-16090
wavelength calibration of low dispersion objective prism plates, quasar redshift determ. 9-2485
wavelength measuring systems, calibration using freq. stabilised He-Ne lasers (*French*) 9-31935
wind-tunnel balance, 6-component, using load cell techniques (*German*) 9-37268
X-ray diffractometer furnace, temp. calibration using eutectic transitions of alloys (*Japanese*) 9-6128
X-ray low energy calibration sources for proportional counters using radionuclides 9-705
X-ray spectrographs, flat and convex curved cryst., wavelength calibration 9-40649
X-ray tubes and generators, calibration system 9-17583
 ^{11}B , radiative widths meas., 2.125 to 8.92 MeV levels, intensity calibration of photon spectrum 9-13242
 ^{137}Cs standardisation by $4\pi(\text{PC})\text{-}\gamma$ efficiency tracing method 9-13577
DT miniature target assembly, neutron yield calib. with associated particle monitoring 9-45505
Fe, photoion. cross section meas. 9-22674
Ge spectrum, precise γ -ray energies for calibration up to 3.5 MeV 9-31311
Ge(Li) energy calibration using $^{13}\text{C}(\alpha,n)$ radioactive sources 9-13572
 ^3H calibration of photomultipliers on liquid scintillator (*Czech*) 9-31324
 ^{42}K technique, whole-body counters for estimation of whole-body K content 9-25086
NO concentration meas. in gas mixtures, chemiluminescence method (*Russian*) 9-16094
NaI scintillation counter, sex-dependent calibration factor, ^{42}K whole-body content meas. 9-29593
NaI(Tl) double crystal gamma ray spectrom., efficiency calibration 9-717
NaI(Tl) γ -spectrometer, calibration using 500 keV Van de Graaff proton accelerator 9-45524
Pt resistance standard capsule thermometer, for 13.81 to 273.15K, two-point calibration 9-206
 ^{88}Rb decay, γ -ray energy meas. 9-22530
Si surface barrier detector, pulse height-defect calibration 9-13602
Si whisker strain gauges, sensitivity to elastic pulses in -50 to 110°C range 9-17409
californium
see also nuclei with
 ^{252}Cf , polyethylene pellets in design, construction of storage safe, transport vessel, portable shield 9-5380
 ^{241}Cf , K-shell fluorescence yields from Auger electrons and X-rays, precision meas. 9-31462
 ^{252}Cf , heavy metal shielding for neutron sources 9-9892
 ^{252}Cf , human lymphocyte chromosome aberrations induced by neutron radiation 9-16169
 ^{252}Cf , sub Cd thermal neutron fluxes in H_2O near the source 9-698
californium compounds
No entries
calorimeters
see also calorimetry
AC, high-resolution, for organic- and biological-material melting study 9-6127
adiabatic, for use at superambient temps. 9-21754
adiabatic laser calorimeter design for window and mirror evaluation 9-13971
automated, high precision, 200 to 400K, design and performance 9-17422
broadband mm-wave calorimeter, design and calibration 9-26084
differential calorimeter for electron radiation 9-6795
differential scanning calorimeter, thermochem. appls. 9-40578
dry, mm wavelengths, power meas. 9-26085
dynamic properties of nonisothermal-nonadiabatic calorimeters 9-40576
EBR-II active calorimeter design improvement 9-9967
heat transfer of rough cylinder in transverse water flow (*Russian*) 9-10449
induction heating, HF generators, calorimeter for power output investigation (*German*) 9-40571
ion implanter neutral beam component meas. 9-30605
laser calorimetric energy meters, KDM and BKDM, for pulsed laser radiation 9-17494
laser calorimetric energy meters, KDS and BKD, for high-power laser pulses 9-17496
liquid Ar calorimeters, props. of EM and hadronic showers 9-45599
modular calorimeter system for hadron detection in high energy physics 9-41070
multichannel system, MIK-48, for laser pulse energy meas. 9-17497
multichannel system, MIS-20, for laser pulse energy recording 9-17495
photon detection 9-36469
power meas. at higher microwave freq., conf., London, England, (Jan 1979) 9-26082
rod calorimeters using pyrolytic graphite, theoretical anal. 9-12804
standards for power meas. in mm. wave region 9-26083
US transducer power meas. at MHz freq., calorimetric method 9-23180
 O_2 bomb calorimeter modification for liquid metal reaction enthalpy meas. 9-201
W alloy radionuclide calorimeter for liquid He range 4.2 to 8K 9-18093
calorimetry
see also calorimeters; specific heat; thermal analysis
adsorption calorimetry for studying surface phenomena 9-40574
chemical analysis methods, review 9-43660
chlorodifluoromethane, heat absorbed when laser irradi., laser calorimetry 9-16012
crown glass, corrosion by organic acid solns., exam. of corrosion depth by interferometry (*Japanese*) 9-20237
cryogenic calorimetry, review 9-40573
ethyl acetate, heat absorbed when laser irradi., laser calorimetry 9-16012
glass thermal diffusivity meas., calorimetric method 9-27349
graphite-ICI intercalation compounds, anomalous sp. ht. due to order-disorder transform. 9-42235
heat of adsorption determ., expt. methods 9-42370

calorimetry continued

- heat transfer equations, model of clothed man 9-24958
 high-temperature solution calorimetry, appl. to enthalpy of formation of B_2C at 1320K 9-11814
 human body, heat loss meas. apparatus, evaporative and radiative, normal working mode 9-25178
 IR transparent materials, bulk and surface absorpt., calorimetric meas. method 9-27347
 laser calorimetric meas. of two-photon absorpt., appl. to CdSe(Te) 9-44934
 liquid isobaric heat capacity, experimental apparatus using stationary flow-through calorimetry (*Russian*) 9-30480
 monoalkylcyclohexanes, heats of vaporisation by gas chromatography-calorimetry method 9-34344
 multi-jet dynamics in lepton induced reactions, granular struct. calorimeter anal. 9-9350
 nonadiabatic problem, transfer processes in suspensions of solids 9-23353
 optical, for laser energy meas., hollow graphite cone appl., absorption characts. determ. (*Slovak*) 9-40572
 organic compounds, enthalpies and related thermodynamic functions 9-42276
 organometallic compounds, standard for quantity-of-heat unit 9-17421
 powder catalyst, catalytic and sorption processes, calorimetric and adsorpt. kinetic methods 9-43629
 sensitivity of calorimeter method 9-17423
 spinels, entropy of cation transitions 9-11812
 surface area determination, calorimetric method, modified Harkins and Jura procedure 9-35667
 tensile testing, methods of measuring stored energy by calorimetry 9-29325
 tensile testing, methods of measuring stored energy by calorimetry 9-29326
 p-terphenyl, phase transition, heat capacity meas. 9-46801
 titration calorimetry, research developments 9-40575
 triple point temp. of Ar and O_2 realisation 9-12806
 $\alpha-Al_2O_3$, synthetic sapphire, enthalpy determ., 900-1900K, use as calorimetry reference standard 9-42275
 Au-Cu alloy, internal oxidation, calorimetric meas. 9-43258
 Au-Mg alloy, internal oxidation, calorimetric meas. 9-43258
 CdSe(Te), laser calorimetric meas. of two-photon absorpt. coeffs. at 1.06 μm 9-44934
 He cryostat for low temp. calorimetry 9-40577
 In, heat capacity and enthalpy of fusion, 300-1000K 9-14939
 KCl, 10.6 microns absorption, calorimeter round robin meas. 9-35748
 MoF₆(l), enthalpy of form. by soln. calorimetry 9-47962
 PLZT type ceramics, calorimetric meas. of energy of electrical polarisation 9-2770
 Pd-H system, thermodynamic props., 245-352°C, up to 34 atm. 9-23749
 PuO₂, reactor grade, calorimetric assay 9-16116
²³⁹Pu, calorimetric determ. of half-life 9-26405
²³⁹Pu, specific power and half-life, calorimetric determ. 9-26406

calorimeters see calorimeters

CAMAC

- digital drift chamber digitizer system 9-45602
 event handler, a fast, programmable, CAMAC-coupled data acquisition interface 9-45608
 far IR Fourier spectrometer automation (*Russian*) 9-6192
 FFTF element measuring system 9-9729
 flexible CAMAC based data system for Space Shuttle scientific instruments 9-45603
 high energy physics CAMAC hardware, review 9-13617
 hodoscope read-out, fast sparse-data-scan system using CAMAC compatible elements 9-45609
 IBM 3630 modular data acquisition and communication system for industrial production (*German*) 9-30438
 interface, for microprocessor controlled dual parameter ADC system 9-3337
 Los Alamos P-9 accelerator facility, CAMAC data acquisition system 9-45607
 modular 125 ps resolution time interval digitizer for 10 MHz stop burst rates and 33 ms range 9-45591
 Mossbauer data acquisition system 9-30439
 multi-channel analyzer using a dedicated CAMAC memory 9-45592
 multi-parameter CAMAC compatible ADC scanner 9-31350
 nuclear physics data acquisition with UNIX time-sharing system 9-41085
 PDP-11 CAMAC system linking to PDP-10 on-line computer 9-21725
 physical instrum., CAMAC system and microprocessors 9-26041
 pulse height analysers, CAMAC data acquisition interface 9-3336
 pulse-train counter and recorder, automatic, with preset program 9-3319
 pulse-width modulation circuit for MWPC remote readout 9-26847
 Q signal as device-ready indicator 9-6809
 rapid CAMAC data handling in FORTRAN real time programs 9-45616
 space science instrument testing, modular, CAMAC based computer controlled ground support equipment 9-25434
 type U CAMAC controller for the Spacelab multi-crate, multi-processor system 9-45604
 weight data, computerised acquisition and processing methods (*German*) 9-30437

camera lenses see photographic lenses

camera tubes, television see television camera tubes

cameras

- see also coronagraphs; television cameras
 Alban Press/Technical 9-21825
 Anger, dual head system for imaging of positron-emitting radionuclides 9-29598
 Anger tomographic scanner, comparison with 15 in. scintillation camera for Ga imaging 9-34658
 automatic focusing mechanism principles and designs 9-30595
 Chirana cylindrical cameras modification for Seemann-Bohlin focusing method (*Czech*) 9-26192
 data recording apparatus, based on LEDs and internal or external timing circuits 9-9251
 electron diffraction, electronometric method of meas. intensities, efficiency 9-27881
 electron diffraction camera type EMR-100, industrial 9-2842
 Faint Object Camera calibration 9-25479
 Faint Object Camera on Space Telescope 9-25478
 FAUST, far UV camera on Spacelab 9-25476

cameras continued

- flare rel. to internal finish, student examination project 9-25782
 fly's eye intensifier-TV neutron counting camera, appl. to phase transform. studies 9-46519
 gamma, performances under high counting rates 9-16277
 gamma camera, line spread function meas., practical considerations 9-17585
 gamma ray cameras, stereoscopic images 9-5365
 gamma scintillation camera, GSG-2 twin-transducer, colour shading, grey-scale photographic recording 9-34631
 gamma-camera for gated carotiovascular imaging 9-5367
 Gandolfi attachment, for Debye-Scherrer camera 9-37590
 Gandolfi camera, modified for easy cryst. centring 9-14646
 hard X-ray camera for study of gamma ray burst sources 9-25502
 high-speed, increase in image quality using plate polyhedral compensator (*Russian*) 9-35879
 high-speed cine camera control desk type PIK-73M 9-2758
 holocamera for particulate studies 9-22919
 image intensifier cameras, channel-plate, for low light security and projection photography 9-40639
 KA-102A EO LOROP camera for real-time tactical reconnaissance system 9-30599
 Laue camera, real-time back-reflection 9-37589
 liver scintigraphy, optimisation of analogue-circuit motion correct. 9-39472
 miniaturisation of design, 35 mm and 126 cartridge cameras 9-26153
 movie cameras, design of lenses with long overall length and large diameter 9-30597
 moving-fibre panoramic camera, image motion velocity calc. 9-26168
 nuclear imaging, γ -ray detect., quantitative assessment field procedure 9-29611
 nuclear-medicine image display system, dynamic physiological function visualisation 9-5396
 optical component fine diamond grinding on modernised equipment 9-46092
 photogrammetry, distortion calibration, lateral chromatic aberration effects, operational data reduction 9-35881
 photogrammetry, orientation and calibration method for nontopographic apps. 9-35875
 photographic techniques documenting CRT displays 9-21827
 pinhole camera graphic design 9-35863
 planar streak camera, picosec. recording apps. 9-44943
 reflecting all-sky cameras, design 9-40074
 retinal camera with infrared TV obs. (*German*) 9-2145
 scintillation, deadtime meas., scatter conditions simulating nuclear cardiology 9-16276
 scintillation, effect of photon energy on field uniformity tests 9-16278
 scintillation, investigation of contribution functions 9-29603
 scintillation γ , wide field, performance evaluations 9-29609
 scintillation camera data, recording method for low and moderate count rates 9-8539
 scintillation camera nonuniformity, effects on cold lesion detectability 9-5352
 scintillation camera systems, importance of correct photopeak setting 9-34660
 septum visualisation and random collimator movement in γ -camera work 9-34648
 single lens reflex camera development (*Japanese*) 9-2846
 solar ultraviolet Doppler camera 9-25485
 spark chamber X-ray camera, AR filled, device description and performance evaluation 9-13598
 streak camera, approx. 100 ps resolution, use of LiNbO₃ deflector 9-18533
 streak camera intensified CCD readout system, sensor props. 9-27825
 underwater camera data coral. and interpretation, systems approach 9-5688

candoluminescence see luminescence

canted spin arrangements

- see also weak ferromagnetism
 antiferromagnet, uniaxial, spin configuration in ferromag. phase, field and temp. depend. 9-38321
 chains of classical spins, weak ferromagnetism 9-15268
 manganese acetate tetrahydrate, Heisenberg ferrimag. magnetisation 9-47304
 EuTe, optical absorpt. in high mag. field 9-28726
 Ho₂O₂SO₄, antiferromag., mag. props. and Zeeman effect meas. 9-33464
 NiCl₂·6H₂O, antiferromag., phase diagram, low temp. canted paramag. boundary, bicritical point 9-47282
 Pr₂Ti₂Hyperfine interactions, sp. ht. and magnetisation meas. 9-28531
 RbCoCl₂·2H₂O, Dzyaloshinsky-Moriya linear chain magnet, spin counting 9-38304
 YCrO₃, antiferromag., mag. domain walls, ⁵³Cr NMR study 9-11327
 YbFeO₃·Co, mag. struct. factors, neutron diffr. study 9-47248

capacitance

- see also photocapacitance
 chalcogenide glasses, localised states calc. rel. to contact capacitance and field effect 9-11090
 conducting bodies, capacity and energy calcs., for rotational symmetry (*Polish*) 9-875
 conducting ribbon, ring shaped, capacitance, exact upper and lower bounds 9-36811
 cylindrical conductor encircled by plane, capacitance calc. 9-36812
 double layers, image forces influencing capacitance and interaction 9-29367
 electrodes, smooth, solid, double-layer capacitance freq. dispersion 9-20379
 least capacitance region, free boundary optimisation problem 9-13864
 least capacitance regions, free boundary optimisation problem 9-13865
 MOS capacitor, pulsed capacitance meas. anal. 9-38185
 MOS capacitor, surface state distrib. determ. from transient capacitance plots 9-42658
 MOS structure, quenched-in bulk defects and interface states, transient capacitance spectroscopy 9-24081
 MOS structures, interface state density evaluated from charge-voltage data 9-11234
 MOS system containing interface traps, equilibrium and nonequilibrium response to linear voltage ramp 9-38173
 n-n⁺ step homojunction, theory 9-24056
 open oscillating circuit, resonance characts., effect of spatial inhomogeneity of medium 9-41283

capacitance continued

p-n junction in region of strong ferroelec. instability, barrier capacitance 9-11218
 pentylcyanobiphenyl, nematic, elastic and dielec. props. from capacitance-voltage curve 9-32894
 polyethylene, relation between electrostatic capacity and electronic space charges induced by high field 9-15154
 polyethylene, structural changes induced by high elec. field (*Japanese*) 9-23532
 PTFE films, plasma-polymerized, cond. mechanism, AC cond. and capacitance meas. 9-24093
 SCLC diode with traps, capacitance, depend. on freq. 9-11221
 thermally stimulated capacitance method fitting anal. 9-47107
 Al-Al₂O₃-InSb MIS structures, recomb. processes and carrier lifetimes 9-38177
 Al-CdTe-Al thin film VLF dielectric props. (*Slovak*) 9-7907
 Al-SiO₂-Si capacitors, transient capacitance temp. depend., -40 to 70°C 9-47167
 BaO-TiO₂-Nd₂O₃, exam. of compositional and dielectric props. 9-33601
 BaTiO₃-BaNb₂O₆, semiconducting ferroelectric ceramic, nonlinearity of dielectric layer capacitance 9-8098
 BaZrO₃-LaAlO₃ systems, sintering conditions, elec. props. 9-43184
 Bi₂O₃ layer thermally grown on Bi film, thickness meas. by capacitance method 9-1554
 CdTe, Schottky diode, AC small signal capacitance 9-7899
 n-GaAlAs:Sn LED DH donor-level analysis, DLTS obs. 9-47040
 Ga_{1-x}Al_xAs electrodes, interface capacitance meas., flatband pot., conduction and valence band boundaries (*French*) 9-33339
 GaAs anodic oxide, electrical props. 9-38170
 GaAs MOS capacitor fabrication and transient response for minority carrier lifetime meas. 9-47103
 n-GaAs, undoped, proton radiation defect detect. by transient capacitance spectroscopy 9-11089
 GaAs_{1-x}P_x electrodes, interface capacitance meas., flatband pot., conduction and valence band boundaries (*French*) 9-33339
 Ge, pure, degree of compensation, capacitance meas., 4.2-150K 9-7624
 Pb(Zr,Ti,Nb)O₃ ceramics, rel. dielec. const. and piezoelec. props. rel. to porosity 9-11388
 Sb₂S₃, thin film, dielectric props. 9-15392
 Si, amorphous, Schottky barrier and p-n junction props. 9-28407
 Si, deep level transient spectroscopy (*French*) 9-11079
 Si, defect form. during high press. low temp. steam oxidation 9-29238
 Si, deformed, defect states associated with dislocations, capacitance transient spectroscopy 9-42483
 n-Si, electron irradi., defect energy levels, energy depend., capacitance meas. 9-33262
 Si, p-n junc. solar cell, forward bias capacitance and current meas. for lifetime and band narrowing detn. 9-7892
 Si p-n step junctions, temp. depend. of capacitance 9-15210
 Si:Au, thermally stimulated capacitance method fitting anal. 9-47107
 n-Si:P, edge dislocation energy level, differential capacitance meas. 9-23927
 Si:Pt, deep level, exam. by thermally stimulated current and capacitance techniques 9-1579
 Si-SiO₂, intentionally contaminated interface, transient capacitance meas. 9-33349
 Si₃N₄, highly insulating film, current cond., CV curves, and IR absorpt. 9-38208
 TeO₂-WO₃ glass, dipole correlations, capacitances and TSC meas. 9-28670

capacitance measurement

digital capacitance meter, utilising CR discharge 9-12819
 Kelvin double bridge, precision, for capacitance meas. up to 1 F, ratio arm adjustment 9-21776
 linear meter, based on integrator 9-6146
 meter, using ICs, 10 pF to 1 μ F, design 9-6140
 RLC bridge, with oscillator and having ten ranges 9-2785

capacitance meters see capacitance measurement

capacitor storage

5 MeV electron accelerator modulator charging system 9-13563
 NMR absorption peak voltmetr cct. error analysis (*Russian*) 9-26079
 THOR Tokamak toroidal field system design and manufacture 9-32807

capacitor stores see capacitor storage

capacitors

see also electrolytic capacitors; thin film capacitors; varactors
 antiferroelectric, appl. in TV sets, manufacture (*Chinese*) 9-33617
 charge difference phenomena (*German*) 9-36810
 dumping capacitor system for Schenck-Metcalf N₂ laser 9-18439
 electrostatic problem of two staggered parallel strips in a bounded space 9-7052
 highly electrostrictive ceramic capacitor 9-47390
 liquid level-to-frequency converter 9-6080
 magnetic field between discharging plates, Ampere's law, for teachers 9-21490
 MIS capacitor, capacitance-voltage characts., automatic computation method (*Polish*) 9-1624
 parallel-flat plate condensers, thermodynamic treatment 9-6070
 polypropylene, effect of corona treatment on dielectric props. for capacitor appl. 9-33607
 BaTiO₃, dielectric ceramic, interaction with metallic film during sintering 9-33958
 Ba₁₀₀Ti_{101-x}Sn_x+0.3 at.%Sb, intergranular capacitor, effect of microstructure on electrical props. 9-34160
 Ta capacitor, stress wave emission anal. in resistance welding 9-11739

capacity, channel see channel capacity

capillarity

see also bubbles; contact angle; drops; foams; liquid films; surface tension
 BBOA, pretransitional shear viscosity divergence near smectic A-smectic B transition 9-33077
 brain capillary, microkinematic obs. of blood velocity (*Russian*) 9-5366
 bubble formation during gas injection into liq. through orifice, interfacial area, press. (*German*) 9-18937
 bubble formation during injection, system pressure and thermophysical effects (*German*) 9-41745
 cholesteric liquid crystal, oriented, Newtonian capillary shear flow, effective viscosity 9-18957
 condensation and absorption processes 9-28175
 cyclohexane menisci, exptl. verification of Kelvin eqn. for capillary condensation 9-33159

capillarity continued

flow of generalized Newtonian and Bingham liquids in an annular capillary 9-41758
 heat pipe wick, liq. evaporation, drop carry-over phenomena in capillary struct., obs. 9-18948
 heavy hydrocarbons, surface transient deformation by laser-induced thermocapillarity 9-33157
 imbibition in 2-phase flow through porous medium with capillary pressure 9-20884
 membrane oxygenator semiautomatic fabrication 9-20711
 meniscus of air-liquid interface, evaporation 9-14224
 multicapillary system capillary-tissue diffusion anal. 9-2095
 multicomponent isothermal diffusion and forced flow of gases in capillaries 9-18914
 oxygenator, membrane envelope type, capacity improvement (*German*) 9-2157
 pendant drops, equilibrium and stability 9-23805
 polyethylene oxide, dilute aq. soln., laminar viscous tube flow, scale-depend. effect 9-7367
 polymerisable mass, unsteady viscosity meas. method (*Russian*) 9-23293
 porous body, sublimation, heat, mass transfer from parallel capillaries 9-37395
 PVC cpds., rigid, plasticised, capillary flow 9-4046
 soil, heat and mass transfer with phase change 9-1093
 steam condensation in capillaries 9-1066
 surface problems with prescribed contact angle, max. and min. principles 9-37907
 surfaces, rough adsorpt., capillary condensation 9-1544
 thermal transpiration, in circular capillary with small temp. difference 9-32191
 viscoelastic capillary jets, stability 9-46352
 viscous capillary jet, oscills., investigation of axisymmetric perturbation 9-37370
 wetting film and capillary layer, transition layer 9-23807
 W, surface, self-diffusion coeff. at very high temp. using theory on tip evolution by capillarity forces and evaporation 9-11011

capillary phenomena see capillarity

capillary waves

active four-photon spectroscopy of capillary waves 9-41699
 gravity-capillary waves in two-layer fluid (*Russian*) 9-39733
 liquid, three-dimensional gravitationally-elastic, gravitationally-capillary surface waves (*Russian*) 9-32537
 magnetisable liquid, thin layer instability 9-41762
 non-stationary capillary-gravity waves in a shear flow (*Russian*) 9-34849
 oil-water interface, US emulsification drop form. by capillary wave instability 9-32643
 running stream, capillary-gravity wave problem 9-23333
 stability in circular containers with convex spheroidal bottom 9-32462
 two-layer stratified flow, entrainment at interface (*Japanese*) 9-14454
 water waves in narrow channels: faster capillary waves 9-18905

capture cross-sections, nuclear see nuclear reactions and scattering

Caratheodory's principle see thermodynamics

carbon

see also nuclei with
 see also carbon fibres; charcoal; diamond; graphite
 abundance and distrib. in glassy rims of submarine pillow basalts 9-12111
 activated, vol. adsorption capacity, 25°C, org. trace gases 9-16036
 adsorbed on Pt, determ. of monolayer coverage by AES 9-46916
 adsorption of gases on graphitised surface 9-42366
 amorphous film, catalytic crystallization by Ni particles 9-14683
 asymmetric atom, case history for independent discovery, inductivist model 9-25821
 atom, ground state static polarisability and hyperpolarisability, numerical SCF method 9-36567
 atom, lowest ²p⁰ and ⁴p⁰ states, variational Hylleraas-type wavefunction 9-10023
 atomic correlation energies, perturbations and near degeneracy 9-3371
 atoms, metastable, prod. in cometary coma, detect. in comet West (1976 VI) 9-16885
 black, aerosol, coagulation, kinetics, particle size distrib. 9-39209
 black, positron annihilation and positronium form. 9-28856
 carbothermal reduction, of Nb₂O₅, intermediate phases 9-11773
 cathode, intercalation props. in Al reduction cell 9-43559
 coke, pressure effects on structure, polymorphic transitions X-ray diffr. anal. 9-1859
 combustion products, appl. in CO₂ gasdynamic laser 9-27240
 Comet West (1976 VI), model of C prod. in cometary coma 9-16885
 contamination, of Al targets, in high vacuum electron excitation X-ray tube 9-44996
 dense hard-type solids prep. from petroleum coke powder by grinding 9-20002
 depletion in interstellar medium, from Cygnus Loop UV spectrum obs. 9-21398
 depth resolution for MeV ⁴He⁺ backscattering in C, Al, Cu 9-14840
 determination, in alkaline earth oxide crystals, by nuclear reaction method 9-8456
 determination, in Fe₃C melt, measurement using automatic device 9-39252
 determination, in UC_n-PuC_n refabricated fuel for breeder reactor 9-11877
 determination of Zr, chem. analysis by photon and proton activation (*French*) 9-43666
 diamond:C⁺, high temp. ion implantation 9-23623
 diamonds from Lesotho kimberlite pipes, isotopically light C obs. 9-48487
 diffusion between C and austenitic steels, 773-1373K 9-19392
 diffusion in α -Zr, 620 to 830°C (*Russian*) 9-46842
 dissolution rate in CaO-Al₂O₃ molten binary slag (*Japanese*) 9-23739
 distribution in cast Mo and low alloy Mo (*German, English*) 9-20059
 electron-energy-loss-spectra, extended fine struct. in K-ionis. edge 9-47566
 electronic energy loss of protons (deuterons), 80-800 keV 9-23666
 electronic stopping power of H₂⁺ 9-10888
 energy loss of 120 keV heavy ions, range and range straggling determ. 9-45595
 film, surface struct., graphitisation, secondary electron spectra and AES 9-43077
 film, vacuum-vapour-deposited, for prosthetic coatings, wear behaviour 9-43440

carbon continued

- foil, energy loss of Ne ions (40-120 keV), and Ar ions (40-240 keV), as function of emergence ang. 9-4357
- foil, OH⁺ beam Coulomb explosion, charge state depend. 9-31649
- foil, passage of ¹⁴N and ²⁰Ne ions, energy-angle distribns. 9-10889
- foils for heavy ion stripping in tandem Van de Graaff 9-22516
- gamma-ray scattering, incoherent, total at. cross section 9-13679
- glassy, crack form. during prod., propag. by thermal stress 9-11700
- graphitised C black, adsorption of methane, rot. tunnelling, neutron scatt. obs. 9-15000
- graphitised membrane, adsorption meas. in situ using steady state flows and time lags 9-33183
- Graphon, colloidal dispersion in butanol, stability ratio 9-29413
- heat-treatment and neutron irradiat. effects on US atten. and Young's modulus 9-11644
- high temperature behaviour, over 2600K, polymorphic carbyne forms 9-7575
- hydrology, C mass transfer and isotope evolution in natural water systems 9-20882
- interstitials, in transition metals, electronic structure 9-1583
- isotope ratios in C stars, spectral analysis 9-30057
- isotope separation, by multiphoton dissociation of CF₄I 9-3592
- lateral spread distribution widths MeV He ions in C, Al, Cu from energy spectra 9-14860
- low temperature C, elec. cond. as function of freq. 9-23965
- marine environment, stable C isotope comp. of dissolved and particulate organic C 9-20862
- marine plankton, C isotope ratio rel. to surface water masses 9-29783
- mechanical props., high temp., review 9-38897
- monolayer phase condensation on Ni (111), LEED and AES obs. 9-46960
- organic, decomposition in deep oceans 9-25270
- organic, water quality indicator for Lake Superior 9-25287
- overabundances in C star atmospheres 9-21284
- particulate, identification in air pollution by Raman spectroscopy 9-5625
- phenolic surface, laser-induced impulse 9-43071
- photoelectric cross sections, from total absorption cross sections, 5 to 130 keV 9-26947
- polymorphic modifications form, under low and high press. 9-15597
- positron annihilation, differentiation between graphite and diamond structs. 9-28860
- proton energy staggering in ion backscatt. expt. 9-37750
- proton straggling determ., using 0.47 and 1.73 MeV elastic scatt. resonances of protons 9-4356
- pyrocarbon:B, g-factor anisotropy (*Russian*) 9-47001
- pyrocarbon, low temp., isotropic, permeability study (*French*) 9-7549
- pyrocarbon coated particles, influence of fast neutrons on transport behaviour of solid fission products (*German*) 9-13427
- pyrocarbon coatings on HTGR fuel particles, Bacon anisotropy factors meas. technique 9-13418
- Raman spectra in 2600-3300 cm⁻¹ region, heat treatment temp. effect 9-42955
- red giant stars, meridional circulation and CNO anomalies 9-48786
- red giant stars in globular clusters M92 and NGC 6397, C abundances 9-48785
- reduction in nonequilibrium plasma, effect of non-Boltzmann population of vibrationally excited states 9-20362
- reinforced organic composite, graphite, or C-C, ablation, mathematical modelling 9-41564
- segregation in Fe, equilib. and struct. (*German*) 9-47690
- soft, low temp. sp. ht. anomalies, spin-spin interactions 9-15307
- solar system, primordial C retention by terrestrial planets 9-40102
- solid-liquid-vapour triple point pressure 9-14914
- stopping power determ. for heavy ions, 200 to 2000 keV 9-45596
- stopping powers, low energy, determ. by TOF techniques 9-45594
- stressed materials, mech. characts. analysis using acoustic emission (*German*) 9-15881
- stripper foil prepared by cracking hydrocarbon vapour in glow discharge 9-31286
- substrate, U atom motion at low temp., biomolecule marking appl. 9-25176
- surface evaporation by Nd laser-beam, spectral-line absorption 9-19951
- target, O⁺ low energy ions, interaction obs. 9-34352
- thermal radiation detector sorbent test 9-29403
- thermodynamic activity in austenite, computer simulation 9-37852
- thin foil thickness meas. using ¹⁴⁸Gd and ²⁴¹Am alpha-particles 9-30417
- vaporisation into nonequib. stagnation point boundary layer, Jupiter probe heat shield 9-1264
- vitrified, surface, wettability, surface tension, contact angles of liqs. 9-37901
- Ag, oriented crystallisation on active amorphous C centres 9-7762
- B, tetragonal, X-ray diffir. and C doping obs. (*French*) 9-14731
- C depth profiling in solids using ¹²C(d,p) 9-5212
- C I, C II, C III, C IV in solar flare, line profiles rel. to upper chromosphere model 9-40148
- C I, C II, interstellar, fine struct. levels population ratios 9-35351
- C I, interstellar, UV lines obs. in ζ Puppis and ζ Ophiuchi 9-35332
- C I, m-representation approach 9-45645
- C I, UV fluoresc. from photodissoc. of CO₂ 9-13776
- C II, interstellar, line emission rel. to Cl chemistry and H ionisation 9-40245
- C II, low lying levels, excitation equilib. 9-12401
- C II, UV lines Stark widths 9-6910
- C IV doublets in QSO spectra rel. to absorption redshift 9-35417
- C IV in stars hotter than B 1, Copernicus obs. 9-44463
- C⁺, electron impact detachment, cross-section, 10-1000 eV 9-31702
- C⁺, beam-foil excitation; absolute Auger yield meas. 9-45685
- C⁺, beam-tilted C foil interactions, charge-state distrib., photon emission, 100-400 keV 9-22814
- C⁺, expt. results on W-values for heavy particles 9-7000
- C⁺, vacuum arc source 9-21853
- C²⁺, electron impact ionis. cross-section meas. 9-3577
- C²⁺, ²S, ²P^o and ²D autoionising states, positions and widths 9-26944
- C³⁺, electron impact ionis. cross sections 9-22845
- C³⁺, ionisation cross-section, excitation autoionisation effects 9-45850
- C³⁺/Fe ratio in metal-poor stars from CH features 9-16945
- C/Re-V multilayer films for X-ray mirrors 9-44992
- C-bearing gases, K X-ray yields induced by proton bombardment 9-45736
- C-graphite materials, fluidised bed, carburising of metals, diffusion saturation 9-20276

carbon continued

- C-PVC composite, transport props. 9-38073
- C+B³⁺(Li³⁺)(H⁺), K-shell charge transfer cross sections, Bates-Born formalisms 9-45834
- C+CO₂, Boudouard reaction, catalysed by Li₂O and Li₂CO₃, reaction rates 839-1050°C 9-16035
- C+N₂O₂-CN+NO, chemiluminesc., CN (A²Π_g) vibr. distrib. 9-39152
- C+PbO₂-CO+Pb, chemiluminesc. from gas phase reaction 9-8426
- C⁺+H(H₂), 0.1-13 keV electron capture cross-sections meas. 9-36761
- C⁺+He(Ne), slow collision, ionis. obs. 9-10194
- C⁺+N₂(H₂), total charge transfer cross section, 5-100 keV 9-3561
- C²⁺+Ar, intense low energy autoionisation lines 9-31674
- C³⁺+H, excitation distrib. following electron capture 9-36763
- C⁶⁺+Ar, electron capture to continuum states, forward ejected electron spectra 9-45831
- C⁶⁺+He, electron capture and impact-ionis. cross sections, Monte Carlo calcs. 9-27083
- C₂, A³Π_g-X³Π_g bands, rot. struct., intensity alternation 9-41158
- C₂, a²Π_g state quenching, laser-induced fluoresc. obs. 9-31574
- C₂, band system transition moment ab initio SCF and CI calcs. 9-13770
- C₂, Franck-Condon factors, rot. quantum number effect 9-31613
- C₂, Swan bands, variation of electronic transition moment with internuclear separation 9-826
- C₂, Swan bands identification in mag. degenerate star LP 790-29 9-5815
- CO₂+C⁺(N₂H⁺), rate coeffs. meas. at 300 and 100K in flowing afterglow 9-20346
- ¹²C, production for studies on photosynthesis, transport and metabolism in plants 9-39502
- ¹²C, scintigraphy, labelled thymidine, thymidylate, in vivo distrib. in rabbits 9-5344
- ¹²C/¹³C ratio in C stars 9-35257
- ¹²C/¹³C ratio in G-K giant stars, explanation constraints 9-5817
- ¹²C/¹³C ratios in Sagittarius B2 and Orion A 9-21374
- ¹²C⁺, partially stripped, energy straggling in thin Al foil, 3-36 MeV 9-41237
- ¹³C, enrichment in multiphoton dissoc. products of trifluoromethyl halides 9-18302
- ¹³C fractionation in calcite-depositing spring, chemical vars. and calcite precipitation 9-44202
- ¹³C, palaeoclimatic features, based on stable isotope compositions, Lake Biwa, central Japan 9-12230
- ¹³C/¹²C ratio variations in Pinus longaeva (bristlecone pine) cellulose during the last millennium 9-44217
- ¹⁴C, abundance rel. to cosmic rays and solar activity cyclic vars. 9-16776
- ¹⁴C, concs. in Florida annual coral rings 9-16513
- ¹⁴C dating of CO₂ sample with accelerator, blind meas. 9-25362
- ¹⁴C dating of mg geological samples with electrostatic accelerators 9-25361
- ¹⁴C, detect. via small van de Graaff accelerator 9-11844
- ¹⁴C, dosimetry and metabolism of low energy β-emitters 9-8551
- ¹⁴C, enrichment method for radiocarbon dating 9-10220
- ¹⁴C, nuclear reactor radioactive gaseous effluents, abatement techniques 9-3221
- ¹⁴C, radioactivity meas. using Cherenkov liquid scintillator counter 9-26817
- ¹⁴C temporal atmospheric fluctuations 9-5591
- ¹⁴C/¹³C/¹²C vars., Bermuda coral 200 yr. record 9-16570
- CaO-Al₂O₃, binary slag, reduction of Al₂O₃ by C saturated Fe (*Japanese*) 9-24733
- Fe, structural stabilisation, influence of C interstitials, HF calc. 9-11611
- Fe¹³C, transient mag. field for ¹³C 9-47362
- GaAs:C, Zeeman effect of effective mass acceptor, polarised luminesc. 9-4541
- H+C²⁺(He²⁺), ionis. cross sections 9-22805
- O₂+N⁺(O⁺)(C⁺), rate coeffs. meas. at 300 and 100K in flowing afterglow 9-20346
- P-C, one-bond couplings, orbital and spin dipolar contribs., INDO approx. 9-31552
- in Si, reaction of rare earth impurities with carbon during cryst. growth 9-38733
- Si-C, one-bond couplings, orbital and spin dipolar contribs., INDO approx. 9-31552
- Ti 9-5766
- Ti₄C, deep doping during ion-beam welding, microhardness meas. 9-19294
- (U, Me)C, Me=Hf, Ti, Zr, Nb or Ta, effects of alloying and interaction with C 9-45350

carbon compounds

see also organic compounds

- chemisorption on Co (1012), heating effects 9-4474
- CO₂+¹⁸OH, evidence for at. exchange 9-47910
- CO isotope mapping of L 134 N 9-30108
- CS₂, Raman laser as efficient excitation source for stimulated Raman scatt. 9-18480
- cyanide, on Ag, at electrolyte interface, enhanced Raman effect 9-28767
- excited state props., by electrochromism in polymer matrix 9-22737
- hexafluoroethane, plasma etching characts., effect of dark space in RF glow discharge 9-15830
- metal carbonyls, excited metal atom prod. by UV multiphoton dissoc. 9-6974
- Br₂-CO₂ chem. pumped photodissociation laser, output energy increase by WF₆ addition 9-45939
- BrCN, ICN, and isotopic forms, force field calc., freqs., rot. consts. 9-22693
- C₂, luminesc. assignments in excimer laser photolysis of CBr₄ and CF₂Br₂ 9-39184
- C₂, valence states, CI calcs. 9-45642
- C₂, AsF₆⁻, synthesis of first stage graphite salt, relationship to first stage graphite/AsF₆ intercalate 9-24738
- CD₂ filled optical fibres, CW backward-wave generation by degenerate four-wave mixing 9-27327
- CF₄, luminesc. assignments in excimer laser photolysis of CBr₄ and CF₂Br₂ 9-39184
- C₂FeCl₃, behaviour with H₂ and CO, effect of activation 9-43623
- CH⁺, rot. excitation by electron impact 9-27094
- CH₄, triple point, International Practical Temp. Scale, comparisons 9-40566
- Cl₂, desorption from graphite expt., ionis. pot. 9-34392
- CN, A²Π_g state vibr. distrib., chemiluminesc. 9-39152

carbon compounds continued

- CN photodissociation laser, IR stimulated emission due to BrCN photolysis 9-31888
 CN, red spectral system anal., mol. consts. 9-13728
 CN towards interstellar clouds, EHF emission obs. 9-17037
 CN⁻, ionisation pot., CI and perturbation methods 9-31734
 CN⁻, transformations by inner source based on ¹⁰B(n,α)⁷Li 9-34341
 CN⁺, ground state, SCF pot. energy curves calcs. 9-13782
 CN+NO, reaction rate constants 9-1935
 C₂N₂, gas phase 9-18191
 CN⁻.H₂O, redox processes, MINDO/3 calcs. 9-47895
 CO, A-X and B-X bands intensities in comets 9-35191
 CO, ab initio calcs. of the derivative of the static polarisability 9-3597
 CO adlayers, on Cu(100) and Cu(111), struct., LEED pattern reinterpretation 9-28209
 CO, adsorbed, lateral interactions on vibr. spectrum 9-46954
 CO adsorbed layer on Ni surface, laser induced desorption 9-1548
 CO adsorbed on BaTiO_{3-x}, Auger spectroscopy of surface layers 9-42343
 CO adsorbed on Ni, energy depend. of vibr. excitation, electron energy loss spectra 9-28201
 CO, adsorbed on Ni (111) surface, Raman spectra 9-28769
 CO, adsorbed on Pd, UPS of CO on Pd clusters, binding energy, d-electron emission particle size depend. 9-4888
 CO, adsorbed on Pt, adsorbate induced electron losses 9-46959
 CO, adsorbed on Pt, electron wave interference 9-33332
 CO, adsorbed on Ru (001), characteristic slow electron energy loss meas. 9-47562
 CO adsorbed on supported Pt catalysts, temp. programmed desorption 9-46915
 CO, adsorbed on transition metal carbonyls, effect on photoelectron spectra 9-4897
 CO, adsorbed on W, He metastable atom bombard., secondary electron emission 9-47581
 CO, adsorbed on W(210), surface struct., rel. to adsorbed N₂ 9-15009
 CO, adsorption on alkaline earth oxides, reflectance spectra obs. 9-28781
 CO adsorption on Fe, resistance changes, work function change and thermal desorption meas. 9-19450
 CO, adsorption on Fe surface, core-level photoemission and LEED methods appl. 9-15003
 CO, adsorption on NaCl, electrostatic interaction energies 9-23831
 CO, adsorption on Ni, electron field emission, energy distrib. 9-8231
 CO, adsorption on Ni (100), SIMS and XPS meas. 9-42378
 CO, adsorption on Ni films, effect on galvanomag. and mag. props. 9-33363
 CO, adsorption on Rh, inelastic electron tunnelling spectra obs. 9-46962
 CO, adsorption on Ru(001), IR spectra and LEED 9-37914
 CO, adsorption on supported Rh catalyst particles, inelastic electron tunnelling spectra 9-3509
 CO, atm. absorption line parameters, AFGL, compilation update 9-21013
 CO binding, relation with conformational change of haemoglobin 9-8473
 CO CW gas lasers, effect of Xe addition on room temp. operation 9-18407
 CO, c(2X2), adsorbed on Ni (100), photoemission orientation determ. 9-19974
 CO chemisorbed and condensed on Rh(111) surface, UPS, meas. using synchrotron radiation 9-33902
 CO, chemisorbed on Cu (100) face, XPS of core levels 9-15589
 CO, chemisorbed on metals, electronic struct., vibr. spectra, and chem. 9-42390
 CO, chemisorbed on Mo polycryst., substrate mediated C-O interaction, photoelectron spectra 9-34353
 CO, chemisorbed on Ni (100), contraction of mol. band, possibility 9-28202
 CO, chemisorbed on Ni(111), adsorption sites and long range order, vibr. spectra 9-46946
 CO, chemisorbed on Rh, IR spectra, species identification 9-39198
 CO chemisorbed on Ru(001), reaction with chemisorbed O₂, electron energy loss spectra 9-46924
 CO, chemisorption on Al, interatomic Auger transition spectroscopy 9-7747
 CO, chemisorption on clean and oxidised Ir (110) surfaces, kinetics obs. 9-11015
 CO, chemisorption on Ni, carbonylation rate mag. field depend. 9-24828
 CO, chemisorption on Ru (001), electron stimulated desorption ion ang. distrib. bonding geometry and bending vibrs. 9-33189
 CO, chemisorption on Ti film, quartz cryst. microbalance obs. of CO/Ti ratio 9-4475
 CO, chemisorption on Ti (10 $\bar{1}$ 1), XPS, UPS, flash desorption mass spectra, and active ion bombard. obs. 9-11822
 CO coadsorption with H on Fe, effect of preadsorption of one on adsorption of other 9-19451
 CO, coadsorption with H₂ on W (100), CO/H surface complex obs. 9-4478
 CO, coadsorption with H₂ on Rh, thermal desorption mass spectroscopy meas. 9-46948
 CO cooled electron-beam-controlled laser, two-quantum transitions 9-45935
 CO, d³Δ state elec. dipole moment, vibr. depend. obs. 9-31548
 CO, desorption from clean and S covered Pt surfaces, binding energy meas. 9-46950
 CO, desorption from Ir (110), coverage dependence of kinetic parameters 9-19462
 CO, desorption from Ru(001) 9-15001
 CO, dissociative chemisorption of Ru, isotope exchange 9-34354
 CO, distribution in galactic central regions 9-21416
 CO, ejected electron spectroscopy of autoionising states using electron-electron coincidence technique 9-3587
 CO, electron correl., quadrupole excitation in correl. energy theories 9-36538
 CO, electron energy loss spectra, C K-shell excitation, vibr. struct. 9-22851
 CO, electron impact excitation function, b³Σ⁺..³Π 9-31705
 CO, electron scatt., adiabatic polaris. pots. 9-10203
 CO, electron scatt., elastic differential cross-section, 3-100 eV 9-27086
 CO, electron scatt. cross sections for momentum transfer and inelastic excitation 9-36782
 CO emission in NQ Vulpeculae (Nova 1976), obs. during η Carinae stage 9-25609
 CO, Franck-Condon factors appl., rot. depend. 9-10154

carbon compounds continued

- CO, Franck-Condon factors, rot. quantum number effect 9-31613
 CO, ground state, third-order many-body perturbation theory 9-10015
 CO group, NMR chem. shift, solvent's dielectric const. effect, mag. anisotropy 9-42847
 CO, in Ar matrix, vibr. line shape, vibr.-phonon interaction 9-3493
 CO in atmosphere, abundance meas. method (*Russian*) 9-25343
 CO in Jupiter's upper atmosphere, Galilean satellites as source 9-40128
 CO, in solar spectrum, centre to limb behaviour of first overtone vibr.-rot. transitions 9-8889
 CO, in solid N₂, phonon-assisted v-v transfer rates 9-10901
 CO, influence on N absorpt. in plasma melting of steel (*Russian*) 9-39193
 CO, interstellar, obs. in young cluster (IC 5146) 9-48881
 CO, interstellar clouds, blister model for assoc. H II regions 9-25681
 CO interstellar emission intensity rel. to H I absorption column density 9-35319
 CO, ionisation by electron bombard., empirical and semi-empirical calcs. 9-36784
 CO j=2-1 IR line obs. of Monoceros R2 assoc. 9-25654
 CO, LCAO method, improvement by directed variation of exponential parameters 9-41101
 CO laser, simple model for power and spectra 9-7119
 CO laser, steady state operation, vibr. distrib., numerical calc. 9-36884
 CO laser driven spectrophone, humidity trace detection in H₂ and air 9-20477
 CO light-dependent net prod. by intact plant shoots, rel. to photorespiration 9-2010
 CO line profiles for dark molecular clouds 9-5877
 CO line radiation transfer in collapsing dark cloud, Monte Carlo method appl. 9-44357
 CO, mobility on (110) plane of W 9-46955
 CO, mol., nucl. spin-spin coupling, diagm. contrib. 9-36665
 CO near highways, line source dispersion models, comparison 9-12247
 CO, near resonant V-V transfer rates for high-lying vibr. states 9-3536
 CO, nondispersive IR analyzer with compensation for optical bias 9-16103
 CO oxidation over Pt, kinetics determ. using ¹³C tracer 9-29400
 CO, photoabsorption, photoionisation cross section, separated channel static exchange Stieltjes-Tchebycheff calc. 9-3502
 CO, photoelectron ang. distrib., energy depend. 9-22760
 CO, photoelectron spectra ang. distrib., vibr. transitions, autoionis. state 9-31609
 CO, poisoning effect on D₂+H₂O exchange reaction on Pt surface 9-11824
 CO, population inversion mechanism for rot. levels, interstellar medium appl. 9-21406
 CO presence effect on FeCl₃ pyrolysis 9-43623
 CO pulsed TE laser and pulsed CS₂/O₂ chemical laser, comparative study 9-31876
 CO, quadratic vibr. force const., from X-ray scatt. factors 9-45864
 CO, rate of entry into myoglobin 9-8471
 CO reaction with H₂, C₃FeCl₃ behaviour, effect of activation 9-43623
 CO, reaction with NO on polycrystalline Pt surface at low press., reaction kinetics study (*German*) 9-15989
 CO, reaction with NO on polycrystalline Pt at low press., reaction kinetics study (*German*) 9-15988
 CO, reduction of SO₂ in presence of H₂O and O₂, catalyst effects 9-24819
 CO, simple high energy TEA laser 9-3714
 CO, single and double ionisation by electron impact, energy depend. and ionisation pot. 9-13827
 β-CO, single cryst., adiabatic elastic consts., at triple pt., Brillouin scatt. obs. 9-47466
 CO solid film, contaminant on cryocooled Ge optical window, IR transmission 9-32007
 CO submillimetric high-resolution Fourier transform spectra 9-31509
 CO supersonically driven chem. laser, kinetics of physical processes 9-45937
 CO, triplet state, form. from spin transfer reaction with Ar (*French*) 9-34289
 CO, vac. UV absorpt. spectrum, Doppler-free two-photon excitation 9-41185
 CO, vibr. relax. at glass surface, glow discharge meas. 9-18409
 CO, X³Σ⁺ state, diagrammatic many-body perturbation theory, pot. curves 9-10014
 CO, Xe matrix-isolated and solid, UPES obs. 9-45762
 CO⁺, A-X and B-X bands intensities in comets 9-35191
 CO⁺, dissoci. energy determ. from pot. energy curve 9-13837
 CO⁺, fluoresc. spectra of ion beam, laser and electron excitation 9-45743
 CO⁺ in cometary coma, dissoci. recomb. rel. to C prod. 9-16885
 CO⁺, vibr.-excited A²Π state, radiative and radiationless vibronic deactivation rates with He 9-10134
 CO⁺, violet-degraded B-A bands, rotational analysis 9-18199
 CO-hydrocarbon mixtures, phase equilib. calcs., modified Soave eqn. of state 9-19353
 CO-O₂ liq. mixture, enhancement of nonlinear optical processes with double-pass tight-focusing geometry 9-18472
 CO-Xe-N₂-He gas laser power rel. to mixture composition (*Russian*) 9-7114
 CO+¹⁸OH, evidence for at. exchange 9-47910
 CO+Ar(He)(Ne)(Kr)(Xe), intermol. pot. energy surfaces from electron gas model, ang., distance, and vibr. depend. 9-3520
 CO+aromatic molecule, vibr. energy transfer, quenching efficiency 9-3539
 CO+CO, d³Δ state vibr. relax. in glow discharges 9-18271
 CO+CO, V-V master equation, numerical inversion 9-18265
 CO+CO₂, exchange rates behind reflected shock waves for C¹⁸O and ¹³CO 9-29363
 CO+H, total differential collision cross section meas., interstellar gas clouds appl. 9-45786
 CO+H₂, thermal energy collision, ab initio pot. energy surface 9-45788
 CO+H⁺(He⁺)(O⁺), dissociative ionis. 9-10188
 CO+He, anisotropic intermol. pots., crossed beam expts. 9-31639
 CO+He, vibr. relax., unitary distorted-wave approach 9-36738
 CO+Hg(6³P₁)(6³P₀), electronic-vibr. energy transfer collision, IR obs. 9-45716
 CO+K, anisotropy of the repulsive intermolecular potential from rotationally inelastic scattering 9-41226
 CO+Li⁺, rot.-vibr. energy transfer, 1-10 eV, calc. 9-45799

carbon compounds continued

- CO+N₂, collinear collisions, anharmonicity effects, vibr. excitation 9-31656
 CO+N₂O catalytic reaction on Se₂O₃ and MgO, kinetic obs. 9-29389
 CO+N⁺, charge exchange, 1-3 keV, N⁺(³P) and (¹D) states 9-36760
 CO+N⁺, thermal energy, reaction rate coeffs. and product distrib. 9-29333
 CO+O, adsorbed on Ir (111), Langmuir-Hinshelwood reaction mechanism 9-29408
 CO+O²⁺(Xe²⁺)(Pb²⁺), 50 keV, multiple scatt., target at. +energetic ion spatial correlation influence 9-27062
 CO+ZZ 9-13799
 CO₂, Δ_{val} valence state, vertical energy level MC-Cl wavefunction 9-45644
 CO₂ 16 μm laser, pumped optically in 4.3 μm , 9.6 μm bands, energy characts. 9-18398
 CO₂, 4.3 μm airglow, excitation mechanism involving OH and N₂ 9-16731
 CO₂, adsorbed film, on KBr, density fluctuations 9-42391
 CO₂, adsorpt. on Fe(OH)₂, rel. to prep. method 9-39192
 CO₂, adsorpt. on ice surface, gas capture by crystallising aq. aerosols investig. 9-39191
 CO₂, amplifier, spatial and temporal fluctuations of nanosecond radiation pulses 9-14009
 CO₂, atm., fast response sensor design, for eddy correl. flux meas. 9-5622
 CO₂, atm. absorption line parameters, AFGL, compilation update 9-21013
 CO₂, atm. press. laser pulse duration reduction by stimulated emission quenching 9-18400
 CO₂, atmospheric, recent trends of ¹³C/¹²C ratio, rel. to tree ring studies 9-25311
 CO₂, atmospheric, thermal radiation detect. 9-16669
 CO₂, atmospheric content rel. to temp. changes since 1665, statistical study 9-8680
 CO₂, atmospheric problem, increase from fossil fuel combustion 9-16623
 CO₂, atmospheric sealed CW laser, gain characts. 9-36871
 CO₂, beam molecules capture probability on surface 9-32578
 CO₂, bipropellant, advanced fuel-rich and screen mixing gasdynamic laser concepts, performance 9-36878
 CO₂, blood conc. meas. using P electrodes 9-20725
 CO₂, CW closed-cycle technological laser with 6 kW output power 9-27291
 CO₂, CW electric discharge lasers, mode medium interaction 9-36876
 CO₂, CW electric discharge laser, output beam props. 9-36877
 CO₂, CW sequence laser lines generated using incavity NH₃ cell 9-18438
 CO₂, change of state, student demonstration expt. 9-40325
 CO₂, chemisorbed on W (100) surface, UPS studies 9-23841
 CO₂, circulation in human organism, model (Russian) 9-2093
 CO₂, climate and society, IIASA conf. (Laxenburg, Austria, 1978 February 21-24) 9-8679
 CO₂, coadsorption with O₂ on Mo, AES and SIMS obs. 9-46928
 CO₂, combustion gasdynamic laser, working cpds. simulation (Russian) 9-27239
 CO₂, compact sealed TEA laser, single mode operation 9-968
 CO₂, content of ocean water, gradual increase 9-29786
 CO₂, decaying discharge plasma, contraction in const. elec. field (Russian) 9-37447
 CO₂, dibutyl sebacate diffusivity, from aerosol drop evap. obs. 9-43639
 CO₂, dimer, geom. struct., by mol. beam deflection 9-27102
 CO₂, dimers in rare gas matrices, struct. determ. from IR spectra 9-10101
 CO₂, dissoci. in high-press. nonequib. plasma 9-15991
 CO₂, doped TEA laser, Penning ionisation 9-3678
 CO₂, effects on geothermal fluid buoyancy 9-44203
 CO₂, elastic electron scattering and rot. excitation calcs. 9-22834
 CO₂, electric discharge laser, free oscill. stimulated emission, nanosecond pulse duration 9-31860
 CO₂, electroionisation laser plasma mirror, soft X-ray emission for biological radiography 9-43983
 CO₂, electron correl., quadrupole excitation in correl. energy theories 9-36538
 CO₂, electron energy deposition, rel. to Venus and Mars atms. 9-45857
 CO₂, electron energy loss spectra, C K-shell excitation, vibr. struct. 9-22851
 CO₂, electron impact single and double ionisation cross-sections 9-3584
 CO₂, electron impact spectra, 35 keV electrons, Bethe surface and Compton profile 9-27091
 CO₂, electron transport coeff. calc. in counting gas mixtures 9-32727
 CO₂, electron-beam-controlled gas-flow laser, CW and pulse periodic lasing 9-7111
 CO₂, electrooptic constants, IR absorption spectrum in 2_v vibration band 9-3442
 CO₂, flux meas. in atm. boundary layer, eddy correl. method 9-25303
 CO₂, form. from fossil fuel combustion in atm., effect on climate 9-2359
 CO₂, free expan. of jet, nonequib. effect 9-27676
 CO₂, free molecule flow and interdiffusion, through porous glass 9-32658
 CO₂, fugacity at high temps. and press. from exptl. decarbonation reactions 9-16439
 CO₂, gas, electron-ion recombination, at 292K, three-body interaction 9-46418
 CO₂, gas, second virial coeffs., intermol. pot. at low temp. 9-46416
 CO₂, gas, total ionization created by completely stopped H⁺ ions 9-46419
 CO₂, gas flow laser, vibr. and translational temp. fields, panoramic spectrosc. obs. (Russian) 9-12868
 CO₂, gasdynamic laser with gas mixing, excitation efficiency 9-22934
 CO₂, gasdynamic lasers, amplifying characteristics, combustion product utilisation 9-27240
 CO₂, helical TEA laser, output power as function of discharge inductivity 9-10278
 CO₂, high power pulse, single-stage, electroionisation laser, tens of gigawatts 9-3704
 CO₂, high press. sealed-off laser amplifier characts. 9-18397
 CO₂, high temp. absorpt. meas. in 10.4 μm laser band 9-36870
 CO₂, high-power multibeam CW laser, parallel packed tubes in common resonator 9-13984
 CO₂, high-power pulsed laser continuously tunable over wide freq. range 9-45925
 CO₂, highly multimode pulsed electron beam laser, beam divergence 9-3731

carbon compounds continued

- CO₂ hybrid laser, operating regimes 9-22932
 CO₂, in burnt gases of combustion engines, laser action 9-45924
 CO₂, in dark interstellar clouds, abundance 9-35322
 CO₂, in stratospheric ion chemistry, reactions with O₂⁺, O₂ 9-2343
 CO₂, increase in ocean water masses, direct obs. 9-34854
 CO₂, increase rel. to Mesozoic greenhouse and climatic warming 9-20963
 CO₂, injection into supersonic stream containing CO, gain 9-31861
 CO₂, ionisation, energy dependence of W for alpha particles 9-6999
 CO₂, ionisation meas. and W₀ derivation for neutron irradiation 9-36430
 CO₂, jets, homogeneous condensation, similarity law 9-42229
 CO₂, kinetic cooling by laser radiation 9-31621
 CO₂, laser, CW, electrically excited (Japanese) 9-3676
 CO₂, laser, computer modelling, book 9-41364
 CO₂, laser, construction and excitation circuit 9-22968
 CO₂, laser, IR luminesc. of active layer (Russian) 9-31862
 CO₂, laser, Lamberton and Pearson type, shock wave detect. 9-36946
 CO₂, laser, photoinitiated impulse-enhanced elec. excited struct., operational characts. 9-27283
 CO₂, laser, pulsed transverse electrodeless discharge excitation 9-45958
 CO₂, laser, pulsed-sustained, gain and optical extraction meas. 9-27284
 CO₂, laser, saturable absorber using doped KCl 9-10363
 CO₂, laser, thermodynamic approach (Rumanian) 9-7109
 CO₂, laser, tri-n-propylamine in working gas 9-22935
 CO₂, laser, vac. UV preionisation source spectral characts. 9-31938
 CO₂, laser, volume discharge excited by electron beam, mag. field influence 9-27241
 CO₂ laser, with anisotropic resonator, radiation polarisation (Russian) 9-27309
 CO₂ laser amplifier chain, laser plasma isolator for retropulse 9-22959
 CO₂ laser beam, intensity fluctuations, spatial distrib. 9-18458
 CO₂ laser operating under free-oscillation conditions, nanosecond pulse emission 9-22933
 CO₂, laser sideband spectroscopy (German) 9-26975
 CO₂ laser with partial population inversion, 16 μm steady state action 9-36873
 CO₂ lasers, double discharge and photopreionisation types, comparison (French) 9-31855
 CO₂ lasers, transition strength of 00² 9.4 μm sequence band, appl. to IR isotope anal. 9-18395
 CO₂, liq. and gas, state of aggregation effect on 1.4 μm absorpt. bands intensities 9-27042
 CO₂, mol. quadrupole moments, mag. shielding and spin-rot. tensors 9-22609
 CO₂, needle laser improvements, preionization influence 9-31926
 CO₂, oscillating laser transition, band width meas. 9-3677
 CO₂, partial photoionisation cross-sections meas. 20 to 60 eV 9-31624
 CO₂, periodically pulsed laser, appl. isotope separation 9-27287
 CO₂, photodissoc., C I UV fluorescence spectrum obs. 9-13776
 CO₂, photoelectrocatalytic reduction in aq. suspensions of semicond. powders 9-39141
 CO₂, photoionisation, partial oscill. strengths 9-6973
 CO₂, photoionisation and photoelectron energy distrib. in thermosphere of Mars and Venus 9-2506
 CO₂, photoionisation laser with 300 J output energy 9-31939
 CO₂, plasma-chemical dissoci. in nonequib. UHF and high freq. discharges 9-15990
 CO₂, pulmonary gas exchange model, effect of ventilation-perfusion, diffusion-perfusion ratios (French) 9-8516
 CO₂ pulse-periodic elec. pumped gasdynamic laser, possibility of spontaneous circulation 9-45926
 CO₂ pulse-periodic laser, preionisation by electrodeless capacitive pulses 9-31937
 CO₂, pulsed TE laser, tunable single-mode operation by means of selective absorbers 9-36940
 CO₂, pulsed transversely excited waveguide laser design 9-27280
 CO₂, rapid discharge TEA laser, construction and performance characts. 9-3710
 CO₂, Rayleigh scatt. props., nephelometer meas. 9-29865
 CO₂, removal from simulated HTGR fuel reprocessing off gases 9-26577
 CO₂, repetitively pulsed electron beam laser operation 9-31943
 CO₂, sealed-off TEA lasers, size reduction and improved efficiency 9-31942
 CO₂, short-pulse laser high-pressure amplifiers, design engineering 9-36936
 CO₂, single-pulse laser, emission spectrum photographic recording by parametric conversion 9-10357
 CO₂, solid, energy loss of 0.5 to 2 MeV ⁴He ions, from backscattering meas. 9-4346
 CO₂, solid film, contaminant on cryocooled Ge optical window, IR transmission 9-32007
 CO₂, spectral line breadth in 15 μm band, N₂ broadened, 200-300K 9-22765
 CO₂, TE multiatmos. laser, 10 μm pulse generation and amplification 9-45981
 CO₂, TEA laser, field uniformity requirements 9-3675
 CO₂, TEA laser, homogeneous discharge development, preionisation conditions influence 9-18399
 CO₂, TEA laser, mode characts. using unstable resonators 9-3719
 CO₂, TEA laser, picosecond pulse generation using Ge optical switch 9-7159
 CO₂, TEA laser, pulse shaping by independent excitation of coaxial discharge systems 9-7150
 CO₂, TEA laser amplifier, high power short-pulse, efficiency enhancement 9-36872
 CO₂, TEA UV preionized laser, non-dispersive tuning 9-31856
 CO₂, thermal conductivity, 400 to 1500K, vibr. internal energy calc. 9-18986
 CO₂, thermal transpiration, theory and expt. comparison, molecular and transition flow 9-32579
 CO₂, thermally pumped gas-dynamic laser based on deformation and symmetric modes 9-36874
 CO₂, thermally pumped laser, He and Ar gas addition effect on small signal gain 9-22931
 CO₂ transfer in membrane blood transfer 9-25154
 CO₂, transition moment and probabilities of IR spectra 9-3498
 CO₂, transport kinetics through porous CaO formed by carbonate decomposition 9-23780
 CO₂ UV preionised laser discharge, large scale, aero-acoustic effects 9-36875
 CO₂ waveguide laser, parameters meas. 9-31859

carbon compounds continued

- CO₂ waveguide laser, saturation intensity, effect of wall deexcitation 9-924
 CO₂ waveguide laser with plane parallel mirror resonator 9-3715
 CO₂ waveguide lasers, engineering aspects 9-31941
 CO₂⁺ ¹H₂, mixed charact. state, vertical energy level MC-CI wavefunction 9-43644
 CO₂⁺, photoelectron and ion emission quantum yields, interelectronic state effects 9-6967
 CO₂¹³C animal exhalation meas. by liquid scintillation counting (*French*) 9-48384
 CO₂-air binary mixtures, flowing, probe for conc. meas. 9-4098
 CO₂-hydrocarbon mixtures, phase equilib. calcs., modified Soave eqn. of state 9-19353
 CO₂-methane, shock wave refr. at slow-fast gas interface 9-32573
 CO₂-N₂, CW mixing gasdynamic laser, saturation parameter and small signal gain 9-45923
 CO₂-N₂³He, laser, plasma diagnostics of media capable of lasing in nucl. reactor environment 9-10279
 CO₂-N₂-H₂O gasdynamic laser, water vapour condensation and mol. relax. processes 9-13946
 CO₂-N₂-H₂O gasdynamic laser, nonequib. flow calc. by relaxation formula (*Chinese*) 9-31853
 CO₂-N₂-He laser, pulsed microwave discharge pump, skin effect and gain 9-13945
 CO₂-N₂-He laser mixtures, electron swarm parameters, Boltzmann eqn. anal. 9-18396
 CO₂-N₂-Ne-H₂O mixture IR laser (*Russian*) 9-10323
 CO₂-O₂, O₂ electron attachment coeff. meas., O₂ partial press. depend. (*German*) 9-13821
 CO₂+Ar⁺, reaction kinetics, mass spectrometer with selective introduction drift tube (*French*) 9-11839
 CO₂+C Boudouard reaction, catalysed by Li₂O and Li₂CO₃, reaction rates 839-1050°C 9-16035
 CO₂+C⁺(N,H⁺), rate coeffs. meas. at 300 and 100K in flowing after-glow 9-20346
 CO₂+deuteromethane, time resolved fluoresc. for vibr. relax 9-31659
 CO₂+H₂, vibr. de-excitation of CO₂⁺(ν_3), 200K 9-45802
 CO₂+HCl, vibr. relax., 300-900K, by laser fluoresc. 9-31658
 CO₂+He, anisotropic intermol. pot. for differential scatt. cross-section 9-13788
 CO₂+He, Penning ionisation of target mol., for He(2³S) 9-41228
 CO₂+He(Ar), repulsive pot. energy surface, approx. calc. and differential scatt. expt., comparison 9-22788
 CO₂+He(Ar), rot. relax. rates and cross sections 9-848
 CO₂+N⁺, charge exchange, 1-3 keV, N⁺(³P) and (¹D) states 9-36760
 CO₂+Ne, fluoresc. spectra, mol. bands, 0.1 to 6 atm., 3000-8200 Å 9-3394
 CO₂+Ne⁺, thermal energy, reaction rate coeffs. and product distrib. 9-29333
 CO₂+Oⁿ⁺(Xeⁿ⁺)(Pbⁿ⁺), 50 keV, multiple scatt., target at. + energetic ion spatial correlation influence 9-27062
 CO₂+OH⁺(H₂O⁺), reaction, ICR obs. 9-8429
 CO₂+Xe⁺, charge transfer from ground and metastable states 9-31677
 CO₂+ZZ 9-13799
 CO₂+H₂O, reaction rate const., product distrib., ICR obs. 9-8428
¹²CO₂+Br(4²P_{1/2}), electronic-vibr. energy transfer, temp. depend. meas. 9-10136
 C₂O, liq., mol. conform. and orientation correlation 9-32877
 C₂O, liq., neutron diffraction studies at high momentum transfer 9-46525
 C₂O, ν_2 , $\nu_2+2\nu_2^0$ and $2\nu_2^0$ Raman band-accumulations 9-3449
 CO₂(ethane)-N₂O, gas phase thermal electron N₂O attachment mechanism, 5-120 torr 9-27085
 CO₂CO₂⁺, photodissoc. cross sections meas., 3500-8600 Å 9-24763
 COS, electron energy loss spectra, C K-shell excitation, vibr. struct. 9-22851
 COS+Ne⁺, thermal energy, reaction rate coeffs. and product distrib. 9-29333
 CO₂(X⁺Σ_g⁺)+Ar⁺(³P), T-R and T-V energy transfer, collisional energy depend. 9-18262
 CO₂(01⁰)+N₂(CO)(O₂), collisional deactivation rate const., 160-375K, photoacoustic obs. 9-10179
 CS, isotopic variants, IR absorpt. spectra, vibr.-rot. transitions 9-45720
 CS, isotopic variants, IR absorpt. spectra, $\nu=2-1$ hot band 9-45721
 CS, population inversion mechanism for rot. levels, interstellar medium appl. 9-21406
 CS₂, adsorpt. on Ti(Ta)(Nb) evaporated films, 195 to 473K 9-33197
 CS₂ as candidate for 3150 Å Venus band 9-40108
 CS₂, coherent Raman scattering with three lasers 9-23016
 CS₂, electron impact excitation of low-lying electronic states 9-10215
 CS₂, fluoresc. from third excited singlet state 9-22749
 CS₂ gas binary diffusion coeff. obs. in H₂, He, N₂, air and Ar (*Japanese*) 9-10627
 CS₂, high resolution X-ray emission, valence electron struct. and chemical bonding 9-31545
 CS₂, IR spectra, $\nu_1+2\nu_2^0+\nu_3$ band (*French*) 9-41162
 CS₂, in CCl₄, orientational fluctuations, depolarised Rayleigh relax. time obs., temp. and conc. depends. 9-4809
 CS₂, isotopic variants, $2\nu_1+\nu_3$ band IR spectra, rot. and rovibr. const. 9-41166
 CS₂ Kerr liquid filled nonlinear Fabry-Perot 9-27316
 CS₂, laser fluoresc., discrete and continuum, time and freq. resolved obs. 9-41195
 CS₂, liq., electronic optical Kerr effect, subpicosec. optical gating 9-46548
 CS₂, liquid, Raman spectra, effects of intermolecular forces 9-41177
 CS₂, mag. quenching of fluoresc. 9-31582
 CS₂, mol. quadrupole moments, mag. shielding and spin-rot. tensors 9-22609
 CS₂, photoelectron spectra (He II), Green's function anal. 9-27031
¹²CS₂, $\nu_1-\nu_2$ difference band assignments 9-45719
 CS₂-O₂, pulsed chemical laser and pulsed CO TE laser, comparative study 9-31876
 CS₂+O, reactive scatt. in supersonic at. beam 9-36753
¹²C¹⁶O+¹³C¹⁶O, vibr. distrib., electron impact excitation, isotopic composition, interaction depend. 9-29332
¹⁴CO₂, radiometric estimation of the replication time of bacteria in culture 9-16170
¹⁴CO₂ meas. in Karlsruhe Reprocessing Plant exhaust air 9-3231
 CaCO₃ inorganic precipitation in calcite-depositing spring 9-44202

carbon compounds continued

- Cl₂-CO₂ system, vapour-liquid equilib. (*Japanese*) 9-42258
 ClCN, and isotopic species, force field calc., freqs., rot. const. 9-22692
 Co, adsorption on Ni films, effect on galvanomag. and mag. props. 9-33364
 Co, fluoresc. of interstate intramol. perturbations 9-41194
 Co, vehicle generated, in atmosphere, correl. study 9-21012
 Co₂ Xe-He plasma discharge, electron conc. and temp., optical diagnostics method 9-41871
 Co₂-N₂-He, pulsed discharge with temp. and density gradient in cathode sheath 9-41899
 FCN, and isotopic forms, force field calc., freqs., rot. const. 9-22691
 He-CO₂-Xe, supersonic elec. discharge TEA laser, mag. field effects 9-7110
 KC₈ intercalation compound, H₂ chemisorption (*French*) 9-43624
 Na+CO(CO₂), total cross sections 9-27064
 O+I₂(CS₂)(OCS), crossed-beam investigation of translational energy 9-5145
 O₃+H₂S(OCS), SO chemiluminesc. in Ar matrix 9-5146
 OCB₂, IR spectra in Ar matrix, force const. (*German*) 9-36641
 OCS in Ar matrix, photolysis, S₂ and S₃ absorpt. spectra 9-5149
 OCS, mol. quadrupole moments, mag. shielding and spin-rot. tensors 9-22609
 OCS, multiphoton dissociation by IR laser 9-36710
 OCS, pure and seeded beams, rot. cooling, electric reson. meas. 9-13795
 OCS, rot. relax. cross section, beam maser meas. 9-31654
 OCS, seeded beam, rot. cooling 9-18266
 OCS, self-broadening linewidth parameters 9-18268
 OCS+He(Ar), rot. lines, collisional broadening 9-18267
 OCS+OCS, rot. transition, interpolation scheme 9-22776
 OCS₂, photolysis, Se(³S) prod., quenching of high concs. 9-6904
 S-O-C, equilibrium 550 to 1100°C 9-38807
 α-SiC, sintered, influence of B, C additives on microstructure, SEM exam. 9-8262
- carbon fibre reinforced composites**
 bonded Al-CFRP single lap joint strength 9-29328
 epoxy matrix laminate, containing interlaminar paper inclusions, AE monitoring 9-34229
 glass C matrix, graphitisation 9-15643
 graphite fibre reinforced Al, US effect on molten Al wetting of graphite during prep. 9-15629
 graphite fibre reinforced polyimide acoustic emission spectral anal. 9-47850
 graphite reinforced epoxy, accelerated characterisation procedure 9-34263
 graphite reinforced epoxy angle ply laminates, statistical fatigue in shear 9-11690
 graphite reinforced epoxy laminate plates with cracks, strain and failure anal. 9-29170
 graphite reinforced epoxy laminates, cracked, deformation and failure in biaxial stress fields 9-47763
 graphite reinforced epoxy laminates, imminent fracture detection using acoustic emission 9-20302
 graphite-epoxy composites, Thorne 300/Fiberite 1034, effects of thermal spiking on moisture absorpt. charact., tensile strength and buckling modulus 9-43330
 graphite-epoxy laminates, AS/3501-5, compressive fracture strength 9-43396
 graphite/epoxy laminates, stress meas. by X-ray diffr. from fillers 9-43331
 graphite/epoxy laminates, T300/5208, effect of curing stresses on first ply failure 9-43329
 integral composite joints, finite element and expt. eval. 9-11670
 orthopaedic implants appl., exam. of mech. props. 9-20706
 plastic matrix, angle ply specimen, calc. of strength and elastic response 9-20108
 plastic matrix, laminate, free-free plates, predicted and expt. natural modes 9-10520
 plastic matrix, moisture content effect on elec. resist. 9-38992
 plastic matrix, strain response to acoustic excitation, statistical props., comparison with Al alloy 9-43502
 plastic matrix, stress analysis of butt strap joint 9-43300
 plastic matrix, tensile testing using ring specimens (*Japanese*) 9-29148
 plastics matrix with mixed fibres, exam. of fracture toughness and shear strength 9-20151
 polymer coated graphite fibre-epoxy resin composites, prep., adhesion 9-15644
 thermal expansion 9-1513
 Al matrix, C-Al contact interaction kinetics 9-20007
 C based, appl. as refractories, toughness props. 9-38782
 C glass fibre hybrid plastics, review of mech. props 9-20107
 Cu matrix, electrodeposited, tensile strength (*Japanese*) 9-43333
 Cu matrix, thermal expansion and thermal fatigue (*Russian*) 9-38936
 Cu-Sn matrix, exam. of high speed tribological props. in friction expts. against steel 9-15809
 Cu-O-H₂PO₄ microconcrete, effect of C fibre on props. 9-43192
 Ni matrix, hot pressed and electrodeposited, strength 9-38898
- carbon fibres**
 see also carbon fibre reinforced composites
 cementation technique for coating with metal 9-39000
 graphitised, Br₂ and ICl intercalation and its removal 9-43561
 microvoids in pitch and lignite based fibres, X-ray scatt. exam., heat treatment and stretching effects 9-20091
 plasticizing and wettability-enhancing coatings 9-29252
 tensile strength, Young's modulus, high temp. obs. 9-20139
- carbon microphones** see microphones
- carbon steel**
 adsorption of Hg, effect on mech. strength, creep, fatigue embrittlement (*Russian*) 9-29267
 aluminised, hot dipped, phase composition anal. of alloy layer by X-ray, electron probe and hardness meas. 9-34192
 austenitic, recrystallisation and grain growth obs. with photoelectron microscope 9-47730
 bending fatigue resistance, size effect and prediction 9-43411
 brazed joints used in thermal power plants, corrosion resistance 9-43492
 carbide deposition on surface, exam. (*Russian*) 9-34200
 cavitation erosion, exam. of mechanism and rates 9-5063
 chromisation, influence on surface roughness (*German*) 9-11729
 cold strained effect of rapid treating on strain ageing (*Russian*) 9-11642

carbon steel continued

composite layered specimen influence of contact strengthening by intermediate layer, on fracture toughness (*Russian*) 9-15768
 compression, high strain rate, 1023 steel 9-34099
 corrosion and self protection in hot saline soln. 9-1925
 corrosion by freshwater (*Russian*) 9-1921
 crack, with straight front perp. to wire under tension, strain energy release rate, C 0.75% (*French*) 9-1136
 crack propag. and sealing, effect of thermal working (*Russian*) 9-34078
 crack propagation energy rel. to temp., time factors 9-29179
 diffusion couple with austenitic steel, diffusion of C, 773-1373K 9-19392
 ductile fracture under cold metal forming conditions, metallurgical struct. influence 9-34125
 electron bombardment, microstruct. and hardness 9-38956
 eutectic, YU8, effect of segregating structurally free ferrite (*Russian*) 9-15677
 eutectoid, microhardness determ., acoustic emission 9-15889
 fatigue, crack form, mechanism in type 45 9-38957
 fatigue, residual stress and crack growth expts., notch and surface treatment effects 9-8356
 fatigue crack propag. under periodic oversteering, design criterion (*Japanese*) 9-20166
 fatigue life prediction under programmed loading (*Japanese*) 9-20167
 fatigue strength, of notched specimens with regard for cyclic plastic strains of type 45 9-43414
 fatigue-freq. relationship for S20, 45, 0.1%C types 9-11707
 forgings, austenite grain refining, in type 25KhN3MFA 9-38864
 fracture criterion determination, using 3-point bending 9-29216
 friction in liq. Sn, Rebind effect (*Russian*) 9-29269
 hardened and tempered parts, nondestructive magnetic inspection 9-1929
 hardened layer structure and props. with intensive spray cooling and hardening, in type 45 9-38859
 herringbone specimen weld stresses rel. to heat-affected zone rigidity 9-29130
 heterogeneous structure, fracture characts. 9-38961
 high C, boring, boride case struct. 9-24665
 hot-rolled high quality sheet use of stat. maths. for NDT determ. of mech. props. 9-11749
 hydrogen (*Russian*) 9-29175
 hypereutectoid, form. of surface graphitisation centres (*Russian*) 9-11720
 hypoeutectoid, C22, recrystn., influence of carbides distrib. (*German*) 9-38850
 ion nitrided and ion-softnitrided, comparison of compound layers in S15C and S48C (*Japanese*) 9-8386
 ion-softnitriding effects on metallurgical props. of nitrided layer in S15C and S48C (*Japanese*) 9-5079
 loading wave shape effect on deform., failure, impact tensile strength of smooth specimen (*Japanese*) 9-29146
 low C, (*Japanese*) 9-8343
 low C, 9-24551
 low C, 10Kh2G3M, development of plastic deform., slip and dislocation struct. (*Russian*) 9-15722
 low C, γ - α transform., martensitic mechanism (*Russian*) 9-47682
 low C, cold rolled and recrystallised, containing Nb(CN) dispersion, struct. and textural aspect of deform. 9-47712
 low C, cyclic strain ageing effect on crit. stress for crack propag. 9-34124
 low C, deformed, comp. of precipitated carbonitrides, X-ray diffr. anal. (*Russian*) 9-20051
 low C, effective stress determ. during the loading cycle 9-38879
 low C, fatigue crack propagation in smooth specimen, strain ageing effect (*Japanese*) 9-20163
 low C, fatigue strength, low-cycle, effect of shock wave press. 9-29205
 low C, kinetic aspects of diffusion zone and compound layer formed during ion-softnitriding (*Japanese*) 9-15866
 low C, low cycle fatigue, cumulative damage, absorbed plastic energy anal. 9-38932
 low C, mechanical props., NDT methods 9-29176
 low C, microplasticity at high and low loading freq. (*Slovak*) 9-38910
 low C, Nb effect on cold resist. 9-38954
 low C, notched, fatigue strength, crack propagation, plastic torsional pre-work depend. (*Japanese*) 9-15744
 low C, notched specimens, brittle fracture stress, effect of ferrite grain size, notch acuity and notch length 9-20187
 low C, rolling deform., effect on NbC particle size distrib. 9-47717
 low C, specimens with notch and fatigue crack, fracture surface features 9-43417
 low C, temp. effect on hysteresis loop under cyclic load (*Japanese*) 9-20096
 low C, type 08Yu, influence of nonmetallic inclusions on microfailures, during strain (*Russian*) 9-34128
 low C, with various strain ageing potentials, tension compression fatigue (*Japanese*) 9-20162
 low-C, bond form. between powder layer and dense basis during hot pressing 9-24669
 low-C, Cr, ferritic, optimal heat treatment development 9-38869
 low-C, preliminary thermomech. treatment, cold deform. effect on struct. and props. 9-38847
 low-C, with Nb-B addition, transform. characts. and mech. props. (*French*) 9-43253
 machining, adhesion mechanism of built-up edge and layer on rake face of cutting tool 9-47784
 martensites, fractography, facets classification (*Slovak*) 9-20173
 martensitic points, effect of cooling rate (*Russian*) 9-43247
 mechanical props. rel. to heat treatment, ferrite-pearlite transform. (*French*) 9-20043
 medium, C, fatigue crack propagation under repeated two-step loadings above and below threshold condition (*Japanese*) 9-38945
 medium, C, type 35 laser treatment effect on struct. and mech. props. 9-39041
 medium C, 45, fatigue strength increase by plasma steel coatings, fretting corrosive cond. 9-15875
 medium C, 45, Ti+Al coated, failure during high temp. creep in NH₃ 9-11731
 medium C, drilling in liq. Sn-Zn eutectic, cutting conditions rel. to tool parameters (*Russian*) 9-34187
 medium C, fatigue crack accel. and closure in rotating bending tests, in annealed or quenched/tempered state 9-43383
 medium C, internal cracks in continuous casting billet and rolling products (*Chinese*) 9-43375

carbon steel continued

medium C, S 45 C, influence of mean strain on low-cycle torsional fatigue life (*Japanese*) 9-8348
 mild, AC-induced corrosion 9-15864
 mild, corrosion by Fe²⁺, inhibition by potassium oxalate 9-39019
 mild, experimental analysis of junction growth with a junction model 9-47783
 mild, fatigue crack propag., stress ratio effect (*Japanese*) 9-38946
 mild, fatigue life, effect of H₂S and SO₂ gas 9-15871
 mild, grain size depend. of cleavage fracture toughness 9-8359
 mild, junction growth mechanism during friction (*Japanese*) 9-32391
 mild, microstructure effect on cleavage fracture stress 9-8358
 mild, notch effect on impact fatigue strength (*Japanese*) 9-43400
 mild, oxidation of contaminated crevices exposed to CO₂ 9-20243
 mild, panels, electrodeposition painting, effect of surface pinholing 9-43493
 mild, plastic deform. during fatigue, detection by Barkhausen noise meas. 9-43524
 mild, residual stress meas., acoustoelastic, in a patch-welded disc 9-27604
 mild, S45C and SS41 types, dynamic yield condition under dynamic torsion and static tension 9-34214
 mild, sheet, with low Al content, annealing, AlN recrystn., precipitation kinetics (*French*) 9-20083
 mild, UV cured coating, protective and elec. props. 9-43489
 mild steel, circular plate perforation and deformation by square section punch 9-34100
 pearlites, microplastic deform. of drawn and undrawn samples (*French*) 9-1894
 plasma melting, N₂ absorpt., CO form. influence (*Russian*) 9-39193
 potentiodynamic behaviour, in conc. NaOH, cyclic voltammetric obs. 9-16006
 quality, effect of methodic factors on quality of S replicas 9-24691
 radioactive contamination under applied potential in high temp. water 9-24646
 rotating disc electrode in 3 wt.% NaCl solution, corrosion rate meas. (*French*) 9-43470
 rust prevention control by changing sulphide type 9-47813
 siliciding in US field 9-39043
 spring, 60C2A, tempered under stress, influence of tempering conditions on mech. props. (*Russian*) 9-47724
 spring, compressed, patented wire, reverse elastic aftereffect and fatigue strength 9-38881
 steel, C, bainitic hardenability, overheating effect 9-38866
 strain ageing, essential work of plane stress ductile fracture 9-29187
 strain ageing, of types AISI 1008, 1020, 1035, reinitogenized 1010 and 1522, changes in tensile notch impact and fatigue props. 9-43288
 strength, static, dynamic, interrelation 9-15725
 strip, low-temp. strength and brittle fracture susceptibility of type 1792AF 9-38966
 structural, grain boundaries, AES 9-24524
 structural strength, increase by high temp. mech. treatment with austenite isothermal decomp. 9-24555
 surface deposit of ZrC, exam. of composition (*Russian*) 9-34201
 surface tension and limit wetting angle in contact with CaO-SiO₂-Al₂O₃-Na₂O-CaF₂ melts (*Czech*) 9-37908
 surfacing, self-shielding flux-cored wire development 9-8402
 temperature monitoring system used during mech. deform., stress anal. appl. 9-12796
 textured, rolled, REK and lattice strain distrib. (*German*) 9-29095
 thermal stresses, spontaneous relaxation 9-1892
 tube blanks, mech. props., statistical determ. 9-29316
 wear, struct. changes in centres of galling 9-38985
 wear during impact, effect of C content 9-38986
 wear resistant, review of abrasive adhesive and rolling wear (*Korean*) 9-24624
 weldable, ferrite-pearlite, Widmanstätten structs., resist. to fracture 9-29203
 weldable, precipitation hardening rel. to low cycle fatigue (*Czech*) 9-15686
 X-ray line fitting by Gram-Charlier distrib., appl. to tension test (*French*) 9-15689
 yield and breaking strength, US exam. 9-15755
 yield point determ. rel. to grain size, deform., ageing and temp., dislocation theory (*Serbian*) 9-34120
 Cr diffusion coating ductility, on types 45, 50, U8, U10 9-43357
 steel, C, eutectic, YU8, effect of segregating structurally free ferrite (*Russian*) 9-15677

carbon tetrachloride, CCl₄ see organic compounds

carcinotrons

No entries

cardiology

see also blood; electrocardiography; haemodynamics

aortic valve mechanics, material props. of natural porcine valves 9-39440
 aorto-coronary saphenous bypass surgery, ²⁰¹Tl myocardial perfusion scintigrams 9-25068
 arterial system and cardiac activity, optimum tuning model (*German*) 9-16225
 artificial heart, bench test technique 9-48366
 artificial heart, simulation of fluid dynamics (*Japanese*) 9-43954
 artificial heart and assisted circulation apparatus, hydrodynamic test bench rigs 9-48372
 artificial heart designs compared 9-48367
 artificial heart valve closing element, kinematics photoelectric recorder 9-48370
 biotelemetry, conf., Garmisch-Partenkirchen, W.Germany (May, June 1978) 9-43980
 blood gas and acid-base calculations, electronic data computing 9-25139
 blood pool, dynamic radio-isotopic images, time-motion display 9-5347
 blood pool visualisation, ^{99m}Tc labeled red blood cells and serum albumin 9-29601
 blood pressure control system dynamic behaviour identification 9-2097
 blood pressure waves, physiological interpretation of spectra, heart rate, respiration waves 9-29540
 cardiac electrodes, safe voltage limits 9-16344
 cardiac function, reliability of noninvasive methods for meas. during exercise 9-16231
 cardiac stimulator for evaluation of mech. and elec. responses 9-44058
 cardio-pulmonary system, thermal indicator heat and mass transfer, pulse flow 9-25018

cardiology continued

cardio-pulmonary system, thermal indicator heat and mass transfer, pulse flow 9-25017
 cardiostimulator, implanted, contactless rhythm indicator 9-39602
 cardiovascular activity, piezoceramic acceleration transducer recording 9-39536
 cardiovascular and respiratory system dynamics (*French*) 9-34585
 cardiovascular disease diagnosis, US appls. (*Russian*) 9-39456
 cardiovascular function, effects of noise exposure, rhesus monkey study 9-5322
 cardiovascular system simulation by elec. compartmental model 9-5388
 chest motion due to heart action, imaging by holographic interferometry 9-20699
 circulatory variables, power spectra of spontaneous variations 9-29538
 computer cardiography, methods and results of morphological anal. 9-34647
 computer graphic techniques for heart damage quantification 9-29654
 coronary artery disease, sensitivity and specificity of ^{201}Tl perfusion scintigrams 9-25069
 dynamic cardiac imagery, gross and segmental motion analysis 9-25093
 echocardiograms displayed on CRT using multilayer 3D adapter 9-18498
 echocardiographic tracking, digital range-gating 9-16260
 echocardiography, binocular stereoscopic display system 9-48297
 echocardiography, safe method for acquiring morphological and functional data (*German*) 9-16261
 ejection cct., age and compliance effects on cardiac function curves and systolic pressures of rat heart (*French*) 9-34588
 electromechanical field model and computation, inverse problems 9-39400
 flying fitness assessment, cardiology and pulmonary function findings, conf., London, England (Oct. 1977) 9-39531
 foetal heart rate variability monitoring by digital filtering 9-48353
 gamma-camera for gated carotidovascular imaging 9-5367
 gated cardiac studies, data processing system 9-25091
 haemodynamic problems associated with cardiac prostheses (*French*) 9-34590
 heart adaptation to large loads structural changes simulation 9-5258
 heart attacks correl. with geomag. activity 9-39424
 hydromechanical simulation facility 9-20708
 indicator dilution method, Stewart-Hamilton eqns. 9-16334
 intracardiac pressure measurement, using fibre optic catheter tip press. transducer 9-2150
 isobaric contraction system for left ventricular performance analysis (*Japanese*) 9-29677
 left heart failure, effects on lung regional differences 9-25076
 left ventricle, effects of external pressures on pressure-volume relation 9-11954
 left ventricular angio processing using Contourmat hard-wired system 9-16325
 left ventricular angio processing using Contourmat hard-wired system 9-16326
 left ventricular function, correlation with myocardium deformation 9-16244
 left ventricular pressure/volume relation, large-deformation model (*Japanese*) 9-2091
 magnetocardiography, magnetometers for very weak fields 9-30510
 mechanical function assessment methods (*Japanese*) 9-2148
 minicomputerized automatic radiocardiogram analysis (*Japanese*) 9-29614
 mitral valve leaflets, mathematical anal. 9-39435
 muscle and heart, apparent source resistance 9-25005
 muscle cells, Na current, electrophysiological studies, rat 9-43838
 muscle fibre, stresses in left ventricular wall, biaxial stress-strain relations 9-29558
 muscle mechanics, relation with zero-load aortic flow 9-29548
 myocardial blood flow, meas. by fractional uptake of ^{84}Rb and microspheres 9-34656
 myocardial dimensioning system, pulsed ultrasound method 9-48298
 myocardial imaging studies, prod. and characts. of ^{81}Rb 9-29628
 myocardial imaging using ^{201}Tl , collimator evaluation 9-34657
 myocardial infarction, $^{99\text{m}}\text{Tc}$ pyrophosphate scintigrams for diagnosis, localisation 9-5350
 myocardial infarction dimension model and FORTRAN program (*Russian*) 9-2038
 myocardial perfusion images using ^{201}Tl , quantitative evaluation methods 9-39479
 myocardial scintigrams, specificity of $^{99\text{m}}\text{Tc}$ pyrophosphate in prior infarction cases 9-39476
 myocardial scintigraphy, sequential, following myocardial infarction, using $^{99\text{m}}\text{Tc}$ stannous pyrophosphate 9-39474
 myocardial scintigraphy using $^{99\text{m}}\text{Tc}$ pyrophosphate, correls. with coronary-artery bypass surgery 9-39475
 myocardial tissue, relationship between collagen and US attenuation 9-43973
 myocardium, contractility determ., anal. of differential quotients 9-34584
 myosin heads movement during a heart beat 9-48207
 nuclear, computer system 9-25094
 nuclear cardiography, deadtime meas. in scintillation cameras 9-16276
 nuclear images, digital technique for accurate change detect. 9-48326
 nuclear-medicine image display system, dynamic physiological function visualisation 9-5396
 one-sided cardiac failure differentiation by planimetric electrokymography 9-43990
 output and shunts, automatic computation from indicator dilution curves 9-48359
 parameter estimation, cardiovascular, nonlinear filter statistical parameters optimal choice 9-5308
 pericardial potential simulation and mapping in dog 9-39399
 personnel exposure during cardiac catheterisation, calc. technique using time-lapse photography 9-39504
 prosthetic aortic valve mechanics, apparatus for in vitro study 9-44054
 prosthetic heart valve models, effect of channel diffusion, cut-off element on hydrodynamic resistance (*Russian*) 9-44053
 pump stimulation, association with positive inotropy in cat 9-16196
 Purkinje fibre, Na current 9-43861
 Purkinje fibres, rabbit, Na channels 9-43828
 Purkinje fibres, sheep, intercellular clefts effect on elec. props. 9-34522
 radioisotope image, anal. of high speed multicrystal gamma camera recording 9-25077
 regional myocardial function quantitative parameters 9-25095
 rhythm disturbances, Markov process model (*German*) 9-2019

cardiology continued

single myocardial fibre model, source-field relationships 9-39385
 sound frequency shifting stethoscope 9-29647
 thoracic electrical impedance sensitivity to blood volume changes 9-34543
 tissue resistivity, intramural meas. 9-39388
 US scanner, real-time rotating transducer, for heat and abdomen exams. 9-20603
 valve dynamics, fluid physics appls. (*French*) 9-34589
 valve prosthesis design, role of simulation studies 9-12033
 valvular regurgitant fraction meas. by radionuclide angiocardiology, iterative estimation 9-34668
 vectorcardiographic P loop correlation with left atrial volume echocardiogram 9-44025
 ventricular, pressure, noninvasive meas. based on Doppler effect 9-5384
 ventricular aneurysms, mechanical behaviour, mathematical model 9-11953
 ventricular programmed pulse generator, testing by waveform generator and cardiac simulator 9-16351
 ventricular Purkinje fibre, electrophysiological and histological props. 9-39396
 video-sync mixer for cassette videotape recording of computer images 9-29604

carrier avalanches see impact ionisation

carrier density

see also current density; electron density; electron density (metals)
 ferroelectric semiconductor, phase boundary structure 9-11398
 ferromagnetic degenerate semiconductor, magnon spectrum near instability of homogeneous state 9-28516
 gain-guiding stripe-geometry DH semiconductor laser oscillation characteristics 9-45945
 heavily doped semiconductors and devices, review 9-47039
 junction device, injected carrier detect. by IR emission 9-38151
 many-valley semiconductor, impurity band for screened impurities 9-47053
 MOSFET, ionic scatt. effect on Shubnikov-de Haas amplitudes in Si inversion layers 9-42653
 polyethylene, linear, films, elec. cond. rel. to drawing, annealing (*Japanese*) 9-15817
 self-oscillatory semiconductor medium, coupled temp. and carrier density self-oscills., photoelectron heating, microwave field 9-11166
 semiconductor, Auger recombination, carrier density depend. 9-38089
 semiconductor, impurity band props. 9-23888
 semiconductor, optical generation of carriers under Franz-Keldysh effect conditions, instability 9-24017
 semiconductor electron-beam-pumped laser, carrier distrib. and collection efficiency 9-31902
 semiconductor layers, measurement technique using a long gate MOSFET structure 9-47178
 semiconductors, doped, IR absorpt. in Drude tail, effect of finite electron densities 9-47449
 AlGaAs DH stripe geometry lasers, spontaneous radiation, carrier conc., and threshold current, luminesc. meas. 9-36898
 Al_{0.9}Ga_{0.1}As MBE layers, ionized beam doping, elec. and optical characts. 9-37721
 As, rhombohedral, nucl. quadrupole spin-lattice relax. 9-15373
 Ba-ferrite, temp. range 303 to 353K 9-42564
 Bi, transverse magnetoresistance, field depend., static skin effect 9-11149
 Bi_{1-x}Sb_x, thin films, elec. props., 4.2-300K, charge carrier conc. (*Russian*) 9-24087
 Cd_{0.96}Cu_{0.04}Cr₂Se₄, single cryst., temp. depend. 9-7848
 Cd,Hg_{1-x}Te films, epitaxial growth, optical, elec., and photoelec. props. 9-11512
 Cd,Hg_{1-x}Te, strong elec. field effect on galvanomagnetic effects 9-11159
 CdS single crystals, depend. of radiative props. on equilib. carrier density 9-19932
 CdSb, monocrystalline film, prep., elec. props. 9-43159
 Cu_{0.67}Cr_{0.33}Te₂, polycrystalline mag. semicond., mag. and elec. props. 9-7846
 n-GaAs, and Te doped, homogeneity, IR introscopy investig., carrier density and mobility calc. 9-15446
 GaAs epilayers and p-n junctions, anisotropic phonon generation 9-37784
 n-GaAs, epitaxial, thermoelec. power, temp. depend. in mm wavelength range 9-23996
 GaAs epitaxial layers fast characterisation, electroless plating of Au 9-33347
 n-GaAs, far IR propag. of surface EM waves 9-42615
 GaAs, MBE, growth temp. depend. and characts. 9-28946
 GaAs n⁺Zn⁺ epitaxial multilayers, carrier conc. from Fourier transform anal. of magnetoresist. signal 9-38205
 GaAs, p- and n-type, and Zn-diffused, spreading resist. meas. 9-28343
 n-GaAs, surface recomb. vel. meas., diff. from transient optical grating 9-1604
 GaAs, wide-gap semiconds., HV diodes, current-voltage characts. 9-24068
 p-GaAs:Be, ion implanted, annealing characts., defect cond. profiling, electron diff. obs. 9-4318
 n-GaAs:O film, influence of O on elec. props. 9-11252
 GaAs:Se(Te), laser annealed, donor implanted, elec. props. 9-4556
 GaAs:Si, electrical activity of Si 9-15145
 GaAs:Si, LED, effect of struct., defects on quantum efficiency 9-11211
 n-GaAs:Sn(Te), pure and doped, diffusion of Sn, radiotracer profiles 9-23782
 GaAs:Zn MBE layers, ionized beam doping, elec. and optical characts. 9-37721
 Ga_{0.9}In_{0.1-x}As_{1-x-y}P_yGe(Sn)(Te), epitaxial film, elec. and optical props. 9-11251
 GaP layers, LPE growth, elec. props., residual impurities 9-38202
 GaP, luminesc. from electron-hole drops, 2 to 77K 9-11454
 GaSb and GaSbAs_{1-x} films, MBE growth and elec. props. 9-23863
 p-GaSb, elec. cond., Hall effect, mobility and carrier concentration (*Russian*) 9-19603
 n-GaSb:Te, Hall coeff., carrier conc. and mobility, elec. cond., 290 to 550K (*Russian*) 9-19604
 GaTe, Hall mobility, resistivity anisotropy 9-11150
 p-Ge, bleaching, optical heating and cooling of electrons involving intraband transitions 9-10365
 Ge, electron-hole correlation density depend., in electron-hole liq., under uniaxial stress 9-15090
 Ge, energy-gap narrowing and state filling under laser irradi. 9-42441

carrier density continued

- Ge, low temp. recombination into shallow donors, transient case 9-38092
p-Ge, optical cooling and carrier heating, intraband photocond. meas. 9-11174
G-O, elec. props., O interaction with point defects 9-11081
n-Ge/Sb, fast electron irradi. at 77K, radiation defect changes by annealing at 220K 9-37737
Ge-Si alloy, epitaxial growth by getter sputtering, characts. 9-28915
Hgl-xCdxTe, epitaxial layer, vapour phase growth 9-1829
InAs epitaxial layers, on GaAs substrate, electron diffraction and SEM exam., electronic props. 9-1552
InAs heteroepitaxial layers, VPE grown, effect of AsCl₃ mole fraction on elec. props. 9-11255
InAs:Cr, high-resist., energy positions of deep levels, elec. and optical props. 9-7807
In_{1-x}Ga_xAs_{1-y}P_y-Be, ion implantation, hole conc. and mobility, junction depth 9-46685
InO₃:Sn film, prep. by spray hydrolysis, struct., elec. and optical props. (Japanese) 9-42678
InP, n- and p-type, surface recomb. vel. meas., diffraction from transient optical grating 9-1604
InP, synthesis solute diffusion grown, elec. props., photoluminesc., etch pit profiles 9-4914
InP, vapour phase epitaxial growth in presence of O₂, elec. props. 9-46971
InP:Be, ion implantation, hole conc. and mobility, junction depth 9-46685
InP:Sn, LPE growth from Sn soln., elec. props., 80 to 300K 9-11250
InSb, horizontal zone melting in vacuum 9-47624
n-InSb:Zn, Zn diffusion out of implanted layers, free hole distrib. 9-10984
NH₄ClO₄, elec. field effect on decomp., novel charge-carrying species detect. method 9-15987
PbI₂, electron hole elec. polarisation expt. 9-24023
PbO₂, pressed powder, Hall voltage and change of cond. in transverse mag. fields 9-4567
PbS_{1-x}Se_x, diffused homojunction diode laser, carrier conc. profile photon confinement 9-18415
PbSnTe IR detectors, spectral response depend. on surface carrier concentration (Japanese) 9-44929
Pb_{1-x}Sn_xTe, lattice instability and phonon-width, carrier conc. and composition depend. 9-14906
Pb_{1-x}Sn_xTe, narrow gap solid solns., mag. susceptibility and energy band spectrum 9-28276
(Pb_{1-x}Sn_x)_{1-y}Te_y system, VPE parameters influence on epitaxial film props. 9-28229
p-PbTe, Fermi surface parameters depend. on carrier density, Shubnikov-de Haas oscils. 9-42435
PbTe:Ti, effect of impurities on transport props. 9-11158
p-PbTe-M, M=In, Pb, Zn, Cu, barrier props. 9-7898
Sb, current carrier concentration charge, under pressure (Russian) 9-7824
Si, Auger recomb. coeff. meas. using laser excitation 9-38654
Si, Auger recombination, localized and free carrier comparison 9-38090
Si, diffusion coeff. of Se, by sheet Hall coeff. meas. 9-46843
p-Si, electron irradi., influence of acceptor impurity conc. and irradi. temp. on defect formation 9-19281
Si, high level photogeneration, absorpt. and free carrier distrib. 9-33309
n-Si plate, effect of nonequilibrium carriers on IR transmission 9-38548
Si, thermal donor generation in temp. range 600-800°C 9-11121
Si wafer doping, by thermal neutron irradiation, charge carriers behaviour obs. (Japanese) 9-42484
Si:B, polycryst., effect of laser annealing on struct. and elec. props. 9-11243
Si:B(P) impurity conc. profile determ. by anodic oxidation 9-28010
Si:P, ion implanted, selective annealing of amorphous layers by Nd³⁺:YAG laser irradi. 9-14823
n-Si:P, low-compensated, Hall factor, electron-phonon interactions 9-4570
Si-Au-P system, partition coeff. of P, temp. depend. 9-43158
SnSe, single crystals, growth by Bridgman technique, electron diffraction, lattice const., carrier conc. 9-47616
(TSeTe)₂Cl complex, metal-semimetal transition, magnetoresist. and cond. (Russian) 9-38138
Te film, on TGS substrate, ferroelec. field effect 9-42675
ZnO ceramic varistors, trapping by localized states, effect on dielec. and elec. props. (Russian) 9-28671
ZnTe, single cryst., electron-hole drop conc. (Russian) 9-11460

carrier diffusion length *see carrier lifetime***carrier lifetime**

- cascade capture of charge carriers in quantised mag. field, appl. to many-valley semicond. (Russian) 9-4572
EBIC technique, resolution limits in determ. of diffusion lengths in semiconductors 9-21865
II-VI semiconductor, self-interaction dynamics of Nd laser radiation 9-27342
minority carrier diffusion length determ., using angle-lapped p-n junctions 9-42631
minority carrier exclusion 9-42561
semiconductor, carrier capture by attractive centres in strong elec. fields 9-11144
semiconductor, elec. parameters determ. by electron probe method 9-9259
semiconductor devices, resistivity and lifetime inhomogeneities, laser scanning method detect. 9-30489
semiconductor laser, stimulated emission threshold, surface recombination influence 9-10311
semiconductor laser damage, role of carrier diffusion 9-19954
SOS films, carrier recomb. props., magnetosensitive method 9-38186
SOS films, surface recomb. profile and transport parameters 9-33357
UV transparent material, multiphoton-induced cond. and free carrier lifetime 9-19629
Al-Al₂O₃-InSb MIS structures, recomb. processes and carrier lifetimes 9-38177
AlGaAs-GaAs heterostructure, minority carrier lifetime, photon recycling effect (Japanese) 9-42556
n-Al_{1-x}Ga_xAs, variable-gap solid solns., diffusion length, photolum. meas. 9-38659
(As₂S₃)_{0.55}(Sb₂S₃)_{0.45} vitreous film, dispersive charge transport, time-of-flight meas. 9-19594

carrier lifetime continued

- Cd_{1-x}Hg_xTe, photodetectors, recomb. processes, photoconductive decay obs. 9-38129
Cd_{1-x}Hg_xTe, Auger effect, temp. depend. of Auger lifetime 9-38097
Cd_{1-x}Hg_xTe films, epitaxial growth, optical, elec., and photoelec. props. 9-11512
CdS-CuInSe₂ solar cells, grain boundary and interface recomb. effects 9-39311
p-CdTe:Cl, mech. of electron recomb. 9-11176
CuInS₂, minority carriers lifetime, photoelectromag. effect meas. 9-47125
Cu₂S, photon and electron excitation phenomena 9-7865
GaAlAs DH laser, optimum p-n junction depth, photoluminesc. method 9-4598
GaAlAs DH lasers, electron-hole recomb. effects 9-45944
Ga_{0.5}Al_{0.5}As-GaAs(Ge) DH structure, minority carrier lifetime and internal quantum efficiency of surface-free GaAs 9-43013
GaAs LED, minority carrier lifetime determ. 9-42560
GaAs LED, optimum p-n junction depth, photoluminesc. method 9-4598
GaAs, lightly doped, p-n structure, parameters of nonequilibrium carriers, transient photoeffect method 9-11143
GaAs MOS capacitor fabrication and transient response for minority carrier lifetime meas. 9-47103
n-GaAs, surface recomb. vel. meas., diffraction from transient optical grating 9-1604
GaAs:Te, microcathodoluminesc. of effect of struct. defects on radiative recomb. 9-11475
GaAs-Al_{0.5}Ga_{0.5}As heterostructure, photon recycling, diffusion length and lifetime determ. 9-47499
GaP, epitaxial layers, dislocation recomb., SEM cathodoluminescence studies 9-42558
GaP:N VPE LED, deep level centres, DLTS studies 9-42493
GaP:N VPE layers, thermal emission energies, trapping, and carrier lifetimes, deep level capacitance spectroscopy 9-42487
n-GaSe, photomagneto- and photocond. current spectral distrib. 9-42585
Gap-Ge, compensated, photosensitivity 9-19624
p-Ge, detector-grade single crystals, impurity background effect on minority-carrier lifetime 9-11088
Ge, electron-hole correlation density depend., in electron-hole liq., under uniaxial stress 9-15090
n-Ge, γ-irrad. and subjected to arbitrary excitation and rate, recombination 9-38101
Ge recombination characteristics used in design of semicond. devices (Russian) 9-42557
p-Ge:Ga(Sb), proton irradiated, kinetics of accumulation of radiation defects, minority carrier lifetime 9-10885
Ge-Te-Se/Si amorphous film-cryst. heterojunction, electron-beam-induced current 9-24060
Hg_{0.68}Cd_{0.32}Te photodiode, minority carrier lifetime determ. 9-38084
nHgl-xCdxTe, single-phonon and plasmon recomb. lifetime effect, with magnetically tuned bandgap 9-38098
InP, n- and p-type, surface recomb. vel. meas., diffraction from transient optical grating 9-1604
n-InSb, recomb. of hot electrons, photoelectromag. and dynamic photocond. meas. 9-38081
PbI₂, photoelectromagnetic investigation, expt. 9-24010
Pb_{1-x}Sn_xTe, epitaxial layers, carrier lifetime meas. 9-42559
PbTe epitaxial films, carrier recomb. and deep levels, photocond., Hall effect, and luminesc. meas. 9-38024
PbTe, epitaxial layers, carrier lifetime meas. 9-42559
Si, Auger recombination, localized and free carrier comparison 9-38090
Si, CVD film, transport props. 9-24089
Si, carrier generation in depletion layer, effect of stacking faults 9-23983
Si diode, transient switching duration, linear carrier lifetime, emitter efficiency and Auger recomb. coeff. determ. 9-11207
Si, heavily doped, bandgap narrowing and diffusion length meas. 9-7781
Si, minority-carrier diffusion length and drift mobility determ. using a modulated SEM beam 9-19607
Si, nonideal, lifetime and diffusion length rel. to solar cell appl. 9-15192
Si p-n junction, forward bias capacitance and current meas. for lifetime and band narrowing detn. 9-7892
Si, polycrystalline, grain boundary effects on minority-carrier diffusion length and solar-cell efficiency 9-48124
Si recombination characteristics used in design of semicond. devices (Russian) 9-42557
Si solar cell, carrier lifetime meas. from transient photoresponses of pulsed laser (French) 9-24898
Si solar cells, light-enhanced diffusion length obs. by DC photocurrent meas. 9-39301
Si:P, annealed, minority carrier lifetime 9-23985
Si:P solar cell, minority carrier lifetime degradation during ion implanted processing, surface photovoltage 9-39305
Zn₃P₂, characteristics for photovoltaic appl. 9-7839

carrier mean free path*see also electron mean free path (metals)*

- polyglycine chain, electronic struct. and transport props., ab initio Hartree-Fock crystal orbital calc. 9-42448
polyglycine chain with hydrated side group, electronic struct., transport props. 9-16146
semiconductor, carrier distribution function in inhomogeneous regions 9-11146
TCNQ salts, (N-methyl pyridine) (TCNQ)₂, struct. and cond., 280 to 340K 9-23955
Bi, film, evaporated, elec. and elastoresistance props. 9-33367
Cd, carrier mean free path, temp. depend. 9-7822
PbTe films, thermal cond. and elec. props., 4.2 to 300K 9-28162

carrier mobility

see also carrier mean free path; carrier relaxation time; current density; electron-hole recombination; electron mobility (metals)
amorphous material, trap-controlled transient current injection 9-23984
anisotropy determ. by photoelectromag. effect and photocond., method and appl. to Hgl₂ 9-38126
anthracene, drift mobility expts., arrival-time detection 9-33308
anthracene, liq. chromatography, sublimation, zone refining, exciton fluorescence, mobility meas., melt grown crystal 9-38736
anthracene, temp.-independent mobilities, phonon-induced electron hopping 9-28347
azulene, drift mobility expts., arrival-time detection 9-33308
biological system, advantage to low electronic mobility 9-39346

carrier mobility continued

charged particle mobility, elec. field depend., parity and differentiability restrictions in liquids and gases 9-38141
 crystal, ionic, X-ray K absorpt. fine struct., relative hole mobility influence (*Russian*) 9-47542
 degenerate semiconductors, empirical approxs. appl. to generalized Einstein relation 9-23970
 diamond detectors, elec. props. and performance for α - and β -particles 9-36481
 dielectric, carrier-dominated, low-frequency dispersion 9-47380
 ethyl cellulose films, secondary ion injection 9-24094
 fluorenone derivatives as electron transport materials, electron affinity and electrochemistry, rel. to photocond. 9-38127
 n-Ge, noise and hot carrier diffusion in mag. fields 9-11193
 Hall mobility measurement in specimens in strong pulsed elec. fields 9-35779
 higher polymer films, steady Gunn type oscillations, origins (*French*) 9-28351
 III-V semiconductors, transport phenomena, review 9-19587
 localization aspect of electron phonon-coulomb system 9-7793
 many valley semiconductor, intervalley transfer of population by ambipolar diffusion 9-11128
 minority carrier exclusion 9-42561
 Monte Carlo simulation 9-33274
 naphthalene, temp.-independent mobilities, phonon-induced electron hopping 9-28347
 Onsager model, time-depend. quantum efficiency 9-11194
 organic molecular crystals, anomalous elec. field depend. of temp. independ. electron mobilities 9-42548
 poly-n-epoxypropylcarbazole electrophotographic layers, photogeneration and drift mobility 9-19631
 polyethylene, carrier mobility determ. by current oscillation method 9-28344
 polyethylene, high density, carrier transport 9-33288
 polyethylene film, high density, anomalous transient currents around 50-70°C 9-33368
 polyethylene films, electron beam irradi., carrier mobilities 9-1600
 polyglycine chain, electronic struct. and transport props., ab initio Hartree-Fock crystal orbital calc. 9-42448
 polyglycine chain with hydrated side group, electronic struct., transport props. 9-16146
 polyvinylcarbazole, amorphous, hopping transport, reinterpretation of mobility meas. 9-42563
 protein-methylglyoxal complex, electronic props., energy band cond. 9-24936
 relaxation process in quantising mag. field, elastic scatt. mechanisms, relax. matrix 9-15166
 self-oscillatory semiconductor medium, coupled temp. and carrier density self-oscill., photoelectron heating, microwave field 9-11166
 semiconductor, defect interactions, radiation physics (*Russian*) 9-46702
 semiconductor, intrinsic and injected electron-hole plasmas, one-dimensional drift and diffusion of carriers 9-11163
 semiconductor, microwave magnetoconductivity in large quantising mag. field, effect of band non-parabolicity 9-47112
 semiconductor, nonequilibrium carriers, diffusion in alternating elec. field 9-11133
 semiconductor, optical generation of carriers under Franz-Keldysh effect conditions, instability 9-24017
 semiconductor carrier scattering by ionized impurity potentials incorporating spatially variable dielectric functions 9-42535
 semiconductor layers, measurement technique using a long gate MOSFET structure 9-47178
 semiconductors, n-type, metal-insulator transition and negative resist. effects 9-24026
 semiconductors, polycrystalline, electrical conductivity theories (*Czech*) 9-42537
 semiconductors, polycrystalline, phenomenological theory of Hall effect 9-11160
 semiconductors, spatially variable dielectric functions, ionized impurity limited mobility 9-42534
 SOS films, surface recomb. profile and transport parameters 9-33357
 stilbene, single cryst. under pulsed electron excitation, spectral and elec. characts. 9-7838
 TCNQ, electron mobilities from 210 to 350K using transverse photocond. meas. 9-19618
 TCNQ salts, (N-methyl pyridine) (TCNQ)₂, struct. and cond., 280 to 340K 9-23955
 trinitrofluorenone, amorphous, hopping transport, reinterpretation of mobility meas. 9-42563
 Ag₂S(Se)(Te), changes in elec. cond. and thermoelec. power at melting point 9-15147
 n-Al_{0.5}Ga_{0.5}As, variable-gap solid solns., diffusion length, photolum. meas. 9-38659
 Al_{0.5}Ga_{0.5}N epitaxial layers, growth and props. 9-11522
 As, thermopower and thermal cond. from 8K down to 0.3K 9-19610
 As-Te-Cu system glasses, elec. cond. and thermo-EMF 9-42540
 As₂S₃, temp.-independent mobilities, phonon-induced electron hopping 9-28347
 (As₂S₃)_{0.55}(Sb₂S₃)_{0.45} vitreous film, dispersive charge transport, time-of-flight meas. 9-19594
 As₂Se₃, amorphous, electron and hole transport, charge defect model 9-15162
 Ba-ferrite, temp. range 303 to 353K 9-42564
 BaTiO₃, melt grown, drift mobility meas. 9-19596
 BaTiO₃, transport and optical props., small polaron hopping theory 9-47096
 Bi_{1-x}Se_x thin films, elec. props., 4.2-300K, charge carrier mobility meas. (*Russian*) 9-24087
 Cd_{0.95}Cu_{0.05}Cr₂Se₄, single cryst., Hall mobility 9-7848
 Cd_{0.95}Hg_{0.05}Se, carrier mobility, 4.2 to 300K, scatt. mechanisms 9-4561
 Cd_{0.95}Hg_{0.05}Te films, epitaxial growth, optical, elec., and photoelec. props. 9-11512
 Cd_{0.95}Hg_{0.05}Te, strong elec. field effect on galvanomagnetic effects 9-11159
 Cd_{0.95}P_{0.05}, energy band struct. and electron mobility at low temp. 9-37984
 CdS, single cryst., melt growth, improvement of elec. characts. 9-38734
 n-CdS(Se), bipolar photocond. and acoustoelectric current 9-19636
 CdSb, monocrystalline film, prep., elec. props. 9-43159
 CdSb, phase diagram, region of homogeneity, elec. cond. 9-43219
 p-CdTe, bipolar photocond. and acoustoelectric current 9-19636
 CdTe, films grown by hot wall epitaxy, elec. props. 9-28420
 p-CdTe:Cl, mech. of electron recomb. 9-11176

carrier mobility continued

Er₂O₃:CaO, elec. cond. and nonstoichiometry 9-11112
 n-GaAs, and Te doped, homogeneity, IR microscopy investig., carrier density and mobility calc. 9-15446
 GaAs, diffusion coeff. of hot electrons 9-15156
 GaAs epitaxial layers fast characterisation, electroless plating of Au 9-33347
 GaAs, MBE layers, H₂ effect on residual impurities, photolum. obs. and elec. characts. 9-47636
 n-GaAs:O film, influence of O on elec. props. 9-11252
 GaAs:S(Se), ion implanted, evaluation by contactless mobility meas. 9-1448
 GaAs:Si, electrical activity of Si 9-15145
 GaAs:Si:Cr, under layer of SiO₂, effect of annealing, on electron concentration and mobility, and impurity distrib. 9-4323
 GaAs:Sn films, MBE grown, doping profiles, carrier mobilities, RHEED and AES obs. 9-1447
 GaAs-Al_xGa_{1-x}As modulation-doped heterojunction superlattices, electron mobility 9-7877
 Ga_{1-x}In_xAs solid solns., electron scatt. by isoelectronic impurities in covalent crystals. 9-11129
 Ga_{0.95}In_{0.05}P_{0.95}Ge(Sn)(Te), epitaxial film, elec. and optical props. 9-11251
 GaP layers, LPE growth, elec. props., residual impurities 9-38202
 GaSb and GaSb_{0.95}As_{0.05} films, MBE growth and elec. props. 9-23863
 p-GaSb, elec. cond., Hall effect, mobility and carrier concentration (*Russian*) 9-19603
 n-GaSb:Te, Hall coeff., carrier conc. and mobility, elec. cond., 290 to 550K (*Russian*) 9-19604
 GaSe:Sn, single crystal, transient photoconductivity (*Russian*) 9-11171
 GaTe, transport anisotropy 9-23975
 p-Ge, carrier drag by photons, comparison with p-GaAs 9-11185
 Ge film, prep. by low press. reactive deposition process and characterisation 9-24449
 Ge, multivalley struct., helical instability (*Russian*) 9-47101
 Ge:O, elec. props., O interaction with point defects 9-11081
 Ge-Si alloy, epitaxial growth by getter sputtering, characts. 9-28915
 Ge_{0.95}Se_{0.05} chalcogenide glasses, trap-controlled carrier mobility, time of flight meas. 9-4557
 Ge_{0.95}Se_{0.05} chalcogenide glasses, drift mobility of optically injected carriers 9-19627
 Hg_{1-x}Cd_xTe photoconductors, gamma ray effects on surface props. and detector props. 9-17489
 Hg_{1-x}Te, mobility anisotropy determ. by photoelectromag. effect and photocond. 9-38126
 InAs epitaxial layers, on GaAs substrate, electron diff. and SEM exam., electronic props. 9-1552
 InAs heteroepitaxial layers, VPE grown, effect of AsCl₃ mole fraction on elec. props. 9-11255
 InAs, thin film prep. and elec. props. 9-1633
 n-InAs, transport props., influence of higher energy bands, calcs. 9-19598
 In_{1-x}Ga_xAs_{0.5}P_{0.5}Be, ion implantation, hole conc. and mobility, junction depth 9-46685
 n-In_{0.95}Ga_{0.05}P solid solns., electron scatt. mechanisms (*Russian*) 9-4568
 n-In_{0.95}Sn film, prep. by spray hydrolysis, struct., elec. and optical props. (*Japanese*) 9-42678
 n-InP, compensated impurity conduction and negative magnetoresist. 9-28360
 n-InP film, polycryst., deposited on Mo sheets, elec. props. obs., w.r.t. varying deposition conditions 9-4608
 InP film, prep. by low press. reactive deposition process and characterisation 9-24449
 InP, vapour phase epitaxial growth in presence of O₂, elec. props. 9-46971
 InP:Be, ion implantation, hole conc. and mobility, junction depth 9-46685
 InP:Sn, LPE growth from Sn soln., elec. props., 80 to 300K 9-11250
 n-InSb, electron mobility at 77K in avalanche regime 9-33295
 n-InSb, hole mobility temp. depend. after electron bombardment 9-33290
 InSb, horizontal zone melting in vacuum 9-47624
 p-InSb, ion bombardment using 30-80 keV ions, isochronous annealing, elec. props. obs. 9-19295
 InSb, mobility from soln. of Boltzmann eqn. for electron-LO phonon scatt. 9-19586
 n-InSb:Zn, Zn diffusion out of implanted layers, free hole mobility 9-10984
 In₂Se₃, single cryst. prep. and electrophys. props. 9-43129
 La₂O₃:Sb, cathodoluminesc., nonlinear depend. on activator concs. 9-8190
 LiNbO₃:Fe, optical damage induced by laser light, X-ray irradi., carrier mobility effects 9-33657
 PbI₂ (2H), electronic transport and cyclotron reson. 9-28369
 PbI₂, electron hole mobility, elec. polarisation expt. 9-24023
 PbMg_{1/3}Nb_{2/3}O₃, ferroelec., crit. electron-phonon phenomena and diffuse phase transition in elec. field 9-38497
 PbO₂ pressed powder, Hall voltage and change of cond. in transverse mag. fields 9-4567
 Pb_{0.78}Sn_{0.22}Te:In, transport phenomena, below 20K (*Russian*) 9-38074
 Pb_{0.82}Sn_{0.18}Te films, VPE, hot wall technique, struct., elec. props. 9-37926
 Pb_{1-x}Sn_xTe film, pure and Bi doped, polycryst., struct., elec., optical props. 9-42542
 PbTe film, elec. transport props. 9-42679
 (SN)₂, single crystals, galvanomag. effects 9-19582
 Se:As, amorphous, pure and doped, photoelectronic preps. in glass transition region 9-4583
 Si, amorphous film, drift mobility and photocond. 9-15143
 Si, amorphous film, hole drift mobility, temp. depend. 9-23973
 p-Si, electron irradi., influence of acceptor impurity conc. and irradi. temp. on defect formation 9-19281
 Si, heavily doped, carrier diffusion coeff. 9-47099
 Si, inversion layer, impurity scatt., self-consistent calc. 9-28415
 Si, minority-carrier diffusion length and drift mobility determ. using a modulated SEM beam 9-19607
 Si, multivalley struct., helical instability (*Russian*) 9-47101
 Si:As, amorphous, field effect and thermoelectric power 9-33289
 Si:As, implanted As redistrib. during annealing in oxidising ambient, carrier distrib. meas. 9-19275
 Si:B, dopant density and temp. depend. of hole mobility and resistivity 9-38075

carrier mobility continued

- p-Si-As₂S₃ isotype crystalline-amorphous heterojunctions, electrophysical props. 9-24063
 Si-SiO₂ interface, effect of N₂ annealing on electron scatt. 9-42660
 Si(100)-SiO₂ interface, mobility in Si inversion layers, screening and neutral impurity effects 9-28412
 SnSe₂-Se₆, electron mobility elec. resist. and Hall constants 9-28346
 SnTe, film, heat treatment in air, effect on struct., props. 9-11037
 Te, cryst., hole mobility anisotropy, effect on Hall coeff. 9-7847
 Te film, on TGS substrate, ferroelec. field effect 9-42675
 Te, films, elect. and galvanomag. characts. 9-33365
 VH₂, reluctance, Hall effect 9-38102
 Zn₃As₂:Cu(Te), single crystals, gas phase growth, elec. props. 9-15598
 ZnP₂, trapping levels, TSC and thermolum. meas. 9-15115

carrier relaxation time

- see also electron relaxation time (metals)*
 ethyl cellulose films, secondary ion injection 9-24094
 metal, neutral and charged impurity scattering, Matthiessen's rule 9-47081
 narrow band gap semiconductor multilayers with p-n junctions, relaxation and photocurrent analysis 9-7883
 relaxation process in quantising mag. field, elastic scatt. mechanisms, relax. matrix 9-15166
 semiconductor, hot electrons, photoexcited in quantizing mag. field, energy distrib. calcs. 9-42586
 semiconductor, influence of strong inelastic scatt. on electron energy relax. 9-23959
 semiconductor, optical orientation of electrons, surface quality effects 9-11466
 semiconductors, spatially variable dielectric functions, ionized impurity limited mobility 9-42534
 n-Si, deep levels in p-n junctions or Schottky barriers determ., hybrid method 9-24067
 Bi, hole relaxation time, temp. depend., cyclotron reson. 9-47108
 p-GaAs, piezoresistance, relax. time for heavy and light holes determ. 9-19599
 GaSe:Sn, single crystal, transient photoconductivity (*Russian*) 9-11171
 n-InSb, helicon wave propag., quantum mechanical features 9-42571
 PbS, conduction band nonparabolicity and carrier scattering mechanism 9-11065
 Si surface, metal doped, recomb. of nonequilib. carriers at high excitation rates 9-7835
 Si(100)-SiO₂ interface, mobility in Si inversion layers, screening and neutral impurity effects 9-28412

carrier scattering at surfaces *see surface scattering***carrier scattering by dislocations** *see dislocation scattering***carrier scattering by impurities** *see impurity scattering***carrier scattering by point defects** *see point defect scattering***carrier traps** *see electron traps; hole traps***CARS** *see coherent antiStokes Raman scattering***cartography**

- Arctic Ocean, bathymetry, seismicity and gravity maps in geophysical review (*French, English*) 9-48452
 Arctic Ocean, bathymetry and sea-floor features morphology 9-48453
 bathymetry, deterministic and random error model of multibeam hydrographic sonar system 9-3873
 colour IR film for mapping and multispectral photointerpretation 9-25356
 coordinate system for aerial frame photography 9-2179
 Earth conductivities, mapping via multifreq. airborne EM system 9-5446
 earthquake acceleration hazard map, sensitivity to input seismic parameters 9-44111
 earthquake risk maps for Western Central Europe (*German*) 9-8600
 EEG field plotting method for isopotential maps 9-39542
 Friuli earthquake (1976, May 6), isoseismals map 9-44137
 gravity from 60°N to North Pole, free-air anomaly maps 9-48391
 Great Britain triangulation, geocentric positioning via satellite Doppler techniques 9-29695
 Gulf Stream, large-scale frontal study using Geos 3' radar altimeter data 9-5488
 hydrographic charts preparation, appl. of LANDSAT MSS imagery 9-29894
 hydrothermal alteration mapping, airborne spectroradiometric data anal. and LANDSAT data appl. 9-34973
 image evaluation methods, project SENTINEL SIGMA for Air Force, resolution meas. 9-31826
 inland wetland photointerpretation evaluation, cell analytical method 9-29898
 interactive computer graphical systems appl. (*German*) 9-21023
 S. Italy, seismic risk map preliminary results 9-44113
 Lambert, Johann Heinrich, 1728-1777, biography (*German*) 9-17174
 Landsat MSS points location on maps, methods and accuracy 9-2389
 laser bathymetry for near-shore charting appl., preliminary field test results 9-5679
 lunar colorimetric map, absorpt. strip intensity distrib. at 0.95 μ m (*Russian*) 9-44381
 map intensification from small format camera photography 9-25354
 ocean tides mapping with satellites, computer simulation 9-39880
 palaeocontinental maps for Early Phanerozoic and Proterozoic 9-44150
 position location and navigation, conf., San Diego, CA, USA, Nov. (1978) 9-25374
 position meas., satellite surveyor MX 1502, microprocessor controlled ground based system 9-25377
 satellite imagery, anal., distortion free map projection 9-34986
 seismic microzonings, mapping method based on subsoil conditions 9-44108
 seismic zoning map, new elements 9-44105
 seismic zoning problems, effect of earthquake freq.-magnitude statistical parameters 9-44112
 Space Oblique Mercator projection 9-2178
 terrain, reflexive prediction and digital modelling 9-2175
 terrain height data and orthophoto accuracy 9-2176
 thematic mapper, time-delay and integration CCD imager appl. 9-35098
 United States, national seismic hazard and zoning maps status and prospects 9-44109
 United States seismic hazard maps, prospects for geological data appl. 9-44110
 Venus, radar mapping by Pioneer Venus orbiter 9-48723

cascade showers *see cosmic ray showers and bursts***Cassegrain antennas** *see reflector antennas***casting**

- elasto-viscoplastic thermal stress model, appl. to continuous casting of metals 9-18740
 Epon 828, simple procedure for casting plates for 2D photoelastic models 9-39061
 metal, continuous coating of slab, solidification interface shape 9-15656
 skin technology, industrial appl. of space processing 9-28991
 space environment, dendrite remelting and macrosegregation in low-gravity 9-47669
 steel, medium C, internal cracks in continuous casting billet and rolling products (*Chinese*) 9-43375
 steel, tool and high speed samples, high frequency induction melting and centrifugal casting method for prep. in instrumental anal. (*Japanese*) 9-43232
 styrene-butadiene triblock copolymer films, mech. props., effect of casting solvent 9-11651
 Al alloy, cast, forging and heat treatment effects on diamond planishing treatment 9-43237
 Al alloys, die casting, steel mould thermal fatigue 9-24619
 Al-Zn-Mg-Li alloys, effect of Li on thermal props. 9-24515
 Nb₃Sn-Cu multifilamentary wires, in situ prep., supercond. and mech. props. 9-38768
 Si, polycryst. with columnar struct., crystn. using casting technique and microstruct., book contrib. 9-43137
 Si, single cryst. growth in clear SiO₂ crucibles, heat exchanger method 9-33919

castings

- continuous casting cylindrical ingot, development of elastic-plastic temp. stresses and deformations (*Russian*) 9-29151
 quality control by NDT 9-29321
 solidification and cooling in mold, temp. field (*Russian*) 9-29038
 steel, casting, C-scan method of US inspection, developments 9-29294
 Ti-Al-V (6, 4 wt.%), castings, fatigue crack initiation 9-29186

catalysis*see also catalysts; reaction kinetics*

- acetic acid, photocatalytic oxidation, photoacoustic spectroscopic obs. 9-16010
 autocatalytic system, concentration waves, multiplicity and stability 9-16037
 butan-2-ol, catalytic dehydrogenation and dehydration, MgO catalyst selectivity obs. 9-24820
 catalytic reactors, runaway inhibition 9-47983
 Clusius separation column, appl. to catalytic prod. of highly conc. H₂ 9-24832
 colour image amplification by redox couple reaction 9-24802
 deactivation, model soln. by nonlinear partial differential eqns. 9-39123
 dual function catalysts, macroscopic distribution of components, selectivity effect 9-47967
 enzyme catalysis, electron pairing in thermodynamically consistent pathways 9-5179
 formaldehyde, chemisorbed on Rh, catalytic decomposition, transmission IR spectra 9-39199
 formic acid, decomp. on W (100), flash desorption obs. 9-29402
 gas-solid reactions solid catalysed, effectiveness factors 9-47966
 heat of adsorption determ., expl. methods 9-42370
 heterogeneous catalysts, gas phase diffusion and reaction calcs., viscous flow importance 9-47970
 heterogeneously catalysed reactions, kinetic instabilities, oscill. instabilities 9-24717
 heterogeneously catalysed reactions, kinetic instabilities rate multiplicity 9-20341
 interstellar oxide grains, catalytic props. rel. to mol. prod. 9-25690
 laser driven, LASL developments 9-31719
 methanol, catalytic decomp. on NiO, mol. beam relax. spectrometry using surface temp. modulation 9-29401
 micelles, organic reaction kinetics 9-29416
 modeling of elementary step of chemical transform. of crystals, appl. to decomp. 9-15985
 multiroute systems, optimum characts. 9-39124
 NH₃ synthesised on Fe, promoter action of K 9-29390
 nonlinear diffusion-reaction problem, dissipative structs., stability anal. 9-1938
 photographic development process, electrocatalysis 9-20400
 powder catalyst, catalytic and sorption processes, calorimetric and adsorpt. kinetic methods 9-43629
 reaction rate, influential factors, new definition 9-1943
 slurry catalyst with particle size distrib., internal effectiveness factor 9-34355
 surface reactions at high press. 9-47972
 tolerance, hydrogenation catalysed by Pt implanted cryst. supports 9-20462
 N-vinylcarbazole, polymerisation in presence of C black 9-20366
 zeolites, type Y, Sc-, Zr-, catalytic activity, NMR, mechanism 9-29405
 Al oxidised surface, EXAFS in soft-X-ray region 9-37921
 C+CO, Boudouard reaction, catalysed by Li₂O and Li₂CO₃, reaction rates 839-1050°C 9-16035
 C₆FeCl₃, behaviour with H₂ and CO, effect of activation 9-43623
 CO oxidation over Pt, kinetics determ. using ¹³C tracer 9-29400
 CO+N₂O catalytic reaction on Se₂O₃ and MgO, kinetic obs. 9-29389
 CO₂, photoelectrocatalytic reduction in aq. suspensions of semicond. powders 9-39141
 Ca catalytic effect on chemisorption of O₂ on Au, AES 9-15021
 Ca₂Fe₂O₇, brownmillerite type, NO catalytic decomp. 9-43631
 Cu-Ni alloys, surface comp. and catalysis, AES and thermal desorption meas. 9-46898
 D₂+H₂O, isotope exchange on Pt, CO poisoning effects 9-11824
 D₂+H₂O, isotope exchange on Pt over hydrophobic support 9-11823
¹⁸F-F₃COF-¹⁸F radiopharmaceutical synthesis procedure 9-29619
 GaN film, heteroepitaxial deposition, growth kinetics and catalytic effects 9-4487
 K₂S₂O₈, thermal transitions, catalytic effects of CuO and ZnO 9-15983
 N, assoc. on metal catalyst surface, chemical energy accommodation, flow reactor obs. 9-24816
 NH₃, decomposition, on supported Fe catalyst, kinetics, IR obs. 9-11792
 NO, adsorpt. on W (100), 300K and 100K, XPS, UPS and XAES, rel. to catalytic decomp. 9-28204
 NO, catalytic decomp. over brownmillerite like compounds 9-43631
 NO₂ reduction on Fe-based catalysts containing V 9-12285

catalysis continued

- Na₂S₂O₈, thermal transitions, catalytic effects of CuO and ZnO 9-15983
 O₂ destruction by catalysis in stratosphere 9-34879
 Pd-Ni alloys, surface comp. and catalysis, AES and thermal desorption meas. 9-46898
 Pt-Pd(Au) alloys, surface comp. and catalysis, AES and thermal desorption meas. 9-46898
 SO₂, aerosol-catalysed oxidation, expt. under atm. conditions 9-1941
 SO₂, reduction by CO in presence of H₂O and O₂, catalyst effects 9-24819
 Sr₂Fe₂O₇, brownmillerite type, NO catalytic decomp. 9-43631
 ThO₂-Pr³⁺, luminesc., calcination temp. and excitation process depend. 9-33749
 TiC whiskers, growth by CVD, catalytic effects of various metals and refractory oxides 9-33211
 V₂O_{5-x}, O₂ equilib. press. as measure of O₂ binding energy in oxide system 9-16030

catalysts

- see also catalysis*
 dual function catalysts, macroscopic distribution of components, selectivity effect 9-47967
 gas-solid reactions solid catalysed, effectiveness factors 9-47966
 heterogeneous oxidation catalysts, effects of Pb compounds 9-24817
 metal surfaces, N atom assoc., chemical energy accommodation, flow reactor obs. 9-24816
 perovskite type compounds, electrode catalysts for cathodic reduction of O₂ 9-29371
 propane, radiative thermal cracking on porous glass (*Russian*) 9-39205
 surface structure, molecular beam expts. 9-47971
 zeolites, type Y, containing catalysts, cryst. struct., IR spectra 9-42958
 CdO₂, catalyst on isopropanol, surface active sites during dehydrogenation 9-43621
 CdTeMoO₆, prep. and cryst. struct., X-ray diffr. obs. 9-1414
 Co(NH₃)₅Br⁺ volume of activation for spontaneous aquation anionic polyelectrolyte catalyst 9-39206
 Cu catalyst, Al₂O₃ supported, effect on reduction of SO₂ by Cu 9-24819
 Fe, corrosion in O₂ free water, catalytic effect of certain metals 9-47804
 Fe₂O₃-MoO₃, on SiO₂ and Al₂O₃, Mossbauer effect 9-47365
 Fe(OH)₃-Cr₂O₃ catalysts, for water-gas shift react., porous struct. 9-29407
 γ-FeOOH-Cr₂O₃ catalysts, for water-gas shift react., porous struct. 9-29407
 Mg_{0.8}Mn_{0.2}Fe_{1.8}Al_{0.4}O₄, grade 6SChl ferrite, milling conditions effect on fine cryst. struct. and activity 9-24483
 MgO, catalytic behaviour, rel. to XPS obs. 9-24820
 MgO, for CO+N₂O reaction, kinetic obs. 9-29389
 MoO₃ supported on aluminas, Raman obs. of struct. 9-28734
 NiO/SiO₂ catalyst, XPS for surface struct. and composition 9-43093
 NiO-Al₂O₃/SiO₂ catalyst, XPS for surface struct. and composition 9-43093
 Pd particle array, on amorphous SiO₂ substrate, model catalyst, electron microscopy and UPS expts. 9-4899
 Pd, Z-contrast, in STEM 9-46530
 Pd/Al₂O₃ catalyst, contact poison 2-methylthiophene damage reduction by neutron irradi. (*Russian*) 9-20467
 Pt catalysts, supported, adsorbed CO, temp. programmed desorption 9-46915
 Pt electrode, powdered, aggregation in disperse system 9-11830
 Pt, oxidation kinetics of CO, determ. using ¹³C tracer 9-29400
 Pt, small particles, contraction and relax. of interatomic distances using EXAFS 9-47546
 Pt, Z-contrast, in STEM 9-46530
 Pt-graphite catalyst, H adsorption, ESR obs. 9-24818
 Rh supported catalyst particles, adsorption of CO, inelastic electron tunnelling spectra 9-3509
 RuO₂, catalyst on isopropanol, surface active sites during dehydrogenation 9-43621
 RuO₂, catalyst at anode of solid polymer electrolyte cell, corrosion 9-20376
 Sc₂O₃, for CO+N₂O reaction, kinetic obs. 9-29389
 TiO₂:V, localisation and migration of V⁺ ions (*French*) 9-33529
 W (100), formic acid decomp., flash desorption obs. 9-29402

ataphoresis *see electrophoresis***catastrophe theory**

- beam, buckled, forced oscillations, global bifurcations and chaos 9-27580
 biological applications, elementary approach 9-11881
 chemical reactions, oscill., kinetic model based on catastrophe theory 9-43557
 critic's view of appls. 9-25828
 elastic structure buckling models for higher order catastrophes 9-1122
 elementary catastrophe theory modelling of Duffing's equation for seismic excitation of nuclear power facilities 9-31240
 ferromagnetism, mol. field theory, appl. of catastrophe theory, for teaching 9-35467
 fundamental catastrophe states and applications, review (*Chinese*) 9-35534
 Legendre transforms and thermodynamics, catastrophe theory 9-26012
 orthogonality catastrophe due to local electron interaction 9-1566
 phase transitions, Landau theory, as example of catastrophe theory 9-12750
 Riemann-Hugoniot catastrophe and P, ρ, T surfaces of real gases 9-6066
 statistical biophysics applications 9-39334
 stellar dynamical stability 9-8906
 symmetry and higher order cuspid catastrophes 9-9085
 tachyon quasi-catastrophe theory, tachyon existence, imaginaries, and causality, book contrib. 9-44815

cathode-ray oscilloscopes

- see also oscillographs*
 1000 series (Telequipment), design approach 9-35701
 accurate time measurement (*German*) 9-30423
 with digital storage, OS4000, features (*Spanish*) 9-6116
 dynamic magnetization curves display, apparatus 9-17451
 fibre optic, recording modes and appl. 9-27389
 Japanese 1978 status and development trends 9-40554
 optical fibre transmission characteristic meas. by digital processing oscilloscope 9-12787
 PW Purbeck oscilloscope, construction of Y amplifier 9-6114
 signal time-interval measurement using digital meter 9-35702
 time interval measurement using CROs 9-6098

cathode-ray oscilloscopes continued

- time-mark circuit with controlled delay 9-35703
 wide-band, photographic attachment for increased recording speed 9-21732
cathode-ray tube displays
see also cathode-ray oscilloscopes
 adapter mounted on CRT face for multilayer 3D display 9-18498
 artificial heart experiments with animals, data acquisition and monitoring system (*German*) 9-8582
 biocular magnifier design for display system viewing 9-27361
 colour TV imaging computer peripheral 9-20667
 CRT man-machine communication system in nuclear power stations 9-45364
 gamma-camera for gated carotidovascular imaging 9-5367
 high performance liquid chromatography, with CRT display, microprocessor-controlled 9-20478
 phosphor types, contrast sensitivity of human eye 9-11933
 photographic techniques documenting CRT displays 9-21827
 screen image distortion corrections in R7912 transient digitiser. FORT-RAN programs 9-30440
 speech trainers, with visual display system, systematic use for hard of hearing children (*Japanese*) 9-39596
 speech trainers using visual display system, for hard of hearing children (*Japanese*) 9-39595
 text TV display for visually handicapped (*German*) 9-2162
 US imaging sonar, design and construction 9-3831
 USA National Weather Service graphic display network 9-12320
 Pu laboratory stack monitoring, computerised system 9-3256

cathode-ray tube screens *see cathode-ray tubes; fluorescent screens***cathode-ray tubes**

- see also image converters; image intensifiers; image storage tubes; television camera tubes; television picture tubes*
 tester based on ohmmeter and adaptor 9-35711

cathode rays

- No entries

cathodes

- see also electron emission; oxide coated cathodes; photocathodes; thermionic cathodes*
 atomic absorption spectroscopy, cathode preparation by electroplating 9-43655
 butyl alcohol cathode, hot electron emission from NaCl single-crystal film, inhomogeneous current flow due to cathode roughness 9-15244
 cold cathode low press. arc retrograde motion in strong mag. field, theory 9-27858
 conference, Washington, DC, USA (Jan.-Feb. 1978) 9-43068
 electron gun, glow-discharge type, with plane-frustrum cold cathode, characteristics 9-7495
 erosion and energy condits. in explosive electron emission 9-19111
 hollow cathode lasers, high voltage, spectroscopy appls. 9-27274
 lenses, with combined elec. and mag. fields, third order aberration theory 9-41317
 metal-Al₂O₃-Au type uniformly emitting MIM thin film cathode with evaporated insulator (*German*) 9-19675
 MWPC, lateral distrib. of cathode charge 9-36470
 oxide cathode conductivity model 9-15159
 quenching of residual conductivity in metal-semicond. system 9-7902
 scanning electron excited AES, appl. to cathode studies 9-40643
 spots of the first kind, erosion rate resistivity and thermal cond. depend., explosive model 9-14630
 tissue O₂ electrode design criteria and perform. charact., recessed cathode 9-39543
 ultra high vacuum, erosion phenomena on contaminated cathodes due to electrical discharges 9-41889
 Al-Al₂O₃-Au thin-film cathode anomalous electron emission 9-8232
 BaO epitaxial films, cathode poisoning due to O₂, CO₂, and S, surface anal. 9-42600
 Cd electrode, evaporation rate from cathode spot in vacuum arcs 9-37566
 Fe electrode, evaporation rate from cathode spot in vacuum arcs 9-37566
 He-Cd, hollow cathode discharge tube, voltage, ion spectral line intensities and metastable states 9-46505
 He-Cd hollow-cathode laser tube, description and performance (*Bulgarian*) 9-27279
 LaB₆, porous, field emitter cathode sputtering and surface damage 9-11492
 Mo, H penetration of Mo cathode in glow discharge, point defect depend. 9-41903
 N₂ discharge, flowing, electron-beam maintained, cathode shape effects 9-27850
 Ni electrodeposition from alkaline citrate electrolytes, cathodic process rate (*Russian*) 9-8440
 Zn electrode, evaporation rate from cathode spot in vacuum arcs 9-37566

cathodes, electrochemical *see electrochemical electrodes***cathodochromism**

- No entries

cathodoluminescence

- bibliography, including papers on appl. to semiconductor technology, SEM, TEM etc. 9-21482
 diamond cathodoluminesc. at dislocations 9-47524
 direct gap semiconductors, exciton energy determ., electron beam excited luminesc. 9-38680
 emission, applic. of microscopy and spectroscopy for finding distrib. of impurities in minerals (*French*) 9-5630
 information display technology, symposium, San Francisco (1978) 9-9209
 metal film, luminescence, electron beam excited (*Russian*) 9-47526
 noise, in particle flux, due to reduction and multiplication processes 9-21672
 quartz overgrowths, on quartz, cathodoluminescence and microstruct., SEM exam. 9-25239
 rare earth vanadates, electron energy loss spectra, primary excitation processes in cathodolum. 9-11490
 SEM, polarisation contrast of cathodolum. 9-7529
 SEM specimen, meas. of local temp. 9-9258
 semiconductors, II-VI cpds., dislocation motion obs. by SEM in cathodolum. (*Japanese*) 9-46666
 spectroscopic techniques, anal. with STEM for electronic anal. and obs. of defects in semiconductors 9-14812

cathodoluminescence continued

- urellite meteorites, fluorescent accessory phases in carbonaceous matrix 9-40143
 Al₃Ga₁As epitaxial diode, neutron and γ -irrad. effects on cathodolum. in SEM 9-11473
 Ar jet, supersonic, electron beam-excited, continuous VUV emission spectrum origins 9-6964
 CdS, ion irradiation, damage, obs. using SEM in cathodolum. mode 9-7633
 CdS, local cathodolum. of single crystals, under colour contrast conditions in SEM 9-8191
 Cu₂S, photon and electron excitation phenomena 9-7865
 GaAs:Te, microcathodoluminesc. of effect of struct. defects on radiative recomb. 9-11475
 GaAs,Sb_{1-x}GaAs epitaxial films and multilayer heterostruct., SEM obs. under cathodolum. conditions 9-11023
 GaN:Zn, cathodolum. obs., recomb. model 9-11474
 GaN:Zn, cathodoluminesc., photocapacitance 9-38679
 GaP, epitaxial layers, dislocation recomb., SEM cathodoluminescence studies 9-42558
 GaP, light emitting diode structure, effect of neutron irradiation on cathodoluminesc. 9-28843
 GaP, Mott transition of exciton gas, cathodoluminesc. 9-33845
 GaP polycrystals, subgrain boundaries, cathodolum. in SEM 9-1440
 GaP:N, N doping profiles in GaP grown by LPE, cathodoluminesc. data 9-23631
 GaSe, electron beam excited free exciton luminesc. 9-19940
 InAs, heavily doped, Burstein-Moss effect and near-band-edge luminesc. 9-47525
 In_{1-x}Ga_xP_{1-x}As₂ solid solution, radiative transitions 9-11476
 In_{1-x}Ga_xP_{1-x}As₂, stimulated yellow-green emission under electron excitation, 80K 9-33846
 KBr, optical conversion, luminesc. and colour centre formation 9-24354
 K₁, electron irradi., polariton effects in reson. emission 9-33843
 La₂O₃:Tb, cathodoluminesc., nonlinear depend. on activator concs. 9-8190
 MgO, cathodoluminesc. at dislocations 9-47524
 MgO single crystal, grain boundaries, cathodolum. in SEM 9-1440
 N₂, solid 9-19939
 Na₂(Al₂Si₂O₁₂)Cl:Br,Ge, sodalite, reflectance and luminescence obs. 9-4839
 NaCl, optical conversion, luminesc. and colour centre formation 9-24354
 PbS-(PbSO₄)_x(PbO.PbSO₄)_y heterosystem, cathodoluminescence spectra 9-24370
 Rb₁, electron irradi., polariton effects in reson. emission 9-33843
 Y₂O₃:Eu, fluoresc., cathodoluminesc. and thermal quenching 9-47488
 YVO₄:Eu, fluoresc., cathodoluminesc. and thermal quenching 9-47488
 ZnP₂, monoclinic, cathodoluminesc. spectra exam. 9-15534
 ZnS:Ag, Al and ZnS:Cu, Al, LV cathodoluminesc. 9-33844
 ZnS:Ag, photon counting statistics of cathodoluminesc. light emission 9-24371
 ZnSe:Cu,Al, LV cathodoluminesc. 9-33844
 ZnTe, electro- and cathodoluminesc., impurity segregation 9-43042
 ZnTe, SEM and luminesc. study of Li segregation 9-38657

cathodophosphorescence *see cathodoluminescence***cathodothermoluminescence** *see cathodoluminescence***catholytes** *see electrolytes***CATV** *see cable television; community antenna television***causality** *see physics fundamentals***causticity** *see pH***cavitation***see also bubbles; vortices*

- auger-centrifugal pump entry sections, cavitation cavities and cavitation resistance, return flow effects 9-18921
 bituminous coal emulsification by ultrasonics 9-47997
 α -brass, Al bearing, high temp. relief cavitation, SEM, STEM, TEM, SIMS and EDX anal. 9-5039
 α/β brass, cavitation during superplastic deform. 9-5011
 α/β brass, grain boundary sliding and intergranular cavitation during superplastic deformation 9-5009
 bubble-produced elec. pulses in water 9-47407
 diffusive cavitation of grain interfaces, non-equilib. models 9-46668
 entrainment and thermodynamic effect, viscous effects, review 9-10598
 erosion with plain jets and jets with cavitation inducers 9-15805
 growth in restricted flow 9-18922
 hydrofoil, partially cavitating 9-32596
 inception characteristics, viscous effects on a two dimens. cylinder 9-4050
 nonpolar liquids, cavitation threshold under ionising acoustic radiation 9-37074
 nucleation by plastic deform. 9-29127
 oil-water emulsification, by US, large primary oil drop breakup 9-32644
 oil-water interface, US emulsification drop form. by capillary wave instability 9-32643
 PET film, crystallised by nonreactive liquids and vapours, exam. of diffusion of liquids and vapours 9-42314
 polyacrylamide solutions, dil., static and dynamic breaking tensions 9-23346
 pulsation amplitude threshold for surface waves on oscillating bubbles 9-18900
 pumps, cavitating, dynamic characs., bubbly flow model 9-32646
 self focusing of acoustic waves 9-3821
 steel, austenitic stainless, deformation induced cavitation, exam. 9-43363
 steel, C, cavitation erosion, exam. of mechanism and rates 9-5063
 steel, Cr-Mo (1, 0.5 wt.%), heat treated creep failure, role of stress state 9-5047
 steel, Cr-Mo-V, rupture ductility rel. to cavitation, density and SEM obs. 9-34142
 steel, Cr-V (1.5, 0.5 wt.%), ferritic, effect of temp. and microstruct. on creep damage 9-5023
 steel, low C, type 08Yu, influence of nonmetallic inclusions on microfailures, during strain (Russian) 9-34128
 steel, stainless, cavitation erosion in chemically aggressive liquids, acetic acid effects (German) 9-39050
 supercavitating flat plate hydrofoil, leading edge correction 9-32595
 two-dimensional laminar flow between porous walls 9-14477
 US radiation force variation with differing propagating media gas content 9-32128
 variational methods, book contrib. 9-32456
 water, acoustic cavitation threshold and tensile strength, theory 9-42131
 Zircaloy-4, oxide coating effect on ductility 9-47819

cavitation continued

- Cu-SiO₂ systems, cavity nucleation, by plastic deform. 9-29127
 Fe, cavitation erosion, exam. of mechanism and rates 9-5063
 Fe-Fe₂C, cavity nucleation, by plastic deform. 9-29127
 Ni-Cr, wrought, fatigue at high temp., microstruct. assessment 9-29208
 Ti-Al-V (6, 4 wt.%), cavitation induced erosion, under mill annealed, solution treated and aged, and beta annealed conditions 9-8371
 Zn-Al (22 wt.%), superplastic, of very high purity, cavitation 9-24586
- cavity resonators**
see also acoustic resonators; laser cavity resonators
 air, microwave breakdown field calc., resonator and rectangular waveguide expt. 9-41789
 cavity, scalar Green's function, numerical calcs. using integral eqns. (French) 9-32110
 charge bunch radiation losses in pill-box resonator, time domain numerical computations of EM fields 9-31781
 confocal cavity imaging characs., mode decomposition method 9-31816
 cylindrical cavities in E₀₁₀ mode relations for dielec. parameter ev. 9-35783
 Fabry-Perot resonators, second-order perturbation theory 9-18451
 integrated optical device used as switch, amplifier, limiter and memory logic element 9-32090
 microwave cavity gravitational radiation detectors 9-21647
 muffin tin cavity, computer calc. of EM fields 9-9923
 muffin-tin structure, deflecting modes (French) 9-45469
 natural frequencies of coaxial and concentric cavities, universal tables and diagrams (French) 9-31760
 nonlinear Fabry-Perot filled with Kerr liquids CS₂ and nitrobenzene 9-27316
 normal modes and normal freqs., Green's function numerical study (French) 9-32111
 particle accelerator, nonidentical resonators with narrow coupling slits, dispersion and field distrib. characs. 9-41047
 permittivity meas. using resonator terminated by infinite sample 9-21777
 SHG, optimum, in thin-film external resonator 9-18485
 superconducting resonators, high stability oscillators, appl. to fundamental physics, metrology 9-26034
 Nb, RF superconductivity, appl. to particle acceleration, overview 9-31244
 Nb superconducting C-band cavities for linear accelerator appl. 9-36432
- c.c.d. circuits** *see charge-coupled device circuits*
- CCTV** *see closed circuit television*
- celestial mechanics**
see also N-body problems; stellar motion
 1977 UB (Chiron), past and future orbit calc. 9-35171
 1979 BA, fast-moving object, discovery and orbital elements 9-35177
 1979 BA, orbital elements and ephemeris, (1979, March 18 to June 16) 9-40121
 artificial Earth satellite, near-circ. orbit dispersion 9-44349
 artificial Earth satellite, resonance due to solar radiation pressure 9-25456
 artificial satellite, unstabilized weakly perturbed, orientation determ. 9-8809
 artificial satellite, Vinti problem, extended phase space representation, luni-solar perturbations 9-35101
 artificial satellite geodesy, twin probes method 9-25443
 artificial satellite orbit determ. using Hills method (Russian) 9-40067
 artificial satellite theory, appls. of Pfaff's equations of motion 9-12386
 artificial satellites orbit changes, 14th order geopot. harmonics calc. 9-29694
 asteroids, resonant, theory based on quasi-periodic sols. of restricted three-body problem (Russian) 9-48727
 asteroid, equation of motion for elliptic Jupiter orbit 9-25455
 asteroid belt depletion by gravit. forces, numerical calc. of orbits 9-35173
 asteroidal belt, restricted three-body problem rel. to orbital characs. 9-8874
 asteroids, Kirkwood gaps origin 9-16867
 astrodynamics, perturbed boundary-value problems, variational formulae 9-21161
 astrometry and celestial mechanics, book 9-12384
 Astronomical Netherlands Satellite, orbit prediction 9-21139
 axisymmetric satellite, periodic motions rel. to centre of mass in circular orbit (Russian) 9-11284
 bifurcation of periodic orbits of the planar circular restricted N-body problem to the three-dimensional general N-body problem 9-16803
 canonical systems of differential eqns. in resonant case, periodic sols. 9-44345
 Cassini's laws 9-8812
 circular orbits in the problem of n fixed centres (Russian) 9-12392
 circular restricted three-body problem, periodic sols. and arcs for zero mass parameter 9-8803
 circular restricted three-body problem, props. of sols. for zero mass parameter 9-8804
 close encounter computation, new method 9-35099
 colliding particles in gravitational field, numerical simulations 9-16802
 Comet Bradfield (1978o), parabolic orbital elements and ephemeris, (1978 October 29 to 1979 January 27) 9-2524
 Comet Kowal (1979a), parabolic and elliptical orbital elements 9-35195
 degenerate Hamiltonians, von Zeipel method appl. 9-48655
 dynamical astronomy numerical simulation, new Runge-Kutta algorithms 9-12387
 Earth artificial satellites motion, relativistic effects 9-2465
 Earth orbital variations, rel. to gravitation and inertia corpuscular model (Russian) 9-40439
 Earth orbital variations, role in causing glaciations 9-20961
 Earth satellite, low-eccentricity, at critical inclination, orbital motion 9-12388
 Earth survey satellites, orbit determination 9-25442
 Euler motion kinematic eqn. reduced to Kepler's eqn. 9-8813
 foundations of mechanics, book 9-25837
 four-body problem, relative equilib. sols. 9-8805
 galaxy models, numerical orbit computation algorithms comparison 9-12497
 general N-body problem, three-dimensional, periodic orbits families existence 9-16805
 general three-body problem, M₃ manifold topology (Chinese) 9-16808
 generalized circular restricted three-body problem, periodic orbits of second genus in 2-D coord. system 9-29980
 geostationary satellites, libration points rel. to position of Earth's mass centre 9-21156

celestial mechanics continued

- giant planets, second order perturb. (*French*) 9-12385
 giant planets second-order perturbations, semi-major axis secular vars. (*French*) 9-2474
 gravitational movements of two invariable solid bodies (*French*) 9-29982
 Hamilton-Jacobi equation integrable cases, rel. to nonsteady problems 9-35103
 higher order resonances in dynamical systems 9-5738
 interplanetary trajectories computing, ESTEC program 9-21129
 interplanetary trajectories determ. procedure (*Italian*) 9-44341
 inverse-square orbits; A geometric approach 9-44662
 Jacobi's virial eqn. soln. for celestial bodies 9-8832
 Jupiter, close encounters with minor bodies 9-35184
 Jupiter first order theory, perturbed by Saturn, critical term elimination 9-35183
 Kepler's eqn., starting value for iterative soln. 9-48657
 Kepler symmetry problems, Hamiltonian dynamical systems 9-12586
 Keplerian systems, collisional evolution, improved general theory 9-21152
 libration points location and stability in restricted problem, effect of perturb. in Coriolis and centrifugal forces 9-5737
 Lie series use in studying nonlinear Hamiltonian systems 9-8811
 Moon, tidal accel. calc. 9-16849
 Moon orbital motion, Earth tidal potential multiple expansion 9-12062
 Moon secular acceleration, calc. from oceanic tide semidiurnal waves (*French*) 9-8634
 motion around a source whose luminosity changes 9-12394
 mutual gravitational potential of N solid bodies, harmonic coeffs. expansion 9-12390
 near circular Earth satellite orbits, element perturbation 9-21165
 Newtonian cosmology, extension to whole of space (*Italian*) 9-21475
 Newtonian dynamics of systems of extended bodies 9-21160
 Newtonian mechanics and expansion of the universe (*Italian*) 9-21472
 non-gravitational foci and apexes, of paths with common launching point and common apsidal distances 9-16804
 obliquity of ecliptic, historical obs. anal. 9-44076
 obliquity of ecliptic 2000 years BP, calc., error correction 9-29688
 orbit computation, semi-analytical method (*Chinese*) 9-8798
 orbital equations in the relativistic two-body problem 9-44805
 orbital motion, potential and travel directions 9-5735
 orbital motion stability for two free ideal conducting current rings (*Ukrainian*) 9-35102
 particle motion round variable luminosity source, stochastic scatt. accretion and ejection 9-44338
 pendulum like systems, diagrammatic transition theory 9-44342
 periastris passage for bitangential turn of path by given angle, anal. 9-44340
 Periodic Comet Denning-Fujikawa (1978n), orbital elements and ephemeris 9-5780
 Periodic Comet Halley, orbital evolution tendency and ancient history (*Chinese*) 9-16886
 Periodic Comet Kowal 2 (1979a), elliptical elements and ephemeris, (1979, March 28 to June 16) 9-40140
 Periodic Comet Kowal 2 (1979a), improved orbital elements and ephemeris (1979, May 7 to July 6) 9-48739
 periodic orbits, three-dimens. circular restricted to general three-body problem 9-44343
 periodic oscillations of artificial satellite in plane of elliptical orbit 9-8810
 periodic solution of $d^2x/dt^2 = -V(x)$, approx. value determ. for period 9-8802
 perturbation theory in rectangular coordinates 9-21158
 perturbed Hamiltonian systems; transformation-elimination technique 9-44346
 photogravitational restricted circular three-body problem, triangular libration point stability 9-21164
 planar restricted three-body problems, effect of oblateness on triangular solns. at critical mass 9-44339
 planet-satellite systems of solar system, tidal friction secular effects 9-8860
 Poincare periodic solns. and rotational stability according to Cassini laws (*Russian*) 9-40066
 Poincare periodic unstable orbits classification (*French*) 9-29981
 Poincare unstable periodic orbit classification (*French*) 9-21157
 precession constant, new adopted value and effect on stellar proper motions 9-25459
 quasi-elliptical coplanar transfer in an arbitrary central gravitational field (*Russian*) 9-12391
 relative equilibria and the virial theorem 9-48658
 relativistic two-body problem, nonlinear effects 9-8799
 restricted averaged elliptical three-body problem, periodic orbits 9-8807
 restricted elliptic three-body problem, motion near triangular points 9-40064
 restricted three-body problem, asymm. quasiperiodic orbits 9-8801
 restricted three-body problem, asymmetric, periodic and asymptotic orbits 9-16807
 restricted three-body problem, asymptotic solns., plane form and symmetry 9-8814
 restricted three-body problem, commensurability induced by oblateness 9-8806
 restricted three-body problem, form. of periodic solns. by appl. of mean schemes 9-25457
 restricted three-body problem, L_4 and L_5 points, stability at pot. maxima 9-7
 restricted three-body problem, periodic solns., Sun-Jupiter case 9-25454
 restricted three-body problem, surface fitting of three-dimens. closed solns. 9-8800
 restricted three-body problem, symm. of first integrals (*Russian*) 9-21166
 satellite escape or capture duration, simple lower bound 9-2475
 satellite-satellite resonances, origin 9-16867
 satellites, cable-connected in Earth orbit, mag. force effect 9-44347
 scale invariance, metrical connection and the motions of astronomical bodies 9-44648
 separable potential in sphericoconical coords. satisfying Laplace eqn. 9-25458
 solar sail trajectories, long-term evaluation 9-48641
 solar system dynamics and long-term stability 9-40095
 solid body rotation in Newtonian force field (*Russian*) 9-35546
 space vehicle orbit determ. optimization with incomplete inform. on error covariance matrix and expectation 9-8808
 spin-orbit resonance, mathematical aspects 9-12389

celestial mechanics continued

- three body problem, generalized circular restricted, triangular libration points (*Russian*) 9-48659
 three-body, circular plane restricted problem, stable orbits 9-44348
 three-body, elliptic three-dimens. restricted problem, recurrence relations in integration 9-48656
 three-body, planar general problem, isosceles triangle config. 9-48654
 three-body gravitational scattering 9-44344
 three-body problem, periodic orbits continuation 9-16806
 three-dimens. circular restricted three-body problem, simplified variant 9-8815
 topology of phase levels for a point motion in a non-central field (*Russian*) 9-12393
 1685 Toro, orbital resonances with Earth and Venus 9-2513
 Trojan asteroids, orbital theory 9-12419
 Trojan asteroids, three-dimens. motion 9-5773
 US Navy navigation satellites, mean elements for 1974-6 period 9-48642
 Venera-9 and -10, dynamical flattening of Venus from meas. of trajectories 9-35168
- cell model (liquids)** *see liquid theory*
- cell motility**
 bacteria, motile, rot.-translational models for interpretation of quasi-elastic light scatt. spectra 9-11906
 Biophysical Society, 23rd annual meeting, conf., Atlanta, USA (Feb. 1979) 9-34468
 cytoplasmic streaming, in green plants, review, book contrib. 9-5265
 cytoplasmic streaming in amoeboid movement, review, book contrib. 9-5264
 enkaryotic cells, roll of dynein, book contrib. 9-16178
 Euglena gracilis, effects of EM fields on motion 9-16174
 Euglena gracilis, motion parameters meas. by laser light scatt. 9-16173
 flagella bend propagation, dynein cross-bridge kinetics 9-43942
 granulocytes, human, spatial trajectories in isotropic medium 9-34523
 lymphocyte sensitisation meas., electrophoretic mobility test improvements 9-25138
 spermatozoa motility meas. by laser light scatt. (*German*) 9-12056
 spermatozoa motility meas. by light scatt., appl. to reproduction immunology (*French*) 9-34628
 trap action model 9-16176
- cells (electric)**
see also fuel cells; photoelectric cells; photoelectrochemical cells; primary cells; secondary cells
 coulometric data unit, oxygen, long lifetime 9-39243
 electrochemical storage, of H in LaNi₅ alloys, nature of H bond 9-24917
 internal resistance of energy source meas., student expt. 9-30176
 solid electrolyte, unipolar cond. model 9-28144
 thermal battery, react. prods., electron probe anal. 9-43601
 three dimensional gauze electrode in new cell design, mass transfer enhancement by counter-electrode gases 9-43590
 AgI-Ag oxalate systems, solid electrolytes with glass-like struct., thermodynamic and electrochem. props. 9-10978
 Al-air, mechanically rechargeable, for automotive propulsion 9-48103
 Li cells, electrochemical charact. of VSe₂ 9-1959
 Li-H₂O₂, 600 kWh reserve power system 9-48104
 Pt 9-48340
 Pt/Y₂O₃-ZrO₂/Pt cell, Faradaic reaction kinetics; impedance dispersion anal., electrode/electrolyte interface process 9-11798
 ZrO₂, electrochemical cells for O₂ sensing, EMF oscils. 9-47999
- cellular biophysics**
see also biomembrane transport; biomembranes; cellular effects of radiation; cellular transport and dynamics; lipid bilayers
 algal suspension, light scatt. expts. and theory, ang. depend. 9-16166
 alveolar brush cells of rats, SEM obs. 9-34517
 animal behaviour, neural control, book contrib. 9-2041
 arterial smooth muscle, pig, estimates of cellular mechanics 9-16229
 automata cell sorting with flow systems, book contrib. 9-5435
 axon, squid, Ca buffering, review, book contrib. 9-5267
 bacteria, radiometric estimation of replication time in culture using ¹⁴CO₂ 9-16170
 bacteria as biogenic sources of freezing nuclei 9-20948
 bacteria light scattering patterns, appl. of Mie theory and cubic splines 9-36838
 bacterial cell wall structure study by STEM, S/N enhancement by interactive computation 9-5427
 bacteriorhodophyll absorption polarisation, in liq. cryst. cell 9-24950
 biochemical model, phase transition induced by external noise 9-17377
 biochemical reactions, fast, in solns. membranes and cells, conf., Airlie, USA (Apr. 1978) 9-8485
 Birbeck granule-containing cells of mice, occurrence of cored tubule 9-34515
 blood, magnetic relax. time of H₂O protons 9-11898
 blood cells, computerised spectral meas. 9-25058
 blood red cell effect on blood flow velocity profiles in small tubes 9-25014
 bone, marrow and leucocyte preservative freezing apparatus 9-39617
 cancer chemotherapy, cell kinetics system model 9-48229
 cell analysis, high speed light scattering system 9-12042
 cell size meas., laser flowthrough microphotometer, double-beam technique, internal calibrated 9-17391
 chlorella, delayed fluoresc., ns laser pulse excited, fast phase kinetic anal. 9-24951
 chlorophyll, a and b, lowest singlet-singlet transition, solvent effects 9-24952
 chlorophyll a in photosynthetic material, luminesc. 9-34498
 chlorophyll in aqueous solns., electrochem. behaviour, cathodic reduction 9-29373
 chlorophyll monolayer electrodes, light energy conversion, photosynthesis electrochem. simulation 9-43833
 chromatin packings, scanning microscope photometric image analysis (*German*) 9-5409
 chromatin structure of cell nuclei using scanning microphotometry and TV image anal. 9-34720
 chromosome density profiles, description and classification 9-43830
 chromosomes, human, satellite associations 9-34518
 collagen fibril, ultrastruct. 9-48226
 cytochemical leucocyte differentiation and radioimmune assay (*German*) 9-5412
 cytological preparation evaluation, optical preliminary data reduction (*German*) 9-5392
 diploid fibroblasts, human, nuclear morphometry 9-43831

cellular biophysics continued

- discrimination of cells, paraxial anal. of light scatt. in flow system 9-11907
- disturbed cell renewal control system modelling and simulation 9-29510
- DNA natural storage of information, comparison with digital mag. recording 9-2009
- E. coli* cells, anaerobic metabolism, ^1H correlation NMR spectra 9-43978
- ellipsosomes in fish cones, ultrastruct. and staining props. 9-11924
- epithelial tissue pattern recognition 9-25145
- erythrocyte, surface area and vol. calcs. from scanning electron micrographs 9-5259
- erythrocyte membrane, viscoelastic props., theoretical and expt. studies 9-16157
- eye, rod outer segments, shedding behaviour under constant light, darkness 9-2050
- eye crystalline lens, frog, elec. props. of struct. components 9-24982
- freeze conservation control unit (*German*) 9-5410
- genetic and physiological process control by magnetic methods (*Russian*) 9-2088
- growth regulation modelling 9-2014
- hair cells, inner, role of in hearing 9-43932
- heart adaptation to large loads structural changes simulation 9-5258
- hydrated cells, heavy ion microradiography with SEM imaging 9-16360
- hydrocarbon carcinogenesis, fluoresc. meas. in cells 9-39343
- hydrophobic effect, organisation of living matter 9-11887
- immobilised enzyme systems, industrial appls. 9-29399
- leucocytes, differential counts, comparison between light and electron microscopic results 9-5429
- light absorption in non-homogeneous objects, sieve effect 9-22896
- light scattered from microscopic regions, photon correlation spectroscopy 9-44933
- light scattering from biological cells, backscatter depend. on membrane thickness and refr. index 9-48225
- light single particle scattering, asphericity effects 9-7069
- liquid crystal technological appls., role in biological systems (*Croatian*) 9-10788
- liver tissue and tumour proton mag. relaxation rel. to Fe content 9-39355
- living cell metabolism, laser Raman spectrosc. obs. (*German*) 9-29577
- lung cancer detection by Kr laser fibre-optic bronchoscope (*German*) 9-12024
- mammalian cells, interactions with liposomes, review, book contrib. 9-5261
- mammary tumours, paramagnetic changes during development in rat 9-39425
- medical image structural analysis, fast feature extraction (*German*) 9-5393
- membrane suspension physiology and induced pathophysiology, noninvasive analysis using EM method 9-2125
- microscopic images, computer processing (*Japanese*) 9-39373
- mitochondria in rat liver and monkey cardiac muscle, SEM obs. 9-34516
- mitochondrial cytochrome b, evidence for two or more components 9-24944
- mitochondrial DNA, nucleotide sequence in human, replication origin identification 9-29502
- morphometric cytology pictorial pattern recognition appl. 9-25179
- multiplication regulation in normal and transformed cells, role of Ca^{2+} and Mg^{2+} 9-2012
- muscle, frog, vacuolation and subcellular comp. in fatigue, electron probe anal. 9-24963
- muscle cell cultures biology, book contrib. 9-2031
- muscle fibres, computed extracellular pots. 9-43843
- muscle fibres, fibrillar, tension transients affected by stretch-dependent binding of AMP-PNP 9-20562
- muscle fibres, rabbit psoas, stiffness and tension after sudden length changes 9-25007
- muscular strength, relationship with muscle energy sources, Wistar rat 9-11904
- mutation theory, physical model of genetic stability 9-8486
- myocardial cells, cats, improved techniques for studying surface topography by SEM 9-34712
- myoepithelial cells, SEM examination 9-34713
- nerve cell cultures biology, book contrib. 9-2031
- neural inhibitory network, probabilistic and stochastic anal. (*Japanese*) 9-39410
- neural nets, rhythmic movement generation, lobster, leach, book contrib. 9-5273
- neuroblastoma tumour, thermal conductivity and diffusivity meas. 9-5252
- neuron response to stationary and moving visual stimuli, cat superior colliculus 9-43893
- neurons, cat, cytoplasmic laminar body identification by phase contrast microscopy 9-48385
- neurons, harmonic-sensitive, mustache bat auditory cortex 9-43933
- pacemaker transmembrane potential generation in fish heart sinoatrial cells 9-39395
- photosynthetic systems, magnetooientated, fluorescence polarisation theory 9-16165
- plant cell walls, viscoelastic props., hysteresis loop in the stress-strain curve 9-25009
- plant cell walls, viscoelastic props., mathematical formulation for stress relax. 9-25008
- plant cell walls, viscoelastic props., pre-extension rate effect on stress relax 9-29542
- pollutant exposure, effect of chem. variability of fly ash particles 9-16172
- Raman scattering, enhanced anti-Stokes, of *C. pyrenoidosa* living cells 9-16171
- reactive polymers, for enzyme immobilised enzymes 9-29398
- red cell membrane protein monolayers, viscoelastic props. 9-48224
- retina, goldfish, X-like and not X-like cells obs. 9-43837
- retina electrical activity and lipid peroxidation 9-43885
- retinal ganglion cells action pots., goldfish, function of lighting conditions 9-43888
- ribosomal particles, electron microscopic investigation using tilting technique 9-34514
- separation of living cells, local conc. gradient determ. by conductivity meas. (*German*) 9-5411
- serial section models of human lung endothelial cell nuclei, estimation of mean caliper diameter 9-29679

cellular biophysics continued

- serial section models of rat lung cell nuclei, estimation of mean caliper diameter 9-25165
- single motor unit, recording during strong effort 9-11908
- striate cortex cat, orientation selectivity of single cells 9-2053
- striated muscle contraction, intracellular control of force development 9-48228
- structural change dynamics in biological particles, rapid light scatt. meas. 9-39615
- syncytia, spherical, electrical props. 9-24962
- tissue change detection in rabbit urinary bladder, holographic laser interferometry appl. (*German*) 9-34625
- vascular smooth muscle cells adventitial aspect visualisation under SEM 9-20523
- white blood cell images boundary finding 9-12021
- yeast cell wall component contrib. to IR spectra 9-39371
- ^{11}C , production for studies on photosynthesis, transport and metabolism in plants 9-39502
- HeLa cell chromatin, effects of hyperthermia on protein-to-DNA ratio 9-11905
- cellular effects of radiation**
- see also biological effects of (type of radiation)
- algae, filamentous blue-green, effects of high and low UV fluences 9-48294
- bacterial photosynthesis, and model systems, electron transfer, ps studies 9-48214
- bacterial photosynthesis, ultrafast events, picosecond obs. 9-39375
- bacterial photosynthetic reaction centre, fast electron transfer processes 9-8479
- bacterial spores, thermorestitution of mutagenic radiation damage 9-20524
- bacteriorhodopsin, enthalpy changes during photochemical cycle 9-34602
- bacteriorhodopsin-containing membrane fragments, quantum yield of flash-induced proton release 9-34601
- biochemical indicators of radiation injury 9-34607
- blue-green algae, UV dose modifying effects of acriflavine 9-43963
- bone marrow cell-culture, RBE of different-energy neutrons 9-34508
- bone marrow colony-forming units in beagles, response to whole-body γ irradiation 9-25043
- bone-ZZ 9-25113
- breast carcinoma, appearance of non-specific suppressor cells in the blood after local irradiation 9-20597
- bronchial tumour reaction to combined neutron-telecobalt therapy 9-20642
- carcinogenesis, stochastic model, obs. from chemical and radiation dose-response data 9-2110
- carcinogenesis theory, cell survival-depend. dose-rate effects 9-11973
- carcinogenic risk estimation, comparison of radiation therapy and chemotherapy 9-20592
- carcinoma cell metabolism, Ehrlich ascites, effects of microwave radiation 9-2104
- Chinese hamster cell, γ -dose survival, seasonal variations 9-43959
- Chinese hamster cells, DNA replication after X-irradiation 9-11986
- chlorophyll in marine dinoflagellates, photosynthetic characts. and organisation 9-5260
- chloroplast photosystem II photoinduced EPR centres 9-39372
- chromosomal aberrations for tritiated water dose, Swiss albino mice 9-2112
- chromosome aberrations of peripheral lymphocytes in rabbits exposed to whole body X-irradiation 9-43834
- chromosome condensation and X-induced G_2 arrest 9-34510
- cyclic nucleotide changes in X-irradiated synchronized *Tetrahymena* 9-25046
- damage model, radiation chemistry approach for direct and indirect effects 9-11974
- diploid yeast, liquid-holding recovery, nature of damage after α - and γ -irradiation 9-16256
- DNA, damage from ionising radiation, repair mechanisms 9-11987
- DNA base damage detection method, UV induced pyrimidine dimers in human cells 9-44067
- DNA damage of Chinese hamster ovary cells on X-irradiation after preheating 9-34493
- DNA strand breaks, lymphoma cells, detected by hydroxyapatite chromatographic technique 9-43819
- DNA synthesis by DNA-membrane complexes from electron irradiated *E. coli* 9-16167
- E. coli*, DNA repair in radiation resistant and radiation sensitive strains 9-34489
- E. coli*, relative rates of repair of single-strand breaks and postirradiation DNA degradation 9-16149
- E. coli*, UV-irradiated, DNA double-strand breaks from single photochemical events 9-16151
- E. coli*, UV-irradiated, DNA single-strand breaks and alkali-labile bonds 9-16152
- E. coli* inactivation, 365 and 254 nm radiation synergism 9-25044
- E. coli*, radiation response of thymine-starved bacteria 9-11981
- Ehrlich ascites tumour cells, influence of O_2 tension of X-ray-induced fall in anodic mobility 9-34526
- electron microscope superconducting lens system for reduction of radiation damage 9-34718
- EM pulse environment, tests of biological integrity in dogs 9-39448
- erythrocytes, gas reactions, shape changes microspectrophotometry obs. 9-8488
- erythropoietic differences in mice after whole-body irradiation 9-25045
- Euglena gracilis*, effects of EM fields on motion 9-16174
- excitable nerve membrane exposed to optical radiation, surface-charge density variation, comment 9-8524
- eye, rod outer segments, shedding behaviour under constant light, darkness 9-2050
- eye lens fibre damage after laser irradiation, rat 9-39374
- fast neutron and photon therapy, randomised clinical trials 9-20638
- fast neutron sublethal damage and cell division delay expts. 9-20588
- fast neutron teletherapy, preliminary clinical results 9-20639
- fast neutron therapy with medical cyclotron, clinical results 9-20643
- fast neutrons in normal tissue, early and late damage obs. 9-20590
- fetal fibroblasts, UV induced chromosomal abnormalities, New Zealand Black mice 9-43836
- fibroblast cells, human, comparative response to 50 MeV neutrons 9-34512
- G 9-16251

cellular effects of radiation continued

gram (cicer arietinum L.), γ irradiation effects 9-34609
greening bean leaf low-temp. fluorescence induction obs. 9-39354
haematological findings significance for medical exam. of radiation employee (*Japanese*) 9-11971
haematopoietic stem cells, susceptibility to ^{55}Fe radiation damage 9-11975
heavy ion and He effectiveness on tumour systems 9-20587
heavy ion and He inactivation of mammalian cells, radiobiological characterisation 9-20585
heritable lesions, radiation induced, in proliferating mammalian cells, review 9-20602
jejunum, mouse, effect of hyperthermia on radiation response 9-25038
kidney cells, hamster, photodynamic induction of oncogenic virus 9-25029
laser emission for functional activity regulation of human cells 9-43957
lecithin bilayers, reaction kinetics of radicals, OH, e_{aq}^- 9-11886
lethality computation, dose-time relationship, fractionated radiation therapy 9-20598
lipid metabolism disorder in mice due to microwave exposure (*French*) 9-34600
liver cell proliferation, rat, failure of X-ray hepatoma production 9-25050
lung, ^{210}Po , ^{214}Po , α -particle effects in Syrian golden hamster 9-16304
lymphocytes, chromosome aberrations rel. to radiation dose, A-bomb survivors 9-43835
lymphocytes, comparative effects of γ -rays on T and B cells 9-11968
lymphocytes, human, chromosome aberrations induced by ^{252}Cf neutron radiation 9-16169
malignant melanoma, relationship between total dose, fraction number, fraction size 9-5341
mammalian cell growth and genetics under constant mag. field exposure 9-34520
mammalian cells, Chinese hamster, human kidney, radiation studies with modulated C ion beam 9-11978
mammalian cells, lack of correlation between heat and radiation sensitivity 9-20599
mammalian cells, replicon sizes estimated by X-ray plus bromodeoxyuridine photolysis method 9-16353
mammalian cells, thermal enhancement of γ -irradiation effectiveness of reproductive death induction 9-34509
mammalian cells, UV-irradiated, DNA repair kinetics 9-20513
mammalian liver structural changes, US thresholds 9-48287
mammalian tissue mitotic activity inhibition by strong mag. fields 9-34519
mammary adenocarcinomas, effects on tumor cell survival after irradiation, mice 9-25036
mammary gland cells, rat, survival after X-irradiation under different endocrinological conditions 9-34513
melanoma cell strains, human, γ -radiosensitivity and growth parameters 9-29574
membrane potential changes on X-irradiation 9-39369
micro-algae layers for various sun elevations and uniformly bright sky, capture cross sections determ. 9-23039
micro-organisms irradiated with monoenergetic X-rays, biological consequences of Auger effect 9-11969
microorganisms, photobehaviour, review, book contrib. 9-5329
microwave cellular, subcellular and molecular effects (*Russian*) 9-16249
microwave effects of membrane level, athermal electrophysiological mechanisms and experimental test 9-2108
microwave radiation on cells in vitro, study using waveguide exposure chamber 9-5327
mitochondria, rat liver, vitamin E deficient, effect of X-irradiation on proteins 9-34511
nerve membrane, excitable, charge density due to optical irradi. 9-8526
neutron relative biological effectiveness in different exptl. tumours, 15 MeV neutrons 9-20591
neutron therapy clinical trial programme in USA 9-20640
nuclear-dockyard workers, radiation-induced chromosome aberrations 9-34606
optic lobe neurosecretory cells of *Poekilocerus pictus*, effects of visual stimulation 9-5279
pea roots, effects of localised US irradiation 9-48285
permeability changes after X-irradiation 9-39370
pheophytin reduction obs. in higher plant photosystem II 9-43817
photobiological conversion of solar energy (*German*) 9-2013
photoreceptors, ventral, light-induced conductance changes in *Limulus* 9-8506
photorespiratory NH_3 cycling, reassimilation involving glutamine synthetase 9-2011
photosynthesis, fluoresc. and energy transfer, time resolved obs. 9-48216
photosynthesis, oceanic, in situ quantum efficiency determ. using photoelec. sensor chlorophyll simulator 9-39760
photosynthesis, picosecond fluorometry in primary events 9-8476
photosynthesis, primary, selectively excited by tunable ps parametric oscillator 9-48163
photosynthetic membrane, in vivo, light collection and exciton dynamics 9-48215
photosynthetic membranes, exciton dynamics, picosecond pulse train study 9-8483
photosynthetic reaction centre, chlorophyll function 9-5251
photosynthetic reaction centres, primary electron transfer rate 9-8481
picosecond flash photolysis in biology and biophysics, book contrib. 9-5328
pigment reversible changes due to illumination of leaves 9-43818
pion $^-$ biological effectiveness and O_2 enhancement ratio obs. 9-20595
plant photosynthesis, solar energy conversion, book contrib. 9-43781
pollen, *Petunia*, post X-ZZ 9-29569
Pollen, *Pinus Silvestris*, effect of X, UV irradiation on NAD(P), NAD(P)H, hydroxyproline levels 9-20582
population kinetic parameter derivation from clinical statistical data 9-43965
retina, teleost, enhancement of hyperpolarising S-potentials of surround illumination 9-2051
retinal damage from suprathreshold Q-switch laser exposure 9-5274
retinal photocoagulation by laser beam, temp. and bleaching dynamic meas. (*German*) 9-2098
reticular cell spectral sensitivities in bumblebees, optical method meas. 9-2057
rhabdomyosarcoma, rat, response to Ne and He ion irradi. 9-25042

cellular effects of radiation continued

sister chromatid exchanges, X-induced, cultured mammalian cells 9-43832
skin γ and neutron responses, dose fractionation effects 9-20593
skin acute response, human, pion $^-$ relative biological effectiveness 9-20596
skin growth regulation, mouse, after X-irradiation, possible role of chalcones 9-16168
slime mould mitotic cycle lengthening by ELF waves 9-25032
small intestinal cryptogenic cells in W/W u mutant mice, survival curves after X-irradiation 9-11980
small peptide antibiotic and protein solns., US absorption 9-48286
spermatogenesis in sugarcane root borer, γ irradiation effects 9-34608
splenocyte locomotion, X-ray inhibition and bacterial protection 9-25047
survival as function of depth, modulated negative pion beams 9-43966
testicular stem cell, mouse, regeneration after γ irradiation 9-25048
transducer noise in locust photoreceptor, intracellular responses 9-34560
tumour, effect of vascular occlusion on thermal sensitization and X-irradiation in mouse 9-16253
tumour and normal cell microwave transmission 9-2107
tumour growth inhibition in mice, microwave irradiation, 3000 MHz 9-2101
tumour model, potentiation of radiation lethality by hyperthermia 9-25037
tumour response to neutron radiation therapy, animal expts. 9-20594
tumours, biological effect of 27.12 MHz SW diathermy 9-2102
UV and X-ray damage, interaction in Chinese hamster cells 9-11977
vascular permeability in rat ears after X-irradiation 9-5330
wallaby cells, absence of effect of photoreactivation on sub-lethal damage accumulation 9-11970
yeast cell, caffeine inhibition of liquid-holding recovery from UV induced budding delay 9-11985
CO light-dependent net prod. by intact plant shoots, rel. to photorespiration 9-2010
HeLa cells, synchronised, DNA damage from UV irradiation 9-25034

cellular method

No entries

cellular transport and dynamics

see also cell motility

apical membrane of load gallbladder, K $^+$ selective channels 9-2018
axon, giant squid, current fluctuations obs. 9-24973
axon, squid, Ca buffering, review, book contrib. 9-5267
axon, squid, Na channel inactivation, removed by high internal pH or tyrosine-specific reagents 9-20534
axon, squid, physiological role of ATP driven CA^{2+} pump 9-43865
bacterial movement in viscous environments 9-43840
biological n-compartment model, identification by filtering techniques 9-34507
biomembrane transport catalysis, ADP/ATP carriers of mitochondria (*German*) 9-29512
Biophysical Society, 23rd annual meeting, conf., Atlanta, USA (Feb. 1979) 9-34468
black lipid membranes, permeability of cyclic nucleotides 9-39376
blood, effect of flow channel thickness on surface-induced damage 9-39439
blood, flowing, electrical resistivity changes (*Japanese*) 9-2015
blood corpuscle settling rate automatic fast meas. (*German*) 9-5413
burn-induced leakage of macromolecules in living tissue 9-29514
cardiac blood pool visualisation, ^{99m}Tc labeled red blood cells and serum albumin 9-29601
cardiac Purkinje fibres, sheep, intercellular clefts effect on elec. props. 9-34522
cerebellar Purkinje cells, synaptic action depression by inferior olive destruct. 9-34544
cerebral ventricle, intact, site for allografted mature superior cervical ganglion fragments in rats 9-8493
ciliary motor responses, intracellularly recorded receptor currents 9-11916
crustacean neuromuscular junctions, synaptic facilitation obs. 9-39412
cystic fibrosis, mitochondrial Ca uptake and O_2 consumption 9-43839
disturbed cell renewal systems simulation via microprocessor system 9-48227
Ehrlich ascites tumour cells, influence of O_2 tension of X-ray-induced fall in anodic mobility 9-34526
endocrine tumours, silent, feedback system cell number change effects, steady-state anal. 9-20526
erythrocyte membrane, pulse NMR meas. of water exchange 9-43826
erythrocyte membrane hydraulic cond. determ. 9-34528
erythrocyte suspensions, human, HCO_3^- , Cl^- exchange 9-8487
erythrocytes, gas reactions, shape changes microspectrophotometry obs. 9-8488
erythrocytes, motion and deform. in the microcirculation 9-29513
erythrocytes, rat, ^{99m}Tc labelled, factors affecting splenic deposition of heat damaged cells 9-29596
flagellar hydrodynamics, resistive-force theory compared to slender-body theory 9-24961
Halobacterium species, passive elec. props., membrane ionic flow 9-24970
heart, muscle cells, Na current, electrophysiological studies, rat 9-43838
ionophoretic model for Na-Ca counter transport 9-2017
K activation associated with intraneuronal free Ca 9-8494
light scattering by cells in flow system, paraxial anal. 9-11907
liver, distributed model for transcapillary exchange and solute removal 9-34524
membrane permeability changes after X-irradiation 9-39370
mitochondrion, elec. props. and struct. transitions 9-24943
motor neuron firing pattern in *Aplysia* 9-48244
muscle innervation-like effect, substances moved by axonal transport, released by nerve stimulation 9-16197
muscle mitochondria, fish, physiological corrls. of Ca accumulating props 9-20527
nerve cells and circuits, insights into construct. by genes 9-39411
neuromuscular development, synaptic channel gating props. changes 9-16195
neuron, intracellular Ca movement during pentyleneetetrazole induced bursting activity 9-8495
oocytes, salamander, free and bound intracellular solutes, reference phase anal. 9-24966
oocytes, salamander, free and bound intracellular solutes, reference phase anal. 9-24967

cellular transport and dynamics continued

- phospholipid bilayer membranes, voltage depend. channel form. by colicin K 9-8490
platelet diffusivity estimation in flowing blood 9-25010
red cell Ca pump, ATP regulation 9-29511
retinol-binding proteins in retinal pigment epithelium 9-20525
sedimentation process for biological isotope separation 9-44066
skeletal muscle, excitation-contraction coupling, blockade by high extracellular concs. of Ca buffers 9-20528
skeletal muscle of frog, displacement currents, K cond. channel contrib. 9-39409
skin, frog, Na^+ transients, network thermodynamic approach to compartmental anal. 9-24968
squid giant axon, response of delayed K^+ channels to time-dependent clamping functions 9-39382
stability and control of cell cycle kinetics, cancer chemotherapy appl. 9-34521
water flux through aortic tissue, model 9-48230

cements (building materials)

- used only for those materials which bind together particulate matter so as to form a coherent mass of considerable strength. For cements that cause two or more separate masses to adhere see adhesion*
asbestos cement, resistance to crack growth 9-29185
coated cement stone heat and mass transfer obs. (Russian) 9-14219
fatigue hardening 9-29086
fibre reinforced, mech. and rheological props. (German) 9-20129
hydration kinetics, microwave obs. 9-34255
Portland cement paste, hardened, creep under cyclic temp. 9-8320
 B_2O_3 - PbO (ZnO) glass-ceramic-cement composites, review 9-38783
 $\text{Ca}_3\text{Al}_2\text{Fe}_2\text{O}_{10}$, Portland cement clinker, formation kinetics 9-43191
 CaAl_2O_4 hydration, US wave propag. study 9-39114
 CaAl_2O_4 phase transform. accompanying hydration, US and X-ray obs. 9-39115
 CaO-SiO_2 cements, effect of additives on compressive strength, carbonisation shrinkage, frost resistance 9-1897
 Ca_3SiO_5 , thermomechanical effects on form. 9-15635
 $\text{Mg}_3(\text{OH})_4(\text{NO}_3)_2$, nitrate based cement binder formed from MgO powder 9-15634
 $\text{ZnO-B}_2\text{O}_3\text{-SiO}_2$ glass-ceramic-cement composites, review 9-38783

centrifuges

- aerosol centrifuge, calibration at unmatched relative humidities between stream and aerosol air 9-41775
crossed-field plasma centrifuge, effect of ion wind on separation 9-31722
gas, for separation of U isotopes 9-3227
nuclear fuel reprocessing by Purex process, adaptation of centrifuge technology to active conditions 9-26684
rotating structures finite element analysis, cylindrical shell with end plate subjected to centrifugal force (Japanese) 9-1104
ultracentrifugation, rotor matching, laboratory use 9-40556
ultracentrifuge, flow, isotope conc. field, numerical model 9-1199
U enrichment, layout of gas centrifuge cascades 9-26587
UF₆ centrifuge cascade, power supply loss accidents anal. 9-13502

ceramics see cermets**ceramic industry**

- automated sintering and hot pressing system 9-33961

ceramics**see also ceramic industry; refractories**

- β -alumina, Na heat engine appl., principle and thermal efficiency 9-48179
 β -eucryptite, glass-ceramics, internal stresses 9-15770
 β -spodumene, glass-ceramics, internal stresses 9-15770
AE meas. under maintained load (German) 9-43315
alumina ceramic artificial hip joint wear tests (German) 9-8567
artificial hip joint, wear and friction tests (German) 9-8568
atomic pile fuel (Polish) 9-22394
bioceramic, SnO_2 coated, for artificial heart valves, mech. props. (German) 9-12028
bioceramics in orthopaedic surgery, internal struct. of inorganic parts in bones (Polish) 9-20714
bone bioceramic implants, surface structure (German) 9-44057
bone substitute materials, sintered hydroxylapatite as bioceramic 9-12036
 $\text{Ca}_3(\text{VO}_4)_2\text{-Zn}_3(\text{VO}_4)_2$, exam. of phase composition and phase diagrams 9-1851
 CaO-SiO_2 , wollastonite, exam. of synthesis by hydrothermal sintering (German) 9-4934
chinaware, semivitreous, eval. of crazing resistance by stress meas., after autoclaving (Japanese) 9-20235
chinaware, vitreous, elimination of crazing by repeating glaze firing (Japanese) 9-20236
compact, morphological investigations significance 9-33988
cordierite, dense ceramic prep. with sintered condition over 300°C interval 9-33983
cordierite glass, effect of crystn. on thermal diffusivity 9-33127
corundum ceramic, high-temp. treatment, powder medium effect on microstruct., comp., strength and dielec. props. 9-33984
corundum synthetic raw materials, sintered and fused, use in refractories industry, slagging, creep, thermal shock resistance (German) 9-4937
crack propagation, microstructural aspects 9-15771
deformation mechanism map 9-34109
diamond ceramic, elec. cond., thermal cond. rel. to temp. 9-15140
electroceramics, thermoluminescent and dosimetric characts. 9-8196
F 9-42913
feldspars, sintering props. 9-29006
ferrites, M type anisotropic, powder prep. and, sintered, effect of powder and pressing technology on alignment (German) 9-24472
ferroelectric, optical modulation by electrostriction during electron beam charging, spatial characts. 9-7224
ferroelectric ceramics, 1-D linear dynamic electromechanical responses 9-47397
ferroelectric ceramics, elastic and piezoelec. eigenstate spaces 9-42901
ferroelectric hysteresis cycle computing from a statistical model (French) 9-11393
ferroelectricity, conference, Leningrad, USSR (1977) 9-15406
flat parts containing Ti, efficiency increase in fine diamond polishing 9-20228
fracture mech. appl. 9-43426
fracture stress rel. to flaw and fracture mirror sizes 9-11689
glass ceramic, nucleation and growth studies by small-angle neutron scatt. 9-32913
ceramics continued
glass-ceramic/bone histological and mechanical bonding (German) 9-8569
glaze, abrasion resistance 9-38984
high-temperature transmission/wavelength characteristics (French) 9-7188
highly electrostrictive ceramic capacitor 9-47390
hydroxylapatite, sintered bioceramic, prep. and props. 9-43174
MC planar, design based on TMS 9980 (Italian) 9-21697
mechanical behaviour, book 9-38983
mechanical engineering props. and applics., conf., London, England (December 1977) 9-38840
metal oxides, polymorphic (chemipolymorphic) transitions 9-11603
metal to ceramic joint, problems of characterizing the adherence 9-4351
metal-ceramic containing diamond, impact hardening 9-15828
moulding material containing SiC, moisture content measurements UHF range 9-34404
multite, synthetic raw materials, sintered and fused, use in refractory industry, slagging, creep, thermal shock resistance (German) 9-4937
nuclear ceramics, quantitative image anal. using light and SEM obs. 9-12912
optical ceramic KO-1 strain, yield limit, and stress relaxation obs. 9-46018
optical glass ceramic, (sital) surface operation parameters, selection using bending strength tests 9-32101
oxide ceramics, dependence of props. on raw materials, exam. using ceramic magnets as model (German) 9-4936
oxide fuels, in-pile densification by vacancy boil-off and vacancy knockouts 9-8259
phase diagrams, exam. of compilation activities 9-8287
phase equilibria, use in development of high temp. structural ceramics 9-1595
piezoceramic medium, electroelastic waves, magnetic accompanying effects (Russian) 9-28680
piezoceramic microwelding transducer component oscillation amplitude 9-26046
piezoceramic planar Poisson ratio variation with poling conditions 9-11391
piezoelectric ceramic platelets, geometry effect, effect on props. of flexural oscillator (German) 9-32168
pile fuel (Polish) 9-17985
plasticity determ. using drying process and shrinkage 9-20307
PLTZ ceramics, ferroelec., special props. 9-42916
porcelain, elec., high-strength, development from ceramic raw materials mech., elec. props. 9-24630
porcelain enamel, electrocoating, appl. 9-33947
porcelain enamel panels, TiO_2 -opacified, quantitative X-ray diffr. anal. anatase, rutile 9-32857
porcelains, sintering props. 9-29006
porosity, exam. using image analyser and optical microscopy (French) 9-15880
powder pressing review 9-47652
pyroxene slag glass ceramics, exam. of synthesis conditions, influence of catalysts 9-4942
PZT, ferroelec. ceramic, mechanical props. determ. by acoustic technique 9-28685
quartz glass-ceramics, atm. influence on sintering rate 9-38784
rare earth niobates, pyrochlore structure, synthesis and props., 9-11533
refractory ceramic, heterogeneous, significance of non-elastic deform. fracture 9-47765
SAW filter development and applications 9-23156
semiconducting, meas. cell and setup for elec. resist. meas. 300-1400°C 9-30488
semiconducting ferroelectric glass-ceramics, dielectric dispersion (Russian) 9-8097
shrinkage kinetics meas., high-temp. dilatometer system 9-17396
sintered, thermal diffusivity meas. by flash with negative pulse, plasma heating 9-37888
space flight applications in materials science 9-47885
spinel oxide, dissociation of dislocations and plastic deform., temp. effect 9-7613
Steatit ceramic strength determination by measuring US dynamic elastic modulus (German) 9-43301
stress intensity factor estimates for a peripherally cracked spherical void and a hemispherical surface pit 9-29196
stress-strain diagrams, anal. and classification of low deforming materials by their behaviour under stress 9-15753
structural components, design criteria and structural testing 9-39083
surface flaw detection by SAW scatt. 9-47866
suspension, automated meas. of viscosity 9-37258
synthetic raw materials, exam. of chemical preparation methods (German) 9-4930
synthetic raw materials, sintered and fused, use in refractories industry, slagging, creep, thermal shock resistance (German) 9-4937
Terra Sigillata from La Peniche, Switzerland, chem. comp., mineralogy and porosity 9-26198
thermal fatigue life prediction 9-38939
thermal shock resistance determ., new heat flux method (Japanese) 9-39075
TiS-TiN, dynamic piezoelec. modulus (Russian) 9-28681
turbine disc, subjected to centrifugal stresses, failure probability, photoelastic model 9-18816
utilization in nuclear industry, current status and future trends, review 9-45349
zeolites, synthetic, effect of sintering on elec. cond., porosity and microstruct. 9-29009
 $2\text{ZrSiO}_3\text{3Al}_2\text{O}_3$, identification of stages in reactive hot-pressing 9-11544
 Al_2O_3 , corrosion resistance of phosphate bonded castable, and dense fired types in steam CO at 199°C 9-20222
 Al_2O_3 , calcined, exam. of morphological changes during calcination SEM, exam. of sintering behaviour (German) 9-4931
 Al_2O_3 , ceramic compact, morphology 9-33988
 Al_2O_3 , commercial, Na_2O impurity removal and modifier in incorporation 9-43183
 Al_2O_3 , corundum ceramic, effects of Na_2O , CaO additions on sintering struct., props. 9-15630
 Al_2O_3 , crystallite size and lattice distortion, determination using X-ray line broadening analysis, appl. to ceramic powders 9-8261
 Al_2O_3 , deformation mechanism map 9-34109
 Al_2O_3 , derived from metalalkoxides, sintering behaviour 9-29005

ceramics continued

β -Al₂O₃, effect of furnace atmosphere on sintering, and densification 9-20010
 Al₂O₃, fatigue, static and dynamic in moist air 9-39002
 Al₂O₃, glass resistant, plasma coating props. 9-34164
 Al₂O₃ insulators, surface treatment with Mn-Ti, effect on voltage-holdoff in vacuum 9-24261
 Al₂O₃, layer, obtained by reactive evap., surface struct. and morphology (Polish) 9-28242
 Al₂O₃, liq., viscosity determ., oscill. cup technique 9-23758
 Al₂O₃, liquid, exam. of diffusion parameters, using Al²⁶ 9-1518
 Al₂O₃, melting speed, effect of struct. and grain shape (Polish) 9-29002
 Al₂O₃, polycrystalline, conditions for formation of anion vacancies 9-10844
 Al₂O₃, polymorphic transitions during heat treatment at 900-1500°C 9-11607
 Al₂O₃, prefired substrate, acid treatment, improvement in as-fired surface finish 9-24636
 α -Al₂O₃, radiation damage in HVEM, at high temp. and high dose 9-46707
 α -Al₂O₃, radiation damage in HVEM, temp. depend. of displacement threshold 9-46706
 Al₂O₃, residual stress reduction by ultrasonics 9-24575
 Al₂O₃ sintered surfaces, premetalizing with Mo-Mn-SiO₂ 9-47792
 Al₂O₃, sintering behaviour and props. of 24 aluminas (German) 9-4932
 Al₂O₃ sintering in liq. phase presence, particle rearrangement 9-29004
 Al₂O₃, sintering response with const. rate of heating, depend. on processing related pore distrib. 9-28992
 Al₂O₃, spray dried agglomerates, compaction response, fracture, deform. 9-43172
 Al₂O₃ suspensions, grinding method influence on rheology and suitability for high-density sintering 9-29001
 Al₂O₃, validity of high pressure Hg intrusion porosimetry 9-24697
 Al₂O₃, vitreous-bonded, mech. behaviour under various stress-time schedules 9-38968
 Al₂O₃-Cr₂O₃ melt, exam. of surface tension and density 9-1541
 Al₂O₃-Dy₂O₃, phase diagram at high temps. (Japanese) 9-38810
 β -Al₂O₃-H⁺(H₂O)_n, p-type conductor, stability (French) 9-38063
 β -Al₂O₃-NH₄⁺, p-type conductor, stability (French) 9-38063
 β -Al₂O₃-Na₂O, hot pressing and phys. props. 9-4940
 β -Al₂O₃-Na₂O, Li₂O stabilized, texture conductivity relationship 9-47788
 β -Al₂O₃-Na₂O, synthesis, ceramic form., sintering, cond. 9-11537
 β -Al₂O₃-Na₂O electrolyte development for Na-S battery 9-29461
 β -Al₂O₃-Na₂O tube life determ. for Na-S battery 9-29462
 Al₂O₃-SiO₂, derived from metalalkoxides, sintering behaviour 9-29005
 Al₂O₃-SiO₂, mullite, powder, synthesis using silicic acid, clay and AlCl₃ (German) 9-4933
 Al₂O₃-SiO₂ melt, exam. of surface tension and density 9-1541
 Al₂O₃-SiO₂-CaO-B₂O₃(1,1,1 wt.%) chemical analysis by photocolourimetry and titration 9-20483
 Al₂O₃-SiO₂-MgO, cordierite, powder, synthesis using silicic acid, clay and AlCl₃ (German) 9-4933
 Al₂O₃-SiO₂-TiO₂-B₂O₃-Fe₂O₃, exam. of porous structure, using a combinational method 9-29303
 Al₂O₃-ZrO₂, tetragonal to monoclinic transform. of ZrO₂ particles (German) 9-43240
 Al₂O₃-ZrO₂ composite, fracture toughness increase by microcracking in energy dissipative zone near crack tip 9-20156
 Al₂O₃+TiC system, elastic and fracture charact. at elev. temp. (German) 9-43299
 Al₂O₃⁺, spark source mass spectrometric study of species 9-29423
 Al(OH)₃, derived from metalalkoxides, sintering behaviour 9-29005
 Al₂TiO₅, sinterability improvement by partial decomposition 9-28994
 Al₂O₃, corundum, abrasive, evaluation of brittleness, contact endurance by cyclic microhardness 9-15890
 α -Al₂O₃, thermoluminescent trap stability, 450 to 1400°C 9-24372
 B₂O₃-PbO(ZnO) glass-ceramic-cement composites, review 9-38783
 BPO₄-AlPO₄, non-equl. phase diagram, electron microscope obs. 9-43225
 Ba ferrite powder, effect of lattice defects on coercivity (German) 9-24194
 BaFe₁₂O₁₉, effect of impurity concentrations, and sintering conditions on grain size (German) 9-23630
 Ba₂Ga₂GeO₇, gehlenite struct., synthesis and physicochem. props. 9-43181
 BaO-Al₂O₃-SiO₂-H₂O system, phase transitions during hydrothermal treatment 9-43216
 BaO-SiO₂-Fe₂O₃ permanent mag. ceramics, exam. of phase diagram, using X-ray analysis, optical microscopy, electron probe anal., and thermal analysis (German) 9-29012
 BaO-TiO₂-Nd₂O₃, exam. of compositional and dielectric props. 9-33601
 BaO.n Fe₂O₃, magnet, effect of SiO₂ on texture and densification behaviour (German) 9-24631
 BaPb_{1-x}Bi_xO₃ film, RF sputtered, T_c as function of comp. and annealing conditions 9-24100
 BaTiO₃, acceptor doped, exam. of electrical conductivity 130 to 300°C 9-33286
 BaTiO₃, chemically precipitated, exam. of sintering behaviour by isothermal shrinkage (German) 9-4935
 BaTiO₃, dielectric ceramic, interaction with metallic film during sintering 9-33958
 BaTiO₃, donor doped, exam. of heterogeneous microstructure (German) 9-24632
 BaTiO₃, exam. of anomalous pyroelectric effect above Curie point 9-33613
 BaTiO₃, exam. of PTC effect as function of Ti excess (German) 9-23960
 BaTiO₃, piezoceramic, nonlinear piezoeffect 9-42900
 BaTiO₃, polycrystalline, exam. of effect of freq., temp. and DC electric field strength, on elastic consts. 9-1890
 BaTiO₃ powder, dispersion effect on meas. in electrical sensing zone particle size counter 9-17383
 BaTiO₃, rare earth doped ceramics, thermolum. and microwave induced thermolum. fading 9-1792
 BaTiO₃ surface voids, Auger spectrochem. anal., organic contamination 9-24467
 BaTiO₃, synthesis by solid-solid reactions 9-38776
 BaTiO₃, synthesis by solid-solid reactions 9-38777
 BaTiO₃:Al, 0.05-0.3 wt.%, ceramic dielectric, dielec. and mech. props. 9-8091

ceramics continued

BaTiO₃:BaNb₂O₆, semiconducting ferroelectric ceramic, nonlinearity of dielectric layer capacitance 9-8098
 BaTiO₃-CuO(TiO₂)(ZrO₂) mixture, exam. of liquid phase sintering, densification 9-33979
 BaTiO₃-PbO-B₂O₃, liquid phase sintering, effect on props. (German) 9-33980
 BaTi₄O₉, effect of chemical treatment on loss quality, at microwave wavelengths 9-34159
 Ba₂Ti₂O₂₀, effect of chemical treatment on loss quality, at microwave wavelengths 9-34159
 Ba₁₀₀Ti_{101-_x}Sn_x+0.3 at.%Sb, intergranular capacitor, effect of microstructure on electrical props. 9-34160
 BaZrO₃-LaAlO₃ systems, sintering conditions, elec. props. 9-43184
 BeAl₂O₄, chrysoberyl, kinetics and mechanism of formation, in presence of V₂O₅ 9-11535
 BeO ceramics, thermally stimulated exoelectron max., effect of H₂ adsorption 9-43109
 BeO, low-Z material, outgassing expts. 9-209
 BeO powder, sinterable and unsinterable, sintering processes, electron microscope exam. 9-33986
 BeO, thermolum. glow curves 9-47527
 Bi₂O₃, powder diff. patterns and struct. 9-27961
 Bi₂W₂O₉, struct., dielec. props., melting character and thermal stability 9-23572
 Ca₂Al₂GeO₇, gehlenite struct., synthesis and physicochem. props. 9-43181
 CaAl₂O₄ cement bond phases, corrosion in steam-CO at 199°C 9-29234
 CaAl₂O₅, form by interdiffusion of CaO and Al₂O₃ 9-28998
 CaAl₂O₆, form. by solid state reaction of CaO and Al₂O₃, electric field effects 9-28997
 CaMg(CO₃)₂, dolomite, reaction with ZrO₂, mineralisation during roasting 9-43180
 CaO, C-content determ. of single crystals grown by arc fusion 9-8456
 CaO-MgO, doloma, composition effect on creep, impurity effects 9-43318
 CaO-MgO-NaPO₃ system, subsolidus struct. 9-43215
 CaO-MgO-SiO₂, diopside, exam. of synthesis by hydrothermal sintering (German) 9-4934
 β -Ca₃(PO₄)₂, synthesis and fabrication, prosthetic appl. 9-24479
 β -Ca₂SiO₄, stabilisation, IR and Raman spectra 9-42265
 CaTiO₃, synthesis kinetics 9-15632
 Ca₂TiO₃-La₂AlO₅, synthesis of solid solution by coprecipitation 9-1836
 Ca₃(VO₄)₂-Mg₃(VO₄)₂, exam. of phase composition and phase diagrams 9-1851
 CdO, effect of compacting pressure on consolidation and elec. cond. 9-29007
 CdTe KO-6 optical ceramic component antireflection coatings 9-27345
 CeO₂-La₂O₃, ceramic, thermal stability, sintering, deform., effect of La₂O₃ 9-11532
 CoFe₂O₄, synthesis, chem., thermal histories rel. to fine cryst. struct. 9-43186
 CoO, under controlled atmosphere, exam. of composition and temp. dependence, of lattice parameter (French) 9-19214
 CrB₂, electrodeposition mech., onto metal electrodeposit, cermet prop. 9-33992
 CrO₃, synthesis and morphology 9-24481
 Cu₂O, creep tests, exam. of a creep machine mech. ability (French) 9-20325
 Er₂O₃, of Hf, vol. and grain boundary diffusion coeffs., tracer sectioning technique 9-7712
 α -Fe₂O₃, prep. by evaporative decomposition of Fe(NO₃)₃.6H₂O soln. 9-20011
 Fe₃O₄, partial thermal dissociation in air, using solar concentrator (French) 9-20015
 HfO₂, monoclinic, microcracking, elasticity, internal friction, thermal expansion meas. 9-29195
 HfO₂-MgO system, intermediate phases existence, X-ray diff. and IR obs. 9-38805
 K₂Hf₂PO₇, synthesis of K₂CO₃, Eu₂O₃ and phosphoric acid, exam. of structure 9-1837
 K₂Eu(PO₃)₄, synthesis of K₂CO₃, Eu₂O₃ and phosphoric acid, exam. of structure 9-1837
 K₂Ti₂O₇, fibres, synthesis by kneading, drying, calcination process (Japanese) 9-38779
 K₂V₆O₁₆, Hollandite type compound, synthesis, struct. and magnetic props. 9-11543
 La-Si-O-N system, new compound form. with fluorapatite struct. 9-4941
 La₂O₃-Al₂O₃ system, alumina rich phase, X-ray obs. 9-29030
 Li₂B₂O₅Cl, new solid electrolytes, conductivities and activation energies 9-28137
 LiNbO₃, ion-bombardment erosion of single cryst., prep. for TEM exam. 9-38996
 Li₂O pellets, sintered, reaction with Mo and Ho alloys 9-47913
 Li₂O.2SiO₂ ceramics unidirectionally solidified, porosity (Japanese) 9-38816
 Li₂TiO₃-MgO (20 to 40 at.%), order-disorder transitions, DTA and X-ray anal. 9-29050
 Mg-Cu-Mn-Ni-Fe-O, UHF ferrites, synthesis, physicochem. state, mag. and dielec. parameters 9-11536
 Mg-Si-Al-O-N, grain boundary segregation, combined X-ray microanal. and lattice fringe imaging determ. 9-15681
 MgAl₂O₄, composition rel. to ceramic microstruct. form., light transmission 9-43188
 MgCr₂O₄ spinel, exam. of expansion during synthesis 9-20012
 Mg_{0.8}Mn_{0.2}Fe_{1.8}Al_{0.2}O₄, grade 6SChl ferrite, milling conditions effect on fine cryst. struct. and activity 9-24483
 MgO briquets, prep. by shock compaction and characteris. 9-43178
 MgO, dense layer form. in pitch bearing magnesite brick, kinetics and mechanism 9-11717
 MgO, dislocation motion 9-4309
 MgO, hot pressed, microstruct. influence on microhardness 9-38971
 MgO, polycrystalline, ductile, porous, model 9-47653
 MgO polycrystals, hot-pressed, effect of annealing on props. 9-34073
 MgO single crystal, corrosion by BOF slag 9-24635
 MgO single crystals, chem. polishes for {100}, {110} and {111} surfaces, spectrochem. anal. for impurity content 9-29241
 MgO, single crystals, work hardening and creep 9-43262
 MgO, thermoluminescence mechanism 9-15538
 MgO, ultrafine grained Fe doped, high temp. creep 9-15727

ceramics continued

- MgO-Al₂O₃-Fe₂O₃-SiO₂, cordierite, in ceramic, effect of heat treatment on cordierite content 9-20039
- MgO-CaO-Al₂O₃-SiO₂-(TiO₂) systems, glass-ceramics, crystn. kinetics (*Russian*) 9-37626
- MgO-SiO₂, molten, corresponding state principle with LiF-BeF₂ and appl. 9-11589
- MgO-ZrO₂, dispersion hardened, fracture strength and texture, rel. to temp. (*German*) 9-43378
- MgO₂ powder exam. of packing behaviour (*Japanese*) 9-20016
- MnZn ferrites, doped; determ. of grain boundary composition, using Auger spectroscopy (*German*) 9-23618
- Na_{0.5}Bi_{0.5}Ti_{0.5}O_{1.5}, hot-forged ferroelec. ceramic with layer struct. 9-43175
- NaNbO₃-SrNb₂O₆, phase diagram, props. meas. 9-11576
- NiO, under controlled atmosphere, exam. of composition and temp. dependence, of lattice parameter (*French*) 9-19214
- PLTZ ceramic, transverse electro-optical effect, matrix-addressable transparency 9-27431
- PLTZ ceramic with memory, domain reorientation, alternating elec. field effect 9-47405
- PLTZ ceramics, electro-optical props. (*Korean*) 9-11406
- PLTZ ceramics, electro-optical; defect struct. and prop. 9-42910
- PLTZ ceramics, photoferroelectric effects, image storage device appl. 9-42924
- PLTZ ceramics, SHG, anomalous phase transition 9-45996
- PLTZ ceramics, short circuit photocurrent, depend. on polarization 9-38121
- PLTZ ceramics, stress-induced ferroelec. transition, pseudoelasticity and shape memory, bending meas. 9-24274
- PLTZ ceramics, transparent ferroelec., photorefractive and photocond. study 9-42581
- PLTZ composition, effect on its switching characts. 9-42917
- PLTZ, exam. of grain growth in hot pressing, and liquid phase sintering 9-33981
- PLTZ ferroelec. ceramics, piezoelec. props. 9-42897
- PLTZ, fine grained 90° electric domain wall movement, interpretation of dielectric losses (*German*) 9-33646
- PLTZ, prep. by liquid phase sintering of oxides 9-38778
- PLTZ, reduced, exam. of ageing phenomena, using dielectric hysteresis (*German*) 9-33647
- PLTZ, Sn substituted, antiferroelectric ceramics research and their applications (*Chinese*) 9-33617
- PLTZ, transparent, optical exam. of small signal behaviour, of 90° electric domain walls (*German*) 9-33645
- PLTZ, transparent ferroelectric, ceramics obtained by hot pressing, optimum conditions (*German*) 9-43176
- PLTZ type ceramics, calorimetric meas. of energy of electrical polarisation 9-2770
- (PLTZ)(PLZN) system, ferroelec. transparent, prep. and study 9-42911
- (Pb,Sr)(Zr,Ti)O₃, piezoelectric, effect of glass additions on props. during hot pressing 9-24475
- (Pb_{1-x}Ba_x)_{1-x}La_xNb_{2-x/5}O₆, ferroelec., phase transitions 9-38487
- PbBi₂Nb₂O₉ ceramic, grain oriented, dielectric and piezoelectric props. 9-42896
- PbBi₂Nb₂O₉, hot-forged ferroelec. ceramic with layer struct. 9-43175
- PbBi₂Ti₄O₁₅, hot-forged ferroelec. ceramic with layer struct. 9-43175
- Pb₂Bi₂Ti₃O₁₃, hot-forged ferroelec. ceramic with layer struct. 9-43175
- PbCo_{0.33}Nb_{0.66}O₃, ferroelectric, exam. of permittivity and dielectric props. 9-1742
- Pb₂CrO₅, thermal X-ray and dielec. investigations 9-47403
- Pb(Cu_{1/4}Nb_{3/4})O₃-Pb(Li_{3/4}Nb_{1/4})O₃-PbTiO₃-PbZrO₃, piezoelec. ceramic materials for SAW devices 9-11390
- Pb(Cu_{1/4}Nb_{3/4})O₃-Pb(Li_{1/4}Nb_{3/4})O₃-PbTiO₃-PbZrO₃, optimisation of composition for SAW devices 9-33609
- PbMg_{0.33}Ta_{0.66}O₃, ferroelectric, exam. of permittivity and dielectric props. 9-1742
- PbNb₂O₇, O defects and elec. props. anomalies 9-42898
- PbNb₂Se_{0.5}O₃, ceramic, dielec. props. 9-11392
- 4PbO.GeO₂, X-ray phase and thermal anal., new antiferroelectric 9-1744
- Pb_{1-x}R_xTiO_{3+x(1.5-x)}, R=La or Sm exam. of permittivity as function of temp. 9-33586
- Pb(Zr,Ti,Nb)O₃ ceramics, rel. dielec. const. and piezoelec. props. rel. to porosity 9-11388
- Pb(Zr,Ti)O₃ ceramic, substrate for In₂O₃ film, ferroelec. field effect 9-47177
- Pb(Zr,Ti)O₃, formation 9-43185
- Pb(Zr,Ti)O₃, piezoelectric, nonlinear piezoeffect 9-42900
- Pb(Zr,Ti)O₃, polarisation effect on deform. and strength, Curie pt. region 9-42902
- Pb(Zr,Ti)O₃ pyroelectric ceramics 9-47649
- Pb(Zr,Ti)O₃, synthesis from cryochem. mixtures, chem. reacts. in sublimation drying 9-11538
- Pb(Zr,Ti)O₃:Mn ceramics, anomalous dielec. losses 9-42892
- Pb(Zr,Ti)O₃:Nb ceramic, stress effects on ferroelec. hysteresis, macroscopic strain, US vel. 9-4778
- Pb(Zr,Ti)O₃:Nb₂O₅(Se₂O₃), elec. cond. investigation with and without various dopants and stoichiometry 9-11120
- Pb(Zr_{0.53}Ti_{0.47})O₃, piezoelec. ceramic, HF filter appl. (*Korean*) 9-27472
- PbZrO₃ based ferroelec. ceramic, pressure-temp. phase diagrams 9-24273
- Pb(ZrTi)O₃ type piezoelectric ceramics, compressive properties 9-33612
- PbZr_{0.33}Ti_{0.66}O₃ ceramics, of ABO₃ type, dopant distrib. between A and B sites 9-42093
- Pb(Zr,Ti_{1-x})O₃, anomalous photovoltaic effect 9-19625
- PuO₂, UO₂, mixed oxide fuel, plutonia particle behavior during sintering in Ar-H₂ (8%) atmosphere 9-8258
- Si-Al-O-N, compression creep, comparison with SiC and Si₃N₄ 9-15728
- Si-Al-O-N ceramics, grain boundary segregation, combined X-ray microanal. and lattice fringe imaging determ. 9-15681
- Si-Al-O-N systems, behavioural diagrams 9-24507
- Si_{6-x}Al₃O_{8-x}, x=1.5, 3, 4, Sialon ceramics, elec., thermal cond. 9-33124
- SiC, ceramic, mass loss in inert gas stream (*Russian*) 9-7686
- SiC, compression creep, comparison with Si₃N₄ and sialon 9-15728
- SiC, corrosion resist. in residual fuel oil fired environment 9-39010
- SiC, electrodeposition mech., onto metal electrodeposit, cermet prop. 9-33992
- SiC single cryst., reaction-bonded and hot pressed, hardness and wear behaviour 9-38970
- α-SiC, sintered, influence of B, C additives on microstructure, SEM exam. 9-8262
- Si₃N₄, corrosion resist. in residual fuel oil fired environment 9-39010

ceramics continued

- Si₃N₄, fabrication by rate-controlled react. sintering, nitridation react. control 9-24468
- Si₃N₄, preparation, effect of Fe and FeSi₂ on nitriding of Si powder 9-33985
- Si₃N₄, reaction bonded and hot pressed, compression creep, comparison with sialon and SiC 9-15728
- Si₃N₄, reaction-bonded, Na ion assisted oxidation, 800 to 1300°C 9-39011
- Si₃N₄, reaction-bonded and hot pressed, hardness and wear behaviour 9-38970
- β-Si₃N₄, X-ray cryst. struct. and refinement, struct. rel. to α-Si₃N₄ 9-46605
- Si₃N₄-MgO, hot pressed, oxidation kinetics 9-29243
- Si₃N₄-ZrO₂, tetragonal to monoclinic transform. of ZrO₂ particles (*German*) 9-43240
- Si₂N₂O, sintered with MgO or BeO additives, effect on oxidation (*French*) 9-20233
- SiO₂, molten, viscosity, 2300 to 2600K 9-37863
- SiO₂, transfer in quartz capsule 9-4902
- SiO₂-Al₂O₃ mixture, depend. of phase comp. on nuclei available 9-11584
- SiO₂-Al₂O₃-CaO-MgO-Na₂O-K₂O-B₂O₃-ZrO₂, glaze, exam. of zircon crystallisation 9-19155
- SiO₂-Al(OH)₃, derived from metalalkoxides, sintering behaviour 9-29005
- SiO₂-Na₂CO₃, sodium Erevanit-25, sintering, struct. 9-43284
- Si₂ON₂, thermal diffusivity meas. by flash with negative pulse, plasma jet heating 9-37888
- Si₂ON₂-Y₂O₃-Al₂O₃ phase relations at 1400°C (*Japanese*) 9-38811
- SnO₂, activated sintering, mechanism and kinetics, additives role 9-38771
- Sr₂Al₂GeO₇, gehlenite struct., synthesis and physicochem. props. 9-43181
- SrFe₂O₉, exam. of factors affecting reaction kinetics, thermal analysis (*German*) 9-24471
- SrFe₂O₉, ferrite, powder effect of SiO₂ during sintering, exam. of grain growth and phase diagram (*German*) 9-24473
- SrFe₂O₉, prep. by fluidized bed technique, ceramic and magnetic props. 9-43445
- SrO-SiO₂-Fe₂O₃, permanent mag. ceramics, exam. of phase diagram, using X-ray analysis, optical microscopy, electron probe anal., and thermal analysis (*German*) 9-29012
- Sr_{1-x}Pb_xTeO₃, ferroelec. soln., prep. at room temp. (*French*) 9-43190
- Sr₂Sb₂O₁₂, prep. and cryst. struct. (*French*) 9-32967
- SrTiO₃-Bi₂Ti₂O₇-CaTiO₃ system, solid solns., elec., optical props. 9-11375
- Sr₂TiO₄-Eu₂O₃, synthesis, luminesc. of materials 9-11534
- TiN₂O₂, cubic, thermal expansion coeffs., Ti-Ti bond screening 9-10970
- TiO-ZrO₂, pseudo binary system, effect of Ti addition on struct. and props. of zirconia 9-11583
- TiNbO₃, ceramics, hysteresis loops and dielec. props. 9-42885
- TiTaO₃, ceramics, hysteresis loops and dielec. props. 9-42885
- Ti₂Ti₂O₉ ceramics, hysteresis loops and dielec. props. 9-42885
- UO₂, fine grained, low-stress creep study, metallographic obs. 9-43312
- UO₂, modified Ashby's computer method for constructing sintering diagrams 9-43165
- UO₂, non-stoichiometric, oxidation reactions and dopants 9-42087
- UO₂ powders, sintering characterisation 9-43189
- UO₂ sintering, thermal anal., hexavalent uranium xerogel drying, thermal treatment modelling (*Czech*) 9-36378
- UO₂-PuO₂ powder compacts, homogenization kinetics study by X-ray diff. technique 9-37883
- UO₂, model of response of fission gas bubbles to dynamic behaviour of point defects 9-37735
- W, metal-ceramic, mech. props. and structural nonuniformity 9-15705
- Y₂O₃ binder, sintering 9-24469
- Y₂O₃, ceramic structs., thin-walled fabrication, plasma spraying technique 9-33978
- Y₂O₃, grain size depend. of fracture energy, SEM study 9-34130
- Y₂O₃ hydroxy salt binder phase form., X-ray, thermal anal. obs. 9-28999
- Y₂O₃, prep. of transparent ceramic, exam. of light transmission preps. 9-20013
- Y₂O₃-HfO₂(ZrO₂) systems, solid soln. form. mechanisms 9-11579
- ZnFe₂O₄, duplex struct. formation during sintering, grain growth study 9-11541
- ZnMn ferrites, prepared by wet chemical and ceramic methods, comparison of struct. and mag. props. (*German*) 9-24470
- ZnO ceramic varistors, I-V characts., single grain junction meas. 9-15225
- ZnO ceramic varistors, trapping by localized states, effect on dielec. and elec. props. (*Russian*) 9-28671
- ZnO-B₂O₃-SiO₂ glass-ceramic-cement composites, review 9-38783
- ZnO-Bi₂O₃, ceramic semiconductor, injection currents 9-11141
- ZnO-CoO₂ (Fe₂O₃), ceramics, impurity at states, elec. cond. 9-11130
- ZnO-PbO-B₂O₃, exam. of glass formation and its props. 9-8283
- ZnO-TiO₂ system, heat treated, X-ray anal. of phase form. sequence 9-1850
- ZnS_{1-x}Se_xCu₂Br ceramic, current oscills. and electrolum. under high elec. fields 9-38677
- Zr-Al₂O₃ couple, diffusion welding, 1000 to 1300°C (*German*) 9-28155
- ZrC, fracture by laser beams, macrocrack propag. 9-15789
- ZrF₄ based glass, elec. and dielec. props. in freq. and temp. ranges 5-500 kHz and 130-280°C (*French*) 9-23772
- ZrN-Al₂O₃, effect of N on sintering 9-33991
- ZrO₂, CaO stabilized, O₂ permeability at low O₂ partial press. 9-47980
- ZrO₂, crystallisation from Zr(OH)₄, effect of water vapour, heat treatment and grain size (*Japanese*) 9-19170
- ZrO₂ electrolyte cells, sintering 9-24476
- ZrO₂ electrolyte cells, elec. props. 9-24477
- ZrO₂, partially stabilised, high temp. effect on strength (*German*) 9-43316
- ZrO₂, sintering response with const. rate of heating, depend. on processing related pore distrib. 9-28992
- ZrO₂, spray dried agglomerates, compaction response, fracture, deform. 9-43172
- ZrO₂, stabilised, coating for turbine components, degradation due to internal stresses 9-24671
- ZrO₂, stabilised, thermal barrier coating system, spectral emission and absorpt., 300 to 1590K 9-24672
- ZrO₂, stabilized by Y₂O₃, corrosion and thermal shock resist. in diesel engines 9-24675
- ZrO₂, tetragonal polycryst., sintering and props. 9-29008
- ZrO₂-CaO-SiO₂, relationship between texture parameters, and sintering, elec. cond. and mech. strength props. (*German*) 9-24474

ceramics continued

ZrO₂-CaO(MgO)(YO_{1.5}), partially stabilised, growth morphology of tetragonal phase 9-4968
ZrO₂-Gd₂O₃, solid solution with fluorite and pyrochlore structure; exam. of elec. conductivity (*German*) 9-23766
ZrO₂-MgO system, intermediate phases existence, X-ray diff. and IR obs. 9-38805
ZrO₂-Nb₂O₃ system, solid solns., evaporation, mass spectroscopy investig., thermodynamics 9-10938
ZrSiO₄-Al₂O₃ mixture, reaction hot pressing 9-38775
ZrTiO₄, form. mechanism from spray drying of solns., precip., of hydroxides and reactions of hydrates and solns. 9-43182

Cerenkov counters see *Cherenkov counters*

Cerenkov radiation see *Cherenkov radiation*

cerium

see also *nuclei with*
abundance in HD 18474 giant star (*Spanish*) 9-25605
chemically collapsed, valence transition 9-28325
crystal structure, α'' high pressure phase 9-23565
magnetic properties and sp. ht. of α -phase 9-28512
neutron scintillating glasses activated by Ce³⁺, luminesc. 9-38668
photochemical separation from rare earth mixtures in aq. soln. 9-39165
thermal conductivity at low temps. (*Russian*) 9-11100
thermopower behaviour under press. up to 7500 MPa γ - α and α - α' transitions 9-47083
valence band exam. by XPS and UPS 9-37977
valence band photoemission intensity, giant enhancement in α -phase 9-19972
 α -induced X-ray anal. of Y, La, Ce, Nd content of apatite minerals 9-16084
BaF₂:Ce³⁺, EPR of low-symmetry sites 9-47332
CaS:Ce, Na, photon sidebands in emission and excitation spectra, pseudolocalised vibrs. 9-28800
¹⁴⁰Ce magnetic hyperfine field in Ni, TDPAC meas. 9-11363
¹⁴⁴Ce, errors in activity ratio determ. in reactor RA used fuel element 9-41061
¹⁴⁴Ce, intravenous injection, wound site absorption, comparison of metabolic behaviours in rats 9-8545
Cr⁴⁺ concentration oscillations, in Belousov-Zhabotinskii system; detection of BrO₂ (*German*) 9-29351
Cs₂NaYCl₆:Ce, ENDOR evidence of noncubic distortion 9-11357
LiH:Ce, thermolum., appl. as X-ray detectors 9-6794
Na₂O-SiO₂:Ce photochromic glass absorption centres 9-27352
SrF₂:Ce, dipolar complex exam. 9-38435
SrF₂:Ce³⁺, EPR of low-symmetry sites 9-47332
YAG:Ce³⁺, excited-state absorpt. meas., tunable laser model system 9-42994

cerium alloys

Anderson model, exchange parameter, Kondo temp., mag. susceptibility 9-1656
Ce-Nd-Si, phase diagram, X-ray anal. (*Ukrainian*) 9-38792
Ce-Sm-Co-Fe-Cu, permanent magnet props. 9-8013
Ce-Sn, liq., elec. resistivity negative temp. coeff., CPA calcs. 9-42515
CeAl₂, Anderson lattice system, thermal expansion meas. 1.5 to 10K 9-37860
CeAl₂, Anderson lattice system, volume collapsed strongly mixed valent state 9-38033
CeAl₂, electronic transition under pressure, resist. meas. 9-33311
CeAl₃, inelastic neutron scatt. meas. 9-47066
CeAl₃, sp. ht. anomalies due to presence of CeAl₁₁ 9-19745
Ce₃Al₁₁, mag. ordering at low temps. under press., relation to CeAl₃ props. 9-19745
CeCo_{5+x} Cu and Fe modified, coercive force (*Czech*) 9-42805
(Ce_{1-x}La_x)Be₁₃, mag. intermediate valence behaviour 9-24131
CeMg₂Si₂ type structure, role of elongated rhombic dodecahedron in alloy structures 9-32946
CePd₃, mixed valence cpd., theory of inelastic mag. neutron scatt. 9-15284
CePd₃, susceptibility, sp. ht. and magnetisation 9-28512
CePt₃, mag. susceptibility, 4.2 to 295K (*German*) 9-47233
CeRu₂, change of valence of Ce ions, induced by H absorption, supercond. disappearance 9-47185
CeRu₂, type II supercond., ESR of Nd³⁺ meas. 9-28444
Ce_{0.8}Th_{0.2}, inelastic neutron scatt. meas. 9-47066
(Ce_{0.83}Cu_{0.17})₆Ce, cryst. struct. and mag. props., decomp. during ageing (*Russian*) 9-37661
Co₄CuCe, cryst. struct., mag. characts., ageing and decomposition (*Russian*) 9-4272
Cr-V-Ce-Ni, (2.4 to 2.6, 1.7 to 2.3, 0.005 to 0.23 wt.%) V effect on hardness, and ductile to brittle transition temp. (*Russian*) 9-34138
Dy,Ce_{1-x}Ru_x, supercond., mag. props. 9-11267
La-Ce, Kondo system, intermediate temp. supercond. under hydrostatic press. 9-24097
La-Ce alloy, press. induced spin glass to Kondo phase transition, resist. meas. 9-24174
La_{1-x}Ce_xAl₂, Kondo system, low temp. thermal expansion behaviour 9-19382
(La_{1-x}Ce_x)Al₂, Kondo system, antiferromag., specific heat 9-24179
Mg-Ce, diffusion coeff. determ. during hydriding (*German*) 9-29288
Ni-Cr-Ce, Ce effect on oxidation 9-43484
Pd-Ce (5.75 at.%), H₂ permeability and solubility, comparison with other Pd solid soln. alloys 9-23738

cerium compounds

see also *cerium alloys*
triindenylcerium pyridinate, X-ray cryst. struct. determ. 9-32984
CMN-³He(⁴He), heat capacity and heat transfer meas. instrum. (*French*) 9-1097
CeAl₂, specific heat between 0.02 and 1K 9-1680
CeAs, XPS exam. 9-38717
CeAs, XPS for electronic struct. determ. 9-33888
CeBO₃:Tb³⁺, vacuum UV excitation spectra and quantum efficiencies 9-28811
CeBi, thermal expansion, 20-800°C 9-14942
CeCl₃, mag. field depend. of polaritons 9-33246
CeCl₃·7H₂O, X-ray cryst. struct. determ. 9-46606
CeCrOS₂, single cryst. X-ray diff. struct. determ. (*French*) 9-23581
CeF₃ film, refr. index and struct., deposition temp. depend. 9-4857
CeF₃, mol. force, compliance and Coriolis consts. 9-31726
CeH₄, Dirac-Fock one-centre calcs. 9-6837
Ce_xLa_{2-x}Mg₃(NO₃)₁₂·24H₂O, magnetically diluted thermometer 9-17420

cerium compounds continued

Ce₂Mg₃(NO₃)₁₂·24H₂O, La diluted, mag. thermometry to below 1 mK 9-30469
CeN, interconfiguration fluctuation, temp. and press. depend. 9-38031
CeN, XPS exam. 9-38717
CeN, XPS for electronic struct. determ. 9-33888
CeN-RN systems, (R=La,Nd,Gd), mutual solubilities (*German*) 9-19374
CeNb₂O₉, CeNbO₄, CeNbO_{7.6}, electron config. of Ce ions, mag. suscept., L₃ absorpt. edge, resist. 9-43063
CeO, gas, electronic spectrum 9-41178
CeO, identification in S-type stars 9-21280
CeO₂ coatings on Gd-Fe amorphous films, Kerr magneto-optical effect enhancement 9-19866
CeO₂ film, refr. index and struct., deposition temp. depend. 9-4857
CeO₂ in O₂ atmos., adsorption and elec. cond. props. 9-23836
CeO₂:Yb³⁺, axial g-values of 4f¹³ ions with trigonal symmetry (*Korean*) 9-24135
CeO₂-PrO₃ system, mixed cryst. phase characterisation 9-14936
CeO₂-SiO₂(MgF₂), multilayer refractory oxide interf. coatings 9-7192
CeO₂, redox reactions, quasiisothermal thermogravimetric obs. 9-15980
Ce(OH)₃, mol., XPES, satellite phenomena 9-27035
CeO₂La₂O₃, ceramic, thermal stability, sintering, deform., effect of La₂O₃ 9-11532
Ce₄O₄S₃ and Ce₆O₆S₄, synthesis and cryst. struct. (*French*) 9-32965
Ce₄O₄S₃, X-ray cryst. struct. determ., using Patterson and Fourier synthesis (*French*) 9-14753
CeP, XPS exam. 9-38717
CeP, XPS for electronic struct. determ. 9-33888
CeS₂, orthorhombic, prepared at 1773K and 5.5 GPa X-ray single cryst. struct. determ. 9-19198
CeSb, commensurate-commensurate transitions, devil's stairs theory 9-19740
CeSb, mag. phase diagram for mag. field applied along (111) direction 9-33458
CeSb phonon dispersion curves, lattice dynamics of rare-earth mononpnictides 9-37780
CeSb, XPS exam. 9-38717
CeSb, XPS for electronic struct. determ. 9-33888
Ce₂Ti₂O₇, ferroelec., temp. depend. of SHG intensity 9-24267
CeVO₃, phase transitions and Jahn-Teller distortions 9-28548
(NH₄)₂Ce(NO₃)₆, proton spin-lattice relax., temp. depend. 9-42859

cermets

film, as solar selective absorbers, production, struct. and optical props. 9-29485
GCFR cermet cylindrical core swelling (*Russian*) 9-13425
production by electrodeposition of ceramic onto metal electrodeposit 9-33992
Ag-SiO₂ cermet film, optical props., comparison of effective medium theories 9-24379
Al₂O₃/Al clad powder prep. and physicomech. props. 9-29010
Al₂O₃-Fe cermet, microstruct. and physical props. 9-42279
Al₂O₃+W interaction, 2200 to 3200°C (*Russian*) 9-39194
Al₂O₃(Al₂O₃-MgO)-Ag(Au)(Cr)(Cu) cermet selective surfaces for evacuated solar collectors 9-43785
Au-WO₃, electrochromic material, optical and electrical props. 9-33674
Au-WO₃, electrochromic cermets, resist. and optical density meas. 9-8201
Cr-SiO film, elec. props., effect of P⁺ and Ar⁺ implantation 9-11239
Cr₂O₃-Cr cermet films, for selective black absorbers 9-29483
MgO-Au cermet films, for selective black absorbers 9-29483
Mn-MgF₂ cermet, heat treated, lattice distortion, resist. meas. 9-19492
Mn-MgF₂ cermet film, resistivity-temperature variation 9-24085
Ni-Al₂O₃, fabrication and mech. characts. 9-38781
Ni-SiC composite coatings, phase composition calc., wear resistance (*Russian*) 9-11709
Pt-WO₃, electrochromic material, optical and electrical props. 9-33674
Ti-Cr₂C₃ composite, TiC and struct. form. during sintering 9-29011
U₃O₈-Al cermet fuel for research reactors 9-9835
WC-Co hard alloy, preheating influence on explosive shock hardening (*Russian*) 9-29083
WC-Co hard-alloy cermets, strength, fatigue, static tests 9-29314
ZrO₂/Al clad powder prep. and physicomech. props. 9-29010

CESR

line profile, indirect spin spin interaction 9-28616
metals, non-S-state impurities, coupled ESR 9-47326
pure metal, derivation and validity of Elliott relation 9-19780
surface relaxation in CESR, evidence of spin lattice character 9-28615
type II superconductor, EPR of paramagnetic impurities and conduction electrons (*Russian*) 9-1641
Ag film, CESR linewidth exam., sample size effect 9-33536
p-GaSb, CESR, optically detected, giant Overhauser shift 9-4722
p-Ge, free-carrier reson., photoconductivity spectra in submillimetre wavelength 9-15353
K, microwave transmission modes at cryogenic temps. 9-42473
Li, Pauli susceptibility meas. by CESR method 9-42735
Na, microwave transmission modes at cryogenic temps. 9-42473
Na, Pauli susceptibility meas. by CESR method 9-42735
Pt-graphite catalyst, H adsorption, ESR obs. 9-24818
Rb, Landau Fermi-liquid-theory parameters, conduction-electron spin wave meas. 9-42472
Rb, microwave transmission modes at cryogenic temps. 9-42473
Si:B amorphous film, CVD prep., EPR, elec. and optical props. 9-4558
Si:P amorphous films, doping and annealing effects on localized states, ESR meas. 9-38380

chalcogenide glasses

AC conductivity due to intimate pairs of charged defect centres 9-4563
antireflection coating for KCl, design, prep. and performance 9-14063
chalcogenide glasses, localised states calc. rel. to contact capacitance and field effect 9-11090
charge screening lengths 9-23974
conductivity, doping effect 9-38062
contact projection of micro-objects by X-ray synchrotron radiation 9-26193
crystallisation and decomposition 9-41959
defect chemistry and states in gap, models 9-38030
dispersive transient transport in disordered solids, expt. and theory 9-28342
electrical conductivity, super-linear freq. depend. 9-28348
electron physics of vitreous materials (*French*) 9-33225
electronic properties of glasses 9-42495

chalcogenide glasses continued

- film, drift and thermal diffusion of Au electrodes, α -particle backscatt. meas. 9-4434
- IR transmitting materials, appl. in 1 to 6 μ m range, mech. props., review 9-4250
- local order as determined by electronic and vibrational spectroscopy 9-37627
- localised gap states, Mott-street model 9-37968
- optical integrated circuits, SEM written gratings in chalcogenide films 9-32087
- partial values and structure features 9-41969
- structure and low temp. props. 9-37631
- switching devices, reliability 9-11238
- Ag-As-Se system glasses, soln. rate 9-43456
- Ag-As-Te system, vitrification region, physicochem. props. 9-41960
- $3\text{Al}_2\text{S}_3\text{-La}_2\text{S}_3\text{-Ho}^{3+}$, radiative and multiphonon relax. 9-33794
- As-S, glassy film optical props., photostimulated effects and hologram recording 9-27215
- As-S, spectral variation of SK β emission with S content 9-8209
- As-S chalcogenide glassy semiconductor, induced anisotropy 9-32013
- As-S film, amorphous, photo-induced dynamical changes in refr. index 9-28705
- As-S-I system glasses, IR transmission spectra, structure-chem. comp. 9-42974
- As-S-Te, vitreous semiconductor, photoconductivity (*Russian*) 9-11172
- As-S-Te, vitrification, density and elec. cond. measurements 9-7645
- As-Se, glassy, surface phenomena, gas adsorption effects on elec. props. 9-42621
- As-Se amorphous film, optical props. change under high-power light pulse action 9-47534
- As-Se films, chalcogenide vitreous semiconductors, reversible photoinduced changes in optical, physicochem. and contact props. 9-24378
- As-Se-S-Ge chalcogenide glass films, appls. to passive optical waveguide components 9-37048
- As-Te system glasses, DC and AC cond., thermo-EMF, 140 to 350K 9-42549
- As-Te-Cu system glasses, elec. cond. and thermo-EMF 9-42540
- $\text{As}_2\text{Ge}_{10}\text{Te}_{90-x}$, cond. and dielec. const. from 77 to 383K and from DC freq. to 5 MHz 9-23964
- As_2S_3 , amorphous, AC cond. magnitude and variation (*French*) 9-47095
- As_2S_3 , amorphous, acousto-induced struct. change, Brillouin scatt. meas. 9-27928
- As_2S_3 , amorphous, optical detection of ESR 9-38408
- As_2S_3 , amorphous, time-resolved photolum., spectrosc. 9-24360
- As_2S_3 , amorphous, US attenuation obs. 9-46756
- As_2S_3 , amorphous, ultrasonic velocity, 1.5 to 296K 9-37764
- As_2S_3 amorphous films, meas. of photoinduced transformations by optical waveguiding 9-43050
- As_2S_3 , antireflection coating for KCl, design, prep. and performance 9-14063
- As_2S_3 coating defects and impurities affecting damage threshold and absorbance 9-14065
- As_2S_3 , cryst. and glassy, two-photon spectrum at room temp. 9-24334
- As_2S_3 , determination of stoichiometric discontinuity, using US velocity 9-5242
- As_2S_3 film on KCl, strain-induced refractivity anisotropy, 10.6 μ ellipsometric obs. 9-14064
- As_2S_3 film optical constants, wedged-film meas. 9-14066
- As_2S_3 , rain erosion mechanisms 9-34154
- As_2S_3 thin films for integrated optics, photodetector elements, relief-type diffraction gratings 9-32094
- As_2S_3 -PbS glasses, structural props. 9-27925
- As_2S_3 -Si, isotype amorphous-crystalline heterojunctions, electrophys. props. 9-24063
- $(\text{As}_2\text{S}_3)_{1-x}(\text{PbS})_x$, high field effects 9-42553
- $(\text{As}_2\text{S}_3)_{0.55}(\text{Sb}_2\text{S}_3)_{0.45}$ vitreous film, dispersive charge transport, time-of-flight meas. 9-19594
- $\text{As}_2\text{S}_{3.66}\text{Se}_{0.34}$, X-ray photoelectron spectra, electron binding energy, effect of Ag alloying 9-11499
- $\text{As}_2\text{S}_3(\text{Se}_3)$, amorphous, network dynamics, vibr. band splittings 9-42199
- $\text{As}_2\text{S}_3(\text{Se}_3)$ evaporated films, struct. and thermally induced effects 9-41963
- $\text{As}_2\text{S}_3(\text{Se}_3)$ evaporated films, optical absorpt. and thermally induced effects 9-42989
- As_2Se_3 , amorphous, AC cond. magnitude and variation (*French*) 9-47095
- As_2Se_3 , amorphous, electron and hole transport, charge defect model 9-15162
- As_2Se_3 , amorphous, ultrasonic velocity, 1.5 to 296K 9-37764
- As_2Se_3 and $\text{As}_{1-x}\text{Se}_x$, struct. models 9-37628
- As_2Se_3 coating defects and impurities affecting damage threshold and absorbance 9-14065
- As_2Se_3 film on KCl, strain-induced refractivity anisotropy, 10.6 μ ellipsometric obs. 9-14064
- As_2Se_3 , laser radiation induced struct. changes, electron microdiff. obs. 9-10874
- $\text{As}_2\text{Se}_3\text{-Ti}$, hole transport, photoluminesc. and photoinduced ESR 9-8183
- $\text{As}_2\text{Se}_3\text{-GeSe}_x\text{-SnSe}_x$ ($x=1,2$), exam. of Sn valency and physical props. 9-4753
- As_2Te_3 film, charge screening length 9-23974
- $(\text{As}_2\text{Te}_3)_{1-x}\text{Ge}_x$, amorphous, AC cond. magnitude and variation (*French*) 9-47095
- $\text{AsTeS}_2(\text{Se}_2)(\text{Sb}_2)(\text{Bi}_2)$, thin film crystallisation 9-7758
- $\text{As}_{30}\text{Te}_{40}\text{Si}_{10}\text{Ge}_{10}$ film, charge screening length 9-23974
- $3\text{Ga}_2\text{S}_3\text{-La}_2\text{S}_3\text{-Ho}^{3+}$, radiative and multiphonon relax. 9-33794
- Ge-As-Se films, light irradi., heat treatment rel. to optical props. (*Russian*) 9-4858
- Ge-As-Te, between metal electrodes, contact props. determ. 9-7908
- Ge-P-Se system glasses, penetration by indenter, activation parameters, microhardness 9-43419
- Ge-S, Ge-S-As, amorphous prop. and origin of paramagnetic defects 9-10801
- Ge-S-In, determ. of glass phases, phys. props. meas. 9-23526
- Ge-Te and Ge-Te-As system glasses, local struct., ^{119}Sn Mossbauer obs. 9-41968
- Ge-Te-Se/Si amorphous film-cryst. heterojunction, electron-beam-induced current 9-24060
- GeAsS, X-ray photoelectron spectra, valence electrons density of states (*Russian*) 9-15583
- $\text{Ge}_{30}\text{As}_{17}\text{Te}_{30}\text{Se}_{23}$, antireflection coating for KCl, design, prep. and performance 9-14063
- GeS_{11} glass, neutron irradi., thermal and elec. props. 9-19286

chalcogenide glasses continued

- $\text{GeS}_{1.5}\text{-Cu}$, interpretation of dielectric behaviour 9-33595
- GeS_2 glass, $x=1.25$ to 1.5, softening and crystallization kinetics 9-32906
- $\text{Ge}_{40}\text{S}_{60}$, $\text{Ge}_{25}\text{S}_{75}$ glasses, Mn^{2+} EPR spectra investigation 9-11340
- GeSe_2 and $\text{Ge}_{1-x}\text{Se}_x$, struct. models 9-37628
- GeSe_2 evaporated films, optical absorpt. and thermally induced effects 9-42989
- GeSe_2 evaporated films, struct. and thermally induced effects 9-41963
- GeSe_2 , glassy photoinduced photoluminescence fatigue 9-28827
- $\text{Ge}_{1-x}\text{Se}_x$ amorphous film, photocrystallisation, elec. cond. meas. 9-32911
- $\text{Ge}_{1-x}\text{Se}_x$ chalcogenide glasses, drift mobility of optically injected carriers 9-19627
- $\text{Ge}_{1-x}\text{Se}_x$ glasses, trap-controlled carrier mobility, time of flight meas. 9-4557
- PbSe, effect of Ag electrodiffusion on volt-ampere characteristics 9-7869
- $(\text{PbS})_x(\text{As}_2\text{S}_3)_{1-x}$, high field effects 9-42553
- Sb-Ge-Se system glasses, thermal capacity, 80 to 300K 9-42272
- Se-As film, evaporated, thickness, substrate temp. effects 9-15610
- Se-As- S_2 system glasses, vibr. spectra and partial vols. of components 9-42973
- Se-Ge-As, self-diffusion, investigation using radioactive tracers 9-23770
- $\text{Se}_{1-x}\text{Ge}_x$, amorphous, AC cond. magnitude and variation (*French*) 9-47095
- Si-Te system glasses, local struct., ^{119}Sn Mossbauer obs. 9-41968
- $\text{Si}_{12}\text{Ge}_{61}\text{As}_{30}\text{Te}_{48}$, switching in thin layers with semicond. electrodes 9-4586
- $\text{Si}_{12}\text{Te}_{48}\text{As}_{30}\text{Ge}_{10}\text{-Au}$, Schottky barrier props. 9-7897
- Te-Ge-Sn(Pb), Te rich, structural phase transformation concurrent with glass crystallisation, thermal evidence 9-4965
- $\text{Te}_{39}\text{As}_{36}\text{Si}_{17}\text{Ge}_7\text{P}_1$ amorphous film, electroluminescence from on state 9-8188
- TeSe_{20} , vitreous alloy, elec. and thermal cond. during crystallisation 9-7550
- TiS_2 , struct. from radial electron density distrib. curves 9-23527
- change of state see phase transformations
- channel capacity**
- acoustic logging, channel requirements for elastic waves recording (*Russian*) 9-39955
- channelling**
- see also energy loss of particles
- anthracene, (100) and (110), scintillation response of α -particles in planar channelling and blocking expts. (*German*) 9-14869
- apparatus, for channelling meas. at torr press., test results on LiF crystal at 4 torr H_2O 9-2779
- axial, in monatomic and diatomic crystals, multistring model computer simulation, foreign atom location appl. 9-42128
- backscattering channelling surface peak calc. 9-8219
- charged particle channelling in deformed single crystal 9-14867
- conference on ion beam anal., Washington, USA (June-July 1977) 9-5194
- continuum-model planar channelling and the tangent-squared potential 9-42125
- dechannelling, defect enhanced, energy and temp. depend. 9-4365
- dechannelling by dislocation loop, energy depend. 9-42127
- dechannelling theory, axial and planar conditions, anal. methods for dechannelled fraction calc. 9-4359
- dislocation loops, dechannelling 9-19299
- elastic scattering and bremsstrahlung theory of fast charged particles in crystals (*Russian*) 9-28853
- electron channelling patterns, contrast mechanisms, lattice-defect images, in SEM 9-27884
- electron gas, nonuniform, energy loss of charged particles 9-37748
- electrons, emission of γ -quanta on plane channelling (*Russian*) 9-8205
- high resolution Rutherford backscatt. techniques, appl. to near surface anal. 9-5207
- ice, intrinsic surface order near melting point 9-14986
- improved depth resolution of channelling meas. in Rutherford backscatt. by detector tilt 9-5209
- ion channelling, coherent excitation 9-46727
- ion path identification in cryst. surface channels 9-15576
- ion reflection, surface semichannelling effects 9-46728
- ion scattering, medium and high energy, two-atom model for surface blocking calc. 9-4886
- planar, statistical equil. spatial density computation using the continuum model 9-4364
- planar-channelling spatial density under statistical equil., derivation for continuum model 9-4368
- positrons, planar channelled, Compton scatt. anal. 9-7639
- relativistic channelled particle beam, induced radn., tunable laser prod. 9-18391
- relativistic particles, possible resonance radiation (*Russian*) 9-23661
- relativistic positron and electron bremsstrahlung under conditions, theory 9-19301
- relativistic positron beam collimation in single cryst. 9-23669
- Schrodinger equation separation in electron diff. and channelling, case of systematic refs. 9-46522
- SEM, HV, for electron channelling pattern anal. 9-4213
- semistatistical model for interatomic pot. 9-33024
- surface and defect studies by channelling 9-4358
- thick targets of single crystals, meas. of charge state distrib. of channelled ions 9-23665
- thin crystals, axial channelling, momentum density calcs. 9-42126
- ultrahigh vacuum system, for channelling backscattering experiments (*Japanese*) 9-26061
- ultrarelativistic particle channelling in crystal lattice (*Russian*) 9-30690
- Al, ion-implanted, dechannelling by dislocations, backscatt. expts. 9-7642
- Al, quashed channelled and randomly scattered proton, orientation rel. to closed-packed (110) direction 9-14864
- Al-Ag, dil., radiation damage by channelled and random He^+ ion beams 9-46719
- $\alpha\text{-Al}_2\text{O}_3$, noncubic cryst., axial-to-planar channelling transition 9-4367
- Au, transmission sputtering by $\text{Ag}^+(\text{Ar}^+)(\text{He}^+)$ ions 9-4885
- Be, lattice location results for implanted impurities, Rutherford backscatt./channelling technique 9-4329
- Be-Li, lattice location of implanted ^6Li , ion beam channelling study 9-37730
- $\text{Be}_3\text{Al}_2\text{Si}_6\text{O}_{18}$, beryl, 350 keV proton irradi., superchannelling effects 9-4344
- Cu, self ion irradi., axial channelling along (110), by Rutherford backscatt. of He ions 9-4342

channelling continued

- Cu spheres, Shewmon rotation mechanism, selected area channelling patterns obs. in SEM 9-38759
 Cu surface, conditions for total refl. of low-energy atoms 9-19958
 GaAs, ion channelling meas. for lattice location of S and Mn implanted in single crystals 9-4332
 GaAs, X-ray and Rutherford backscatt. yields from channelled $^4\text{He}^+$ ions 9-46730
 Ge, 15 GeV/c pion and proton nucl. interactions under random and channelling conditions in single crystals 9-13348
 Ge, amorphous, laser reordering of implanted amorphous layer 9-19270
 InP, anal. of anodically oxidised (111) layers by MeV $^4\text{He}^+$ channelling effect meas. and AES 9-4492
 MgO, H^+ axial dechannelling temp. depend. 9-28022
 MgO, planar channelling of He ions along (100), (110) and (111) directions 9-28023
 Mo single crystals, ion implanted, energy dependent channelling and backscatt. anal., $^4\text{He}^+$ ions, 1 to 2.8 MeV 9-4360
 Ni (101) surface, optical excitation of He projectiles during reflection under channelling conditions 9-47576
 Ni (110), surface relax., O_2 coverage effects, medium energy ion scatt. obs. 9-28181
 Ni, Si ion projectile bound s electron polaris. rel. to transient mag. fields 9-33023
 NiCr $_2\text{O}_4$ single crystal, appl. of particle channelling to the study of a cooperative Jahn-Teller phase transition 9-4413
 NiSi $_2$ layer, on Si, struct. modelling, using axial and phase channelling techniques 9-4489
 Pd-C solid solution, dechannelling of α -particles by C atoms (*French*) 9-7643
 Pd-Si layer 9-4489
 Pt (111), relax. effects, and thermal vibrs., medium energy ion scatt. 9-28182
 Si (100), P implanted, dechannelling by edge dislocations, obs. by backscatt. spectrometry and TEM 9-4308
 Si, axially channelled protons, transmission meas. using two-dimensional position-sensitive detector 9-1471
 Si, dislocations, depth distrib. planar channelling anal. with 2 MeV He backscattering 9-7640
 Si, displacement of group III, IV, V, and VI impurities in Si by He^+ and H^+ analysing beam 9-4330
 Si, electron channelling patterns, contrast mechanisms, lattice-defect images, in SEM 9-27884
 Si epitaxial layers, dechannelling by stacking faults, channelling effect technique using He^+ and D^+ ion backscatt. 9-4361
 Si, implanted and annealed, effect of twins on dechannelling charged particle beam 9-4315
 Si, ion irradiated, room temp., depth distrib. of disorder 9-37745
 Si, monocrystal, channelling of 5 MeV protons (*Rumanian*) 9-14863
 Si, random and channelled energy loss for positive and negative, 2-15 GeV/c pions, kaons and protons 9-3332
 Si, resonance dechannelling of fast protons in axis to plane transitions 9-14861
 Si wafers, channelling dips for K and L X-ray prod., PIXE and Rutherford backscatt. anal. 9-4363
 Si:As, laser annealing, channelling, optical obs., and resist. meas. 9-1444
 Si:B, ion-implanted, influence of US waves on charged particle channelling 9-23668
 Si:B, low noise avalanche photodiode fabrication by channelling implantation 9-35827
 Si:D, ion implanted, struct. of impurity centre 9-7623
 Si:Ga, heavily damaged, channelling investigation of diffusion behaviour 9-37877
 Si:Ne ion implanted, channelling anal. of disorder struct., ^4He ions, 0.7 to 2.2 MeV 9-4321
 Si:Th, meas. of stopping power of channelled B ions 9-28025
 Si-SiO $_2$ interface, MeV backscatt. channelling meas. of Si monolayers 9-11020
 Si(111)/Al/Si, growth kinetics study of Si(111) through Al by He^+ backscattering and channeling 9-28236
 TiO, channelled ions, flux peaking study using protons, H_2^+ and H_3^+ ions 9-1450
 V, lattice location study, of 0, 1 MeV deuteron channelling 9-10846
 V single crystals, ion implanted, energy dependent channelling and backscatt. anal., $^4\text{He}^+$ ions, 1 to 2.8 MeV 9-4360
 V, trapping of D by O interstitials, channelling study using ion induced nuclear reactions 9-4316
 V-Si single crystals, channelling effect studies using He ions and $^{28}\text{Si}(\text{d},\text{p})$ reaction 9-4362
 W (001), surface reconstruction and reordering by H adsorption, MeV ion scatt. 9-23835
 W (110), D^+ depth distrib., effect of surface impurities, channelling model 9-1451
 W, ang. distrib. of particles emitted on 1200 MeV electron irradi. (*Russian*) 9-33025

character sets

- Braille display cassette tape recording for text reproduction (*Spanish*) 9-39612

characteristic temperature *see Debye temperature***characteristics measurement**

- see also headings for specific characteristics, e.g. gain measurement; viscosity measurement*
 amateur radiotelescope testing, test equipment 9-16830
 image converter, UMI-93ShS, investigation of time frequency-contrast characts. 9-18520
 p-n junction impurity profile meas., two-freq. method 9-23633
 semiconductor, elec. parameters determ. by electron probe method 9-9259

charcoal

- see also carbon*
 artificial liver support, protein-bound metabolite adsorbent equilibrium props. 9-20709
 artificial liver support, protein-bound substance removal kinetics 9-20710
 wood, prep., chem. activation 9-28973

charge (electric) *see electric charge***charge compensation**

- see also crystallography*
 fluorite type crystal; $\text{Tm}^{2+}(\text{Yb}^{3+})$, axial g-values of $4f^{13}$ ions with trigonal symmetry (*Korean*) 9-24135
 α -quartz, X-irrad., paramag. $\text{Ag}_2^+/\text{AlO}_4$ centre, EPR obs. 9-28612

charge compensation continued

- semiconductor impurity bands, one-dimens. AMO-MT model validity 9-32356
 Cd $_2\text{Zn}_{1-x}\text{S}$ -Cu $_2\text{S}$, heterojunction interface double layer, dislocation field, charge compensation 9-7855
 Gap-Ge, compensated, photosensitivity 9-19624
 n-Ge:Sb:Cu, exactly compensated, static photocurrent-voltage characts. 9-38131
 n-Ge:Sb:Cu, exactly compensated, unipolar injection influence on photoconductivity 9-42592
 Na $_2\text{S:Mn}^{2+}$ single crystal, EPR expts. and interpretation 9-1708
 p-Si photoresistor, compensated with radiation centres, current responsivity and detectivity 9-17492
 Si:Zn, $\text{P}^+-\text{n-n}^+$ struct., deep doubly ionized centres, impedance calc. 9-11202
 ZnS:Cu, film effect of Cu valency on cond. 9-11246

charge-coupled device arrays *see charge-coupled device circuits***charge-coupled device circuits**

- C-CD/SAW devices for signal and image processing, conf., Ottawa, Canada, 1977, Oct. 9-32159
 correlators using split-electrode CCDs for sampling considerations and FM compression system 9-18625
 digital image store for Earth resource surveying 9-34964
 dynamically focused array imaging systems, induced Doppler distortions 9-46117
 electronic delay, dynamically variable, for real-time US imaging 9-46142
 fast event recorder utilizing a CCD analog shift register 9-45578
 hybrid IR/CCD focal planes, performance, appls. 9-3798
 hybrid signal processor using SAW/CCD technologies 9-32163
 image sensor, microscope TV for nucl. emulsion track detection 9-3290
 image sensors, intensified, development 9-32086
 imaging systems, conf., Washington, DC, USA, 1978 9-32085
 MOS capacitor, neutron damage mechanisms in CCDs 9-19672
 photographic speed of solid-state image sensor arrays 9-17543
 prototype CCD system for the time projection chamber 9-45575
 remote sensing, sensors and detectors in NASA's future mission 9-5656
 SAW/CCD buffer memory device, operation 9-46137
 single photon X-ray detection with a CDD image sensor 9-35836
 soft X-ray imaging experiments, astronomical appls. 9-35138
 sonar beam steering, time delay and integrate CCDs 9-18623
 sonar signal processing, conf., London, England, 1978, Nov. 9-18618
 sonar system, chirp Z-transform implementation 9-18626
 space-borne Earth imager, high resolution, features 9-35097
 streak camera intensified CCD readout system, sensor props. 9-27825
 time delay and integrate CCD device for pulse sector scanning in sonar 9-18624
 time-delay and integration mode imager, Earth resource thematic mapper appl. 9-35098

charge-coupled devices

see also charge-coupled device circuits

- C-CD/SAW devices for signal and image processing, conf., Ottawa, Canada, 1977, Oct. 9-32159
 signal processing appls., comparison with digital devices 9-32145
 survey of component technologies in subsystem signal processing 9-32160
 wide-band measuring system for studying charge-coupled device characteristics 9-45585
 Cd $_2\text{Hg}_{1-x}\text{Te}$ narrow gap semiconductor, charge transfer device for IR detection appl. (*French*) 9-30563
 Si, thermal oxidation technology, improved using 1,1,1-trichloroethane as optimised additive 9-29239

charge density waves

- commensurate one-dimens. CDW system, lattice dynamics and elec. props. 9-38057
 condensates, soliton pair creation and low temp. elec. cond. 9-4550
 distorted linear chain, electronic response and longit. phonons 9-11074
 domain-like incommensurate CDW states and collective modes 9-4521
 electron gas, two-dimensional, Hartree-Fock soln. of CDW in mag. field 9-28302
 exciton ferromagnet, spin-lattice relax., light and US absorption (*Russian*) 9-7960
 Hubbard model, phase transition due to CDW (*Russian*) 9-4526
 incommensurate lattices, optical absorption and neutron scatt., lattice dynamics 9-33039
 incommensurate structural phase transformations, recent neutron scatt. studies, review 9-42205
 lock-in transition, effect of thermal fluctuations on harmonics 9-19338
 metals, heat capacity, ultra-low temp., anomalies due to CDWs 9-42271
 one dimensional condensate, nonlinear oscillating dipolar excitations 9-38007
 one-dimensional, commensurability pinning versus impurity pinning 9-11075
 random Gaussian pot., one dimens. charge density wave (*Russian*) 9-19534
 sine-Gordon ϕ -particles, quantum dynamics and statistical mechanics 9-42475
 (Sn) $_x$ chain, energy band struct., Hartree-Fock and CDW solns. 9-23885
 space modulated cryst. struct., theory of symmetry 9-38004
 structural Peierls transition in quasi-one-dimensional systems with anisotropic electronic and elastic properties 9-7671
 TCNQ salt, TSeF-TCNQ, CDWs, X-ray study 9-28301
 TTF-TCNQ, crit. behaviour near 53K phase transition, Ginzburg-Landau theory 9-33249
 TTF-TCNQ, pure and irradi. crystal, nonlinear transport at low temp. 9-4552
 TTT-I $_3$, charge transfer salt, Coulomb effects 9-28308
 two-dimensional CDWs, pinning and cond. in mag. fields 9-42610
 H, adsorbed on jellium surfaces, charge density oscills. and adatom-adatom interaction 9-42389
 K, residual-resist. anisotropy due to cond. electrons in static charge-density-wave state 9-19571
 KC $_{24}$, intercalated graphite cpd., anisotropic mag. susceptibility and phase transitions 9-19370
 K $_2\text{Pt}(\text{CN})_6\text{Br}_{0.3}\text{H}_2\text{O}$, quasi-one-dimens. conductor, Br $^-$ distrib. long-range Coulomb interaction, effect on structure and CDW 9-7591
 Na $_2\text{VS}_2$, Na $_2\text{VSe}_2$, charge density waves, electron localisation 9-47038
 NbSe $_2$ (2H), electronic response function including electron-phonon matrix elements 9-28300
 NbSe $_3$, CDW, cryst. struct., X-ray and electron diffr. studies 9-14768
 NbSe $_3$, CDW linear chain metal, two band model in ohmic region 9-38056

charge density waves continued

- NbSe₃, conductivity anisotropy and transverse magnetoresistance 9-38055
 NbSe₃, incommensurate CDW, X-ray scatt. and elec. field studies 9-42471
 NbSe₃/Ta, elec. cond., anomalous, and microwave absorpt. 9-42527
 NbSe₂(2H), layered metallic magnetoresist. and Fermi surface above and below CDW onset temp. 9-19578
 Si (111) inversion layers, CDWs, effect of four valley interaction terms 9-33324
 Si, (111) surface, electron inversion layers, obs. of sixfold valley degeneracy 9-38176
 TaS₂ (1T), Hall effect 9-38103
 TaS₂ (2H), quantum oscillations and Fermi surface 9-37960
 TaS₂ polytypes, in situ intercalation in TEM, using N₂H₄ gas 9-8254
 TaSe₂ (2H), thermal and elastic props., X-ray diff. exam. 9-37754
 Ta_{1-x}Ti_xSe₂, cryst. struct. and elec. props. 9-47133
 TiSe₂ (1T), phonons and CDWs, inelastic neutron scatt. meas. 9-28059
 Ti_{1-x}Se₂, superlattice form. and phase transition, IR reflectivity meas. 9-24322
 V_{1-x}Nb_xSe₂, CDW anomalies, Nb substitution effects, mag. susceptibility, 16-300K 9-38005
 V_{1-x}Se₂, cryst. struct. and elec. props. 9-47133
 W (100) surface, fluctuation, thermal impurity depinning and commensurate-incommensurate transition of CDWs 9-42611

charge exchange

- for charge exchange in particle and nuclear physics see elementary particle interactions and nuclear reactions and scattering
 see also charge transfer states: ionisation
 alkali metal ion+atom, cross sections 9-26871
 anthracene, single crystal, contact charging and photoemission 9-47586
 atomic and molecular collisions in intense light beams, quantum aspects (Russian) 9-6903
 atomic collisions, charge exchange, one or two electrons, symmetry effects (Russian) 9-3562
 atomic particle stripping analysers with solid and gaseous targets 9-1341
 atomic resonance charge exchange in laser field, secondary emission 9-27081
 bacterial photosynthesis, and model systems, electron transfer, ps studies 9-48214
 bromanil, electron affinity, bound and excited negative ion states, lifetimes, electron and alkali metal collisions 9-869
 CA(s)+B⁺→A⁺+B⁺(p), charge exchange, at term pseudointersection, level degeneracy effect 9-27084
 charge transfer electroradiography, physical processes 9-17594
 chloranil, electron affinity, bound and excited negative ion states, lifetimes, electron and alkali metal collisions 9-869
 collision spectroscopy, book 9-27065
 cycloalkane, mol. ion struct., photodissoc., charge transfer, ICR obs. 9-45774
 cytochrome c, electron tunnelling to cytochrome c peroxidase 9-20507
 cytochrome c, trifluoroacetylated, electron transfer reactions 9-20505
 dimethylether-HCl(I)(Br) mixture in N₂ matrix, IR induced proton transfer isotope effects, bond strengths 9-29335
 double-charge transfer processes in gaseous nebulae 9-30112
 fluoranil, electron affinity, bound and excited negative ion states, lifetimes, electron and alkali metal collisions 9-869
 gas, partly ionised, viscosity calc., simplified expressions 9-18983
 graphite nitrate, charge transfer, ionic salt model 9-11780
 high-Rydberg state high-impact-velocity forward charge transfer as classical process 9-22824
 impurity ions in Tokamaks, charge transfer excitation 9-4103
 inert gas atom+ion, radiative charge transfer coeffs. 9-7010
 inert gas ion+atom electron transfer collisions, cross section meas. 9-5143
 ion beam transport system, charge transfer cross sections 9-30609
 ion mobility, resonant charge transfer effect 9-37440
 ion-atom collisions, charge transfer, new integral eqn. calc. method 9-45832
 molecular interactions, weak, competitive preferential solvation theory 9-27051
 multichannel charge-exchange energy analyser with high time resolution, plasma energy spectrum 9-41882
 one-dimensional system, solitary electron, charge transfer without resist. 9-23691
 photosynthetic reaction centres, primary electron transfer rate 9-8481
 polarized source based on nuclear polarization by charge-exchange 9-22514
 ring current ions, charge exchange lifetimes in magnetosphere 9-25409
 slow ion+atom collisions, coherent excitation and decay of autoionising states 9-45789
 strongly interacting systems, energy decomp. scheme 9-31431
 symmetrised non-resonance, multicomponent kets theory 9-31676
 three-centre systems, charge transfer effects and Huckel parameters, mapping concept (German) 9-22604
 variationally consistent approximation scheme 9-22825
 very high energy, cross sections, second Born approx. 9-45827
 water, solvated electrons, photon-induced electron transfer transitions 9-8154
 X-ray laser pumping and charge transfer, book contrib. 9-31852
 Al+N²⁺(O⁺)(F⁺), X-ray prod. and electron transfer cross-section 9-45790
 Ar⁺+Ar(He), 100-550 keV, 3s vacancy production 9-13809
 B⁺+He(He), charge transfer and excitation, differential cross sections, 2-5 keV 9-36764
 B³⁺+HeC(Ne), K-shell charge transfer cross sections, Bates-Born formalisms 9-45834
 Br₂-pyridines, charge transfer complexes, ν_{Br-Br} vibr., Raman intensity obs. 9-36644
 C⁺+N₂(H₂), total charge transfer cross section, 5-100 keV 9-3561
 C²⁺, partially stripped, energy straggling in thin Al foil, 3-36 MeV 9-41237
 Ca-Xe charge exchange system, optical gain meas. 9-10285
 Ca+Ca⁺(Rydberg Ca⁺), collision cross sections, Ca₂⁺ pot. energy calcs. 9-27055
 Cd+He⁺, thermal energy charge transfer reaction, ion states, relative yields 9-45840
 Cd(P₁) excited state quenching by mols., cross sections, chem., phys. exit channels 9-779
 Cs⁺+Cs, reson. charge exchange cross section at thermal energies 9-854

charge exchange continued

- D+H⁺(D⁺)(He⁺)(Ne⁺)(Ar⁺)(Kr⁺), reson. charge charge transfer from photoexcited donor state 9-22820
 Eu+H⁺, two-step laser isotope enrichment using charge transfer ionisation 9-867
 Fe_{3-x}Cr_xO₄, electron transfer and spin density distrib., Mossbauer spectra 9-24243
 H, charge exchange involving excited states, Born cross sections 9-45836
 H-like ions+H⁺, charge transfer cross sections 9-18286
 H+Be⁺→H⁺+Be⁺, charge transfer total cross-sections 9-3559
 H+Cs→H⁺+Cs⁺, low energy cross sections 9-7009
 H+H⁺, coupled state calc., charge transfer and direct ionis. 9-22810
 H+H⁺, fast proton total electron capture cross section, fixed scattered approx. 9-22819
 H+highly stripped ions, S-matrix construction 9-3527
 H+X^{B+}, sub-barrier charge exchange cross section calc. (Russian) 9-7004
 H⁺+H⁺, charge exchange, one or two electrons, symmetry effects (Russian) 9-3562
 H⁺+H⁺, double charge transfer, 30-200 eV 9-45837
 H⁺+H⁺→H(1S)+H, level degeneracy effect on charge exchange at term pseudointersection 9-27084
 H⁺+hydrogenic ion, electron capture in highly excited s-state 9-45839
 H⁺+H⁺, merged beams, double charge transfer cross section 9-22818
 H⁺+He, proton energy degradation, approx. yield spectrum 9-31643
 H⁺+He(Ar), charge exchange, differential cross sections 9-7006
 H⁺+He(Ar)(O₂), charge transfer to H(n=2), mixed parity elec.-dipole oscillations 9-31678
 H⁺+He(Ce)(Ne), K-shell charge transfer cross sections, Bates-Born formalisms 9-45834
 H₂+He⁺, charge transfer, appl. of atom-photon coincidence meas. 9-45829
 H₂⁺+H₂, charge transfer collisions, 10 keV, H₂-H fragmentation 9-853
 H(1s)+O⁺→He²⁺(H⁺), charge transfer, 0.025-200 keV/amu 9-22823
 He+H⁺, ionising collision, first-order Faddeev approx. 9-22827
 He⁺+As⁺→He⁺(As⁺)⁺, He-As CW laser, excitation mechanism 9-3685
 He⁺+He, charge transfer, appl. of atom-photon coincidence meas. 9-45829
 He⁺+He, reson. charge transfer, merging-beam technique 9-41235
 He⁺+He²⁺→He²⁺+He⁺, 10-1700 eV, absolute. cross-sections meas. 9-3560
 He⁺+Ne*→He⁺+Ne⁺, cross sections 9-22821
 He⁺+He, radiative single charge transfer cross section 9-7011
 He⁺+He, (*=excitation or charge), differential scatt. inversion procedure, symmetric exchange, classical, semiclassical theory 9-13802
 Hg+He⁺, thermal energy charge transfer reaction, ion states, relative yields 9-45840
 K+Br₂(Cl₂), electron transfer crossed beam reaction, energy and ang. differential cross section 9-20358
 Li³⁺+HeC(Ne), K-shell charge transfer cross sections, Bates-Born formalisms 9-45834
 Mg⁺+Mg and Mg²⁺+Mg, resonant charge transfer, phase interference effect 9-10199
 N⁺+Ar(H₂)(N₂)(O₂)(CO)(NO)(CO₂), charge exchange, 1-3 keV, N⁺(P) and (D) states 9-36760
 N⁺+N₂(H₂), total charge transfer cross section, 5-100 keV 9-3561
 N₂-He laser, charge transfer pumping at atm. press., in elec. avalanche discharge 9-10286
 NO⁺+NO₂⁻, neutralisation reaction, spectroscopic study 9-13819
 N₂O+inert gas, ion, mol. ionis., emission obs. 9-31707
 N₂O+Ne⁺, charge transfer excitation, down to 1 eV 9-45835
 Ne⁺+H₂(N₂)(CO)(CO₂)(N₂O)(O₂)(NO)(NH₃)(SO₂)(COS)(H₂O), thermal energy, reaction rate coeffs. and product distrib. 9-29333
 Ne⁺+methane(chloromethane)(ethylene), thermal energy, reaction rate coeffs. and product distrib. 9-29333
 Ne⁺+Zn, charge exchange and Penning ionisation in pulsed discharge afterglow 9-7007
 O⁺+N₂(H₂) 9-3561
 O⁺+N₂(O₂), reaction rates, 300-900K 9-8434
 Ru complex, (2,2'-bipyridyl)ruthenium²⁺, excited-state redox processes, electron transfer theory 9-39126
 Ti+Ar⁺, charge exchange obs. through spectral line enhancement 9-7005
 WF₆, electron and fluoride affinities, ICR spectra 9-39130
 Xe²⁺+Ar(Xe)(H₂)(N₂)(O₂)(CO₂), charge transfer from ground and metastable states 9-31677
 Zn+He⁺, thermal energy charge transfer reaction, ion states, relative yields 9-45840
 ZnO-polystyrene photoreceptors sensitised by β -Cu phthalocyanine 9-17552

charge measurement

see also electrometers

fractional charge, 1/3e, expt. determ. on Nb sphere 9-21694

charge-ordered states

supernonradiative phase transition, appl. to paramag. impurities in strong mag. field 9-14898
 TCNQ salts with asymmetric donors, transport props. 9-23953

charge storage diodes

No entries

charge transfer see charge exchange**charge transfer states**

anthracene-TCNB, 1:1 charge transfer complex, phase transition at 206K, NMR meas. 9-7690
 anthracene-TCNB charge transfer cryst., phosphores. and delayed fluorescence. detected mag. reson. 9-33565
 anthracene-tetracyanobenzene, charge transfer complex, phase transitions, deuteration effect, mag. reson., spectral and thermal meas. 9-4412
 benzene, reson. Raman effect in gas, liq., and solid phases 9-31531
 benzenes, para-disubstituted, liq., 2nd order hyperpolarisabilities, regularities, intramol. charge transfer 9-10353
 complexes, geometries, CNDO/2 and EHT calcs. 9-36530
 p-cyano-dialkylanilines, twisted intramol. charge transfer states, dual fluorescence. 9-36683
 dialkylanilines, p-substituted, twisted internal charge transfer excited state form. 9-22683
 trans-4-dimethylamino-4'-nitrostilbene, mol. hyperpolarisability in soln., UV dispersion of charge transfer contrib. 9-31986
 1,8(6',7'-dioxadodecamethylene) phenanthrene, intramol. electronic energy transfer, emission obs. 9-31571

charge transfer states continued

- donor-acceptor electron transfer kinetics (*Russian*) 9-38029
 electronic excitation of mols., charge transfer and localisation 9-41119
 fluorescence, depolarisation, orientation factors, excitation energy transfer between isolated donor-acceptor fluorophore pairs 9-22740
 graphite-DNO₃, intercalation cpd., mol. dynamics 9-28631
 linear molecular crystal, effect of mixing between Frenkel excitons and charge transfer states on charge carrier transfer 9-33242
 liquid, electron-hole interactions and double proton transfer, picosec. laser obs. 9-45773
 methanol, effect of hydrogen bonding on Raman spectrum 9-18197
 molecular charge transfer complex, Raman scatt. intensity enhancement model 9-13720
 molecule, π -bonded, polarisability, atom monopole-dipole interaction model with charge transfer 9-22860
 Mott-Hubbard insulator, one-dimens., charge transfer absorpt. 9-37958
 naphthalene charge transfer complexes, cryst., vibr., factor group splittings 9-7658
 naphthalene charge transfer complexes, orientational disorder, spt. ht. meas. 9-46813
 naphthalene-TCNB, charge-transfer cryst., donor mol. orient. and dynamics 9-32926
 naphthalene-TCPA charge transfer triplet states, electron-phonon coupling 9-38601
 naphthalene-tetracyanobenzene, charge transfer complex, phase transitions, deuteration effect, mag. reson., spectral and thermal meas. 9-4412
 p-nitroaniline, mol. hyperpolarisability in soln., UV dispersion of charge transfer contrib. 9-31986
 organic charge transfer complexes, refl. spectra, excitons 9-47477
 organic molecules, conjugated, nonlinear props. of new class of cpds. 9-41413
 organic salts, neutral-ionic interface, energy states and mag. props., VB anal. 9-4537
 organic salts, strongly correlated, interband absorpt., long-range Coulomb interaction 9-4525
 phanes, glassy and cryst., ODMR meas. 9-19812
 phenanthrene-PMDA, spin polarization of charge-transfer excitons, EPR meas. 9-19766
 phenanthrene-pyromellitic dianhydride, single cryst., charge-transfer triplet excitons, spin polaris. 9-11069
 photoluminescence of solutions, decay and self-depolarisation 9-24351
 pigments of visual and purple membranes, charge stabilisation mechanism 9-34500
 trans-polyacetylene, halogen doped, elec. cond. 9-19589
 n-propylhalides, gauche conformer stability, exchange interactions effects 9-13817
 pyrene-tetracyanobenzene, charge transfer complex, phase transitions, deuteration effect, mag. reson., spectral and thermal meas. 9-4412
 semiconductor electrode, surface state charge transfer in photoelectrolysis of water 9-28405
 spectral sensitisation, electron and energy transfer mechanisms, review (*German*) 9-39172
 spectral sensitization theory, review (*German*) 9-39174
 TCNQ anion radical charge transfer salts, semiconducting behaviour 9-11118
 TCNQ charge transfer complexes, elec. cond. 9-38058
 TCNQ salt, HMTTF-TCNQ, Madelung energy, intermol. charge transfer, 1-dimens. disorder 9-7572
 TCNQ salts, charge transfer, mode shift study, Raman scatt. (*German*) 9-28731
 TCNQ salts, K(TCNQ), Ba(TCNQ)₂ and Ca(TCNQ)₂, electronic absorpt. spectra, vibronic struct., charge transfer bands 9-24331
 TCNQ salts of 1:1 stoichiometry, kinetic models of form. 9-46596
 TCNQ-perylene, electronic absorpt. spectra, vibronic struct., charge transfer bands 9-24331
 1,2,4,5-tetracyanobenzene complexes, electron donor-acceptor interaction, ionic photodissoc. yield 9-6975
 tetracyanoethylene charge transfer complex, nonradiative decay of excited states, D isotope effect 9-31580
 TTF salts, charge transfer, mode shift study, Raman scatt. (*German*) 9-28731
 TTF-TCNQ, charge transfer, mode shift study, Raman scatt. (*German*) 9-28731
 TTT, neutral, cation and conducting complex reson. Raman spectra, vibr. lines, charge transfer 9-4794
 twisted intramol. charge transfer states, dual fluoresc. 9-36683
 uranyl complexes, MCD spectra, electronic struct. of lowest excited states (*Japanese*) 9-27014
 vinyl polymers quenched with electron donor (acceptor) in soln., ionic photodissoc. 9-11800
 Br₂, organic solvent effects on Raman parameters 9-26998
 CdF₂:Eu³⁺, luminesc., charge transfer states 9-33799
 Fe-Y(Th)(Zr), amorphous, charge transfer and mag. props., ⁵⁷Fe Mossbauer spectra 9-19719
 GaAs:Fe, impurity atom charge exchange, Mossbauer spectroscopy 9-47050
 GaP:Fe, impurity atom charge exchange, Mossbauer spectroscopy 9-47050
 La₂O₃:Yb³⁺, charge transfer type luminesc. 9-33797
 LaPO₄:Yb³⁺, charge transfer type luminesc. 9-33797
 Lu₂O₃:Yb³⁺, charge transfer type luminesc. 9-33797
 LuPO₄:Yb³⁺, charge transfer type luminesc. 9-33797
 Ni, (001) surface, local density of states, asphericity of pot. and charge transfer, ab initio self-consistent calcs. 9-15064
 Ru complex, (2,2'-bipyridyl)₃ruthenium²⁺, excited-state redox processes, electron transfer theory 9-39126
 Ru complex, Ru(II)-polypyridine, excited charge transfer states, multiple emissions 9-3468
 Ta-Nb-V, solid solutions, superconductivity and charge transfer 9-7926
 TaS₂, mixed coordination polytypes, optical props. 0.5-6.0 eV range, interlayer charge transfer 9-15476
 tetraselenatetracene, neutral, cation and conducting complex reson. Raman spectra, vibr. lines, charge transfer 9-4794
 Y₂O₃:Yb³⁺, charge transfer type luminesc. 9-33797
 YPO₄:Yb³⁺, charge transfer type luminesc. 9-33797

charge transfer transitions *see* charge transfer states**charged dislocations** *see* dislocation dipoles**charm particles**

- see also D mesons; psi mesons*
 1/N dual unitarisation convergence due to SU(4) breaking, charm and strangeness implications 9-6321
 baryon, charm changing weak decays $1/2^+ \rightarrow 3/2^+ + 0^-/\gamma$ in SU(4) and SU(8)_w 9-3021
 baryon hadronic decay, $3/2^+$ decuplet isobars in SU(3) symmetry, dynamical assumption 9-26333
 baryon spectrum due to chromomagnetic and electromagnetic hyperfine interaction 9-13123
 baryons, mass splitting and weight diagrams 9-26314
 baryons, quark-diquark model of nonleptonic decays 9-13120
 Brayshaw and Peierls mechanisms for generating hadron peaks, N*(1470), 0(1020) and charm 9-404
 bubble chamber detection technique 9-22543
 charmed meson spectra from effective quark-quark interaction, D⁰ mass 9-36018
 charmonium, spin structure of the quark-confining potential 9-22042
 charmonium and asymptotic freedom in QCD 9-6327
 charmonium atomic physics, ψ , ψ' , η_c , η_c' masses and $\psi \rightarrow \eta_c \gamma$ decay 9-40740
 charmonium from QCD qq β -function 9-343
 charmonium models, energy perturbation series from Schrodinger eqn. 9-6005
 charmonium potential models, testing Q² duality 9-45082
 charmonium spectroscopy, spin forces, obs. in $\psi(3.68)$ - $\psi'(3.77)$ struct. in e⁺e⁻ annihilation 9-36047
 charmonium spin structure, and possible origin of quark spin depend. forces 9-30707
 decay of short-lived particles in photoemulsion irradiated with 400 GeV/c protons (*Russian*) 9-3022
 flavour symmetry breaking and production processes in dual unitarisation, ϕ and ψ prod. 9-45080
 fragmentation functions of heavy quarks into hadrons, ν reactions, e⁺e⁻ annihilation appls. 9-3013
 hadron spectroscopy, quark model explanation 9-30710
 hadron-antihadron short distance pot., molecular charmonium P-wave bound states 9-328
 heavy lepton and charm particle production by e⁺e⁻ interactions, recent results, review 9-26337
 heavy quark leptonproduction in QCD, characts. 9-17733
 heavy quark semileptonic decays, gluon corrections 9-17688
 heavy quarks, elementary particle physics developments, review book contrib. 9-22161
 heavy quarks, elementary particle physics developments, review 9-22053
 magnetic dipole transitions in atomic and particle physics: ions and pions 9-9322
 meson production in hadronic and EM hadron interactions 9-13143
 mesons, nonleptonic decays of charmed mesons and chiral Lagrangians (*Russian*) 9-30732
 mesons, spectral function sum rule and onium 9-26329
 mesons, three body decay, Dalitz plots quark line diagrams 9-30731
 multimesonic decays of charmonium states in a constant matrix element quark model 9-26298
 nonleptonic charm decay and u-s symmetry 9-13078
 production from two-gluon annihilation in proton-proton collisions
 charmed particle production from two-gluon annihilation in proton-proton collisions 9-347
 production in high energy ν -induced reaction, lifetime determ. 9-26426
 pseudoscalar meson decay constants, Goldberger Treiman relations in charm sector, three point function Veneziano model 9-293
 pseudoscalar mesons, muonic double β -decay, tree and box diagram approx., K⁻ and F⁻ 9-17717
 QCD, 2-dimens., nonleptonic weak decays of charmed and storage mesons 9-40773
 QCD, hadronic charm production, cross section and charmed quark mass 9-36017
 quarkonia from charmonium and renormalization group equations 9-22055
 quarkonium, almost degenerate P-wave charmed-bottom meson multiplet, scalar confinement test 9-13052
 reciprocal effects and other quark theories, charm quarks, J/ ψ discovery, gauge theories (*Danish*) 9-30698
 Regge spectra of charmed baryons in dual resonance amplitudes 9-13088
 semileptonic decay rate calc. 9-9366
 semileptonic decays of charmed baryons, SU(4) breaking, mag. moments, suppression factors 9-387
 short lifetime charm particles from ν interactions detection in nuclear emulsion 9-22539
 short lived charm particles observation in 400 GeV/c p+emulsion interactions (*Russian*) 9-22144
 SU₃ subsectors of SU₄ and mass sum rules for charmed hadrons 9-35967
 SU(3) quark sectors, weak hadronic and radiative decays of nonstrange charmed baryons 9-22092
 SU(3) subalgebras of SU(4), generalised U-spin decaying baryon magnetic moment 9-36078
 SU(3) symmetry in more than 3 quarks world, nonet struct., quark line rule 9-36022
 SU(4)XSU(4) broken chiral symmetry, charmed hadron masses and decay consts. 9-40686
 SU(4)XSU(4) chiral symmetry breaking, axial vector current divergences, kaon PCAC 9-45032
 SU(4) symmetry predicted $1/2^+$ charmed baryons, C₁⁺⁺, C₁⁺, C₁⁰, X_u⁺⁺, X_d⁺, possible observation 9-40758
 sum rules for four-body semi-leptonic decays 9-36067
 B_c-e⁺e⁻+hadrons, decay due to weak neutral currents (*Russian*) 9-22146
 c- \bar{c} associated prod., ν -induced multimuo prod. 9-17707
 C₀⁺ charmed baryon weak decays 9-9369
 C⁺(2.26) search in 45 GeV/c neutron beam, C⁺ hadronic and semileptonic decay (*Russian*) 9-22145
 $\chi(3.45)$, radiative M1 transitions with charmonium model 9-13132
 $\chi/c(3.41)$ tensor meson dominance for c \bar{c} states, $\psi' \rightarrow e^+e^-$ and $e^+e^- \rightarrow \psi$ 9-3019
 D meson, nonleptonic decay, matrix element computation and iteration 9-384
 D⁺-D⁰ mass difference, form factors, SU(4) coupling, vector meson dominance model 9-391

charm particles continued

- e^+e^- annihilation, prod. of orbitally charmed hadrons, free quark model anal. 9-22120
 η_c , interpretation of $X(2.88)$ obs. in $\pi^-p \rightarrow \gamma\gamma\pi$ 9-22150
 F charmed meson prod. from $\psi(4.0$ to 4.5 GeV) decay 9-17719
 F-D π enhancement and the $\Delta I=1/2$ rule 9-36069
 F meson prod. characts. from $e^+e^- \rightarrow \eta\chi$, F $\rightarrow\eta\pi$ 9-26338
 F $\rightarrow\pi\pi\pi$, S_3 permutation group approach, charm model test 9-17723
 F-meson production suppression relative to D-meson 9-36100
 $f_c(3.55)$ absolute γ -decay rates from tensor meson dominance and QCD pots. 9-9377
 F * -F, D * -D, pseudoscalar-vector mass differences, QCD nonrelativistic quark model 9-6339
 F * -F, mass difference calcs., scalar-exchange model 9-13124
 γp -charmed mesons, photoprod. at CERN SPS and search for charmed mesons 9-26336
 J/ ψ , radiative M1 transitions with charmonium model 9-13132
 $\Lambda_c \rightarrow pK^0\pi^+\pi^-$, kaonic decay observation, prod. rates 9-26332
 $\nu_c(\bar{\nu}_c)h \rightarrow \mu^\pm 1^\pm X$, charm contrib. to prod. of opposite sign dimuons 9-377
 νN , charm and strangeness production, role of gluons 9-13104
 $\nu N \rightarrow \mu + \text{charmed baryon}$, SU(4) breaking effects, quark parton model 9-40792
 $\nu p \rightarrow \mu \Lambda^0 \pi^+ \pi^-$, $E > 10$ GeV, inclusive 9-376
 pN 70 GeV collisions, search for prompt neutrinos 9-13160
 pp 12 GeV/c search for D, D * and Λ_c charmed particles, charmed pair prod. 9-426
 ψ particles and charm, 1975 and 1976 expts. (Czech) 9-26288
 ψ , radiative M1 transitions with charmonium model 9-13132
 $\psi^*(4.414)$ GeV, third radial excitation of $c\bar{c}S_1$, unorthodox branching ratios 9-17720
 Σ^\pm prod., 4-7 GeV e^+e^- annihilation 9-9387
 Z^0 observation, charmonium, c-quark and new elementary particles (Danish) 9-45048
 $X(2.83)$, radiative M1 transitions with charmonium model 9-13132
 X^0 pair production and decay in 400 GeV/c proton interactions 9-17768

charring see combustion

Chebyshev approximation

- Fredholm integral equations, with Cauchy type singular kernels, approx. solns. using Chebyshev series 9-2611
 planetary satellites, ephemerides representation by Chebyshev polynomials (Russian) 9-16800

chelates see coordination complexes

chemical analysis

- see also chemical analysis by nuclear reactions and scattering; chromatography; electrochemical analysis; electron probe analysis; ion microanalysis; mass spectroscopic chemical analysis; polarimetry; pollution detection and control; radioactive chemical analysis; spectrochemical analysis; thermal analysis; X-ray chemical analysis
 AES, anal. techniques 9-43691
 AES, digital acquisition and processing 9-43698
 air analyzer, automatic, calibration system, zero and span standardization 9-16107
 air-pollution gas analyzers, testing instrums. 9-8715
 atmospheric contaminants, detect. by laser absorptiometry 9-21004
 atmospheric dust (Dutch) 9-16713
 atmospheric precipitation, trace constituents chemical anal. in global baseline samples 9-16566
 atmospheric trace gas IR monitor, airborne, nondispersive 9-8719
 Auger scanning microscopy, using beam brightness modulation 9-16097
 Barnwell nuclear fuel reprocessing plant, remote sampling and on-line anal. system 9-13511
 biological materials, electron energy loss spectroscopy anal. appl. 9-39269
 biological specimens, ionising radiation damage at low temps., effects on microanal. 9-39453
 blood gas analysis data processing system (German) 9-5419
 BOD values, short time determ. methods comparison (Japanese) 9-48192
 BULK: a computer program for calculating bulk-chemical analysis from mineral phases observed in thin section, FORTRAN IV program listed 9-2378
 chalcogenide glass film, drift and thermal diffusion of Au electrodes, α -particle backscatt. meas. 9-4434
 channelling measurements, by Rutherford backscatt., resolution improvement 9-5209
 chondritic meteorites, analytical scheme, appl. to Cocklebidy 9-2483
 combustible gas and vapour monitoring, MOS sensors 9-16104
 combustible gas detector, operational tests 9-16105
 condensation nuclei counter, particle conc. determ., particle size effects 9-20476
 conference on analysis instrumentation, Charleston, West Virginia, USA (May 1977) 9-16100
 cyclobutanone, IR laser photolysis sensitised by NH_3 , and reaction temp. 9-47944
 dihalogenated benzene derivatives, 77K, gamma radiolysis radical pair formation, EPR 9-29334
 electrolyte concentration meas. instrum. using laser diode, optimisation of parameters 9-20488
 electron energy loss spectroscopy, anal. appl., processing requirements 9-43692
 electron spectrometer for microchemical anal. in 100 kV TEM 9-39251
 estuarine waters, behaviour of trace chem. constituents 9-16512
 fissure reactor fuel and materials (Japanese) 9-26519
 gas mixtures, standard, SMES-2 system for metrological support 9-20487
 gaseous emission from in situ sources, field experience 9-16660
 geothermal waste water, environmental effects on river system 9-29487
 glass fibres, types E and A, surface composition, effect of ageing, reduction, exam. using X-ray photoelectron spectroscopy 9-20223
 glass fragments discrimination, window, container-glasses, forensic science appl. 9-11841
 high resolution Rutherford backscatt. techniques, appl. to near surface anal. 9-5207
 high-temperature gases, equilibrium composition calculation (Russian) 9-20499
 inorganic ions, adsorbed on porous SiO_2 glass in distilled water medium, determ. 9-24814
 inscribed jars found at Thebes, inconsistencies in comp. and provenance studies 9-26197
 instrumentation system, computerised, real-time 9-12786
 chemical analysis continued
 kinetic and equilibrium assays, effect of reaction extent, uncertainty of rate parameters 9-34373
 kinetic method insensitive to variables affecting rate consts. 9-34374
 linear parameter estimation, for chem. anal. 9-24843
 lunar soils, volatile trace elements determ. by RNAA 9-44276
 marine minerals, anal. and exploration by Mobile Initial Condition Indicator 9-5687
 metals, group VA, O and N determ. from internal friction meas. 9-39246
 methanol, chemisorption on Ni(111), methoxy species, electron energy-loss spectra 9-29391
 microdensitometers, props. effect on photographic emulsion charact. curve 9-43673
 microprocessors and millivoltmeters appl., 1978 exhibition in Munich (German) 9-20482
 NMR chemical shift, hidden partner analysis 9-43554
 nuclear fuel reprocessing, conf., Gatlinburg, USA (Oct. 1977) 9-9847
 nuclear fuel reprocessing and refabrication, quality control 9-13506
 nuclear fuel reprocessing plant, in-line monitors 9-13509
 nuclear materials, nondestructive assay instruments for DYMAC program 9-11875
 nuclear safeguards, anal. chem. in nucl. fuel reprocessing 9-13505
 nucleopore filters, clogging, cap form. model 9-20468
 obsidian, hydration profiles meas. by sputter-induced optical emission, rel. to dating technique 9-24871
 partial atomic vapour pressure, meas. by forward light scatt., transverse mag. field 9-16087
 particle analysis, SIMS appl. 9-43695
 pepperbush powder, a new standard reference material 9-39227
 photochemical reaction temperature during laser photolysis, by use of cyclobutanone impurity 9-47944
 plastics identification by simple qualitative tests 9-5944
 pollutant particles, characterised by AES and XPS 9-43694
 propane gas detector using SnO_2 doped with Nb, V, Ti, or Mo 9-29426
 quantitative image analysis, applic. to mineralogy (French) 9-5631
 radioactive particulates in gaseous effluents at nuclear fuel reprocessing facility 9-9848
 residual gas analyser, microprocessor-based 9-26175
 Savitsky-Golay convolution method, for least-squares fit smoothing and differentiation 9-16059
 scanning Auger microanalysis, review 9-43699
 scattering spectrometry, appl. with protons, 5 to 8 MeV, and heavy ions, 15 to 25 MeV, to special anal. problems 9-5210
 solid surface and thin film anal. methods, review 9-34410
 solids in water, measurement standard, macerated glass fibre filter paper, water analysis appl. 9-8454
 spent THTR fuel, in-line and off-line destructive chem. anal. 9-13508
 steel, austenitic type 304, temper embrittlement and surface segregation an AES and ionization loss spectroscopy study 9-43372
 steel, stainless, vacuum transfer technique for Tokamak in situ surface anal. 9-2778
 stratospheric ozonometer, using chemiluminescent reaction of ozone and olefins (French) 9-48574
 terrestrial minerals, volatile trace elements determ. by RNAA 9-44276
 thermochemical gas analyzer, porous flame barrier, reagents, reaction products, conc. diffusion (Russian) 9-29359
 thin film analysis and characterisation, conf., Les Arcs, France (Jan. 1978) (French) 9-8466
 titrimeters, reference materials for metrological certification using chromatometric reactions 9-34402
 toxicity studies, TOXIPAC-300 data processing system (Japanese) 9-25172
 trace gas analysis, microwave surface wave plasma production and appl. 9-19059
 turbulent dispersion concentration valves, system for wind tunnel meas. 9-5191
 uracil, aq. soln., fast electron induced radical identification 9-24870
 vapours and gases, high-temp. characterisation, conf., Gaithersburg, USA (Sept. 1978) 9-40579
 water sample, automated anal., pH, conductivity, alkalinity 9-12287
 X-ray energy dispersive spectrometry, applic. to mineralogy (French) 9-5630
 α -Ag $_2$ S whiskers, growth in VLS system, SEM and X-ray diff. anal. 9-46989
 Al_2O_3 - SiO_2 -CaO- B_2O_3 (1,1,1 wt.%) chemical analysis by photocolormetry and titration 9-20483
 Am metal, dilatometry and thermal anal., melting point, transformation regions 9-43241
 As $_2$ S $_3$, determination of stoichiometric discontinuity, using US velocity 9-3242
 B, tetragonal, X-ray diff. and C doping obs. (French) 9-14731
 C, determ. in UC_n -Pu $_n$ refabricated fuel for breeder reactor 9-11877
 $Ca_{10}(PO_4)_6(OH)_2$, hydroxyapatite, prep. by hydrotherm. recrystn., composition and props. study 9-33913
 $Cd_2(PS_4)_2$, synthesis by roasting, and exam. of props. 9-4926
 Cr surface reactive, field ion microscope and atom probe obs. 9-29410
 Eu-Tc, chalcogenides, exam. of crystal-chemical characts. 9-1407
 F, hot spring water content (Japanese) 9-8648
 Fe, desorption of $O_2(N_2)$, surface anal., XPS appl. 9-24875
 Fe-Cu-Ti, improvement of irradiation-enhanced Cu embrittlement by Ti addition 9-43393
 Fe-Si (3.1 wt.%), solubility product of BN 9-10955
 Fe $_2$ C melts, measuring C content using automatic device 9-39252
 Fe $_2$ P, grown in liq. Cu medium, composition and mag. props. 9-11313
 H, determs. in fast flow discharge systems, titration methods 9-34393
 H $_2$ in plate subject to external stresses (Russian) 9-14836
 H $_2$ S, air pollution, new anal. method for remote areas 9-21028
 KEuHf $_2$ O $_{10}$, synthesis of K_2CO_3 , Eu $_2$ O $_3$ and phosphoric acid, exam. of structure 9-1837
 KEu(PO $_3$) $_4$, synthesis of K_2CO_3 , Eu $_2$ O $_3$ and phosphoric acid, exam. of structure 9-1837
 Li $_x$ WO $_3$, Vegard relationships, lattice parameter versus composition, X-ray and chem. anal. 9-23582
 (Lu $_1-x$ Sc $_x$) $_2$ V $_2$ O $_7$, prep., cryst. chem. and chem. anal. 9-41986
 Lu $_2$ V $_2$ O $_7$, prep., cryst. chem. and chem. anal. 9-41986
 (Lu $_1-x$ Y $_x$) $_2$ V $_2$ O $_7$, prep., cryst. chem. and chem. anal. 9-41986
 NH $_3$ +Br $_2$, gas phase reaction, NHB $_2$ identified by ESCA 9-31599
 Ni based powders, determination of entrapped Ar content, using vacuum fusion tech. 9-5193
 NiCr film deposition, gas phase analysis (Polish) 9-20492

chemical analysis continued

- P, reactive, in natural waters, low concs. automated determ. in presence of As, Si and HgCl_2 9-44277
 PbCl_2 , thin films, reduction to Pd by Ne^+ ion irradi., 2 MeV He^+ ion backscatt. anal. 9-4493
 Pu, analysis, in fuel fabrication facility 9-16115
 Pu contaminated soil, nondestructive anal. 9-11879
 Pu, in Irish Sea, oxidation state 9-16516
 PuO_2 , reactor grade, calorimetric assay 9-16116
 S, determ. in submicrometric aerosols, SO_2 -denuder appl. for continuous meas. 9-8699
 S, in organic compounds, (book) 9-11869
 SO_2 , air pollution, new anal. method for remote areas 9-21028
 SO_4^{2-} , quantitative determ. in aerosol particles 9-20474
 Sb thin film, pH sensitivity and electrode potential (*Japanese*) 9-39159
 Si-Y-Al-O-N glasses, compositional anal., hardness depend. on N_2 content 9-34129
 β - SiC , powder, synthesis by chemical vapour phase reaction from methylsilane, exam. of props. (*German*) 9-4938
 Si_3N_4 , reaction-bonded, internal oxidation processes role in high-temp. mech. props. 9-38915
 $\text{SiO}_2\text{-Al}_2\text{O}_3\text{-Fe}_2\text{O}_3\text{-CaO-MgO-Na}_2\text{O-B}_2\text{O}_3\text{-SO}_3$, exam. of white flaky inclusions, causes and formation time 9-29237
 Sn /graphite particulate composite, prep. using vacuum infiltration, microstruct., anal. 9-20005
 Ti, cold worked, annealed, internal friction meas. of H degassing (*French*) 9-43304
 TiN, gaseous phase, crystallisation, effect of temp., vapour-gas mixture conc., and deposition time 9-33910
 $\text{Tm}_2\text{V}_2\text{O}_7$, prep., cryst. chem. and chem. anal., lattice const. determ. 9-41986
 $(\text{U,Pu})\text{O}_2$, close coupled O-to-metal ratio anal., rapid thermogravimetric method 9-11878
 V_2O_5 cathode, used in Li- V_2O_5 reserve cells, microstruct. optical reflectance, elec. cond. meas., chem. anal., SEM obs. 9-43752
 WC-Co hard metal, binder phase charact. by magnetic props. 9-29439
 Xe, retained in advanced nuclear fuels, meas. by microprobe anal. 9-40997
 $\text{Yb}_2\text{V}_2\text{O}_7$, prep., cryst. chem. and chem. anal. 9-41986
 Zr-Nb (1 at.%), high-temp. nitriding, chemical and metallographic anal., disintegration test 9-24668

chemical analysis by mass spectrometry see mass spectroscopic chemical analysis

chemical analysis by nuclear reactions and scattering

see also chemical effects of nuclear reactions and scattering; neutron activation analysis

- activation analysis, photopeak integration, quality assurance of computer programs 9-1986
 activation yield curves of photonuclear reactions for multielement photon activation analysis 9-20490
 aerosol samples, simulated, Be content by proton scatt. anal. 9-5217
 analysis using ion induced gamma rays 9-5220
 backscattered gamma method, universal, based on computer interpretation of spectra, appl. to ores 9-1984
 barley seeds, N depth distrib., $^{14}\text{N}(\text{d},\text{p})$ reaction 9-5221
 charged particle activator anal., method using target of defined thickness 9-34405
 coal, meas. of specific energy ash and moisture by combined neutron and gamma-ray meas. 9-39255
 computers in activation analysis and γ -ray spectroscopy, conference, Mayaguez, Puerto Rico (May 1978) 9-1983
 conference on ion beam anal., Washington, USA (June-July 1977) 9-5194
 counting rate effect elimination 9-5237
 diamond, ion beam analyses rel. to phys. props. 9-5219
 film structure, low conc. ^{16}O depth profiling using $^{16}\text{O}(\text{d},\alpha)$, α -particle energy anal. 9-5214
 films by elastic scatt. of ^3He 9-1975
 fission reactor fuel, nondestructive anal. using isotopic source assay system 9-11873
 fissionable isotopes, in aq. soln., pulsed neutron interrogation method assay 9-11874
 fissionable material, assay by neutron methods in presence of fission products 9-13513
 food samples, determ. of fluorine conc. using $^{19}\text{F}(\text{p},\text{p}')\gamma$ 9-5218
 gamma-ray spectra, computer code for qualitative anal. 9-9943
 gamma-ray spectra, computer methodology for spectral data reduction and anal. 9-1988
 gamma-ray spectra, doublet resolving power and area determ. accuracy, comparison of computer programs 9-9944
 gas analysis, isotope technique appl., ionisation detectors, review 9-20481
 inversion probes in γ - γ methods, laminar medium, nuclear geophysics 9-34992
 light element profiles in heavy matrix materials, depth profiles and lattice locations using (n,p) and (n, α) 9-5205
 light ion diffusion in solids obs., using nuclear reaction depth profiling 9-5202
 metallic materials, nucl. methods use, conc. gradients determ. (*French*) 9-43665
 metastable isomer prod. via (γ , γ') at 6-8 MeV (*French*) 9-29433
 molecular ion beams, effective beam energy spread, Al target, (p, γ) yield curves 9-3530
 multielement quantitative analysis optimization method 9-16089
 near-surface microanalysis of solids using ion beam techniques 9-24868
 nozzle erosion, ion implantation effects, ion beam anal. 9-48011
 nuclide activity measurement using γ -radiation, correlation factor for self-absorpt. 9-34401
 photon activation analysis, low-energy photon and classical γ -ray spectroscopy 9-29428
 photon attenuation coeffs. in heterogeneous media, nuclear geophysics methods 9-39708
 PIXE, absorpt. edge method of charact. filters 9-8461
 primary first-order interference in γ -activation anal. 9-16088
 steel surfaces, O and N profiles determ. using (d,p) reaction anal. 9-5216
 surface analysis using ^6Li and ^{35}Cl ion beams 9-5211
 thin film, composition analysis, by ion beams (*French*) 9-8467
 γ -ray spectrometry with low-energy t and α particles, 0.1 to 100 ppm 9-8460
 $^{27}\text{Al}(\text{p},\gamma)^{28}\text{Si}$, 992 keV, Al concentration determ. in GaAlAs 9-7760

chemical analysis by nuclear reactions and scattering continued

- Au-Ge-Si structure, O distrib. profile in Ge, from emitted α -particle energy anal. of $^{16}\text{O}(\alpha,\alpha)$ 9-5213
 Au-Si structure, O distrib. profile in Au, from emitted α -particle energy anal. of $^{16}\text{O}(\alpha,\alpha)$ 9-5213
 $^{10}\text{B}(n,\text{He})^7\text{Li}$, determ. of B in complex matrices from ^4He and ^7Li tracks in plastic detectors 9-18080
 Be depth profiling in alloys, simultaneous α and d detection in $^9\text{Be}(\text{p},\text{d})$ and $^9\text{Be}(\text{p},\alpha)$ reactions 9-5203
 Be distrib. in metals, using $^7\text{Be}(\text{d},\text{p})$ and $^9\text{Be}(\alpha,\text{n})$ 9-5204
 C depth profiling in solids using $^{12}\text{C}(\text{d},\text{p})$ 9-5212
 $^{13}\text{C}(\text{p},\gamma)$, A=12, 13, isotopic anal., estimation of $^{13}\text{C}/^{12}\text{C}$ conc. ratio 9-48014
 CaO, C-content determ. of single crystals grown by arc fusion 9-8456
 Cr steel, N depth distrib., $^{14}\text{N}(\text{d},\text{p})$ reaction, 3 MeV deuterons 9-5221
 D in stainless steel, depth distrib. determ. using $\text{D}(^3\text{He},\text{p})^4\text{He}$ 9-4326
 H analysis in different materials problems, using $^1\text{H}(^{15}\text{N},\alpha\gamma)$ and $^1\text{H}(^{19}\text{F},\alpha\gamma)$ reactions 9-5196
 H depth profiling in solids, using neutron TOF from H(t, n) 9-5198
 H profiling using ^{15}N bombardment, method and appl. 9-5195
 H surface layers anal., influence of ion beam bombardment 9-37731
 He concentration profiles meas., using $^7\text{He}(^7\text{Li},\gamma)^{11}\text{B}$ reson. reaction at 1.68 MeV incident energy 9-5200
 Li isotope composition determ., α prod. by d bombardment 9-7029
 Li isotopic comp. determ., using coincident meas. of complementary particles in $^6\text{Li}(\text{p},\alpha)$ and $^7\text{Li}(\text{p},\alpha)$ 9-5201
 $^{14}\text{N}(\text{p},\gamma)^{15}\text{O}$, isotopic anal., estimation of $^{15}\text{N}/^{14}\text{N}$ conc. ratio 9-48014
 $^{15}\text{N}(\text{p},\alpha\gamma)^{12}\text{C}$, isotopic anal., estimation of $^{15}\text{N}/^{12}\text{C}$ conc. ratio 9-48014
 Ni-Cr thin film resistors, α -particle elastic scatt., and PIXE anal. 9-48022
 O depth profiling in solids using $^{16}\text{O}(\text{d},\text{p})$ 9-5212
 Si, displacement of group III, IV, V, and VI impurities in Si by He^+ and H^+ analysing beam 9-4330
 Si layers, epitaxially grown on sapphire substrates, Al conc. as a function of depth using $^{27}\text{Al}(\text{p},\alpha)$ reson. reaction 9-4328
 Si, O content and depth profiling, $^{16}\text{O}(\alpha,\alpha)^{16}\text{O}$ reaction method obs. 9-34408
 Si surface, etched, O distrib. profile, from emitted α -particle energy anal. of $^{16}\text{O}(\alpha,\alpha)$ 9-5213
 Si-Pt(Ni)(Pd), laser-induced reactions of metal films with Si, ^4He backscattering spectra 9-19471
 Si_3N_4 , film, H_2 concentration profile, chem. bonding 9-33205
 SiO_2N_2 films on Si, ^{16}O conc. profiles anal., using (d,p) and (d, α) reactions with mag. spectrom. 9-5215
 Ta on Nb duplex layers, cation-transport processes during anodic oxidation, Rutherford backscatt. and nucl. microanal. 9-20264
 Ta, thermally oxidised, ^{16}O conc. profiles anal., using (d,p) and (d, α) reactions with mag. spectrom. 9-5215
 α -Ti, O_2 diffusion from oxide surface layer, chem. anal. by nucl. reaction (*French*) 9-7710
 Ti, thermally oxidised, ^{16}O conc. profiles anal., using (d,p) and (d, α) reactions with mag. spectrom. 9-5215
 Ti-W/Au, metallisation on Al, temp. stability, barrier props., deuterium activation anal. 9-23868
 Zr, of C and N by photon and proton activation (*French*) 9-43666
- chemical association** see association
chemical batteries see cells (electric)
chemical bonding see bonds (chemical)
chemical bonds see bonds (chemical)
chemical composition see chemical analysis
chemical diffusion see diffusion
chemical effects of nuclear reactions and scattering
 see also chemical analysis by nuclear reactions and scattering; radiation chemistry
 CN $^-$ transformations by inner source based on $^{10}\text{B}(\text{n},\alpha)^7\text{Li}$ 9-34341
chemical effects of radiation see radiation chemistry
chemical elements see elements (chemical)
chemical engineering see chemical technology
chemical engineering computing
 see also computerised control; computerised instrumentation
 heavy water production plants, process simulation 9-22396
chemical equilibrium
 see also chemical reactions; reaction kinetics
 acid, weak, ionisation in aq. soln., rate const. meas., elec. field jump method errors 9-43611
 biopolymers, assoc.-dissoc. phenomena, review 9-11884
 cyanoacetylene, and isotopic forms, $^{13}\text{C}/^{12}\text{C}$ effects on partition function 9-29352
 entropy differences and statistical effects, symmetry corrections and entropy of mixing 9-21480
 extraction equilibria of Cu, Ni, Co and Mn with versatic acid 911 9-43620
 instability, chemical, role of diffusion in model 9-16027
 ionic surfactants, conductance stopped flow study of micellar equilibria 9-43642
 liquid phases, non-uniqueness in phase, chem. react. equil. computations 9-43612
 methane-air flame, reactions, radical overshoot 9-34308
 molecular gases reacting mixture, chem. equil. shift due to reson. laser radn. 9-43614
 multiphase solids under stress, thermochemical equilibrium 9-1964
 multiple steady state system, fluctuations at chem. instabilities 9-11813
 multistable chemical reaction systems, separatrix calc. 9-16033
 nonequilibrium chemical systems, transitions, fluctuations, stochastic simulation approach 9-24722
 oscillating Belousov-Zhabotinskii system, detection of BrO_2 (*German*) 9-29351
 oxiphenol, radical transform. in aqueous solns., chem. equil. (*Russian*) 9-39138
 polymer, synthetic, solns., assoc., quantitative evaluation, review 9-10773
 reactive flow in heated channel, criteria characterising approx. to chem. equil. (*Russian*) 9-27712
 reversible reactions, asymptotic expectation and variance of stationary probability distribution 9-11789
 seawater, acoustic attenuation due to chem. relax.-absorpt. 9-34851
 self-oscillatory reaction system, breakdown of synchronised state 9-39142
 sequential fast kinetics, relaxation methods obs. 9-43575
 statistical basis, demonstration machine for teachers 9-40337
 teaching, computer method using minimisation of free energy 9-30168

chemical equilibrium continued

- thermodynamic theory of solvent-jump relax. method, coupled equilibria 9-39186
 two time correlation functions for Poisson representation, nonequilibrium, chemical reactions 9-1936
 FeCl_3 , non-aq. solns., solvent-solute interactions, Mossbauer investig. of equilib. consts. 9-1729
 HF oligomers, Gibbs free energies, gas. equilib., ab initio calc. 9-20456
 Li_2O_2 , gas, thermochem. props., mass spectra study 9-47957
 Li_2O_2 , gas, thermochem. props., mass spectra study 9-47957
 $\text{NH}_2^- + \text{H}_2 = \text{NH}_3 + \text{H}^-$, chem. equilib., ab initio calcs. 9-34282
 $\text{Na}_2 + \text{Ar}(\text{Ne})(\text{He})$, collision induced dissoc. rate, vibr. distrib. depend. 9-22791
 $\text{Na}_2\text{O}-\text{Al}_2\text{O}_3-\text{B}_2\text{O}_3$ glasses, kinetic study of $\text{Cu}^+ - \text{Cu}^{2+}$ equilib. 9-8448
 SF_6 , equilibrium composition calc., in 20000 to 50000K range, in dependence on pressure 9-14511
 $\text{Sc}_2(\text{SO}_4)_3 + \text{Al}_2(\text{SO}_4)_3$ aq. solns., complex form. reacts., kinetics, US relax. investig. 9-1942
 Si-Ge-Br, heterogeneous system, equilib. gas phase composition, Si-Ge cryst. growth appl. 9-10820
 TiS_2 -I $_2$ system, thermodynamic considerations for layered dichalcogenide growth by vapour transport process 9-4903
 V_2O_{5-x} , O_2 equilib. press. as measure of O_2 binding energy in oxide system 9-16030

chemical exchanges

- see also ion exchange; isotope exchanges
 acridine, excited state proton transfer reactions, ns fluorometry obs. 9-5132
 anthracene-aliphatic amine, photochemically induced H isotope exchange 9-11771
 atom + molecule, dissoc. and exchange, classical and near classical rates 9-11778
 atomic and molecular collisions in intense light beams, quantum aspects (Russian) 9-6903
 basalt, hydrothermal alteration by seawater, chemical exchange exptl. results 9-20828
 biradical, triplet state, S_0 - T_0 CIDNP, biradical scavenging rate const. from mag. field depend. CIDNP 9-3461
 mechanisms, dynamic NMR spectrosc. obs. book contrib. 9-30521
 NMR chemical shift between two sites in rapid exchange limit, Fourier transform method 9-24743
 non-bonded spin-spin coupling of groups of nuclei 9-39143
 proton transfer reactions, excited state, laser pH jump analysis method 9-47922
 $\text{Br} + \text{HI} \rightarrow \text{HBr} + \text{I}$, thermal rate const., 220-400K, H/D isotope effect 9-47906
 $\text{CO} + \text{CO}_2$, exchange rates behind reflected shock waves for C^{18}O and ^{13}CO 9-29363
 $\text{Cl} + \text{DI} \rightarrow \text{DCI} + \text{I}$, thermal rate const., 220-400K, H/D isotope effect 9-47906
 H exchange reactions, low temp., tunnelling dynamics 9-29340
 $\text{H} + \text{H}_2$, 3-dimens. exchange reaction, surprisal theory, quantum dynamics 9-15964
 $\text{H} + \text{H}_2$, collinear exchange reaction, quantum dynamics, surprisal theory 9-6988
 $\text{H} + \text{H}_2$, collinear exchange reaction, unified statistical model 9-34295
 $\text{H} + \text{H}_2(\text{HD})(\text{D}_2)$, exchange reaction rate consts. meas., vibr. effects 9-5134
 $\text{H}_2 + \text{H}_2$ exchange reaction mechanism, energy and geometry changes, H_4 FGSO calcs. 9-10025
 $\text{N}^+ + \text{H}_2$ (hydrocarbons) rotational vibrational product excitations 9-47901
 $\text{Na} + \text{Na}_2 \rightarrow \text{Na}_2 + \text{Na}$, gas phase study 9-43568
 $\text{Na} + \text{Na}_2 \rightarrow \text{Na}_2 + \text{Na}$, simple model study of exchange reactions 9-43569
 $\alpha\text{-NaFeO}_2$, Na-Ca substitution (French) 9-43576
 $\text{NaBrO}_3\text{-AgTaO}_3$ system, synthesis by exchange reaction 9-47625
 $\text{SiBr}_4 + \text{H}_2$, $\text{SiH}_n\text{Br}_{4-n}$ heat of form., mass spectrometric determ. 9-20455
 TaS_2 , kinetic study of NH_3/ND_3 exchange by neutron diff. 9-29350
 $\text{TlCl} + \text{Kl}$, solid state displacement reaction, kinetics and mechanism 9-11788
 U isotope separation using ion exchange chromatography, U(IV)-U(VI) exchange isotope effects 9-36376
 ^{235}U enrichment by chemical exchange process (Japanese) 9-26661

chemical industry

- coal liquefaction, Exxon donor solvent process development 9-48059
 high-temperature power-technological industrial processes use of nuclear power, reviews 9-26729

chemical kinetics see reaction kinetics**chemical lasers**

- activation and deactivation rates in high-power lasers 9-941
 atom + vibrationally excited molecule reactions, rel. to high power lasers 9-5155
 CW, unstable resonators effect on performance 9-41397
 electrically assisted laser design 9-31947
 electronic transition laser development 9-946
 engineering aspects, colloquium, London, England (Nov. 1978) 9-31940
 F 9-22947
 gas phase chemical reactions, laser obs. (German) 9-29365
 heptafluoriodopropane light amplifier, wave-front distortion due to photolysis-gas dynamic effects 9-18412
 high-power lasers and appls., conf., Munich, Germany (June 1977) 9-964
 hollow cathode gasdynamic jet carrying excited metal atoms as spectral light source and chemical reactor 9-46493
 iodomethane laser, photolysis wavelength, repetitive operation 9-3689
 optical diagnostics of CW chemical laser 9-36916
 resonator modelling, LAMP and BLAZER code calcs. comparison with CL XV meas. 9-36890
 review of lasers with wide-band optical pumping 9-31885
 technology advances, conf., Washington, USA (Mar. 1978) 9-36911
 bis-trifluoromethyl phosphine iodide, stimulated emission, photodissoc. laser appls. 9-10295
 Br, chem. pumped $\text{Br}_2\text{-CO}_2$ photodissociation laser, output energy increase by WF_6 addition 9-45939
 Br electronic transition chemical laser, stimulated emission at 3685 cm^{-1} 9-27249
 CN photodissociation laser, IR stimulated emission due to BrCN photolysis 9-31888
 CO supersonically driven chem. laser, kinetics of physical processes 9-45937

chemical lasers continued

- $\text{CS}_2\text{-O}_2$ pulsed chemical laser and pulsed CO TE laser, comparative study 9-31876
 DF, automated gain measurement system for high-energy chemical lasers 9-36914
 DF, discharge initiated lasers, design and operation 9-31946
 DF, IR laser spectra 9-45936
 DF, pulsed, flow technology 9-36934
 DF repetitively pulsed chem. laser, scalable fuel/diluent feed system 9-36935
 Ge gas phase reactions with oxidisers, visible chem. laser development 9-948
 HBr, purely chemical laser 9-10294
 HCN far IR laser, chem. pumping, 337 μm and 311 μm stimulated emission obs. 9-13958
 HCl, 3.8 μm , 10.6 μm CW laser emission based upon Cl atom chem. generation 9-947
 HF, automated gain measurement system for high-energy chemical laser 9-36914
 HF CW chemical laser, design of multipass telescopic amplifiers 9-27289
 HF, CW chemical laser for remote pollution monitoring and process control, HF conc. in Al plant 9-48200
 HF chemical laser, pulsed, evolution, irreversible thermodynamic anal. 9-31887
 HF chemical laser, pulsed, evolution, kinetic model, rot. nonequilibrium 9-36888
 HF, discharge initiated lasers, design and operation 9-31946
 HF efficient electron-beam-pumped chem. laser with high specific energy output 9-45963
 HF electron beam initiated chem. laser 9-13959
 HF, fluoromethanols (mono and tri), decomposition activation of HF, non-statistical energy partitioning 9-945
 HF, IR laser spectra 9-45936
 HF, low-impedance Blumlein discharge initiated laser, efficient operation 9-36919
 HF, photopreionised atm. press. laser operation 9-967
 HF, possible use as laser-fusion drivers 9-22979
 HF, rotational nonequilibrium, efficient model 9-22945
 HF, short laser pulse generation possibility by cooled $\text{H}_2\text{-F}_2$ mixture photolysis 9-22946
 HF, vibr. excited, laser design 9-31947
 HF($1 \leq n \leq 7$) + DF(0), vibr. deactivation calc., 300-3000K 9-31655
 Hg halide lasers, efficiency of different pumping methods, review 9-36886
 HgBr, 502 nm stimulated emission, prolonged optical pumping of HgBr_2 9-18414
 I, $^2\text{P}_{1/2}(\text{F}=3) \rightarrow ^2\text{P}_{3/2}(\text{F}=4)$ transition, stimulated emission cross section determ. 9-13961
 I 1.315 μm laser, Ni complex BDN II as saturable absorber 9-27297
 I $_2$ absolute quantum yields of $^2\text{P}_{1/2}$, $^2\text{P}_{3/2}$, photolysis of $\text{C}_3\text{F}_7\text{I}$, $\text{CF}_3\text{CFICF}_3$ and $\text{CF}_3\text{OCF}_2\text{CF}_2\text{I}$ 9-34339
 I atom laser, high power, developmental possibilities 9-975
 I, current design aspects, pumping system, optical arrangement and gas flow 9-31945
 I large-scale laser, implications of n- $\text{C}_3\text{F}_7\text{-I}$ Raman spectrum and cross sections 9-23022
 I, laser, short pulse amplification, multilevel paraxial Maxwell-Bloch eqn. 9-36889
 I laser of high efficiency, low-press. Hg lamp pumped 9-31929
 I, laser photolysis of perfluoroalkyl iodides 9-29382
 I photodissociation laser, diff. limited output beam 9-27286
 I photodissociation laser oscillator or amplifier, Faraday rot. in active medium 9-10296
 I, possible use as laser-fusion drivers 9-22979
 I, Q-switched, emission at two frequencies 9-18413
 I terawatt laser, ASTERIX III system 9-3713
 I($^2\text{P}_{1/2}$) energy transfer and reactive collisions, laser pumping possibility 9-949
 NaNa $_3$, solid, CO_2 laser radiation decomposition, for high-press. chem. laser 9-34326
 $\text{O}_2\text{-I}_2$ 100 W transverse-flow chem. laser 9-41374
 S_2 , chem. pumped laser emitting visible radiation, construction possibility 9-13960
 Se, laser action at 489 nm or 777 nm, OCSe photolysis 9-31889
 Sn gas phase reactions with oxidisers, visible chem. laser development 9-948
 Tl atomic laser pumped by TlI photodissociation 9-18411
 XeO, photochem. laser performance, 0.54 μm stimulated emission 9-45938

chemical reactions

- see also association; atom-atom collisions; atom-ion collisions; atom-molecule reactions; atomic inelastic collisions; catalysis; charge exchange; chemical exchanges; chemically reactive flow; chemiluminescence; chemisorption; CIDEF; CIDNP; corrosion; dissociation; electrolysis; free radical reactions; heat of reaction; ion-molecule reactions; isomerisation; molecule-molecule reactions; oxidation; photochemistry; polymerisation; pyrolysis; radiolysis; reaction kinetics; reduction (chemical); solvation
 alkaline phosphatase, slow reaction, vidicon-based spectrometer obs. 9-21817
 alkaline-earth-Os ternary oxide system, solid state prep. and reactions, cryst. struct., mag. and elec. props. 9-24739
 alkyl fluorides, geometries, props. and protonation, ab initio mol. orbital study 9-22588
 azobilirubin, form., fast reaction vidicon-based spectrometer obs. 9-21817
 Belousov-Zhabotinskii reaction, chaotic oscils. 9-5151
 Belousov-Zhabotinsky system, limit cycle behaviour, modified Oregonator model 9-1266
 benzene, monosubstituted, ring protonation and C_{1s} binding energies, STO-3G calc. 9-29336
 bimolecular gas phase reactions, collision theory, quantum corrections 9-8433
 biochemical fast reactions, in solns. membranes and cells, conf., Airlie, USA (Apr. 1978) 9-8485
 biopolymer synthesis on solid supports 9-29397
 bond rupture reactions in multiphoton dissoc. 9-47947
 carbon tetrafluoride + methyl trichlorosilane, reaction, metastable C phase prod. 9-29341
 Chapman-Enskog method for a multiveloc, multitemperature mixture of reacting gases (Russian) 9-15995

chemical reactions continued

chlorophyll a in benzene solns. and monolayers, chem. stability 9-47912
 circulation reactions, quasistationary circulation in liquids 9-15965
 circulation reactions, stationary, self-oscillating mode 9-24721
 colloid coagulation, 1st-order diffusion effects 9-39213
 compound formation in metal-semicond. interactions 9-28217
 concentration-dependent diffusion in a finite slab with and without chemical reaction 9-30389
 coupled oscillating chemical systems, phase-difference locking 9-11762
 cyanopolynes, form. in gas discharges 9-5156
 cybernetic prediction of chemical compound formation, in uninvestigated systems 9-11880
 1,2-di(N-piperidyl)ethane-bis-N-oxide tetrahydrate, synthesis, cryst. and mol. struct. obs. 9-32985
 diamond formation, hydrocarbon dissociation, Hugoniot data, high temp. and press. 9-47927
 differential geometrical analysis of chem. reacting systems 9-31434
 diffusion-reaction equations, semilinear parabolic systems, soln. existence and stability 9-47889
 diffusion-reaction equations systems, existence, stability 9-20365
 diffusion-reaction problem, nonlinear, dissipative structs., stability anal. 9-1938
 L- β -3,4-dihydroxyphenyl- α -alanine with L-glutamic acid, polymers and copolymers, synthesis and conform. 9-33996
 dual function catalysts, macroscopic distribution of components, selectivity effect 9-47967
 dynamics, laser probe investigs. 9-43580
 dynamics, mol. beam obs. 9-41233
 electric discharge, non-self-sustained, NO and NO₂ produced in air 9-7502
 endothermic, extreme mass combinations LH+H \rightarrow L+HH and HH+L \rightarrow H+HL 9-43570
 enzyme reaction systems, nonequilib. transitions, probability distrib. 9-12720
 first order rate constant, evaluation method 9-1937
 fluorene and 9-allyl derivations, electronic struct. and reactivity 9-36523
 2-fluoroethyl to ethylene fluoronium ion interconversion, pot. energy surface, MNDO calc. 9-34296
 forced ionisation, appl. in secondary batteries 9-43755
 formaldehyde, interstellar, prod. in diffuse clouds 9-40246
 gas phase, laser obs. (German) 9-29365
 gas-solid reactions solid catalysed, effectiveness factors 9-47966
 graphite nitrate, charge transfer, ionic salt model 9-11780
 hard sphere model of chemical reaction in condensed media 9-29349
 heterogeneous reactions, modified entrainment method appls. 9-23551
 high level liquid radioactive waste, denitration with formic acid, Pt group effects 9-36339
 hollow cathode gasdynamic jet carrying excited metal atoms as spectral light source and chemical reactor 9-46493
 hydroxyl-terminated prepolymers, functionality determ. 9-31746
 hypsorhodopsin, squid, form., picosec. spectrosc. obs. 9-39183
 inert gas halide ions, form., mass spectrosc. obs. 9-29346
 intermolecular reaction dynamics, pot. barrier crossing in high friction limit 9-29343
 intramolecular reaction, transient initial conditions for diffusive barrier crossing 9-29344
 ion lifetime distribution, following interaction with collision gas, determ. method 9-36732
 jasmine and intermediate compound synthesis (Japanese) 9-8436
 liquid-solid reactions, shrinking core model application 9-47887
 liquids, reactive pair dynamics, kinetic theory 9-11761
 magnetic field influence on chemical reactions (French) 9-47929
 materials synthesis at high press. 9-47645
 metal ions, in unusual valency states, reaction rate consts. 9-47921
 micelles, organic reaction kinetics 9-29416
 model reaction bifurcation diagram, time-periodic soln. stability changes 9-47886
 molecular beam, collisionless, high-resolution time-resolved laser spectroscopy 9-3501
 molecular dynamics studies of the role of diffusion in chemical models with absorbing boundary states 9-8424
 multiple reactions, Cl isotope effects, mass spectrometric monitoring 9-39135
 nonlinear reaction diffusion systems, bifurcation anal., dissipative structs. in a sphere 9-11767
 nonlinear system, networks induced by symmetries of transformation groups 9-43556
 oscillating Belousov-Zhabotinskii system, detection of BrO₂ (German) 9-29351
 pentenes, in combustion of pentane, further reactions, isotopic tracer obs. 9-8438
 pericyclic reaction path, spin-free quantum chem., particle-hole and pairing symmetries 9-6812
 physical-chemical solids with finite deformation, variational irreversible thermodynamics 9-6067
 picosecond phenomena, conf., Hilton Head, USA (May 1978) 9-44940
 pigment-antioxidant interaction, numerical analysis in polymers 9-39136
 plasma chemistry (Czech) 9-47924
 plastic, reactive, structurisation kinetics, torsion cord method (Russian) 9-34304
 polyethylene, low-temp. relax., effects of chem.- and electron irradiation-crosslinking 9-4990
 polymer networks, creep during scission reactions 9-15738
 polymer transformation reactions, kinetics, statistics and mechanisms 9-43584
 porphyrin metallation, in monolayer films and assemblies 9-11817
 PQ developers, synergism 9-24732
 rare-earth ions in solns., radiationless energy transfer and complexation processes 9-10144
 rearrangement mechanisms, dynamic NMR spectrosc. obs. book contrib. 9-30521
 reversible, asymptotic expectation and variance of stationary probability distribution 9-11789
 self-oscillatory reaction system, breakdown of synchronised state 9-39142
 semiclassical theory for near adiabatic photon assisted mol. collisions 9-5141
 sequential fast kinetics, relaxation methods obs. 9-43575
 solid state, elementary chemical step, activated complex theory 9-11763
 solid-phase reaction kinetics, intercrystalline diffusion role 9-33106
 solid-state reaction, excimer form. 9-47917

chemical reactions continued

stacking reactions, temperature jump kinetics, Raman laser technique 9-2831
 steel hydrogenation in HCl, influence of conc. depend. of anilines additives on time to fracture, principle of linearity of free energy (Russian) 9-15854
 stimulated Raman scattering, appls. (German) 9-27320
 strongly interacting systems, energy decomp. scheme 9-31431
 system with chemical reaction, thermodynamic stability, phase transitions 9-5174
 thermal unimolecular reactions, transient phenomena, theory 9-15954
 two time correlation functions for Poisson representation, nonequilib. and equilib. chemical reactions 9-1936
 two-component bimolecular reaction system, stable limit cycles 9-47907
 unimolecular decay, photoion-photoelectron spectroscopic obs. 9-30616
 vinyl fluoride, geometries, props. and protonation, ab initio mol. orbital study 9-22588
 AgReO₄, solubilities and chem. reactions, comparison with AgClO₄ 9-15976
 Al₂O₃, ion condensing metal plasma stream, coating microhardness, chemical reactions 9-42426
 Al₂O₃Ti³⁺, corundum, point defect diffusion and interaction with impurity, Ti³⁺ to Ti⁴⁺ reaction 9-10985
 α -Al₂S₃, prep. by direct sulphidation, chem. vapour transport and AlI₃ flux growth 9-43118
 Ar(P₂O₅) + F-containing mols., rate consts. for ArF* formation 9-24731
 Au-Cl system, high temp. vapourisation chemistry incl. form. of vapour complex species 9-47963
 BaTiO₃, synthesis by solid-solid reactions 9-38777
 C₆ + AsF₆, synthesis of first stage graphite salt, relationship to first stage graphite/AsF₆ intercalate 9-24738
 CO + O, adsorbed on Ir (111), Langmuir-Hinshelwood reaction mechanism 9-29408
 CaAl₂O₆, form by interdiffusion of CaO and Al₂O₃ 9-28998
 CaCl₂, fused, exam. of hydrolysis at high temp. 9-11791
 CaMg(CO₃)₂, dolomite, reaction with ZrO₂, mineralisation during roasting 9-43180
 CaO-Al₂O₃-H₂O system, chemical degradation under high gaseous pressure and temp. 9-20464
 CaO + MoO₃ \rightarrow CaMoO₄, solid state reaction 9-43579
 12CaO.7Al₂O₃, hydration in presence of Ca(OH)₂ (Japanese) 9-20364
 CdTeMoO₆, prep. and cryst. struct., X-ray diff. obs. 9-1414
 Cl, interstellar chemistry as H ionisation source 9-40245
 CrO₂, synthesis and morphology 9-24481
 CuFeS₂, exam. of dissolution kinetics, for dissolution in FeCl₃-HCl and Fe₂(SO₄)₃-H₂SO₄ solns. 9-11790
 Er, hydride form. by laser evaporation and condensation in H₂ 9-10941
 α -Fe, carburisation and decarburisation kinetics in methane/H₂ mixture (German) 9-1949
 Ga + H₂PO₄, interaction in aq. soln., ⁷¹Ga and ³¹P NMR obs. 9-22729
 GaAs/HBr system, heterogeneous reactions, modified entrainment method appls. 9-23551
 Ge, high purity melt, stability of oxide second phases 9-47898
 H₂-O₂-N₂ flame, K and P additives, electron attachment, compound form. 9-11794
 HF, geometries, props. and protonation, ab initio mol. orbital study 9-22588
 HO₂ + NO \rightarrow OH + NO₂, rate constant determination in Arrhenius form 9-47904
 H₃PO₄, wet process, influence of high-intensity US 9-15993
 Kr + Cl₂, KrCl⁺ form., mass spectrosc. obs. 9-29346
 LaNi₅ + 3H₂ \rightleftharpoons LaNi₅H₆, reaction, absorpt. capacity and reaction kinetics 9-43626
 MoB₂, hexagonal, form. by plasma heating and props. 9-28996
 MoN_x, ion condensing metal plasma stream, coating microhardness, chemical reactions 9-42426
 NO + CO, on polycrystalline Pt surface at low press., reaction kinetics study (German) 9-15989
 NO + CO, on polycrystalline Pt at low press., reaction kinetics study (German) 9-15988
 Na₂(D₂O).VX₃, X = S, Se, struct., chem. reactions, γ - and hydration/dehydration process 9-46616
 Na₃(1+x)Yb_{2-1/x}(PO₄)₃, single cryst. preparation and X-ray cryst. struct. determ. 9-42028
 Nb complex, prep. by halide reaction with tetramethylurea and tetramethylthiourea, and characterisation 9-15972
 Ni, chemisorption of CO, carbonylation rate mag. field depend. 9-24828
 Ni(CO)₄, form., ion migration, in NaCaX zeolite 9-33522
 Pb₂I₂Br₈, form., cryst. symmetry, X-ray diff. obs. 9-23570
 Pb₂I₂Br₆, form., cryst. symmetry, X-ray diff. obs. 9-23570
 PbS, point defects and effect on deoxygenation of Pb with S 9-47918
 Pb(Zr,Ti)O₃, synthesis from cryochem. mixtures, chem. reacts. in sublimation drying 9-11538
 Pd complex, tetra-benzo tetra-azacyclohexadecine, I₂ oxidation product, synthesis and characterization 9-47900
 Rh complex, h²-indenylbis(ethylene)rhodium(I), ethylene displacement reactions 9-15975
 Si, powder, reaction with HF and HF + H₂SO₄ mixture 9-11821
 Si, reaction of rare earth impurities with carbon during cryst. growth 9-38733
 Si + metal oxides, spray coated, IR investig. 9-39197
 SiC, form. from SiO₂ flour and coke breeze, kinetic and mechanistic study 9-15979
 SiC + BaO + BaCO₃ react., contact phenomena at SiC grain boundary 9-43193
 Si₃N₄, solid-solid reactions with Fe, Ni and Mo alloys 9-28151
 SnO, disproportionation, thermoEMF, Mossbauer spectroscopic, X-ray diff. anal. 9-11776
 Ta complex, prep. by halide reaction with tetramethylurea and tetramethylthiourea, and characterisation 9-15972
 Th complexes, O-donor complexes of cyclopentadienyl Th (IV) halides, prep. and characterisation 9-15974
 Th complexes, Th(IV) poly(pyrazol-1-yl)borate complexes, prep. and characterisation 9-15978
 Th nuclear fuel element reprocessing, avoidance of third phase (German) 9-6756
 TiN-VN alloys, synthesis in low-temp. plasma, phys.-chem. props. (Russian) 9-38761
 TiN_x, ion condensing metal plasma stream, coating microhardness, chemical reactions 9-42426

chemical reactions continued

- TiO₂+BaCO₃, react., mechanism, effect of polymorphic transitions 9-11605
 U+O₂, chem-ionisation reaction involving laser excited atoms (*Japanese*) 9-13830
 UN form. by UO₂ reaction with C in NH₃ and N₂-H₂ mixture 9-47914
 WO₃+NF₃, reaction product thermodynamic stability (*German*) 9-8449
 Zr, interaction kinetics with graphite, reactive diffusion 9-42318
 Zr-NiO, solid-phase reactions 9-11774
 ZrN+W reaction, high-temp. compatibility 9-39132
 ZrO₂, crystallisation from Zr(OH)₄, effect of water vapour, heat treatment and grain size (*Japanese*) 9-19170
 ZrTiO₄, form. mechanism from spray drying of solns., precip., of hydroxides and reactions of hydrates and solns. 9-43182

chemical reactivity *see* **chemical reactions****chemical relaxation**

- biomolecules, new electric field methods in spectrometry 9-8586
 diatomic molecules, chem. relax. in dissoc. kinetics during laser excitation 9-31630
 diffusion limited and enzyme reactions, thermodynamics of chemical relaxation 9-43619
 1,3-diphenylisobenzofuran, oxidation, dissoc. oxycplex relax., solute reencounter probabilities 9-34285
 glass melt, unified theory of chem. relaxation using light scattering or US absorption 9-16028
 protein membranes, immobilised, H⁺ ion transport, assoc.-dissoc. time-scale factor 9-34529
 reactors, chem., relaxation oscills. 9-39120
 seawater, acoustic attenuation due to chem. relax.-absorpt. 9-34851
 sequential fast kinetics, relaxation methods obs. 9-43575
 N₂, anharmonic molecules in disturbed thermosphere, vibr. relaxation rel. to NO conc. 9-12322
 Se₂(SO₄)₂+Al₂(SO₄)₃ aq. solns., complex form. reacts., kinetics, US relax. investig. 9-1942

chemical shift

- see also* **isomer shift**
 alcohols, long chain conformations, ¹³C pseudocontact shifts 9-13743
 alkali metal nitroprussides, Mossbauer spectra, dehydration effects 9-24237
 alkali silicate and borate glasses, appl. of XPS (*Japanese*) 9-34416
 n-alkyl amines, long chain conformations, ¹³C pseudocontact shifts 9-13743
 benzenes, monosubstituted, ¹³C NMR chem. shifts 9-42850
 carbonyl frequency correlation of aromatic derivatives with nonaromatic analogues 9-22709
 chlorophyll a-water interaction, NMR obs. in CCl₄ and trichloromethane 9-34501
 cyclododecane, force field, PMR of deuterated isotopomers 9-45695
 di-tert-butyl radical, ¹H NMR in organic solvents, press. depend. 9-31546
 dipolar nuclear reservoir, spin-lattice relax. by chem. shielding tensor anisotropy 9-15372
 gelatin crosslinking by formaldehyde, ¹³C NMR obs. 9-5187
 III-V phosphide semiconductors, ³¹P nuclear mag. shielding 9-33549
 insulating film, meas. by ESCA (*Japanese*) 9-4891
 2,6-lutidine, H bonding to iso- and tert-butyl alcohols, PMR obs. 9-27008
 lyo-mesophases, induced chem. shift, NMR obs. 9-33548
 nido-metallaborane, high-resolution ¹¹B NMR obs. of [(B₁₀H₁₂)₂Ni]²⁻ 9-31553
 methanes, substituted, calculation of by INDO approximation 9-45657
 methanol solns., IR spectroscopic detection of free lone-pair groups or terminal methanol molcs., PMR 9-19869
 multiple pulse zero-crossing NMR technique, rel. to ¹⁹F chem. shift in solids 9-9230
 NMR, rotating frame relax. time for spinning sample 9-47344
 NMR chemical shift between two sites in rapid exchange limit, Fourier transform method 9-24743
 NMR line-shape anal. of peaks broadened by hidden exchange partner 9-43554
 organophosphorus compounds, liq., ³¹P nucl. spin-lattice relax. and Overhauser effect 9-36666
 phenols, substituted, proton NMR chem. shift in aprotic solvents 9-47342
 polysiloxane oligomers, ²⁹Si NMR, chem. shift effects of end groups 9-33550
 powder pattern, homonuclear dipolar modulation in multiple pulse NMR 9-24224
 rare earths, compounds, K X-ray line shift associated with valency change and isomorphous phase transitions 9-47553
 steel, austenitic type 304, chem. shift obs. by ionization loss spectroscopy 9-43372
 three-centre integrals, calc. method (*French*) 9-31550
 transition metal nitroprussides, Mossbauer spectra, dehydration effects 9-24237
 trichloroacetic acid, proton chem. shift tensor 9-24224
 urea-formaldehyde resins, ¹³C Fourier transform NMR of chem. struct. 9-42849
 AgClO₃, NQR of solid for mol. torsional vibr., comparison with KClO₃ 9-4743
 BaH₂, proton chemical shift tensor, heavy ion effects 9-19791
 CO group, NMR chem. shift, solvent's dielectric const. effect, mag. anisotropy 9-42847
¹³C NMR, computer program chem. shift retrieval system 9-18206
 CaH₂, proton chemical shift tensor, heavy ion effects 9-19791
 Cd nitroprussides, Mossbauer spectra, dehydration effects 9-24237
 CdSe(Te), chemical shift and linewidth determ. 9-19792
 Co complex, with p-amino salicylic acid, X-ray K-absorpt. discontinuity, shape, chem. shifts 9-47545
 CsFeCl₃, linear chain cryst., quadrupole and mag. reson., rel. to RbFeCl₃ 9-38403
 CsNiBr₃, double ordering in mag. linear chain system, sp. ht. and NMR data 9-28545
 CsNiCl₃, double ordering in mag. linear chain system, sp. ht. and NMR data 9-28545
 Ga+H₃PO₄, interaction in aq. soln., ⁷¹Ga and ³¹P NMR obs. 9-22729
 HgSe(Te), chemical shift and linewidth determ. 9-19792
 Li₂CrO₄, electron irradi., reduced species form., XPS 9-11498
 Mo, and oxides, AES expts., chem. shift and beam effects 9-15566
 MoO₃, AES expts., chem. shift and beam effects 9-15566

chemical shift continued

- NH₄Br, ¹⁴N NMR obs., rel. to structural transforms. 9-15368
 NH₄Cl, ¹⁴N NMR obs., rel. to structural transforms. 9-15368
¹⁵N-H⁺ NMR, coupling consts., double reson., difference proton Fourier transform spectroscopy 9-3467
 P compounds, solid, ³¹P NMR and π bond 9-4732
 P₂S₃, ³¹P NMR spectrum and spin-lattice relax. time, 77 to 500K and 7 to 25 MHz 9-8064
 PbSe(Te), chemical shift and linewidth determ. 9-19792
 Pt complex, chloro-bromo complexes of Pt (IV) and Pt (II), ¹⁹⁵NMR, cooperative shift effect 9-33547
¹⁹⁵Pt NMR shifts, referencing convention 9-33547
 RbFeCl₃, linear chain cryst., quadrupole and mag. reson., rel. to CsFeCl₃ 9-38403
 RbNiCl₃, cryst., ³⁵Cl and ⁸⁷Rb NMR down to 1.3K 9-42848
 Ru complexes, K_{a1} lines chem. shift, donor-acceptor capacity of ligands 9-33867
 Se, L₂M_{4,5}M_{4,5} Auger spectrum following photoionisation, post collision interaction, chemical shifts 9-22678
 SiO₂, chem. shift of Si 2p core level, relax. contrib. 9-47141
 SrH₂, proton chemical shift tensor, heavy ion effects 9-19791
 N nitroprussides, Mossbauer spectra, dehydration effects 9-24237
 ZnSe(Te), chemical shift and linewidth determ. 9-19792
 ZnTiF₆·6H₂O and ZnTiF₆·6D₂O, ¹⁹F NMR, phase transition 9-19790

chemical structure

- see also* **bonds (chemical)**; **crystal atomic structure**; **crystal chemistry**; **molecular configurations**
 colour, chemical origins 9-21479
 fluorides, chem. formulae, advances in preparative chem. 9-47915
 glass, nonuniformities and basic principles of struct. 9-41970
 glass comp., patent information, automated retrieval system 9-24715
 historical review (*Danish*) 9-9071
 hydroxyl-terminated prepolymers, functionality determ. 9-31746
 oxides, chem. formulae, advances in preparative chem. 9-47915
 pictorial reproduction, computer system 9-43708
 polyesters, linear aliphatic, chem. struct. rel. to viscoelastic props. 9-41977
 rare-earth oxides, non stoichiometric phases in thin films 9-7755
 styrene-sodium methacrylate copolymers, linear expansion coeffs., ionic groups conc. depend 9-42284
 urea-formaldehyde resins, ¹³C Fourier transform NMR of chem. struct. 9-42849
 [Sb₂F₈]²⁺[SbF₆]⁻₂ and [SbF₄]⁻ ion containing cpds., ¹²¹Sb Mossbauer obs. of mixed oxidation state cpds. 9-28640
 As-S-I system glasses, IR transmission spectra, structure-chem. comp. 9-42974
 Au-Cu, electroplated, 'polymer' inclusions, chem. identity obs. 9-37931
 V₂O, γ -phase, struct., O at position 9-10834

chemical technology

- see also* **chemical industry**; **chemical variables control**; **chemical variables measurement**; **oil refining**
 autoclave process for high-press. polymerisation of ethylene 9-24744
 biomass gasification process, Garrett Energy Research 9-48040
 coal combustion wastes processing, resource materials recovery, using combination sinter-dilute acid leach methods 9-48063
 coal conversion to hydrocarbons, underground, for industrial appl. 9-48052
 coal gasification, bituminous, in situ, linked vertical well concept 9-48051
 coal gasification, in situ, diagnostic and remote monitoring instrumentation development 9-48055
 coal gasification, Synthane process appl. 9-48057
 coal gasification, underground, US Department of Energy status 9-48054
 coal gasification system, fluidised-bed, low-Btu fuel gas production 9-48058
 coal hydrogenation, direct appl. to power generation 9-48056
 coal liquefaction, 1978 status and development trends in US 9-48061
 coal liquefaction, Exxon donor solvent process development 9-48059
 coal liquefaction processes, research status 9-48060
 coal pyrolysis, in entrained bed flow reactor, theoretical exam. with aid of physical models 9-48062
 ethylene polymerisation plant, high-press. equipment design 9-24746
 gas stripping column, periodically cycled, feedback control, simulations 9-1231
 GCFR with N₂O₄ coolant, power plant nuclear and chemical safety 9-30969
 heavy water, process simulation of production plants 9-22396
 heavy water prod. plants, Girdler-Sulphide process, developments 9-22397
 high-pressure laboratory for chem. engng. development 9-21507
 hydrolysis of wood, ethanol production as alternative energy resource 9-48039
 laser beam appl., LASL developments 9-31719
 linear parameter estimation, for chem. anal. 9-24843
 metal extraction by adsorption, using low rank coals 9-11530
 nuclear power generation fuel cycle factories, chemical technology development 9-31096
 polymer fibres, ultra high modulus, prep. by soln. and melt spinning, review 9-11544
 reactors, chem., relaxation oscills. 9-39120
 U extraction process for systems, with 2 extractable macrocomponents, graphical calc. 9-31098

chemical vapour deposited coatings *see* **CVD coatings****chemical vapour deposition**

- see also* **vapour phase epitaxial growth**
 brass diffused coating on steel from vapour-gas phase (*Russian*) 9-5080
 coatings, two-component from two sources, geometrical aspects of prod. (*Russian*) 9-38743
 fibres, graded index CVD fabricated fibres, dispersion with finite number of layers 9-3769
 graphite, pyrolytic C coating within pores 9-41035
 growth, chem. transport, transfer inversion using Mo catalyst 9-11517
 III-V compounds, crystal growth mechanisms (*French*) 9-33939
 III-V semiconductor, vapour transport reactions and kinetics 9-28931
 III-V semiconductors VPE using organometallics and hydrides (*French*) 9-33936
 interface and vapour transport kinetics, interrel. in chem. vapour deposition 9-46583
 mass diffusion in two-dimens., perturbation method 9-2737
 metal, plasma stream transport method, use of charge exchange plasma source 9-15613

chemical vapour deposition continued

- optical fibre preform, high-silica, OH-ion distribution 9-14121
 optical fibre preparation, single-mode low birefr., polarisation characts. 9-7195
 plasma stream transport method, use of charge exchange plasma source 9-15613
 steel, tool, TiC coated by CVD, wear resistance 9-34196
 Ag₂Te, growth by chem. transport (*Russian*) 9-38728
 Al₂O₃, alumina, whiskers growth by hydrolysis of AlF₃ 9-28260
 B position from BBr₃-H₂ mixtures, thermodynamic anal. 9-47634
 B₂P₃, gas phase deposition from B-P-U-H systems, thermodynamics 9-11518
 Cd_{1+x}(S,Se)_{1-x} single crysts., vapour phase transport and stoichiometry control 9-28940
 CoCl₂(Br₂)(I₂), prep. using chem. transport via gas complexes (*German*) 9-15599
 CoCr₂S₄, CVD grown, surface microstruct. 9-4905
 Cu and α-Cu-Zn alloy, whisker growth in Zn reduction, morphological change to dendrites 9-28261
 CuCl₂(Br₂)(I₂), prep. using chem. transport via gas complexes (*German*) 9-15599
 FeCl₂(Br₂)(I₂), prep. using chem. transport via gas complexes (*German*) 9-15599
 FeCr₂S₄, pure and doped, CVD grown, surface struct., elec. props. and band struct. 9-4905
 GaAs, bulk purification by chemical vapour transport 9-24437
 GaAs, CVD on W coated graphite, characterisation, and Schottky barrier solar cell characts. 9-28930
 GaAs diode, high temp. and freq. characts., made by gas-transport method 9-19654
 GaAs, epitaxial, polycryst., monocryst. layers and whiskers growth by CVD, SEM obs. electron diff. study (*French*) 9-43150
 GaAs polycryst. film, for terrestrial photovoltaic energy conversion 9-15242
 GaAs polycrystalline film growth for solar cells 9-33941
 GaAs, VPE, review of growth techniques (*French*) 9-33935
 GaAs, VPE, vapour-solid interface, expt. anal. (*French*) 9-33940
 GaAs, VPE in Ga-AsCl₃-H₂ system at reduced temp. 9-11519
 GaN VPE for blue LEDs (*French*) 9-28928
 GeAs+Cl₂(Br₂)(I₂), high temp. Raman spectra, cryst. growth mechanism (*French*) 9-26999
 In₂O₃:Sn, transparent conducting films, prep. by InCl₃ thermal decomp., transmittance, resistivity 9-33944
 p-InP film growth, by close space vapour transport 9-28944
 InP, VPE 9-28927
 MnCl₂(Br₂)(I₂), prep. using chem. transport via gas complexes (*German*) 9-15599
 MoSe₂, lubricant, synthesis by Mo+Se vapour reaction, process kinetics 9-33942
 MoTe₂, pure and V doped, single cryst. growth and vapour phase transport 9-28903
 Nb-Si compounds, CVD, struct. and supercond. props. 9-24447
 NbB₂, vapour transport in temp. gradient in presence of iodine 9-19997
 Nb₃Ga, thermodynamic and expt. study of CVD 9-24441
 Nb₃Ge, supercond. film, prep. by chem. transport reaction, critical props. 9-47635
 NbN, Nb₄N₃-NbN, Nb₂N-Nb₄N₃, Nb₂N, cryst. growth parameters and morphology of chem. vapour deposition, X-ray diff. and SEM study 9-23861
 NiCl₂(Br₂)(I₂), prep. using chem. transport via gas complexes (*German*) 9-15599
 PbSe film, 50 μ, prep. in double quasiclosed volume 9-38745
 PbTe film, 50 μ, prep. in double quasiclosed volume 9-38745
 PdCl₂(Br₂)(I₂), prep. using chem. transport via gas complexes (*German*) 9-15599
 ScH₂, CVD 9-24420
 Si, characterisation and morphology 9-33938
 Si, crystal growth mechanisms (*French*) 9-33939
 Si film, polycryst., electron microscopic investigation of initial stage of growth 9-23849
 Si, gas phase diffusion and surface reactions 9-15614
 Si on sapphire, deposition kinetics and interface characteris. 9-28234
 Si, VPE, state of art 9-33937
 Si, VPE growth mechanisms 9-28929
 Si-Ge, heterogeneous system, equilb. gas phase composition, Si-Ge cryst. growth appl. 9-10820
 SiAs+Cl₂(Br₂)(I₂), high temp. Raman spectra, cryst. growth mechanism (*French*) 9-26999
 SiC, microstruct. obs., optical and TEM 9-7560
 β-SiC, powder, synthesis by chemical vapour phase reaction from methylsilane, exam. of props. (*German*) 9-4938
 SiC pyrolytic coatings for HTGR fuel particles, props. rel. to deposition conditions 9-31088
 n-SiC, single cryst. layers deposition on charact. substrates, morphology (*German*) 9-28943
 SiC, vapour deposition, thermodynamics of Si-C-Cl-H system (*German*) 9-11520
 Si₃N₄, CVD from SiCl₄ and NH₃, mass spectroscopic anal. of intermediates 9-43149
 α-Si₃N₄, exam. of chemical vapour deposition, and IR transmission and reflectance 9-19993
 Si₃N₄ film deposited from SiH₂Cl₂ and NH₃, characterisation 9-11521
 Si₃N₄ in hot-wall diffusion system 9-19996
 Si₃N₄ noncrystalline layers, CVD growth, encapsulant layers for annealing GaAs 9-19994
 Si₃N₄ plasma stream transport method, use of charge exchange plasma source 9-15613
 Si₃N₄ pyrolytically-deposited, engng. significance 9-38746
 SiO₂ film deposition by SiH₄ oxidation, kinetics and physicochemical model 9-42419
 SiO₂, plasma stream transport method, use of charge exchange plasma source 9-15613
 SiO₂, transfer in quartz capsule 9-4902
 SnS₂-SnI₄, and SnS₂-I₂, systems, transport props. and thermodynamical calcs. 9-32928
 SnTe film, 50 μ, prep. in double quasiclosed volume 9-38745
 TaB₂, vapour transport in temp. gradient in presence of iodine 9-19997
 TiB₂ coatings, prep. by CVD and interaction with substrate 9-24680
 TiC, CVD and activated reactive evaporation on WC-TiC-Ta(Nb)C-Co, substrate-layer interactions, AES obs. 9-24679

chemical vapour deposition continued

- TiC whiskers, growth by CVD, catalytic effects of various metals and refractory oxides 9-33211
 TiS₂, V addition effect on chemical transport 9-24419
 TiS₂-I₂ system, thermodynamic considerations for layered dichalcogenide growth by vapour transport process 9-4903
 VO_x, chemical transport, mass spectrometric study 9-24860
 V₂O_{5n-1}, microsyntactic intergrowth 9-1402
 W, by reaction of WF₆ and H₂, kinetics 9-19995
 WO₃, cryst. growth, chem. transport conditions influence on morphology and quality 9-43114
 ZnO, c-direction cryst. growth and crystallographic polarity 9-28902
 ZrC, single cryst. growth by modified hot-filament method, cryst. morphology and microhardness 9-19983
 Zr-C mixtures, gas composition effect on CVD, bromide process 9-24448
 ZrC_x whiskers, nonstoichiometric, synthesis by CVD 9-28941

chemical variables control

- see also *pollution detection and control*
 artificial pancreas programmed control technology (*German*) 9-16346
 Barnwell nuclear fuel reprocessing plant, remote sampling and on-line anal. system 9-13511
 crystallisation process, controlled, from binary melt (*Polish*) 9-14708
 dibutylphthalate, supersaturated vapour, aerosol form. by mixing of flows 9-39212
 gas chromatograph, on-stream, high-precision 9-16111
 irradiated nuclear fuel reprocessing streams, remote anal. techniques 9-13510
 respirator, servo control of end-tidal CO₂ in paralysed animals 9-39607
 C content in Fe₃C melt, measurement using automatic device 9-39252
 Si, VPE growth, in process monitoring and control of doping gas conc. 9-24443

chemical variables measurement

- see also *chemical analysis*; *moisture measurement*; *pollution detection and control*
 combustible gas and vapour monitoring, MOS sensors 9-16104
 combustible gas detector, operational tests 9-16105
 crystal nucleation growth rates, on-line meas., data reduction technique 9-38730
 gas monitoring, Fourier IR air monitor, description and appls. 9-16106
 gas monitoring system performance tests and specifications 9-16659
 gas monitors for in situ source emission, field experience 9-16660
 reaction rate const., reliability criterion 9-8423
 salinity and density from gamma-ray attenuation in seawater (*Russian*) 9-39897
 salinity/temperature sensor chain for estuarine meas. 9-5670

chemically reactive flow

- air flows in triple point shock configurations, anal. thermodynamics (*Russian*) 9-32569
 air wake, hypersonic, electron recomb., temp. depend. meas. 9-27834
 axially irradiated cylindrical photoreactor, plug flow model 9-47942
 balance equations for chemically reacting mixtures 9-27710
 Belousov-Zhabotinsky system, limit cycle behaviour, modified Oregonator model 9-1266
 boundary layer stability of catalytically recombining gas 9-41768
 catalysts, heterogeneous, gas phase diffusion and reaction calcs., viscous flow importance 9-47970
 chemical laser resonator modelling, LAMP and BLAZER code calcs. comparison with CL XV meas. 9-36890
 combustion and fluid dynamics, possible space environment expts. 9-46402
 combustion modelling, for large gas-fired furnaces 9-32710
 continuum description of reactive mixtures (*French*) 9-41765
 convective instability in horizontal porous bed 9-41769
 corundum-based refractory lining, wear resistance in combustion gas flow (*Russian*) 9-8370
 dissociating gas in pipe flow, heat transfer crisis, flow laminarisation 9-1265
 disturbance wave-head amplification in homogeneous explosion in chem. reacting atm. 9-27658
 flame, laminar premixed gaseous, amplification of propagating acoustic signal 9-29357
 flame, turbulent diffusion, mass entrainment, momentum flux and temp. 9-32704
 flame front instability analysis in compressible ideal medium (*Russian*) 9-27711
 flame induced flows propagating over condensed fuels, two-component LDV meas. 9-23380
 fluidised bed reactor, steady states multiplicity 9-4086
 fluidised bed reactors, mathematical modelling (*German*) 9-41767
 forced convection with chemical reactions, turbulent shear flow mixing, numerical modelling 9-1272
 fuel droplet, burning anal., quasisteady model (*Japanese*) 9-32712
 gas flow, high-temp., heating of graphite body, numerical soln. 9-37318
 gas-liquid flows with chemical reactions in hydraulic approx., mathematical modelling 9-18972
 gas-liquid reacting flow, interfacial area and liq.-side mass transfer 9-37420
 generalized ICE method for chemically reactive flows in combustion systems 9-10617
 glassy material, destruction at critical point in radiative gas stream (*Russian*) 9-32910
 n-heptane, cool flame stabilised by turbulence (*French*) 9-1952
 interface between immiscible liquids, convection induced by chem. react.-hydrodynamic coupling (*French*) 9-41682
 laminar diffusion flames, struct. and extinction by suppressive agents 9-32705
 laminar MHD flow with chem. reactions, solute dispersion 9-23378
 laser Doppler anemometry of high-temp. industrial gas flow (*German*) 9-10618
 magnetogasdynamic medium, flow parameter distrib. near weak shock wave (*Italian*) 9-14494
 mass transfer in turbulent falling film with or without chem. reaction 9-41766
 mass transfer with axial diffusion and chem. reaction 9-23376
 MHD channel flow, effect of external circuit on dispersion of soluble matter 9-1267
 MHD flow near slender wing with supersonic leading edge (*Italian*) 9-14495
 mixtures, phenomenological theory 9-1268

chemically reactive flow continued

- nonbuoyant plume, advection of scalar quantities, stochastic props. 9-32471
 nonequilibrium turbulent shear flow, prediction model (*German*) 9-18973
 nozzle flow, vibr. and chem. non-equilib. of multicomponent gas 9-7416
 oblatting heat shield, Jupiter probe, C vaporisation into nonequilib. stagnation point boundary layer 9-1264
 packed bed reactor, diffusion controlled mass transfer coeff. 9-43555
 polyatomic chemically reacting gases, hydrodynamic eqns. 9-32711
 porous oxide pellet, spherical, reduction by gas flow (*French*) 9-27713
 premixed turbulent flow, spectral interpretation of the propag. vel. (*French*) 9-4090
 quasi one-dimensional stationary flow in heated channel, criteria characterising approx. to chem. equilb. (*Russian*) 9-27712
 reactors, chem., relaxation oscils. 9-39120
 recombination, in steady supersonic flow, in devices for laser isotope separation 9-31717
 second-order reactions, in turbulent fluid, model, appl. to atm. plumes 9-20350
 second-order reactions, in turbulent fluid, model, formulation and validation 9-20349
 show wave reflection from wall in stream of burning mixture (*Russian*) 9-14496
 simulation using Markov chains (*French*) 9-32706
 solid propellant erosive burning, reacting turbulent boundary layer approach 9-32703
 solid-liquid mass transfer in concurrent two-phase flow through packed beds 9-4066
 supersonic combustion past a conical body with normal surface blowing 9-41770
 tank reactor, continuously stirred, periodic regimes 9-4087
 thermal shock in chemically active medium (*Russian*) 9-32709
 trickle bed, packed, gas-liq. reactions, extended crossflow model implications 9-46399
 tubular flow reactors with first-order kinetics 9-4088
 turbomachine combustor, analysis and modelling of flow (*French*) 9-46401
 turbulent flame, acoustic noise (*Russian*) 9-32708
 turbulent flame, temp. and conc. calcs. (*Russian*) 9-32707
 turbulent pipe flow with heat transfer and chemical reaction 9-1271
 variable property flow, in curvilinear orthogonal coords., numerical calc. 9-44746
 Cl, shock heated, radiative recombination under nonequilib. expansion in supersonic nozzle (*Ukrainian*) 9-37421
 DF pulsed chemical laser, flow technology 9-36934
 DF repetitively pulsed chem. laser, scalable fuel/diluent feed system 9-36935
 NO+ $N^4(S)$ state reaction rate, discharge flow and photolysis reson. fluoresc. method 9-5142
 N_2O_4 , dissociating, nonsteady flow in steam-generating channel 9-37422
 O_2 - O_2 , reactions with CO_2 , O_3 and methane in flowing afterglow, stratospheric appls. 9-2343
 O_2 - O_3 , reactions with H_2O and methane in flowing afterglow, stratospheric appls. 9-2343

chemiluminescence

- analytical applications, in soln. 9-24874
 aromatic hydrocarbon acceptor, energy-deficient, and tetrathiafulvalene donor systems, electrogenerated chemiluminescence. 9-20372
 bacterial luminescence excitation by singlet O_2 9-39340
 charge-pair recombination kinetics, nonGaussian diffusion 9-34312
 fluoromethanols (mono and tri), decomposition activation of HF, non-statistical energy partitioning, laser emission 9-945
 gas phase chemical reactions, laser obs. (*German*) 9-29365
 graphite intercalation by HNO_3 , NO_2 evolution identification 9-43564
 luminol, quantum and excited state yields, pulse radiolysis 9-47930
 methane-air flame, reactions, radical overshoot 9-34308
 ozone+olefins, in stratospheric ozonometer (*French*) 9-48574
 photoinduced recombination of atoms and radicals 9-5170
 reaction zone, electron transfer chemiluminescence, digital simulation 9-8200
 rubrene, electrogenerated chemilum., production of excited states by direct heterogeneous electron transfer 9-20371
 solutions, nonradiative energy transfer 9-11479
 tetramethyldioxetane, IR laser dissociation, chemilum. spectrum 9-5171
 tetramethyldioxetane, multiphoton dissociation, time depend. 9-16020
 TMPD, nonpolar photoionised soln., geminate pair quantum field, recombination fluoresc. elec. field quenching 9-20389
 Al hydration, in vap. phase, rel. to upper atmosphere chemiluminesc. 9-29362
 $B+N_2O$, chemiluminesc. reaction, vibr. state distrib. 9-20354
 $B+O_2$, chemiluminesc. reaction, vibr. state distrib. 9-20354
 $Ba+CCl_4 \rightarrow BaCl_2 + CCl_2(\dot{A})$, chemiluminesc. spectrum and ang. distrib. obs. 9-15962
 $Ba+N_2O$, chemiluminescent flame, BaO states population 9-39153
 Br, and Br_2 , luminesc. assignments in excimer laser photolysis of CBr_4 and CF_3Br 9-39184
 $C+N_2O \rightarrow CN+NO$, chemiluminesc., CN ($A^2\Pi$) vibr. distrib. 9-39152
 $C+PbO \rightarrow CO+Pb$, chemiluminesc. from gas phase reaction 9-8426
 C_2 , luminesc. assignments in excimer laser photolysis of CBr_4 and CF_3Br 9-39184
 CF_2 , luminesc. assignments in excimer laser photolysis of CBr_4 and CF_3Br 9-39184
 CN, $A^2\Pi$, state vibr. distrib., chemiluminesc. 9-39152
 CuF, from gas phase reaction, photon yields, chemi- and photo-luminesc., excitation spectra 9-5157
 $Dy^{3+}+O_3(SO_2^{2-})(SO_2)$, in H_2SO_4 soln., electrochemiluminesc. emitters quenching by electrolysis products 9-1794
 HNO_3 , atmospheric monitoring, chemiluminesc. method 9-16062
 H_2S+NO_2 , SO chemiluminesc. in Ar matrix 9-5146
 $HgCl$, $B^2\Sigma^+$ state formed by photochemical reaction in $Hg/Cl_2/Ar$ 9-39154
 $N^+ + H_2$ (hydrocarbons), rotational-vibrational product excitation 9-47901
 $N^+ + H$ (hydrocarbons), chemiluminescence, total reaction cross sections dependence on collision energy 9-47530
 $NF^+ + HF^+$, microscopic vibrotational-electronic energy transfer, IR chemiluminesc. obs. 9-31662
 $NH_3(ND_3) + Hg$, photosensitised luminesc., phase shift anal. 9-15966
 NO concentration meas. in gas mixtures, chemiluminescence method (*Russian*) 9-16094

chemiluminescence continued

- $NO^+ + NO_2^-$, neutralisation reaction, spectroscopic study 9-13819
 NO_x , atmospheric monitoring, chemiluminesc. method 9-16062
 NS radical chemiluminescence produced by active $N+S(S_2Cl_2)$, kinetics study 9-39151
 Na, chemisorption of halogens, surface chemiluminesc., MO description 9-43048
 $O_3 + H_2S(OCS)$, SO chemiluminesc. in Ar matrix 9-5146
 $Pb + F_2$, chemiluminesc. spectrum of PbF 9-24742
 Ru complex, electrogenerated chemiluminesc., production of excited states by direct heterogeneous electron transfer 9-20371
 S_2 , matrix isolated in solid Ar 9-47529
 SO_2 , chemiluminescence at $(e^-\Sigma^- \rightarrow a^1\Delta)$ in Ar matrix, photolysis prod. and thermoluminesc. 9-5158
 SO_2 , IR photolysis, associated visible luminesc., 2-25 torr 9-29384
 $Tb^{3+} + O_3(SO_2^{2-})(SO_2)$, in H_2SO_4 soln., electrochemiluminesc. emitters quenching by electrolysis products 9-1794
 ThO_2 , pure and Tb^{3+} doped, impurities effect in absorbluminesc. and photoluminesc. 9-38597
 $ThO_2 \cdot P_2O_5$, luminesc., calcination temp. and excitation process depend. 9-33749
 $Xe + Br_2 \rightarrow XeBr^+ + Br$, rot. polaris. in chemiluminesc. 9-8432
 $XcF_2 + Si$, surface reaction, IR chemiluminesc. 9-43633

chemisorption

- alloy, cleaved, electronic theory, off-diagonal disorder 9-4596
 Anderson model, correlation corrections to chemisorption energy 9-19538
 atom, chemisorbed on solid, diffusional motion, microscopic anal. 9-4467
 charge-density maps 9-19453
 conference on solid-vacuum interface, Amsterdam, Netherlands (June 78) 9-42342
 electron stimulated desorption data, chemisorbed systems, reinterpretation in Auger decay model 9-42375
 graphite, adsorption and dissociation of O_2 , CNDO/2 calcs. 9-28206
 graphite, adsorption and migration of O_2 , CNDO/2 calcs. 9-28205
 graphite, of N periodic overlayers, CO-NDO calcs. 9-7745
 Green's function formalism appl. to chemisorption on real infinite systems 9-19461
 heterogeneously catalysed reactions, kinetic instabilities, oscill. instabilities 9-24717
 heterogeneously catalysed reactions, kinetic instabilities rate multiplicity 9-20341
 indirect interaction between chemisorbed atoms, theory 9-46923
 interstellar oxide grains, mol. prod. 9-25690
 ionic crystal, of electropositive ion, polaris. effects 9-37923
 island formation and adatom interactions 9-46922
 jellium, of H_2 , contraction of mol. band 9-28202
 lubrication mechanism, by surrounding gas molecules in adhesive wear 9-42143
 metal, of H, surface sp-conduction electrons, spin-density functional formalism 9-33321
 metal, of hydrocarbons, correlation between energy levels and occupied molecular orbitals 9-19449
 metal, review of chemisorption 9-42377
 metal surface, kinetics of adsorpt., desorpt. and migration, review 9-46921
 metal surfaces, historical review 9-46920
 metallic atom chemisorption, work function variations 9-46936
 metals, adsorption of gases, review (*Japanese*) 9-46930
 metals, liquid metal embrittlement, mechanism 9-43495
 metals, of CO, electronic struct., vibr. spectra, and chem. 9-42390
 model chemisorbed systems, exact and approx. results for electron densities of states 9-42605
 molecules, IR line shape, dynamical theory 9-824
 Monte Carlo simulation of two-point adsorpt. on binary metal alloy surfaces 9-46940
 neutron scattering by molecules, polymers and absorbed species, review 9-41911
 order-disorder phase transition in chemisorbed layers, depend. of work function 9-19460
 ordered adlayers, electronic struct. 9-38142
 particulate matter, of N_2O , decomposition 9-16014
 plasmon effects in electron spectroscopies and chemisorption 9-33190
 powder catalyst, catalytic and sorption processes, calorimetric and adsorpt. kinetic methods 9-43629
 quartz powder, of CaO soln. effect on lattice parameters, work function 9-37918
 rate processes in condensed media, anharmonicity effects 9-19349
 semiconductors, surface and interface electronic struct., book contrib. 9-42619
 transition metal, chemisorbed acetylene and ethylene, UPS, and SCF-LCAO calcs. 9-19454
 transition metal, chemisorption of ordered overlayers with $C(2 \times 2)$ and (2×1) structs. 9-46925
 transition metal, group VIII, O_2 chemisorption, UPS 9-7751
 transition metal, group VIII, O_2 chemisorption, UPS 9-7752
 Ag (111), chemisorbed Rb struct., and NO reactivity on Rb-dosed Ag 9-28207
 Ag, adsorption of O, surface species identification by XPS, high press. 9-28191
 Ag film, chemisorption effects on optical reflectance and elec. resistance 9-33361
 Ag(111), of S_2 , surface layer struct. changes 9-42383
 Al, initial oxidation, interatomic Auger transition spectroscopy 9-7746
 Al, of CO, interatomic Auger transition spectroscopy 9-7747
 Al, of H_2 , calc. of adsorption sites and binding energy 9-46953
 Al oxidised surface, EXAFS in soft-X-ray region 9-37921
 Al surfaces, interaction with O_2 , work function changes and ellipsometric parameters 9-47831
 Al_2O_3 , of formic acid, effect of formate ion conc. on conductance of MIM struct. 9-15233
 Al_2O_3 , of isobutyl alcohol, gravimetry, IR investigs. 9-1546
 Al_2O_3 , of linoleic acid, under carbon tetrachloride immersion, IR obs. 9-24822
 Al(111), of O_2 , SCF X_α scatt. wave MO calc. 9-42374
 Au film, on W substrate, chemisorbed N_2 effect on crystallite growth, FEU obs. 9-46976
 Au, of O_2 , catalytic effect of Ca, AES study 9-15021
 Be, of H, on (0001) surface, mol. orbital cluster theory 9-15002
 Co (1012), struct. and CO chemisorption obs. 9-4474
 Cu (100), surface state-surface resonance density 9-28392

chemisorption continued

- Cu (100), XPS of chemisorbed CO 9-15589
 Fe liquid, C saturated, decarburization by CO₂, effect of S 9-11726
 Fe, of CO and O₂ core level photoemission and LEED methods appl. 9-15003
 Fe, of N₂, dissociation, chemisorption during NH₃ catalytic synthesis, promoter action of K 9-29390
 Fe surface, form. and decomp. of nitrides 9-24831
 GaAs (110) surface, of O₂, electronic struct. theory, oxidation, electron spectra interpretation 9-42376
 GaAs, chemisorption and oxidation states of (110) surfaces 9-24049
 GaSb, chemisorption and oxidation states of (110) surfaces 9-24049
 In-In₂O₃-Pb tunnel-junction barriers, evidence for chemical annealing effects 9-42701
 InP, chemisorption and oxidation states of (110) surfaces 9-24049
 Ir (110), of O₂, sorption and dissociation, kinetics 9-33186
 Ir, of CO, on clean and oxidised (110) surfaces, kinetics obs. 9-11015
 K₈ intercalation compound, of H₂ (*French*) 9-43624
 Mg, of H₂, calc. of adsorption sites and binding energy 9-46953
 MgO, chemisorption on (100) surface, surface electronic struct. 9-11016
 Mo, coadsorption of CO₂ and O₂, AES and SIMS obs. 9-46928
 Mo polycrystalline surface, of CO, substrate mediated C-O interaction, photoelectron spectra 9-34353
 Na, chemisorption of H₂, calc. of adsorption sites and binding energy 9-46953
 Na, of halogens, surface chemiluminesc., MO description 9-43048
 NaCaX zeolite, ion migration and Ni(CO)₄⁺ form., EPR obs. 9-33522
 Ni (001) surface, chemisorbed O₂, electronic struct. and overlayer struct. theory 9-28391
 Ni (100), chemisorption and decomp. of formic acid -d₁ 9-34361
 Ni (100), of CO, SIMS and XPS meas. 9-42378
 Ni (100), of H₂, LEED, work function meas. and thermal desorpt. obs. 9-23843
 Ni (100), of H₂, possibility of reduced bond length 9-28202
 Ni (100), of O and S, surface vibrs., electron energy loss spectra 9-33173
 Ni (100), of O₂, SIMS and XPS 9-15019
 Ni clusters, electronic props. and implications for chemisorption 9-23886
 Ni films, of CO, effect on galvanomag. and mag. props. 9-33364
 Ni films, of CO, effect on galvanomag. and mag. props 9-33363
 Ni, methanol on (111) surface, methoxy species, electron energy-loss spectra 9-29391
 Ni, of CO, carbonylation rate mag. field depend. 9-24828
 Ni, of H, cluster surface bonding energy, HF calc. 9-39204
 Ni, of H, model, comparison with UPS data 9-46932
 Ni, of H₂, interaction between adsorbates, model Hamiltonian calc. 9-46964
 Ni, oxidation, chemisorption and oxide nucleation stages, low-energy SIMS and AES obs. 9-43083
 Ni surface, polycryst., interaction with O₂, SIMS and flash filament meas. 9-47829
 NiO, catalytic decomp. of methanol, mol. beam relax. spectrometry using surface temp. modulation 9-29401
 Ni(100) and (111), of H, preexponential factors 9-46918
 Ni(111), adsorbed benzene, vibr. loss spectra 9-23838
 Ni(111), of CO, adsorption sites and long range order, vibr. spectra 9-46946
 Ni(111), of H₂, geometry, LEED anal. 9-28200
 Pd, of H, model, comparison with UPS data 9-46932
 Pd(111), of H, bonding, photoemission spectra, SCF electronic struct. 9-33320
 Pd(111), of H, preexponential factors 9-46918
 Pt (111), of acetylene, dissociation, EHT calcs. 9-39190
 Pt catalyst, oxidation kinetics of CO, determ. using ¹³C tracer 9-29400
 Pt electrodes, of H, anion effects on multiple states, reflection spectra obs. 9-43634
 Pt, of H 9-46932
 Pt surface, stepped or flat, H₂ chemisorption, calcs. 9-28208
 Pt(111), adsorbed benzene, vibr. loss spectra 9-23838
 Pt(111), of acetylene, reaction at room temp., form. of vinyl-like species 9-46939
 Pt(111), of ethylene, reaction at room temp., form. of vinyl-like species 9-46939
 Pt(111), of H, preexponential factors 9-46918
 Re, of alkali metal, bond, adatom valence energy level broadening (*French*) 9-33176
 Rh (111) surface, UPS meas. of chemisorbed and condensed CO using synchrotron radiation 9-33902
 Rh, chemisorption of ethane, sticking coefficient per landing site 9-46941
 Rh, of CO, IR spectra, species identification 9-39198
 Rh, of formaldehyde, catalytic decomposition, transmission IR spectra 9-39199
 Ru (001), of CO, electron stimulated desorption ion ang. distrib. bonding geometry and bending vibrs. 9-33189
 Ru, dissociative chemisorption of CO, isotope exchange 9-34354
 Ru, of O₂, on (001) surface, high resolution electron scatt. spectra 9-11013
 Ru(001) surface, chemisorbed CO + O₂, and surface reaction 9-46924
 Si, of Al, local density of states for monolayer on (111) surface 9-47142
 Si, of Ga on (111) surface, Ga-induced surface states 9-19644
 Si₃N₄ film, plasma etching, role of chemisorpt. of CF₄, CF₃H, CF₃Cl, CF₂Cl₂ and CCl₄ 9-11714
 SiO₂, of cetyl pyridinium bromide, adsorpt. pH depend., mechanism 9-20466
 SiO₂, of diketons, under carbon tetrachloride immersion, IR obs. 9-24821
 SiO₂, of pentan-3-one, under carbon tetrachloride immersion, IR obs. 9-24821
 Si(111), of H, formation of monohydride and trihydride phases, LCAO model appl. 9-15004
 Sn, of O₂, AES and EELS study 9-46917
 Sn, of O₂, appl. of electron energy loss struct. in Auger anal. 9-47559
 ThO₂, pure and Tb³⁺ doped, impurities effect in absorboluminesc. and photoluminesc. 9-38597
 Ti (1011), of CO, XPS, UPS, flash desorption mass spectra, and active ion bombard. obs. 9-11822
 Ti film, of O₂ and CO, quartz cryst. microbalance obs. of O/Ti and CO/Ti atom ratios 9-4475
 W (100), adsorbed H-induced lattice reconstruction, surface vibr. obs. 9-19445

chemisorption continued

- W (100), adsorpt. of acetylene, room temp., electron spectroscopy obs. 9-7749
 W (100), of H, D, ¹⁶O, and ¹⁸O, isotope effects obs. by SIMS 9-5234
 W (100) surface, of CO₂, NO, UPS studies 9-23841
 W (110), adsorpt. of N₂, N₂O, and NO₂/N₂O₄, 300K and 100K, XPS, UPS, and XAES 9-28203
 W (110), adsorpt. of NO, 300K and 100K, XPS, UPS and XAES 9-28204
 W (110), of O, displacement reconstruction model 9-46949
 W (110), order-disorder transform. in chemisorbed O, theory compared with LEED data 9-7748
 W, clean and oxidised, mol. binding states of SiO 9-7750
 W, of NH₃(NH₃), decomposition mechanism, isotope effect 9-29409
 W, of O₂, island form., adatom interactions 9-46922
 W(100), of H, vibr. excitation of hydrogenic modes, angle dependent electron energy loss meas. 9-46914
 W(100), of H₂, adsorbate-induced surface reconstruction 9-4472
 W(111), of ethane, AES and LEED pattern exam. 9-15005
 ZnO, (0001) surface, of O, AES and refl. electron energy loss spectra 9-46927
 ZnO, with chemisorbed neutral red, photocond. meas. (*Japanese*) 9-42572
 ZnTe (110) and (111) surfaces, O₂ adsorption, electron energy loss and Auger spectra 9-47568

chemistry

- see also atmospheric chemistry*
 computer-assisted learning in the University of Surrey Chemistry Department 9-30167
 education, physical sciences at Lanchester Polytechnic 9-44658
 education, physics joint honours degree course at Manchester University 9-35456
 Gay-Lussac, biography 9-25815
 laboratory course, for intellectual skills development 9-21484
 photographic process, latent image formation, Ag₆ cluster as quantum chemical model 9-24792
 Pb (II), solvent extraction by versatic acid 10 (*Japanese*) 9-4928

chemistry, physical *see physical chemistry***chemistry computing**

- see also computerised instrumentation; spectroscopy computing*
 Arrhenius A and E interconversion algorithms 9-15957
 constrained variation of molecular geometry using FORMAC 9-10012
 crystal nucleation growth rates, on-line meas., data reduction technique 9-38730
 crystal structure refinement with constraints, least squares refinement program 9-10744
 cybernetic prediction of chemical compound formation, in uninvestigated systems 9-11880
 electrochemical surface processes, kinetics simulation 9-16004
 enzyme kinetics simulation 9-15961
 ESR spectra, simulation by FFT 9-19763
 ethylene, TEA laser induced multiphoton dissociation, model and expt. 9-16016
 jj-coupling, one-particle matrix element calculation program 9-13624
 macromolecules, quantum chemical characteristics, extended Huckel calcs. 9-45874
 macromolecules in solution, US degradation simulation program 9-14148
 MC-SCF computation scheme for large scale calculations on polyatomic systems 9-10039
 molecular structure elucidation algorithm (ASSEMBLE), computer construction 9-18104
 organic compound structural elucidation, CHEMICS-F 9-18310
 organic compounds, classification from voltammetric data, computerised pattern recognition 9-16057
 organic compounds structure determ. from spectral data by CHEMICS-F computer program 9-36794
 space filling molecular models 9-18309
 spectrochemical analysis, l-transformation, accuracy of transform. parameters (*German*) 9-43674
 structures, pictorial reproduction 9-43708
 Ag₂Te, growth by chem. transport (*Russian*) 9-38728
 He-Cs mixture, Cs ion conc. determ. by radn. absorpt. 9-34395
 I₂, photodissoc. cage effect, computer simulation 9-24771
 U, determ. by computer-controlled titration system, evaluation 9-16113

Cherenkov counters

- aerogel counter, increased photoelectron collection efficiency of photomultiplier 9-45568
 atmospheric electrons, MeV range registration instrument 9-5645
 avalanche chamber, multistep gated 9-45536
 chevron microchannel plate photomultiplier tube with 400 anodes for high energy appl. 9-45545
 fast particles, separation of simultaneously produced scintillation and Cherenkov radn. 9-18076
 liquid differential counter, for proton and kaon, 2 to 9.5 GeV.c⁻¹, or kaon and pion, to 5 GeV.c⁻¹, separation 9-731
 MWPC to defect vac. UV photons from Cherenkov radiation 9-18078
 operation with UV photoionisation detector 9-26835
 photomultipliers for Cherenkov light, improved yield 9-22549
 photomultipliers for low light level appl. 9-45547
 plastic large area detector 9-741
 scintillation counter, high refractive index organic liquids, ¹⁸F, ¹⁴C radioactivity meas. 9-26817
 tachyon detection, using Cherenkov and ToF detectors, book contrib. 9-45125
 water detector, use of di-potassium 2-amino-6, 8-naphthalene disulphonic acid as wavelength shifter 9-26834
 Pb glass large counter array, LED monitoring system 9-45565

Cherenkov detectors *see Cherenkov counters***Cherenkov radiation**

- see also Cherenkov counters; electron radiation*
 charged particle beam, instability normal to beam (*Russian*) 9-13883
 cholesteric liquid crystals, diffraction conditions, theory (*Russian*) 9-19151
 coherent radiation novel sources, book 9-27231
 conducting medium, Cherenkov and ohmic losses of relativistic charge, unified treatment 9-12998
 cosmic ray large air showers, Cherenkov radiation image reconstruction 9-25420
 Doppler effect in refracting medium, classical and quantum interpretations (*Russian*) 9-13002

Cherenkov radiation continued

- fast wave propag. along cylinder, Cherenkov amplification (*Russian*) 9-44759
- field interface of moving particles in statistically inhomogeneous medium 9-6063
- free electron laser, Cherenkov-Smith-Purcell, collective and single electron interactions, book contrib. 9-27234
- free electron lasers, Cherenkov, Smith-Purcell, and TW amplifiers, operation regimes 9-919
- free electron lasers, mag. bremsstrahlung, Compton and Cherenkov, types (*Chinese*) 9-31851
- gamma rays in 10^{11} - 10^{14} eV range using atmospheric Cherenkov technique 9-25422
- hybrid transition-Cherenkov radiation, props. 9-45897
- impulse of photon in medium with negative group velocity (*Russian*) 9-3670
- ionsphere, prod. by unstable plasma wave coupling 9-40003
- liquid, photoelastic, EM wave-excited, radiation from uniformly moving charge 9-13882
- mica, Vavilov-Cherenkov radiation ang. distrib. from 170 to 250 keV e^- (*Russian*) 9-22569
- monochromatization of beam of charged particles of Cherenkov interaction 9-36829
- resonant frequency propagation in amplifying medium 9-22926
- resonant medium, coherent radiation generation by relativistic charged particle 9-33857
- separation from simultaneously produced scintillation radiation 9-36489
- stimulated Cherenkov radiation, relativistic electron beams in dielec. resonators, book contrib. 9-27150
- stimulated EM shock radiation, book contrib. 9-27149
- visual phenomena induced by relativistic C^+ ions 9-24991

chilling *see cooling***chiral symmetries***see also* S_N theory

- Abelian gauge theories, (1+1) dimens., instanton effects 9-261
- asymmetry in vectorlike weak SU(3), CP violation, one loop correction 9-287
- axial superfield and the supergravity group (*Russian*) 9-17319
- axial vector matrix elements, chiral limit, renormalisation effects 9-17190
- charmed mesons, nonleptonic decays of charmed mesons and chiral Lagrangians (*Russian*) 9-30732
- chiral field theories with sophisticated topology 9-30650
- chiral invariant SU(N) Thirring model, exact S-matrix 9-21911
- chiral solutons and current algebra 9-40680
- conformal invariance in elementary particle physics, review (*Russian*) 9-21964
- conformally covariant spinor field equations 9-22004
- dynamical generation of effective degrees of freedom, flavours 9-22026
- gauge invariant Lagrangian, relationship to strong interactions (*Chinese*) 9-21968
- gluon collective excitations, nonabelian gauge theories, effective chiral Lagrangian 9-22034
- hyperon non-leptonic decay in (8,8) model of broken chiral symmetry 9-36072
- instantons and Kahler manifolds 9-12925
- massless Rarita Schwinger field, axial current quantisation, chiral charge of ghosts 9-2918
- $N=1$ supergravity, chiral invariance in four dimensions 9-40441
- N -flavour quark model, axial-vector current anomaly, decay constants and π - η - η_c problem 9-13045
- nonleptonic hyperon decays and lightlike chiral struct. of hadrons 9-36074
- partially conserved axial vector currents, corrections, light-plane commutators, sum rules, meson decay 9-304
- pseudoscalar-meson decay constants, Goldberger-Treiman relations, and chiral SU(4) \times SU(4) symmetry breaking 9-293
- QCD, spontaneous breaking of chiral SU(2) \times SU(2) symmetry 9-36013
- QCD spectrum, infinite number of colours at fixed coupling, interacting string model 9-2993
- quark model for symmetry breaking, current and constituent quarks 9-13033
- scale invariance in superspace 9-17313
- Schwinger model, new and local Lorentz-covariant soln. for arbitrary gauge 9-40668
- spontaneous breakdown of chiral $SU_N \times SU_N$ 9-9299
- spontaneous breaking, using vacuum stability condition 9-35986
- SU(2) $_L \times$ SU(2) $_R \times$ U(1), CP invariance, global chiral U(1) symmetry, axion-quark coupling 9-22009
- SU(2) $_L \times$ U(1), nonlinear realisation of Weinberg-Salem model for chiral SU(4) \times SU(4) meson theory (*Russian*) 9-30693
- SU(2) \times SU(2) chiral symmetric Lagrangian description of low energy π N and NN scatt. 9-26251
- SU(3) \times SU(3) chiral symmetry breaking, BBS coupling constants, sum rules 9-35959
- SU(3) \times SU(3) chiral symmetry breaking, Dashen mass formula, baryon mass differences, $\eta \rightarrow 3\pi$ 9-289
- SU(4) \times SU(4) breaking scheme, vector mesons radiative decays 9-22099
- SU(4) \times SU(4) broken chiral symmetry, charmed hadron masses and decay consts. 9-40686
- SU(4) \times SU(4) chiral symmetry breaking, axial vector current divergences, kaon PCAC 9-45032
- SU(5) \times SU(5) broken chiral symmetry, symmetry breaking parameters, limits 9-45026
- SU(n+1) invariant chiral theory, duality eqns. soln. 9-9351
- SU(N) Thirring model and 1/N expansion, chiral symmetry breaking 9-12977
- supergravity, auxiliary fields 9-17315
- supergravity, superspace formulation, component formalism transform props. 9-12688
- supergravity, symmetry breaking by instantons 9-21625
- superspace, explicit form for chiral multiplet tensor calculus 9-9302
- supersymmetrical generalisation of classical chiral models in two-dimens. time-space (*Russian*) 9-12980
- tachyons, monopoles and related topics, book 9-44718
- Thirring massive SU(N) model, factorisation 9-12951
- $U_3 \times U_3$ symmetry spontaneous breaking 9-35957
- up quark mass and chiral symmetry at infinite momentum 9-40685
- A_1 and ρ (1250) resonances, chiral symmetry scheme fit 9-284
- π N inelastic scattering, possible soln. with weak neutral currents to ρ - π puzzle 9-17714

chiral symmetries continued

- π No commutator, discussion using dynamical theory of π N amplitude 9-22134
- $\pi\Sigma$ scattering amplitude, sum rules for $\pi\Sigma$ reson. parameters (*Russian*) 9-22137
- σ model, pion condensation, use of chiral symmetries, reply to comments 9-297
- σ model, pion condensation, use of chiral symmetries 9-296
- u-quark masslessness, consequences for SU(2) and SU(3) 9-22022

chlorine*see also* nuclei with

- adsorption effects on Cu electrodeposition 9-20001
- adsorption on Si (111), electronic energy states, cluster-type calcs. 9-47149
- adsorption on Si vacuum-crushed surface, EPR meas. 9-46957
- atom, chem. generation for HCl laser, 3.8 μ m, 10.6 μ m CW laser emission 9-947
- atom, K-fluorescence yield determ. using MWPC 9-18140
- atom, photoionis. cross sections, RPA with exchange method generalisation 9-10077
- atmospheric particulate distrib. in Houston-Galveston area 9-12252
- borate laser glasses, Cl $^-$ coordinated, Ti $^{3+}$, Mn $^{2+}$ and Nd $^{3+}$ impurities, absorpt. and X-ray obs. 9-38575
- determination, in refractory metals, spectrosc. method (*Russian*) 9-16095
- determination in small samples of healthy and burnt skin 9-5343
- galactic abundance from Ar/Cl and Cl/O ratios in planetary nebulae 9-5887
- hybridisation, bonding orbitals effects 9-36510
- interstellar Cl, chemistry as H ionisation source 9-40245
- ion implantation in Si, control of oxidation-induced stacking faults 9-46682
- K-shell X-ray production, by 0.4 to 2.4 MeV 4 He and 1 H ions 9-47550
- laser oscillation on 2580 Å band system, axial electron beam excitation of He-Cl $_2$ 9-31879
- molecule, Ar ion laser excited, normal and reson. Raman spectra 9-26993
- molecule, B-X transition, rotationally resolved excitation spectra and predissociation in excited state 9-45754
- molecule, electron impact total ionis. and electron attachment cross sections 9-3589
- molecule, electron-attachment rate const., room temp. and 250°C, in N_2 (Ar) discharges 9-45841
- multiple reactions, Cl isotope effects, mass spectrometric monitoring 9-39135
- muonic atom, prod. by muon capture in Ar atom (*Russian*) 9-45869
- solid, electron density distrib. using X-ray diff. meas. 9-42006
- B $_2$ O $_3$ -Li $_2$ O-LiCl glass, X-irradiated, EPR of Cl $_2^-$ centres (*French*) 9-47333
- CdSe:Cu,Cl film, induced impurity photocond., 0.6 to 1.2 eV 9-24012
- p-CdTe:Cl, mech. of electron recomb. 9-11176
- p-CdTe:Cl compensated, Schottky diode, small signal capacitance 9-7899
- Cl (IX-XV) allowed intra L-shell transitions, oscill. strengths and radiative lifetimes meas. 9-13676
- Cl $^-$ ion concentrations in river, spring waters in Okinawa Honto, origin (*Japanese*) 9-39324
- Cl $^-$ influence on Si anodic oxidation and Si-SiO $_2$ interface 9-15842
- Cl $^-$ -(H $_2$ O) $_n$ complex struct., coord. numbers 9-7049
- Cl+DI $_2$ -DCl+I, thermal rate const., 220-400K, H/D isotope effect 9-47906
- Cl+formaldehyde, rate const., 200-500K 9-39133
- Cl+formaldehyde-HCl+HCO, stratospheric O $_3$ decreased sensitivity to Cl perturbations 9-12190
- Cl+methane, reaction rate const., stratospheric modelling appl. 9-20345
- Cl+methane-methane- d_2 , free radical chain reaction, D isotope photochem. enrichment 9-36790
- Cl+NO $_2$, ClONO prod., FT IR obs. 9-8427
- Cl+Xe, elastic scatt. for interaction pot., Cl(2 P)+Xe(1 S) 9-27059
- Cl+He(Ne)(Ar)(Kr), total electron detachment cross sections, near threshold energies 9-3555
- Cl $^{3+}$ +Xe(Ar)(N $_2$), 20 MeV, electron loss cross sections, pot. model data anal. 9-27082
- Cl $^{3+}$ +Ca(Sc)(Ti) thick targets, 30 MeV, near symmetry collisions, double-K-vacancy sharing 9-3391
- Cl $^{3+}$ +Cl(Ar), branching ratio dependence on projectile velocity and nuclear charge 9-31475
- Cl $^{3+}$ +Cu, effect on projectile charact. X-rays and REC of target thickness 9-45662
- Cl $^{3+}$ +Cl(Ti)(Ni), K-shell ionization probability in energetic nearly symmetric heavy-ion collisions, 35 MeV 9-27078
- Cl $^{3+}$ +Sn(Sb)(Xe), vacancy sharing between K and L shells in 3d σ mol. orbital 9-22807
- Cl $_2$ -Hg-Ar, photochem. reaction producing HgCl(B $^2\Sigma^+$), chemiluminesc. 9-39154
- Cl $_2$ +Kr, KrCl $^+$ form., mass spectrosc. obs. 9-29346
- Cl $_2$ +O, reactive scatt. in supersonic at. beam 9-36754
- Cl $_2$ +SiAs(GeAs), high temp. Raman spectra, cryst. growth mechanism (*French*) 9-26999
- (Cl $_2$) $_2$, config., ab initio calc. 9-41098
- 35 Cl, nucl. mag. screening in CH $_3$ pseudopot. calcs. 9-6879
- 35 Cl, surface anal. using 35 Cl ion beams 9-5211
- 35 Cl XVI, n=2, Lamb shift, fine struct. 9-13675
- 35 Cl $^{4+}$ +atom (molecule), multiple electron loss cross sections meas. 9-45818
- 35 Cl in environmental water samples, anal. using electrostatic accelerator 9-20895
- 3 He-Cl, direct nuclear transfer lasers using 3 He(n,p) 3 H reaction 9-31863
- K+Br $_2$ (Cl $_2$), electron transfer crossed beam reaction, energy and ang. differential cross section 9-20358
- Na $_2$ Al $_2$ O $_7$ Cl $_2$, radiolytic radiation damage, Cl $^-$ voids and Cl gas bubble formation 9-7628
- SO $_4$ /Cl ratio in Ionian Sea coastal waters (*Italian*) 9-5499
- ZnS:Cl, self-activated, blue emission band 9-38633
- ZnS:Cu,Er,Cl film, ageing and forming, DC electroluminesc., impact excitation 9-47522

chlorine compounds

- tetrachloroaurates and tetrachloroiodates, 35 Cl NQR freqs., correl. with crystallographic data 9-33559
- Cl $_2$ -CO $_2$ system, vapour-liquid equilib. (*Japanese*) 9-42258
- ClCN, and isotopic species, force field calc., freqs., rot. consts. 9-22692

chlorine compounds continued

- Cl₂CS, potential energy surfaces and equilibrium geometries for ground and excited states 9-45634
- ClF₃, condensed phases, structural study by vibr. spectroscopy and X-ray and neutron diff. 9-1405
- ClF₃-IF₃, determ. of phase diagram, using DTA 9-4955
- ClF₃CS, potential energy surfaces and equilibrium geometries for ground and excited states 9-45634
- ClFCS, second excited singlet state fluoresc., spectra 9-6957
- ClH, nuclear mag. shielding of ³⁵Cl, pseudopot. calcs. 9-6879
- ClHCN⁺, ClDCN⁺, IR spectra, rel. to mol. geom. 9-22702
- ClO⁻ formation by ozonation of seawater 9-16518
- ClO+H₂→HOCl+O₂, reaction rate consts. 9-5140
- ClO₂, predissoc. mechanism determ. from rot. level lifetimes 9-13732
- ClONO, prod. via Cl+NO₂ react., FT IR obs. 9-8427
- ClONO₂ collection using impregnated filters, simulation 9-12257
- ClONO₂, photolysis products, very-low press. meas. 9-29376
- ClOO+NO, reaction in stratosphere 9-34889
- Cl₂SO, A'-force consts., 4th-order secular eqn., L-matrix approx. vs. HLFs methods 9-36556
- H+ClO₂→OH+ClO, primary energy disposal, laser-induced fluoresc. 9-24726
- O+Cl₂O, reaction rate const. 9-20344

cholesteric liquid crystals

- additive colour properties and colour gamut 9-7546
- anisotropy fluctuations suppression by elec. field (*Russian*) 9-32900
- Bragg reflection (*Russian*) 9-4235
- Cherenkov radiation, diff. scatt. conditions, theory (*Russian*) 9-19151
- cholesteric nematic, US attenuation near cholesteric to smectic A transition 9-28091
- cholesteryl caproate, isothermal crystn., spherulites growth rate, optical microscopy obs. 9-32892
- cholesteryl chloride-MBBA mixture, mol. orientation during mag. field induced cholesteric-nematic transition 9-28086
- cholesteryl decanoate, NMR spectroscopy of blue phase 9-4236
- cholesteryl laurate-cholesteryl caprilate mixture, elec. cond. mechanism 9-10796
- cholesteryl m-fluorobenzoate, NMR spectroscopy of blue phase 9-4236
- cholesteryl myristate, polymorphism of blue phase, DTA and microscopy meas. 9-37819
- cholesteryl nonanoate, polymorphism of blue phase, circular dichroism at high-press. 9-37821
- cholesteryl nonanoate, polymorphism of blue phase, DTA and microscopy meas. 9-37819
- cholesteryl nonanoate, polymorphism of blue phase, optical rot. and refl. 9-37820
- cholesteryl pelargonate, liq. cryst. phase transitions (*Russian*) 9-37818
- cholesteryl propionate, struct. in characteristic phase, X-ray diff. obs. 9-32891
- cholesteryl vinyl succinate (fumarate), polymer+monomer systems, liq. cryst. phase states 9-1494
- cholesteryl pelargonate, cholesteric-smectic A transition, metal-supercond. analogue 9-23712
- cholesteryl nonanoate-MBBA mixture, anomalous behaviour of electrical dissipative power 9-4237
- continuous theory (*Russian*) 9-46568
- defect structure near smectic-A transition 9-46559
- enantiomers, discrimination using liq. crystalline solns., IR rot. dispersion meas. 9-16064
- flow, Newtonian, capillary, shear, of oriented liq. cryst., effective viscosity 9-18957
- gamma irradiation of cholesteric products, effect of presence of organic solvents 9-24777
- Grandjean lines, optical study (*French*) 9-46560
- laser resonator for distrib. feedback dye laser, theory 9-31956
- MBAB:cholesteryl chloride, thickness depend. of threshold elec. field for instabilities 9-32896
- MBBA-cholesteryl chloride mixture, bubble domain texture, obs. of interference fringes 9-23520
- S-(+)-4-2'-methylbutyl phenol, cholesteric derivatives, appl. in display devices 9-19145
- nematic-cholesteric mixture, surface boundary conditions influence on transition (*Russian*) 9-23705
- nematic-cholesteric soln., thermodynamic props. 9-32903
- optically active binary liquid crystal thermometry 9-42952
- orientational order parameter, comparison with nematic liquid cryst. 9-27917
- orienting effect of different substrates 9-46554
- phase transitions and critical phenomena (*Russian*) 9-4407
- radiation monitoring appl., response charact. 9-2818
- thermal emissivity of semitransparent and opaque films 9-7703
- thermal flow visualisation of film-cooling processes 9-186
- thermoindicators, colour-temp. characts., time depend. 9-40567

chondrites see meteorites

choppers (circuits)

- fast electrostatic chopper of low power consumption 9-31284
- superconducting chopper amplifier for resistance meas., sensitivity and noise calc. 9-12817

chopping see cutting

chromatic aberration see aberrations

chromatography

- acrylonitrile-styrene copolymers, compositional heterogeneities, determ. by thin-layer chromatography 9-24847
- amplifier, programmable- or auto-gain, for gas chromatograph, spectrometer or polarograph 9-43644
- block-copolymer, mol. wt. distrib. and comp. determ., gel permeation chromatography method (*Russian*) 9-31755
- cellulose acetate polymer-solution interface props. from liq. chromatographic data 9-16039
- chlorophyll a in benzene solns. and monolayers, chem. stability 9-47912
- circulation, in steam, separation of isomers 9-16074
- coal, laser pyrolysis products exam. 9-20356
- column, UV monitor, design, construction 9-1973
- computer-controlled process chromatograph system 9-16102
- computerised monitoring of vinyl-chloride monomer for job safety 9-21727
- conference on analysis instrumentation, Charleston, West Virginia, USA (May 1977) 9-16100
- dense gas chromatograph/mass spectrometer, interface design 9-34378
- detector flow cells irradiation, varifocal compensated lens 9-27357

chromatography continued

- di(alkylbenzylthio)ethane, oil additive, thermal stability determ. by chromatography, colorimetry 9-15969
- displacement chromatography, isotope separation appl., mathematical model 9-10219
- 1,2-epoxypropane, photopolymerisation by arenediazonium salts, obs. 9-24747
- ethane-n-butane-n-hexane, vap-liq. equil. behaviour, visual cell, for 48.3-143.5°C, up to 7619 kPa 9-46790
- gas, computerized testing of capillary column 9-16067
- gas, electrically heated metal tube for straightening ends of glass open tubular columns 9-6106
- gas, for drug determ. in biological samples 9-34388
- gas, prep., use of as stationary phase (*German*) 9-29434
- gas chromatography-mass spectroscopy technique in environmental study (*Japanese*) 9-29496
- gas chromatography/mass spectroscopy analysis of volatile organic compounds in water supplies 9-12151
- gas radiochromatography discharge flow counter for high temps. 9-24859
- gas-component analysis of laser fusion targets 9-8464
- gas-mass spectrometry integrated anal. systems, review 9-1972
- gaseous fission products, continuous determ. of content in reactor loop 9-30905
- GC, quantitation of unresolved peaks with similar mass spectra 9-20479
- GC/MS system for isotope ratio monitoring 9-22855
- gel-chromatogram processing technique allowing for spreading, Friedholm eqn. soln. (*Russian*) 9-24880
- graphite, laser pyrolysis products exam. 9-20356
- heat of adsorption determ., expt. methods 9-42370
- heat of adsorption determination, for teachers 9-35497
- high temperature ALC/GPC equipment, Waters 150C, polymers appl. 9-10806
- high-performance liquid chromatography, reversed-phase, hydrophobic effect 9-34385
- HPLC packing materials, comparison 9-24863
- hydrocarbons, (C₂-C₉), determ. in rock samples by capillary gas chromatograph 9-39226
- in-situ chemically-modified surfaces for normal-phase liquid chromatography 9-16056
- ion chromatography, method using conductimetric detection 9-16109
- ion exchange membrane detector for liquid chromatography, characterisation appls. 9-16055
- liquid, appl. to improvement of liquid crystal purity 9-14682
- liquid, electron capture detector 9-16091
- liquid, high performance, direct-coupling to FT-NMR 9-34412
- liquid, high performance, summary of the role of the mobile phase 9-11835
- liquid, high performance, with CRT display, microprocessor-controlled 9-20478
- Mars Viking surface sampler subsystem, acquisition assembly 9-12380
- microthin film chromatogram evaluation by scanning fluorimetry and digital image analysis (*German*) 9-5188
- mixtures, determ. of number of compounds present 9-43657
- monocycliclohexanes, heats of vaporisation by gas chromatography-colorimetry method 9-34344
- nontechnical explanation for instrument technicians and operators 9-29431
- nucleic acid bases, anal. in photographic gelatins by liquid chromatography 9-20501
- odour detection, instrumental techniques (*Dutch*) 9-16658
- oil pollution in marine sediments, rapid field detect. method 9-12143
- pentane, combustion, isotopic tracer studies of the further reactions of pentenes 9-8438
- perturbation chromatography theory, model independent aspects 9-8463
- plasma chromatograph/mass spectrometer sample overload protection 9-39237
- plasma chromatograph/mass spectrometer simultaneous electron impact/chem. ionisation carrier gas mixture 9-30600
- polyethylene, linear, bulk-crystallised, morphology study 9-32918
- polyethylene glycols, size exclusion chromatography, response correction of differential refractometer 9-34375
- polymer, volatile constituents anal. by thermal desorpt., gas chromatography and mass spectrometry 9-43664
- polymethylmethacrylate, denture base resin, residual monomer determ. 9-16077
- process chromatograph, on-stream gas, high-precision 9-16111
- process gas chromatograph, microcomputer based 9-16101
- process liquid, appl. for anal. of industrial streams 9-16110
- protein, amino acid composition determ. 9-44070
- pulse gas chromatography meas. of mass transfer coeffs., internal diffusivity, and adsorption rate consts. in packed bed 9-48002
- PVC chlorinated, mol. parameters determ. 9-41974
- PVC soln., mol. wt. meas. by gel-permeation chromatography 9-7045
- PVC-THF-H₂O, precipitation fractionation, influence of stereoregularity 9-7046
- quaternary ammonium ions, detect. by liq. chromatography with ion-exchange membrane detector 9-16055
- reversed liquid phase chromatography, biochem. applic., review 9-34371
- rubber blend, computer controlled pyrolysis gas chromatography 9-20493
- standardised gas-chromatograph cells (*German*) 9-5243
- styrene-α-methylstyrene copolymers, prep., charact. by pyrolysis gas chromatography (*German*) 9-29355
- styrene-isoprene block copolymers, dilute soln., conform. obs. 9-10774
- thin-layer fluorescence chromatograms, automatic meas. and data processing 9-29424
- turbogenerators, H₂ cooled, heating-up detect. by gas stream chromatography and mass spectroscopy (*French*) 9-48024
- vacuum value for gas chromatograph/mass spectrometer system 9-39245
- Venus lower atmosphere composition, anal. by gas chromatography 9-48721
- Ar purifier, portable, 0.3 m³/h, design and appl. (*Polish*) 9-12781
- ¹²⁹I and organic compound determ. in LWR irradiated fuel solns. (*French*) 9-3230
- PbO-SiO₂ glasses and crystal, silicate anion constitution 9-48023
- Ru, neutron deficient isotopes, gas thermochromatographic separation from AgCl 9-865
- ²³⁴Th, isotope separation by extraction column chromatography using TnOA and filter paper 9-43659

chromium

- see also nuclei with
- adhesion layer, etching of deposited Au film, SEM anal. of abnormal undercutting 9-5075
- adsorption of O, photoemission exam. 9-19976
- AES meas. of soft X-ray emission threshold potential (*Russian*) 9-33866
- antiferromagnetic, deformation waves and spin density waves, electron diff. obs. (*Russian*) 9-19721
- antiferromagnetic, elec. resist. near Neel temp. 9-33278
- antiferromagnetic spin-density-wave domain and size and behaviour, X-ray and neutron topography 9-42793
- antiferromagnetic transition, first order, crit. neutron scatt. obs. 9-33480
- atom, Koopmans' ionis. pot., relax. correction 9-18308
- atomic displacements in electron irradi. cryst. 9-46705
- black chrome, electroplated layer, field ion microscopy study 9-28246
- coating on Ti alloy, electrospray applied, friction and wear resistance obs. (*Russian*) 9-1916
- electronic energy loss of protons (deuterons), 80-800 keV. 9-23666
- film, 1/f type noise, spatial correlation 9-38194
- film, contact reaction with amorphous Si 9-23846
- films, vac. deposited, defects (*Russian*) 9-33203
- fine particles formed by gas-evap. technique, cryst. struct. and habit 9-27935
- force field 9-33051
- guanidinium aluminium sulphate hexahydrate:Cr³⁺ pressure meas. from ESR 9-38375
- guanidinium gallium sulphate hexahydrate:Cr³⁺, press. meas. from ESR 9-38375
- incoherent neutron scatt. cross section, neutron polarisation anal. 9-24137
- insulating film nonlinear I-V characteristics, 20 Hz to 15 GHz 9-7910
- K shell prod. cross section of Ti, Cr, Fe, Ni, Cu, Zn for 75 to 150 keV p and e excitation 9-47552
- lattice dynamics, and sp. ht., extended de Launay model 9-46762
- liquid, N₂ absorption at high temps., Cr-N phase diagram, solubility-temp. relation (*Japanese*) 9-43201
- magnetic form factors, neutron diff. study 9-47234
- magnetic hysteresis of single cryst., neutron diff. obs. 9-15327
- oxidation, reflectance IR study rel. to component of stainless steel 9-47811
- oxide film form., combination anal. using ESCA, AES and SIMS 9-16092
- γ -phase Cr, new model, consistency with mixed-valency Cr chemistry 9-47995
- phase transition at T_N 9-4676
- powder, thermogravimetric exam. of nitridation rate (*Japanese*) 9-20292
- residual stress meas. by X-ray diff. using sin² ψ method 9-15059
- secondary ion emission, energy spectra, 0-55 eV, contamination levels 9-15573
- secondary negative ion emission, effect of adsorbed O₂ (*Russian*) 9-28881
- solution mechanism in fused KNCO 9-39271
- specific heat of strained and annealed samples 9-38331
- spin density wave Q vector, vel. depend. 9-4669
- spin relaxation of μ^+ -mesons (*Russian*) 9-8083
- surface reactive, field ion microscope and atom probe obs. 9-29410
- TGS:Cr³⁺, EPR obs. of ferroelectric monocrystals, fine struct. EHT-SCCC-MO calcs. 9-19769
- TGS-type crystals:Cr³⁺, radiospectroscopic studies 9-15341
- TGS:Cr³⁺, polarisation reversal and ageing mechanisms, EPR meas. 9-8044
- trace quantity analysis, based on laser ablation and selectively excited radiation 9-39228
- transition metals, surface- or defect-induced magnetism, nearly half-filled bands 9-1671
- US vibrations, anomalous damping under hydrostatic press. 9-14890
- Al₂Ga_{1-x}O₃:Cr³⁺, luminesc., lifetime, 77 and 4K, struct., energy transfer 9-28798
- Al₂Ga_{0.5}O₃:Cr³⁺, luminesc., lifetimes 9-33784
- Al₂O₃:Cr³⁺, new method for spin-lattice relax. time, inhomogeneously broadened ESR lines 9-15343
- Al₂O₃:Cr³⁺, standard reference material for EPR 9-12757
- Al₂O₃-Fe₂O₃:Cr³⁺, dil. paramag. system, Cr³⁺ conc., effect on cross relax. 9-15387
- Al₂O₃-Fe₂O₃:Cr³⁺ paramag. system, cross relax. temp. and mag. field effects on Mossbauer spectra 9-33576
- β -Al₂O₃-Na₂O:Cr, absorpt. and emission spectra, mag. susceptibility 9-15495
- Au/Pt/Cr films, diffusion of Si, depth anal., optical and Rutherford backscatt. meas. 9-10981
- Be₃Al₂Si₆O₁₈:Cr³⁺, EPR spectra, exchange-coupled pairs 9-28596
- Ca₅(PO₄)₃F:Cr³⁺, spin-lattice relax. time and Debye temp., EPR obs. 9-28601
- Cr electrodeposit on steel, stress meas., X-ray methods 9-29298
- Cr II-VI, struct. and transition probabilities, ab initio calc. using Thomas-Fermi central pot. 9-3360
- Cr, Nd:glass laser, enhanced performance due to double doping with Cr 9-31906
- Cr XV, mag. quadrupole lines, in TFR600 Tokamak plasma, 10-20 Å 9-13662
- Cr XXIII, He-like ion resonance line satellites 9-10064
- Cr³⁺, impurity ion in frozen aq. solns., effect on Fe³⁺ spin-spin relax., Mossbauer obs. 9-33573
- Cr³⁺-BeAl₂O₄, alexandrite, potential laser material, stimulated emission and absorpt. spectrum 9-33734
- Cr/Au layered films, microstruct. and interdiffusion during ageing, 423 to 573K 9-46965
- Cr/Pt/n-GaAs Schottky contact, barrier height change due to heat treatment 9-47165
- Cr-Al₂O₃(Al₂O₃-MgO) cermet selective surfaces for evacuated solar collectors 9-43785
- Cr-covered objects, dispersion forces at 132-670 nm distances 9-42681
- Cr-GaAs, metal-nn⁺ Schottky diode, I-V characs., inverse branch, effect of dislocation defects (*Russian*) 9-15217
- Cr-Pt thin film couple, diffusion, new Cr-Pt phases obs. 9-42319
- Cr-Si, metal-nn⁺ Schottky diode, I-V characs., inverse branch, effect of dislocation defects (*Russian*) 9-15217
- Cr-SiO₂ thin film, laser beam-treated, emission mode of SEM 9-28226
- Cr-SiO film, elec. props., effect of P⁺ and Ar⁺ implantation 9-11239
- Cr-Si(GaAs) Schottky barriers, interfacial structural defects effect on avalanche breakdown 9-42644

chromium continued

- Cr+H⁺, K X-ray production, 0.2-0.5 MeV, ionis. cross-section 9-31459
- ⁵¹Cr, lung burdens of low-energy photon emitters, interlaboratory comparison of meas. techniques 9-20671
- ⁵¹Cr-EDTA, limitations of single sample tracer method for determ. glomerular filtration rate 9-16271
- ⁵¹Cr-labelled lymphocyte autoradiographic detection problems 9-29592
- CsMgCl:Cr³⁺, Mo³⁺, Cr³⁺-Mo³⁺ exchange coupled pair, EPR study 9-42830
- Fe-Cr diffusion couple, tracer diffusion meas. using tracer anal. 9-7716
- GaAs:Cr, current voltage characterisation, deep levels and Fermi level determ. 9-7823
- GaAs:Cr, hot electron relax. process and ionization of traps (*Russian*) 9-28354
- GaAs:Cr, intracenter radiative transition in Cr²⁺ ions 9-11463
- GaAs:Cr, photocapacitance of deep levels obs. 9-38021
- GaAs:Cr, relax. semicond., Dember effect meas. 9-28372
- GaAs:Cr²⁺, US attenuation meas. of Jahn-Teller distorted Cr²⁺ centres 9-28048
- GaAs:Si, Cr, under layer of SiO₂, effect of annealing, on electron concentration and mobility, and impurity distrib. 9-4323
- GaP:Cr, local level near valence band, photocapacitance 9-11080
- GeO₂:Cr³⁺, direct mechanism in supertransferred hyperfine interaction 9-23936
- InAs:Cr, high-resist., energy positions of deep levels, elec. and optical props. 9-7807
- InSb:Cr:Zn, magnetic freeze-out electrons at deep Cr level 9-15169
- KAl(SO₄)₂·12H₂O:Cr³⁺, ESR high-order transitions 9-11338
- KD₂AsO₄:Cr³⁺, EPR, line shape and elec. field effect 9-11336
- KH₂AsO₄:Cr³⁺, ferroelec. phase transition, EPR intensity and linewidth meas. 9-4721
- K₂NaAlF₆:Cr³⁺, ²E_g-⁴A_{2g} phosphoresc. spectrum, vibr. struct. 9-47494
- LiAlO₂:Cr³⁺, fluoresc., and excitation spectra, zero phonon lines 9-33785
- LiAlO₂:Cr³⁺, primary and stimulated photon echo generation 9-10364
- LiGaO₄:Cr³⁺, antisymmetric exchange interaction, EPR study 9-47331
- LiGaO₄:Cr³⁺, fluoresc., and excitation spectra, zero phonon lines 9-33785
- MgO:Cr, X-ray stimulated luminesc. 9-28802
- MgO:Cr²⁺, thermal magnetoresist. calc. 9-10994
- MgO:Cr³⁺, diffuse interstellar absorpt. bands origin 9-30101
- NH₄H₂AsO₄:Cr³⁺, antiferroelec. phase transition, EPR intensity and linewidth meas. 9-4721
- RbAl(SO₄)₂·12H₂O:Cr³⁺, high order EPR transitions 9-22736
- Si:Cr, EPR line intensity and widths, temp. depend. 9-28604
- SnO₂:Cr³⁺, direct mechanism in supertransferred hyperfine interaction 9-23936
- SrTiO₃:Cr³⁺ Jahn-Teller system, EPR, electric field effects 9-28599
- TiO₂:Cr, anatase, single cryst., ESR of Cr³⁺ 9-28603
- V₂O₃:Cr, metal-insulator transition 9-37989
- V₂O₃:Cr, metal-insulator transitions, XPS and UPS 9-33236
- Zn:Cr, anomalous temp. depend. of near IR absorption 9-28794

chromium alloys

- see also chromium compounds
- chemically stabilised, sensitisation and corrosion resist., heat treatment depend., precipitation steel, stainless, Cr-Ni 9-38827
- earth reentry exposure, simulated, effect on mech. props., oxidation of ThO₂ dispersion hardened alloys, Haynes 188 and Hastelloy X 9-5086
- Hastelloy X-R, reaction with sintered Li₂O pellets 9-39137
- Incoloy 800, and 800 H, low cycle fatigue behaviour comparison 9-43438
- Incoloy 800, and 800H, proposed specification changes 9-43298
- Incoloy 800, appl. 9-43553
- Incoloy 800, cast, microstruct. evolution during creep, TEM obs. 9-43366
- Incoloy 800, chem. behaviour and mech. performance in HTR He at high temps. 9-47842
- Incoloy 800, contamination and decontamination of samples from KFA experimental duct of DRAGON reactor 9-45600
- Incoloy 800, corrosion and carburization in liquid Na up to 973K 9-47841
- Incoloy 800, corrosion fatigue crack propagation in pure water at 85°C (*Japanese*) 9-43472
- Incoloy 800, corrosion resist. props. in high temp. steam, review 9-47839
- Incoloy 800, creep and fatigue props. in high temp. gas cooled reactor He environment 9-47776
- Incoloy 800, creep crack growth, age hardening effect 9-43436
- Incoloy 800, creep rupture, creep strength and tensile data, 500 to 800°C 9-43371
- Incoloy 800, creep rupture ductility, 500 to 600°C, hardness and metallurgic exam. 9-43435
- Incoloy 800, creep rupture props. at 525°C 9-43437
- Incoloy 800, design codes and lifetime prediction aspects for nuclear and non nuclear apps. 9-47778
- Incoloy 800, design problems in steam generators of high temp. reactors 9-45352
- Incoloy 800, effect of liquid Na on creep and rupture props. 9-47775
- Incoloy 800, exam. of caustic stress corrosion cracking, comparison with type 304 stainless steel 9-29261
- Incoloy 800, exam. of mech. and microstructural props. 9-5022
- Incoloy 800, from KFA experimental duct at 700°C and 480 d in DRAGON reactor, mech. props. before and after contamination 9-47777
- Incoloy 800, high temp. corrosion and mech. props. in Na environment 9-47840
- Incoloy 800, high temp. gaseous corrosion in sulphidising environments 9-47838
- Incoloy 800, high temp. oxidation in low O₂ pressures, SEM obs. of oxide morphologies 9-47844
- Incoloy 800, mech. props. above 600°C 9-43370
- Incoloy 800, mechanical props., heat treatment and appl., conf., Petten, Netherlands (March 1978) 9-43296
- Incoloy 800, mechanisms of corrosion in He 9-47843
- Incoloy 800, microstruct. effect on mech. props. 9-43367
- Incoloy 800, pretreatment potential effect on pit generation (*Japanese*) 9-43474
- Incoloy 800, reaction with sintered Li₂O pellets 9-39137
- Incoloy 800, review of mech. props. up to 600°C 9-43368
- Incoloy 800, review of structural charact., heat treatment and comp. effects 9-43297
- Incoloy 800, review on high temp. gaseous corrosion in carburising and oxidising environments 9-47837

chromium alloys continued

Incoloy 800, sensitisation and intergranular corrosion 9-47721
Incoloy 800, solution annealed, low and high cycle fatigue correlation 9-43439
Incoloy 800, stress corrosion cracking in contaminated aq. media at high temp. (*French*) 9-20273
Incoloy 800, thin wall tubing, creep-rupture testing in steam under constant and cyclic load 9-47774
Incoloy 800, use up to 550°C, creep ductility 9-43369
Incoloy 800 and 802, influence of carburisation on mech. props. 9-20254
Incoloy 800H, high temp. low cycle fatigue, ageing and cold working effect 9-43277
Incoloy 800H, high temp.-low cycle fatigue, ageing and cold working effect on initial stress/strain curve 9-47720
Inconel, pressure vessel bottom, subcritical crack growth in ligament between instrumentation rods 9-22428
Inconel 600, corrosion fatigue crack propagation in pure water at 85°C (*Japanese*) 9-43472
Inconel 600, exam. of caustic stress corrosion cracking, comparison with type 304 stainless steel 9-29261
Inconel 600, reaction with sintered Li₂O pellets 9-39137
Inconel 600, surface composition depend. on H atom influx, AES 9-5192
Inconel 600, XPS exam. of initial growth of oxide films 9-20240
Inconel 600 and 601, influence of carburisation on mech. props. 9-20254
Inconel 617, mass spectrometric study, high temp. reactor system appl. 9-43663
Inconel 625, secondary ion emission due to H ion bombardment 9-8216
Inconel 625, surface treatment of plane and hollow components in glow discharges 9-1923
Inconel 675, wall and limiter material for Tokamaks, induced desorption diffusion and gas production by 100 eV electrons and ions 9-675
Inconel 718, blistering by 2 MeV He⁺ ions, optical microscopy and SEM obs. 9-42119
Inconel 718, heat capacity 313 to 1053K 9-10964
Inconel 738, SEM and electron beam analyser study (*German*) 9-20056
Inconel X-750 foil, surface pretreatment for improved coating adherence 9-15877
Inconel-718, blistering and exfoliation by 2 MeV He⁺ beam 9-46722
Metglas 2826A, direct meas. of decomp. on crystn. by X-ray microanal. in STEM 9-48025
Nichrome, oxidation resistant coating, electrophoretic deposition on Mo (*Japanese*) 9-20270
Nimonic 105, quantitative STEM chem. anal. using standard and standardless programs 9-17578
Nimonic alloy, effect of annealing on hardness, carbide phase strengthening (*Russian*) 9-34137
steel, austenitic, Cr-Mn, Kh4G18F, microstruct. and mech. props. during tensile deform. (*Russian*) 9-20114
steel, austenitic, Ni-Cr, precipitation strengthened, anelasticity, plastic creep limit, 823K 9-1899
steel, austenitic stainless, Ni free, corrosion obs. 9-24652
steel, Cr, and Cr-Mo-Ni, austenite decomposition, deform. effects, ferrite reaction 9-1842
steel, Cr, H-dislocation interaction 9-8307
steel, Cr (12wt.%), mech. props, carbide phase struct. 9-15702
steel, Cr modified, heat resist. rel. to thermomech. treatment 9-20084
steel, Cr-Cu-Mn, fatigue crack propag. rate eval. by J integral method (*Japanese*) 9-8346
steel, Cr-Mo, annealed, creep and rupture, heat treatment effects 9-24548
steel, Cr-Mo, annealed, interaction solid soln. hardening, precipitation effects on creep 9-4974
steel, Cr-Mo, grain size effect on ductile brittle transition 9-24615
steel, Cr-Mo, high-temp. props. and constitutive equations 9-34146
steel, Cr-Mo, low alloy, stress corrosion cracking and corrosion fatigue 9-47806
steel, Cr-Mo-(V), ductility and heat resistant prop. prediction rel. to fine struct. and solid soln. state 9-15751
steel, Cr-Mo (1, 0.5 wt.%), heat treated creep failure, role of stress state 9-5047
steel, Cr-Mo-V, 1% Cr, chem. comp. and struct. effect on deform. props. (*German*) 9-1888
steel, Cr-Mo-V, cast, strain intensity approach of high temperature fatigue crack growth and failure 9-20175
steel, Cr-Mo-V, creep deform. under const. and cyclic temp. 9-38914
steel, Cr-Mo-V, environmental crack growth during isothermal high strain fatigue and temp. cycling 9-5082
steel, Cr-Mo-V, fatigue crack growth rate and threshold under oxidising conditions 9-20272
steel, Cr-Mo-V, rupture ductility rel. to cavitation, density and SEM obs. 9-34142
steel, Cr-Ni, bainitic habit plane determ. 9-1927
steel, Cr-Ni-Mo, 'light spots', fractographic anal. 9-29204
steel, Cr-V (1.5, 0.5 wt.%), ferrite, effect of temp. and microstruct. on creep damage 9-5023
steel, fatigue and tensile props., of heat resisting bars, type SUH 660-B and SUH 310-B at elevated temps. 9-38979
steel, high C, Cr addition effect on superplasticity 9-15729
steel, maraging, Cr-Ni-Ti, effect of Ti addition on hardness and energy scatt. 9-15687
steel, martensitic, Cr-Ni-Co-Mo-Ti, Kh12N8K5M3TYu, ageing of C free martensite (*Russian*) 9-1884
steel, mild Cr welding, 550°-850°C heating effects on structure and toughness 9-24540
steel, Mn-Cr, tempered, case hardened, shot peening effect on bending fatigue strength (*German*) 9-24645
steel, Mn-Cr-V, crack propag. resist. at hardness indentation, and fracture toughness (*German*) 9-29220
steel, MnMoNiCr, pressure vessel, stress relief cracking 9-43404
steel, Ni-Co-Cr-Mo-C (10.14,2,1.0.16 wt.%), stress corrosion cracking at 22°C in 3.5% NaCl 9-8390
steel, Ni-Cr, temper embrittled, electron microscope and X-ray microstruct. obs. 9-38870
steel, Ni-Cr-Mo, weld, stress corrosion cracking, metallurgical effects 9-43468
steel, Ni-Cr-Mo and Ni-Cr, impact strength, effect of modified ausforming (*Japanese*) 9-11692
steel, Ni-Cr-Ti-P, Ti and P solubility effect on free surface segregation 9-11628
steel, pearlitic, Cr-Mo-(V), heat resist., Mo content rel. to mech. props. 9-20134

chromium alloys continued

steel, stainless, austenitic, Cr-Ni-Mn-Si-Mo-C alloy, 13Kh18N10G3S2M2, elastic moduli exam. after thermomechanical treatment (*Russian*) 9-24558
steel, stainless, carbonisation and carburisation in high press. He environment (*Japanese*) 9-26516
steel, stainless, Cr-Ni-Nb stabilised, Te vapour effect on creep and tensile props. 9-24583
steel, stainless, Ni-Cr-Mo, two-phase, compositional charge of ferrite and austenite (*Japanese*) 9-4948
steel, stainless ferritic, Cr-Mo, corrosion behaviour, review 9-39018
steel austenitic stainless, Cr-Ni 316 type, electron irradiated, void swelling 9-42104
transition metals, surface- or defect-induced magnetism, nearly half-filled bands 9-1671
Udimet 700, Ni-Co-Cr-Ti, hold time effects on high temp. fatigue crack growth 9-5036
Vitalium, surgical implant, SCC and corrosion fatigue in Tyrode's soln. 9-29263
Al-Cr, dilute, morphological stabilities of planar solid-liquid interfaces during unidirectional solidification 9-4960
Al-Cr alloys, anomalous sp. ht. and nuclear spin-lattice relax. 9-46814
Al-Cr-Zr(Nb), calc. of phase equilibria 9-11569
Al-Cu-Mg-Mn-Zn-Cr, low temp. deformed, ageing and mech. props. 9-1881
Cd-Cr, dil., mag. and supercond. props. 9-38237
Co-Cr orthopedic implants, surface oxide layer investigations using ESCA technique 9-25157
Co-Cr-Al, protective coating, exam. of interdiffusion kinetics, development of analysing procedure 9-5085
Co-Cr-Al-Y coated turbine airfoils, effect of electron beam deposition rate on struct. 9-23870
Co-Cr-Ni-Ta-Al-Y (25, 10, 5, 3, 0.5 wt%), exam. of hot corrosion 9-20251
Co-Cr-NiTaC eutectic, directionally solidified, microstructural stability 9-38815
Co-Cr-Ta(Al) alloy, high temperature wear resistant coatings, CrO₂ hardened 9-24677
Co-Cr-Zr(Ni), phase diagram calc. 9-1848
Co-Cr-(Al-Y) coatings, hot corrosion resist., ductile-brittle transition 9-24674
Co-Fe-Cr-P-B sputtered amorphous films, mag. props. and corrosion resist. 9-32867
Co-Ni-Cr-B, centrifugally cast metallurgical coatings for wear resistance in plastics molding machines 9-29285
Co-Ni-Cr-C, carbide precipitation 9-29065
Co(Cr,Ni)-TaC fibrous eutectic, deformed, thermal stability of microstruct. (*Russian*) 9-1895
CoCrMo, artificial hip joints, fatigue strength 9-48375
Co₂Ga_{2-x}Cr_x, elec. resist. anomalies 9-38044
CoNiCrMo, artificial hip joints, fatigue strength 9-48375
Cr-Al, abnormal thermal cond., 5 to 100K 9-19573
Cr-Al, effect of Al concentration and hydrostatic press. on Neel temp. 9-33482
Cr-Al, elementary excitations, exchange stiffness const., inelastic neutron scatt. study 9-47294
Cr-Al, mag. excitation, neutron spectrometry 9-4654
Cr-Al, spin density wave, neutron diffraction studies 9-1664
Cr-Al, temp. depend. of Hall coeff. 9-33280
Cr-Au, matrix sensitive and insensitive factors evaluation using quantitative AES 9-24395
Cr-Co, spin density wave, neutron diffraction studies 9-1664
Cr-Fe, magnetically insensitive Invar-type alloys (*Japanese*) 9-8034
Cr-Fe, superparamagnetism and mag. order charact. near critical conc., neutron scatt. study 9-11293
Cr-Fe (0.6 at.%), antiferromag., anomalous press. effect on resist. minimum 9-15138
Cr-Fe-Co dilute alloys, Neel temp., thermal expansion rel. to Co content 9-47281
Cr-Fe-Ni, phase diagram calc. 9-1848
Cr-Fe-Si, mag. excitation, neutron spectrometry 9-4654
Cr-Fe-Si, spin density wave, neutron diffraction studies 9-1664
Cr-Fe(2.8 at.%), antiferromag., meas. of incoherent elastic neutron scatt. cross section 9-19723
Cr-Ge, dilute alloy, phase diagram of spin density wave states 9-24158
Cr-La-V-Nb-Ta, La, V, Nb Ta effect on hardness and strength (*Russian*) 9-34050
Cr-Mn, order of mag. transitions in antiferromag. alloys 9-4677
Cr-Mo, behaviour of mag. impurities 9-4672
Cr-Ni, high temp. strength, interatomic bonds ionic component correlation (*Russian*) 9-15761
Cr-rare earth alloy, calc. of phase diagrams, with immiscibility in liquid state, using thermodynamics (*Russian*) 9-20029
Cr-Re, mag. excitation, neutron spectrometry 9-4654
Cr-Rh, dil., hyperfine fields meas. 9-47056
Cr-Sb, dil., mag. phase diagram, elec. resist. and thermal expansion obs. 9-1669
Cr-Si, corrosion and failure mechanisms of coatings for gas turbine applications 9-29284
Cr-V, disordered, extension of Taylor's theory of lattice vibr. 9-4387
Cr-V-Ce-N, (2.4 to 2.6, 1.7 to 2.3, 0.005 to 0.23 wt.%) V effect on hardness, and ductile to brittle transition temp. (*Japanese*) 9-34138
Cr-V-Fe alloy, resistivity minimum, press. effect 9-38043
CrAl coating on Ti alloy, electrospray applied, friction and wear resistance obs. (*Russian*) 9-1916
Cr₂Al₃, γ-phase, microstruct., transform. strains, TEM obs. 9-11614
CrAs, anisotropy of compressibility 9-7648
(Cr_{1-x}Fe_x)₂Sb, interstitial occupancy, Cr:Fe distrib., X-ray and neutron diff. study 9-42012
Cr₂Ge₃, amorphous film, short-range-order struct., electron diff. meas. 9-15047
Cr_{0.6}Mn_{0.4}, mag. moment, neutron diff. study 9-33459
Cr_{0.95}Mn_{0.05}, spin density wave Q vector, vel. depend. 9-4669
Cr₂O₃-Cr cermet films, for selective black absorbers 9-29483
Cr₂Si type phases, Al-15, crystallographic interpretation of atomic volumes 9-10833
Cr₂Si(Ga)(Ge), Al₁₅ cpds., self-consistent LMTO band calcs. 9-37954
Cr_{1-x}W_x, neutron scatt., selection rules for phonon mass operator 9-28065
Cu-Cr, eutectic, effect of comp. and solidification conditions on microstruct. (*Russian*) 9-29037

chromium alloys continued

- Cu-Cr, formation of internal oxidation band 9-47820
 Cu-Cr, formation of two phase microstructure, during volumetric and directional crystallisation (*Russian*) 9-29040
 Cu-Cr, isothermal decomp. diagrams 9-38791
 Fe, cast, high Cr, phase composition, mech. props. rel. to heat treatment 9-29108
 Fe-Cr, ion-etched, surface comp., effect of adsorbed CO, AES obs. 9-46896
 Fe-Co-Cr, mag. moment of Cr atoms, polarised neutron scattering 9-11290
 Fe-Co-Cr, magnetic, phase transform. obs. (*French*) 9-47676
 Fe-Co-Cr (50, 0.4 wt.%), ordering and recrystallisation 9-34029
 Fe-Co-V-Cr alloys, struct. transform., appl. of mag., thermomag. methods (*French*) 9-20318
 σ -Fe-Cr, brittle fracture stresses under high hydrostatic press. and high temp. (*Japanese*) 9-43397
 Fe-Cr, high temp. oxidation, internal stable nitride and oxide dispersion 9-39017
 Fe-Cr, mag. props. of Fe, local coupling with spin modulation of matrix 9-15299
 Fe-Cr, nondestructive in-depth surface anal. by XPS with different excitation X-ray energies 9-20328
 Fe-Cr, segregation of ^{121}Sb , Mossbauer spectroscopy 9-47698
 Fe-Cr (20 wt.%), high temperature oxidation resistance, effect of rare earth and reactive element additions (*Japanese*) 9-20271
 Fe-Cr (25wt.%), surface comp. rel. to passivation phenomena (*French*) 9-43479
 Fe-Cr (27.4 wt.%), oxidation, alloy depletion profiles resulting from preferential removal of less noble metals 9-11728
 Fe-Cr (28 wt.%), intergranular corrosion and anodic polarization at grain boundary groove (*Japanese*) 9-15869
 Fe-Cr (5, 10 and 20 wt.%), microcrack generation, healing of oxide scale 9-20280
 Fe-Cr alloys, corrosion, oxidation, combined ion-, electron-beam techniques appl. 9-43700
 Fe-Cr based coatings, hot corrosion resist. 9-24674
 α -Fe-Cr solid soln., thermodynamic activity of components 9-38797
 Fe-Cr surface alloys, corrosion resistant, formation by ion implantation 9-28009
 Fe-Cr-Al (14, up to 2 wt.%), Al effects on high temp. oxidations (*Japanese*) 9-15865
 Fe-Cr-Al, thermodynamic predictions in coal gasifier environment 9-38799
 Fe-Cr solid solns., ordering and γ to α transforms, effect of heat treatment (*Russian*) 9-24520
 Fe-Cr-Co, mag. props. of ductile permanent ductile alloys (*Chinese*) 9-19746
 Fe-Cr-Co martensite, ordering and segregation (*Russian*) 9-20052
 Fe-Cr-Co-Al(V)-(Nb)(Ti), phase equilib., X-ray diffr. meas. (*Russian*) 9-47658
 Fe-Cr-Mo-Ti (13, 1.5, 3.5 wt.%), equilibrium studies on chi-phase strengthening 9-24496
 Fe-Cr-Mo(Ni)(Mo-Ni), AES using peak-to-peak value (*Japanese*) 9-20485
 Fe-Cr-N system, distrib. of Er between austenite and ferrite at 1200°C 9-43205
 Fe-Cr-Ni, analysis and synthesis of phase diagrams 9-11563
 Fe-Cr-Ni, α -particle induced precip. and phase instability 9-1470
 Fe-Cr-Ni, shock loading effect on phase equilib. (*Russian*) 9-29017
 Fe-Cr-Ni, solid soln. strengthened and precipitation hardened, in-reactor creep 9-43327
 Fe-Cr-Ni, thermodynamic prediction in coal gasifier environment 9-43206
 Fe-Cr-Ni alloy, quantitative anal. method based on ion bombardment induced secondary ion and photon emission 9-19963
 Fe-Cr-Ni-C (17.2, 7.34, 0.2 wt.%), twin related laths, fracture elongation, TEM study 9-29192
 Fe-Cr-O-C, stability diagrams, characteristics and calc. 9-10917
 Fe-Cr-P-C sputtered amorphous films, mag. props. and corrosion resist. 9-28567
 Fe-Cr(Cr-Ni)(Cr-Ni-Mo)-Al, liquid, N solubility, AlN precipitation 9-11630
 Fe-Ni-Al-Co-Cr-Ti, YuNDK35T5BA, exam. of hypodissociation process (*Russian*) 9-11547
 Fe-Ni-Cr, compatibility with Li_2O pellets, mass spectrometric study of Li_2FeO_4 evaporation 9-8385
 Fe-Ni-Cr, diffusion in Th at 500 to 800°C (*German*) 9-28157
 Fe-Ni-Cr, oxide film form., combination anal. using ESCA, AES and SIMS 9-16092
 Fe-Ni-Cr (10, 6 to 14 wt.%), electrochemical polarisation in high temp. water (*Japanese*) 9-15868
 Fe-Ni-Cr (20, 15 wt.%), fusion reactor struct. alloys, dual-ion irradiation effects 9-45403
 Fe-Ni-Cr austenite, high N content, cryst. struct. electron diffr. and electron microscope anal. (*Russian*) 9-24490
 Fe-Ni-Cr-S, phase relations rel. to sulphidation of austenitic stainless steel 9-38800
 Fe-Ni-Cr-Ti-Al Elinvar alloys, dispersion-hardened, structural transform. (*Russian*) 9-1872
 Fe-Ni-Cr-Y, oxidation at 800 to 1300°C, Y addition effects, comparison with Ni-Cr-Y alloy (*French*) 9-43481
 $\text{Fe}_{36}\text{Cr}_{12}\text{Ti}_7\text{Mo}_3$, high temp. precipitation kinetics, internal friction study 9-43254
 $\text{Fe}_{32}\text{Ni}_{36}\text{Cr}_{14}\text{P}_{12}\text{B}_6$, elastic, magnetoelectric and thermal props. 9-19759
 $\text{Fe}_{32}\text{Ni}_{36}\text{Cr}_{14}\text{P}_{12}\text{B}_6$ metallic glass, dynamic mechanical props. 9-10894
 $\text{Fe}_{32}\text{Ni}_{36}\text{Cr}_{14}\text{P}_{12}\text{B}_6$ glassy, ferromag. anisotropy of resistivity 9-23939
 $\text{LaNi}_{1-x}\text{Cr}_x$, Cr effect on hydride form. (*Japanese*) 9-43202
 $\text{Mg}_3\text{Cr}_2\text{Al}_{18}$, pyrochlore struct. and its relatives 9-14773
 Ni-Al-Cr, IN-100, growth geometry of carbides in dendritic monocrystals, solidification effects 9-11597
 Ni-Al-Cr, strain hardening, participation of various slip systems (*Russian*) 9-24536
 Ni-Co-Cr-Mo-Al, Astroloy, extruded powder metallurgy superalloy, recrystallisation study 9-4976
 Ni-Co-Mo-Al-Cr, melt, effect of Al, Cr on O_2 activity, electrochemical determ. 9-11556
 Ni-Cr, elementary excitations, exchange stiffness const., inelastic neutron scatt. study 9-47294
 Ni-Cr, ordering in the vicinity of Ni_2Cr 9-38819
 Ni-Cr, solubility limit determ., X-ray method 9-43199

chromium alloys continued

- Ni-Cr, variation in absolute thermoelec. power under heat/treatment (*Ukrainian*) 9-38051
 Ni-Cr, wrought, fatigue at high temp., microstruct. assessment 9-29208
 Ni-Cr (2 wt.%), role of hydrostatic pressure on sintering of creep cavities 9-28980
 Ni-Cr (27.4 and 40.2 wt.%), compositional changes, in underlying alloy produced by oxidation 9-8395
 Ni-Cr (33.3 at.%) alloy, ordering after US deform., microhardness and elec. resist. meas. (*Russian*) 9-20113
 Ni-Cr (44 to 50 wt.%), oxidation 9-43483
 Ni-Cr base alloy, strain relaxation, effect of grain size, particle size, γ vol. fraction 9-47741
 Ni-Cr based coatings, hot corrosion resist. 9-24674
 Ni-Cr complex alloy with good creep resistance, friction stress/flow stress relation 9-8337
 Ni-Cr thin film production by HF cathode sputtering (*Bulgarian*) 9-19992
 Ni-Cr thin film resistors, α -particle elastic scatt., and PIXE anal. 9-48022
 Ni-Cr-Al, oxidation at 850°C in air containing HCl gas 9-8396
 Ni-Cr-Al, protective coating, exam. of interdiffusion kinetics, development of analysing procedure 9-5085
 Ni-Cr-Al coatings, corrosion and thermal shock resist. in diesel engines 9-24675
 Ni-Cr-Al coatings Ni eutectic alloys in gas turbines, use of diffusion barrier 9-24673
 Ni-Cr-AlPt, exam. of phase diagram 9-8276
 Ni-Cr-B-Si, hard faced with WC, exam. of abrasion and wear props. 9-34202
 Ni-Cr-B-Si-Fe alloy, Cr content by X-ray fluoresc. 9-43654
 Ni-Cr-Ce, Ce effect on oxidation 9-43484
 Ni-Cr-Co alloys, relax. resist. exam. by bending and tension 9-24564
 Ni-Cr-Co-Mo-Ti-Al, powders, HCl surface treatment to prevent TiC precipitation, fracture props. 9-8397
 Ni-Cr-Co-W (47.5, 25, 12, 8.75 wt.%), vaporization of IN-643, high-temp. mass spectrometry 9-7685
 Ni-Cr-Fe, high temp. corrosion and creep in carburizing and oxidising atmos. 9-11727
 Ni-Cr-Fe steam generator tubes, stress corrosion susceptibility, heat treatment effect 9-20258
 Ni-Cr-Mg alloy, KhN70VMTYu, Mg effect on grain boundary struct., props. 9-19261
 Ni-Cr-P thin films deposited by electroless plating, resist. characts. 9-4607
 Ni-Cr-Si, corrosion and failure mechanisms of coatings for gas turbine applications 9-29284
 Ni-Cr-Si, thermocouple alloy, props. and thermoelec. reference data 9-26057
 Ni-Cr-Si alloy system, oxidation resist. 9-24661
 Ni-Cr-TaC directional eutectic, high-strength, interphase boundaries (*Russian*) 9-38812
 Ni-Cr-TaC eutectic-like composite, obs. of interfacial diffusion by high resolution TEM 9-4432
 Ni-Cr-W-C(Si), struct. and props. of corrosion and wear resistant alloys 9-24627
 Ni-Cr-Y, oxidation at 800 to 1300°C, Y addition effects, comparison with Fe-Ni-Cr-Y alloy (*French*) 9-43481
 Ni-Fe-Cr, determ. of preferential locations of Mo or Cr on Fe and Ni sublattices, by X-ray intensity study 9-37662
 Ni-Fe-Cr soft magnetic film plating bath 9-43465
 Ni-Nb-Al-Cr, directionally solidified, exam. of growth and morphology 9-11601
 NiCr film, resistive, electron beam deposition, evaporation, gas phase analysis (*Polish*) 9-20492
 NiCr thin film resistor, 'clean vacuum' deposition equipment suitability obs. (*Polish*) 9-15611
 Pd-Cr, dil., appearance of mag. order for Cr impurities in exchange enhanced hosts 9-4690
 Pt-Cr, dil., appearance of mag. order for Cr impurities in exchange enhanced hosts 9-4690
 Ti-Al-Cr-Mo-V, alloy VT22M, exam. of ageing and phase transitions (*Russian*) 9-11641
 Ti-Al-Cr-Mo-V alloy VT-22, effect of heating rate on phase recrystallisation (*Russian*) 9-34077
 α + β -Ti-Al-Sn-Zr-Mo-Cr, low cycle fatigue crack nucleation and early growth 9-8354
 Ti-Cr, eutectoid decomposition 9-24491
 Ti-M-V-Cr-Mo, RMI 38644, shock loaded, age hardening 9-29112
 $\text{Ti}(\text{Al}_x\text{Cr}_{1-x})_2$, $0 < x < 0.4$, influence of Al on H sorption props. X-ray cryst. struct. determ. 9-28198
 TiCr₂, mechanism of mixing and reactive diffusion 9-7706
 V-Cr (15 wt.%), fusion reactor struct. alloys, dual-ion irradiation effects 9-45403
 V-Cr (wt.%), 3.5 MeV $^{51}\text{V}^+$ irradiation induced void swelling and solute segregation 9-7637
 Zr-Nb-Cr (0.5, 0.5 wt.%), TEM study on intermetallics in Zr alloys 9-11622

chromium compounds

- see also chromium alloys
 chalcogenide spinels, specific heats 9-11315
 chromate coatings, corrosion-protective, on Al, charact. 9-47798
 dichromate solutions for low-level dosimetry 9-29633
 dimethylammonium chromium selenate, lattice consts. and ferroelec. props. 9-33641
 spinelites, effect of cation distribution on Mossbauer spectra parameters 9-8082
 $[\text{Cr}(\text{NH}_3)_6][\text{MnCl}_2(\text{H}_2\text{O})_2]$, X-ray cryst. struct. anal. 9-4285
 AgCrX_2 , X=S, Se, EPR meas., g-factors, effective mag. moments, and dipolar shifts 9-8043
 $\text{Al}_2\text{O}_3\text{-CrCl}_3$, calcination, mag. and optical studies of CrO_2 9-24736
 $\text{Al}_2\text{O}_3\text{-Cr}_2\text{O}_3$ melt, exam. of surface tension and density 9-1541
 $\text{Al}_2\text{O}_3\text{-MgO-Cr}_2\text{O}_3$, effect of Cr_2O_3 on surface grain growth 9-23815
 $\text{Cr}_2\text{O}_3\text{-}^{51}\text{Fe}^{6+}$, mag. hyperfine interactions, Mossbauer study (*French*) 9-24247
 CdCr_2S_4 , EPR line profiles in paramag. and ferromag. phases 9-28602
 CdCr_2S_4 , ferromagnetic semiconductor films, prep. and props. (*Japanese*) 9-47308
 CdCr_2S_4 , phonon Raman scatt., mag. circular polarization effects 9-8134

chromium compounds continued

- CdCr₂S₄, polycrystalline films, mag. semicond., spinel-type, magneto-optical effects (*Japanese*) 9-47415
- CdCr₂S₄, single cryst. prep. and elec. props. 9-38727
- CdCr₂S₄(Se₄), ferromagnetic semiconductors, spinel-type, resonance Raman scattering and electronic structure (*Japanese*) 9-47421
- CdCr₂S_{4-x}Se_x(O₄) X=0, 4, and solid solns., imperfect struct. model from cryst.-chem. investigations. 9-42053
- CdCr₂Se₄, ferromag. semiconductor, mag. props. near Curie pt., doping effects 9-1670
- CdCr₂Se₄, single crystals, mag. semicond., spinel-type, magneto-optical effects (*Japanese*) 9-47415
- CdCr₂Se₄, press. depend. optical absorption edge shift and compressibility 9-28714
- Cd_{1-x}Fe_xCr₂S₄, single cryst., mag. semicond., spinel-type, magneto-optical effects (*Japanese*) 9-47415
- Cr complex, [Cr₃(CH₃COO)₆(OH)₂]Cl.8H₂O, mag. sp. ht. (*Japanese*) 9-33501
- Cr-Fe-O, rutile type oxides, obtained from thermal decomp. of Cr_{1-x}Fe_x-OOH, Curie temp. and saturation magnetisation 9-24740
- Cr-Ge system, phase anal. and physical props. 9-24160
- (Cr₃AsO₄)₃³⁻, condensed anion, obs. in (NH₄)₂HCr₃AsO₁₃ (*French*) 9-1415
- CrB, crystallographic relationship with αMoB, UBC, ThBC 9-42025
- CrB₃, electrodeposition mech., onto metal electrodeposit, cermet prop. 9-33992
- Cr₂BeO₄, magnetoferroelectricity, weak pyroelectric effect 9-42914
- CrBr₃ anisotropic ferromagnet. crit. mag. relax., field and temp. depend. 9-1717
- CrBr₃, self consistent band struct., intersecting spheres model 9-37985
- CrBr₃, two-dimensional mag. insulator, cryst. field splitting, spectroscopic g-factors 9-47059
- CrBr₃, two-dimensional mag. insulators, cryst. field spectra, mag. circular dichroism 9-47058
- Cr₃C₂, bond energy and ionization efficiencies from SIMS 9-24400
- Cr₃C₂, Cr₂₃C₆, plasma sprayed coatings for gas-cooled reactor appl. 9-24676
- Cr₃C₂, on Cr, mechanism of high-temp. oxidation, 1050 to 1100°C (*Russian*) 9-20226
- Cr_n⁺, p=1 to 4, Cr_n⁻, clusters, electronic props., mass spectra obs. (*French*) 9-45877
- Cr(CO)₆, electronic spectra following flash photolysis, intracavity laser technique 9-31538
- Cr(CO)₆, ν(CO) region, IR and Raman spectra in organic solvents 9-41169
- Cr(CO)₆, solid and matrix isolated, Raman spectra 9-28755
- Cr(CO)₅(CS), cryst. struct. determ., Fourier method (*French*) 9-4282
- CrCl₃, self consistent band struct., intersecting spheres model 9-37985
- CrCl₃, two-dimensional mag. insulators, cryst. field spectra, mag. circular dichroism 9-47058
- CrCl₃, two-dimensional mag. insulator, cryst. field splitting, spectroscopic g-factors 9-47059
- Cr₂(CrO₄)₃, ferromagnet, ESR spectra near Curie temp. 9-8042
- CrF₃³⁺, multiple scatt. calcs. methods, comparative study 9-6865
- CrH₆, Dirac-Fock one-centre calcs. 9-6837
- CrN, deposition by hollow cathode discharge process, and hardness 9-24452
- Cr₂N-CrN, thermogravimetric exam. of equilibrium (*Japanese*) 9-20292
- CrO₂, ferromag., new prep. method by high-pressure oxidation, SEM characterisation 9-43164
- CrO₂, ferromag. films, epitaxial growth in air, electron diffr. and SEM obs. 9-42410
- CrO₂, optical conductivities and dielec. functions in 0.2-6 eV range, rel. to band struct. 9-42938
- CrO₂, synthesis and morphology 9-24481
- CrO₃, mag. and optical obs., prep. by calcination of CrCl₃ 9-24736
- CrO₃, antiferromag. reson. and mech. of parallel magnetoelectric effect 9-47337
- Cr₂O₃, cryst. growth from decomposition of K₂Cr₂O₇ melt 9-43131
- Cr₂O₃, effect on oxidation of complex (Fe, Mn)-V spinels 9-43453
- Cr₂O₃, exchange parameters including temp. effects 9-24153
- Cr₂O₃ films, black, microstruct. depend. of optical props., SEM, XPS, and sputter depth-profiling 9-43049
- Cr₂O₃:¹¹⁹Sn⁴⁺, Mossbauer spectra (*French*) 9-24248
- Cr₂O₃-Al₂O₃-ZrSiO₄, exam. of microstructure by optical microscopy 9-29073
- Cr₂O₃-Al₂O₃-ZrSiO₄ system, electrosmelted refractories, phase comp., corrosion and glass resist. Cr³⁺ conc. depend. 9-33982
- Cr₂O₃-Cr cermet films, for selective black absorbers 9-29483
- Cr₂O₃-Fe₂O₃ solid soln., completely annealed, reclustered of Fe³⁺ ions 9-33578
- (1-x)Cr₂O₃-xαFe₂O₃, influence of Fe³⁺ on phase transition (*Russian*) 9-28522
- (1-x)Cr₂O₃-xαFe₂O₃, mag. phase diagram, EPR method (*Russian*) 9-28521
- Cr₂O₇²⁻ centre in lattice, optical props., mol. orbital calcs. 9-15491
- CrO₂Cl₂, collisionless IR multiphoton production of electronically excited parent mols. 9-41211
- CrO₂Cl₂, fluoresc. excitation spectrum, free jet expansion cooling effects 9-3473
- CrO₂Cl₂, matrix isolation IR spectrum and force constants 9-3445
- Cr(OH)₃, coprecipitated with Al(OH)₃ gel, magnetic, optical studies, calcination 9-47995
- Cr₁₂P₇, X-ray cryst. struct. redeterm. 9-19192
- Cr₁₂P₇-Li intercalation cpd., phys. props. 9-19788
- Cr_{1-x}Rh_xO₂, ferromag., new prep. method by high-pressure oxidation, SEM characterisation 9-43164
- CrTe, neutron diffr. at high press., mag. transition (*Russian*) 9-38326
- Cr(V) complex, paramagnetic, dynamic polarisation of protons and deuterons 9-36453
- ⁵¹Cr₂O₇²⁻ tracer solution preparation (*French*) 9-29385
- FeAl_{2-x}Cr_xO₄, spinel, elec. cond. behaviour during oxidation 9-19593
- γ-(Fe_{1/3}Al_{2/3}-Cr)₂O₃, lacunar spinels, elec. cond. behaviour during oxidation 9-19593
- Fe_{3-x}Cr_xO₄, electron transfer and spin density distribns., Mossbauer spectra 9-24243
- FeCr₂S₄, vapour grown, struct. and stoichiometry, X-ray fluoresc. anal. 9-4263
- Fe_{1-x}Cu_xCr₂S₄, mag. semicond., mag. props. and elec. cond. (*Japanese*) 9-47111

chromium compounds continued

- Fe(OH)₃-Cr₂O₃ catalysts, for water-gas shift react., porous struct. 9-29407
- γ-FeOOH-Cr₂O₃ catalysts, for water-gas shift react., porous struct. 9-29407
- HgCr₂Se₄, initial mag. permeab., 77 to 300K, domain wall motion and damped ferromag. reson. 9-28562
- KCr(SO₄)₂.12H₂O, ESR, spin-lattice relax., ambient gas atm. thermal cond. effect 9-8046
- K₂HCr₂PO₁₀, cryst. struct. data (*French*) 9-14756
- LiMnCrF₆, ferrimagnetic, magnetic props. (*French*) 9-1668
- MgO-Cr₂O₃, composition obs. by thermogravimetry 9-16081
- Mn₂Cr₃O₄, mag. struct., neutron diffr. obs. 9-33460
- Mn₂Cr₃-O₄, cubic and tetragonal structs., neutron diffr. obs. 9-19369
- Mn_{1-x}Cr_xP, mag. suscepibility and transitions 9-47256
- MnCr₂Te₄, elec. props., 100 to 650K (*Russian*) 9-11115
- Na₃Cr₂(PO₄)₃, synthesis and cryst. struct. (*French*) 9-32964
- NaCrS₃, antiferromag. semicond., Raman and far-IR spectra 9-47454
- NaMnCrF₆, ferrimagnetic, magnetic props. (*French*) 9-1668
- Pb₃Cr₂(PO₄)₂, synthesis and cryst. struct. 9-19218
- Rb₂Cr₂Cl₄, spin wave temp. depend. 9-4662
- SiO₂-CaO-Na₂O-Cr₂O₃ system, water, alkali, acid resist., chem. durability 9-34162
- Ti-Cr₂C₃ composite, TiC and struct. form. during sintering 9-29011
- V₂Cr₃-S₄, elec. and mag. props. 9-28523
- ZrO₂-Cr₂O₃ system, react., phase diagram 1600-2400°C 9-11580

chromosphere

- acoustic dissipation and H⁺ radiation 9-30029
- brightness distrib. at 3 mm wavelength, obs. at 1976 October 23 eclipse 9-30042
- current sheet region during chromospheric flare development (*Russian*) 9-40159
- EUV and radio emission from chromosphere-corona transition 9-8894
- EUV emission line nonthermal broadening near quiet solar limb 9-48748
- EUV emission lines, profiles meas. near solar limb 9-16909
- EUV line emission obscuration near limb 9-48762
- faculae, mag., vel. and brightness struct. 9-25557
- faculae, photoheliographic results, (1968 to 1971) 9-2487
- fibril changes in small flare, high resolution obs. 9-44452
- fine struct. and time var. of quiet Sun at 1.3 cm wavelength 9-30043
- flare transition region, thermal radioemission theory (*Russian*) 9-48763
- flare upper chromosphere, semiempirical model 9-40148
- flares, ATM evidence for low nonthermal proton/electron energy flux ratio 9-8887
- flares, effects of soft X-ray heating 9-40170
- flares, Lyman continuum obs., energy transfer, chromospheric evaporation 9-21266
- Fraunhofer line cores formation, empirical statistical model 9-12450
- heating by sound waves 9-21246
- impulsive flares, space-time relation to centimetre wavelength radioemission bursts (*Russian*) 9-16924
- inhomogeneous model, for interpretation of data on quiet Sun mm wavelength emission 9-35231
- line profiles calc. for inhomogeneous emission formations 9-25562
- magnetic field strengths, lower limit 9-48746
- mass column density, rel. to Ca II line width Wilson-Bappu effect 9-12464
- network, quiet 2.8 cm emission, small-scale sources 9-5794
- network model 9-48747
- oscillation mode and vel. amplitude of waves 9-21263
- oscillations, power spectra, phase spectra and coherence spectra 9-8897
- oscillations in mag. tubes, spectral line obs. 9-25564
- periodic brightness fluctuations at 2.8 cm wavelength, rel. to photospheric vel. oscs. 9-35216
- plages, contrib. to Ca II lines vars. at solar minimum at cycle 21 onset 9-16907
- quiet solar chromosphere structure, form. (*Russian*) 9-48764
- quiet Sun, ubiquitous chromospheric structs. observed at mm and cm wavelengths 9-12456
- radiative relaxation time 9-30040
- rotation rel. to chromospheric feature lifetime 9-44442
- scaling laws, width-luminosity corrs., Wilson-Bappu effect 9-40177
- spectra, spatial struct. in 3398 to 3560 Å region lines at extreme limb 9-12449
- spicules, resonant response to granular buffeting 9-44444
- supergranulation, Mg I λ2582 line profile var. 9-40164
- temperature rise, acoustic waves effects 9-16911
- transition region, first-row elements excitation equilib. and line intensities 9-12401
- transition region, mass motions in impulsive flarelike brightenings, OSO-8 obs. 9-35217
- transition region downflow, evidence from Mg II core absorpt. wavelengths 9-12451
- transition region emission, spectral obs. in Hα region 9-35233
- transition zone, wave refl. and wave disorder 9-12453
- transition zone dynamics 9-21247
- transition zone lines, quiet Sun, limb broadening, OSO-8 obs. 9-48752
- transition zone plasma evolution during 1973 August 9 compact flare 9-5792
- transition zone structure from Skylab NRL spectrograms 9-48744
- X-ray flare kernel, site, size, spatial stability and energetics 9-25555
- Ca II network, differential rotation rel. to photospheric plasma 9-25585
- Ca^{II} network, giant cell circulations 9-8895
- CaII K-line brightness fluctuations, statistical analysis (*Russian*) 9-21259
- H I Balmer α line brightness fluctuations, statistical analysis (*Russian*) 9-21259
- H Lyman α and β lines, OSO 8 disc centre obs. compared with theoretical profiles 9-8888
- Hα plage formation after flare 9-44445
- Hα spicules, spectra, props. 9-25563

chronographs see chronometers

chronometers

- electronic quartz optically coupled chronometer 9-26036
- marine chronometers, 1770-1920 9-39

CIDEP

- low field effects, extension of Pedersen-Freed theory, T_±→S transitions 9-36664
- transient radicals, EPR time profiles, CIDEP, electron spin-echo method 9-6953

CIDNP

biradical, triplet state, S-T₀ CIDNP, biradical scavenging rate const. from mag. field depend. CIDNP 9-3461
 biradical magnetic field dependent ¹³C and ¹H CIDNP, hyperfine coupling 9-3460
 low field effects, extension of Pedersen-Freed theory, T_±→S transitions 9-36664

cinematography *see cinematography*

cinematography

see also cameras; telefilming
 16 mm projection installation, automatic, containing Ukraine-5 projector and ring bifilar magazine (*Russian*) 9-36980
 camera automatic focusing mechanism principles and designs 9-30595
 cinema acoustics (*Russian*) 9-18609
 colour film printer, rapid-acting light-setting mechanism (*Russian*) 9-35878
 colour negative film LN-8, properties (*Russian*) 9-2861
 colour photographic processing distortions (*Russian*) 9-17533
 contact print preparation of cine films using modified 16 mm cine projectors 9-6203
 dual track sound, picture recording and mixing system (*Russian*) 9-17532
 environmental control processing wastes, industrial plants appl. (*Russian*) 9-44964
 exposure control based on brightness measurement (*Russian*) 9-2862
 film copying, automatic system for estimation of exposure conditions (*Russian*) 9-35877
 film copying, measurement of optical properties of film materials (*German*) 9-35867
 film production using address-time coding, 35 mm, electron image editing method (*Russian*) 9-17531
 film soundtracks, low-cost pure, undistorted sound 9-27476
 high-speed photography, increase in image quality using plate polyhedral compensator (*Russian*) 9-35879
 holographic cinematograph systems for three-dimens. colour images (*Russian*) 9-26169
 holographic process for color motion-picture preservation using 3 lasers 9-17530
 horse's hoof movement/load relationship camera and multicomponent force meas. panel (*German*) 9-16352
 MagnaScope 35 mm half-frame projection system 9-40637
 monochrome, magnetic field effects on development process (*Russian*) 9-17534
 monochrome prints using two silent 16 mm projectors as contact printers, medical research lab. appl. 9-35865
 nuclear-medicine image display system, dynamic physiological function visualisation 9-5396
 optical sound track reproduction using photodiode as current source 9-10439
 photometric eval. of high speed cinematographic films, microprocessor control 9-21801
 printing using new colour attenuation system 9-2859
 projection systems, automation (*Russian*) 9-35876
 recording techniques for video information transferred from magnetic tape 9-21835
 reflex cine camera Bolex H16, conditions for using ordinary lenses 9-26154
 renal diagnosis by blood circulation angiocinedensitometry (*German*) 9-2127
 sound recording, acoustoelectric data of 35 mm magnetic tapes, magnetic tracks on 70, 16 and 8 mm film prints (*Russian*) 9-18665
 sound recording and reproduction using a holographic method (*Russian*) 9-10273
 sound recording and reproduction using digital systems (*Russian*) 9-27487
 sound reproduction improvement in cinemas (*Russian*) 9-10430
 sound reproduction system Century, transistorised (*Russian*) 9-14194
 studio lighting control, ring power supply system appl. (*Russian*) 9-2863
 synchroniser cct. for image, sound in amateur cine films (*Russian*) 9-6210
 theatrical sound effect for cine films (*Spanish*) 9-41550
 thunderstorm photography and lightning recording with modified cine sound camera 9-21058
 time-lapse, time recording on 16 mm film 9-9252
 TV broadcasting appl. (*German*) 9-35866
 UV-cured inks for edge numbering on all motion picture films 9-9254
 videodensitometry and image analysis, minimum computer system 9-34664
 wet printing systems development and future 9-21826
 Cu, neutron irradi. cryst., slip band, growth rate, high-speed cinematographic recording 9-7607

circuit analysis *see network analysis*

circuit breakers

see also circuit breaking arcs; gas blast circuit breakers
 electronic, for biomedical recording and stimulation 9-34680
 plasma science, conference, Monterey, CA, USA (May 1978) 9-37442

circuit-breaking arcs

see also circuit breakers; sparks
 air blast arc, post-zero current and power loss meas. 9-19106
 gas blast circuit breakers, radiative transfer investigation 9-27864
 gas blast circuit breakers, three nozzle arc models, review 9-27862
 gas blast flow with arc heating 9-46502
 induction calc. using standard finite element software 9-41906
 quenching, plasma turbulence effects 9-27861
 speed high current of arc along flat electrode (*French*) 9-37572
 SF₆ breakdown at moderate temps., investigation 9-27863
 SF₆, high-temp. circuit-breaking arc, axial and radial heat transport 9-19105

circuit diagrams

education, variable star, digitally synthesized, diagram 9-9067
 status monitor, for Elliot rotating-anode X-ray source 9-35908

circuit oscillations

see also circuit resonance
 No entries

circuit reliability

see also quality control
 atrioventricular sequential demand pacemaker, R-wave sensing methods (*Japanese*) 9-5406

circuit resonance

see also circuit oscillations
 No entries

circuit theory

see also distributed parameter networks; filters; lumped parameter networks; network analysis
 current in external circuit, induced by charged particle motion in device, for teachers 9-21503

circuits *see networks (circuits)*

circular polarisation *see polarisation*

circular waveguides

dielectric resonance method for determ. parameters of magnetodielectric materials 9-17449
 hollow cylindrical anisotropic dielectric guide, propagation 9-32047

citation analysis *see information analysis*

civil engineering

see also architecture; building; dams

Beck's rod, nonconservative flutter system, variational principle 9-1132
 building materials from reactor waste, γ -radiation dose rate calc. 9-18057
 circular arches with flexibly supported ends, spatial symmetrical vibrations and stability 9-3953
 column carrying concentrated mass, parametric reson. 9-1102
 continuous Timoshenko beam vibrations on Winkler Pasternak foundations 9-3955
 earthquake engineering, amplification problem of elastic wave propag. in anomalous layers 9-44260
 elastic structure buckling models for higher order catastrophes 9-1122
 plastic structures, dynamic adaptation to stochastic excitation 9-1116
 plate, optimal design under dead weight and surface loading 9-3915
 polymer-concrete composites, civil engineering appls., technical, processing, economic merits 9-11545
 rectangular cylinders in heaving mode, aeroelastic instability 9-3954
 road construction, nondestructive testing principles, instruments and methods (*German*) 9-11742
 seismic engineering, two-dimensional horizontal ground motions during earthquakes rel. to struts. design 9-48419
 Timoshenko beam with axial force, vibration characts. 9-3956
 triangular slab on elastic foundations, thermally induced vibrations 9-3960

civil engineering computing

see also architectural CAD

beam columns and frames incremental anal. 9-3925
 boundary elements in potential and elasticity theory 9-35560
 CG method generalisation, linear and nonlinear problem appl. 9-30243
 elastic-plastic-creep-large strain analysis at elevated temperature by the finite element method 9-37185
 finite element analysis, structural engineering problems 9-2607
 free vibrational analysis of frame structures 9-32329
 interactive buckling analysis of box sections using dynamic relaxation 9-7304
 large deflection analysis of plates and shells by discrete energy method 9-3918
 metal sheeting, profiled, shear deformation, stressed-skin anal. 9-1121
 plasticity, assumptions, models and computational methods 9-32285
 rectangular plates, moderately thick, free flexural vibr., effect of geometric nonlinearity 9-3940
 shear connector fatigue loading, computer reconstruction of response 9-43539
 shells with internally attached structures, transient response 9-3941
 soil-structure coupling. Nonlinear rheological relationships and boundary conditions in soil mechanics 9-7354
 structural mechanics, computerised symbolic manipulation 9-32327
 symbolic generation of finite element stiffness matrices 9-32244

cladding techniques

Al₂O₃/Al clad powder prep. and physicomech. props. 9-29010
 ZrO₂/Al clad powder prep. and physicomech. props. 9-29010

claddings

BWR with graphite channels, safety of nuclear power stations 9-26561
 EBR-II breached fuel element experience, safe reactor operation 9-9736
 EBR-II preparation for breached-element operation, safety concerns 9-9792
 fast reactor fuel rods, burnup-dependent heat transfer from fuel to cladding 9-36323
 fission reactor fuel rod geometry changes, mech. interactions calcs. 9-40993
 fission reactor Zircaloy cladding, effects of stress biaxiality on ballooning behaviour 9-30919
 fusion-welded optical fibre splice loss expts. 9-37023
 gas core reactor, high temp., wall stabilisation, possible use of graphite 9-3190
 glass edge cladding-glass laser disc interface, reflection meas. 9-27300
 graded-index fibres, evanescent theory and perturbation theory comparison 9-32033
 HFEF/N irradiated fuel element eddy-current exam., cladding performance 9-9750
 irradiated fuel rod NDT using encircling and probe eddy-current systems 9-9751
 laser glass cladding composition and design criteria 9-18450
 lossy outer layers multimode step-index optical fibres, effect on optical links 9-18540
 optical fibre fracture stress and mirror size obs. 9-37020
 optical parabolic index fibre, modal dispersion characteristics, lossy cladding effect 9-18515
 pyrocarbon coatings on HTGR fuel particles, Bacon anisotropy factors meas. technique 9-13418
 reactor fuel cladding failure under reactivity initiated accident conditions (*Japanese*) 9-30955
 reactor fuel pin claddings, fission gas driven creep calcs. 9-26531
 steel, proposed mechanism for internal cladding corrosion in LMFBFR mixed oxide fuel pins 9-8384
 steel, stainless, interaction with (U-Pu)₂O₃ fuel, electron microprobe anal. 9-26524
 steel, stainless 316, cladding failure during thermal transients 9-8316
 temperature dist. in cylindrical fuel pins with gap and cladding (*Italian*) 9-13397
 transient overpower accident, transient press. field of gas in MOX fuel porosity 9-36348
 weldable clad metal interlayer growth kinetics model 9-24493

claddings continued

- Zircaloy, deposits on inside surface in LWR cladding, SEM obs. 9-6741
 Zircaloy clad defective fuel rods, behaviour under continued reactor operation 9-30915
 Zircaloy cladding, internally pressurized, effect of temp. nonuniformity on diametral expansion during transient heating in steam 9-30920
 zircaloy fuel cladding tubes, prod. and inspection (*Japanese*) 9-26518
 Zircaloy-2, irradiation induced creep in reactor claddings under biaxial stress conditions 9-30912
 zircaloy-4, oxidation in high temp. steam atm. effect on cladding ductility 9-26515
 Zircaloy-4 spent fuel cladding, tensile props. and annealing characts. 9-22392
 Zircaloy-clad UO_2 fuel elements, stability during long-term storage 9-26588
 Zr alloy, elastic props. of fuel cladding and press. tubing material 9-15711

classical algebra *see algebra***classical field theory**

- see also classical mechanics; electromagnetic field theory; gravitation; special relativity*
 't Hooft monopoles, interaction energy in Prasad-Sommerfield limit 9-12950
 bi-scale theory of gravitational and strong interactions 9-12696
 classical Lagrangian theory with radiative reaction, monopoles and positrons in Rohrlich formalism 9-72
 closed vortices and Hopf index in Abelian and non-Abelian Higgs model, and nonlinear σ model 9-12960
 continuum mechanics and field theory, role of Thomson and Maxwell 9-17179
 covariant representation of microscopic charge and current densities in terms of polarisation and magnetisation fields 9-71
 defect dynamics, gauge transforms. in vector field theory 9-27981
 dislocations and gauge invariance 9-27980
 electrodynamics of point particles, energy tensor struct. 9-21566
 electromagnetism, nonlinear theory 9-5991
 EM wave scattering by inhomogeneous spherical particles, vector wave eqns. 9-27137
 Euclidean field theory, nonlinear elliptic eqn., classical solns. 9-21569
 euclidean nonlinear classical field equations with unique vacuum 9-5989
 f-g gravity theory, exact spherically symmetric solns. 9-319
 fermion-meron interactions in Minkowski space-time, classical Yang Mills fields 9-2913
 frozen-in field condition, Lie derivative calcs. 9-2586
 inequalities and symmetry breaking in classical lattice field theory 9-9131
 invariant interaction Lagrangians, mathematical theory 9-30267
 invariants of equivalent Lagrangians 9-40654
 inverse scattering method for the classical massive Thirring model with anticommuting variables 9-12626
 Klein-Gordon equations with logarithmic nonlinearities, classical theory 9-5996
 local class field theory, generalisation by K-groups 9-25875
 massive Thirring model connection 9-12624
 material symmetry transformation, density preservation 9-35552
 Maxwell equations, homogenisation leading to relaxation phenomena (*French*) 9-21564
 Maxwell equations, new invariance group 9-35575
 motion and radiation of a charge in a plane wave and a magnetic field (*Russian*) 9-21986
 multipole matrix elements from classical field with sources 9-9504
 non-Lagrangian field equations, variational principles 9-21565
 nonlinear scalar field theory in isotropic homogeneous space-time 9-2676
 one-dimensional field theories with odd-power self-interactions 9-254
 particle motion in classical gauge field, variational derivation and uniqueness of equations of motion 9-40658
 particle-classical field interaction, appl. to linearised gravitation and symmetric electrodynamics 9-5992
 percolation theory at the critical dimension 9-152
 Planck's constant, numerical value, dynamic mechanism, classical/quantum physics borderline 9-21573
 predictive relativistic mechanics, noninteraction theorem for interactions derived from classical field theory 9-40358
 radiationless motion of classical electron 9-17247
 self-screening of classical Yang-Mills fields (*Russian*) 9-6289
 symmetry groups of field equations for spin $1/2$ 9-21568
 tensor fields invariant under subgroups of the conformal group of space-time 9-2603
 thermoelastic solids, field-matter interactions, book 9-30270
 Thomas precession, geometrical kinematical origin 9-6
 vector field decomposition by scalar potentials 9-12625
 Yang Mills equations, nonzero temperature case, spherically symm. solns. 9-2941
 Yang-Mills equations, static spherically symm. solns., $\text{SU}(2)$ gauge group 9-2914
 Yang-Mills field equations, with static external sources 9-21930
 H atom, relativistic quantum mech. as weak-field limit of nonlinear theory 9-6878

classical mechanics

- see also classical mechanics of continuous media; classical mechanics of discrete systems; classical theories of fluid structure*
 aerospace kinematic tools, vectorial mechanics and variational method 9-30218
 conference, finite elements in nonlinear mechanics, Stuttgart, Germany (Aug.-Sept. 1978) 9-44727
 contact stress problems, counterformal, improved numerical method and program 9-41632
 differential eqns. integrable in generalised hypergeometric functions (*Russian*) 9-12572
 entropy, nonequilib., Lyapunov variables, ergodic props. of classical systems 9-2739
 goose chase, mechanics teaching 9-44665
 Hamilton equations, n distinct periodic solns. on each energy level (*French*) 9-44710
 linear nonconservative systems, exact Lagrangians 9-40355
 math. and phys. models, fundamental differences and future possibilities 9-25844
 mechanical system, geometry and stability theory 9-27558
 nonlinear eigenvalue problem method 9-17208

classical mechanics continued

- phase space representation of quantum and classical mechanics (*Russian*) 9-25882
 wind powered boat, demonstration of conservation laws 9-19

classical mechanics of continuous media

- see also elasticity; fluid mechanics; plasticity*
 ablating boundaries, algorithm for automatic tracking 9-32240
 Ahmad thick shell element, theoretically improved and easily implemented version 9-23205
 anelastic deformation, generalised representation by num. sol. of initial boundary value problems (*German*) 9-12610
 anelasticity, general linear response, anal. 9-10895
 anisotropic dissipative medium, σ - ϵ bond determ., scalar product maximum appl. (*Russian*) 9-12596
 anisotropic thermoelastic shells dynamical coupled problem, variational theorem (*Russian*) 9-14255
 annular dome subjected to uniform load over an eccentric circular area 9-46195
 applied mathematics, conf., Delft, Netherlands, Jan. 1978 9-2617
 arches, freely supported, reserve of resistance beyond limiting load (*Italian*) 9-18703
 autonomous system instability, sufficient criteria, Lyapunov instability (*Russian*) 9-17210
 bar, elastic-plastic cylindrical, Lipschitz character of stress tensor during twisting 9-46221
 bar with two natural freqs., minimum mass design 9-46246
 bars, rectangular, plastic flow during closed die cropping 9-37190
 beam, fibre reinforced rigid plastic, impulsive loading 9-3928
 beam, hinged, large amplitude vibration 9-46258
 beam deflection under moving loads, finite element anal. (*German*) 9-23204
 beams, dynamic stiffness coefficients approx. determination 9-46186
 beams, fixed-free with support asymmetry, nonlinear, nonplanar, resonant oscillations 9-37212
 beams, isoparametric elements for cross sectional properties and stress anal. 9-44731
 beams, plates with varying thickness, fundamental freqs. 9-32324
 Beck's rod, nonconservative flutter system, variational principle 9-1132
 bonded joints, adhesive nonlinearities, optimal length, performance 9-1103
 cantilever bars under axial load, parametric reson. by combined freqs. method 9-1131
 cantilever beam, minimum mass struct., axial vibrs., numerical determ. 9-10519
 cantilever beams, free transverse bending vibrs., secondary effect influence (*French*) 9-18785
 chemically reactive mixtures, continuum description (*French*) 9-41765
 circular cylindrical shells, 2- and 3-dimens. results for rotationally symmetric deformations 9-7286
 circular cylindrical shells under hydrostatic press., influence of boundary conditions on stability (*Chinese*) 9-32306
 clamped beams with two symmetric steps, nonlinear free vibrs. (*Japanese*) 9-14334
 clamped plate under transverse loading, strain energy minimisation, Timoshenko approx. soln. 9-46197
 column buckling load problem, constrained minimum weight equivalence 9-7313
 column carrying concentrated mass, parametric reson. 9-1102
 complex system reliability under nonuniform random perturbation, asymptotic anal. (*Ukrainian*) 9-41589
 composite beams, vibration and buckling anal. 9-1123
 composite materials with stochastic struct., complex dynamic moduli using conditional averaging technique (*Russian*) 9-27513
 condensation for mixed dynamic FE analysis of rotational shells 9-32231
 condensed matter, phys. props. description using irreducible tensors 9-2627
 cone-cylinder shell junction, boundary conditions 9-46196
 conformal mappings for curved boundary finite-difference problems 9-3912
 conic body torsion, double series method (*Russian*) 9-23206
 conical sandwich shells, axisymmetric free vibrs. 9-37215
 consolidation theory, viscoelastic media, internal mobility effects, dual mechanics correlation 9-14280
 constrained material continua, eqn. formation 9-40360
 constrained material continua, functional formation of dynamics 9-40359
 contact friction problems, associated and non-associated sliding rules 9-14351
 contact with various frictional conditions, finite element anal. 9-32388
 continuous beam resting on tensionless elastic foundation, soln. 9-46238
 continuous system simulation by periodic structs. harmonic load response 9-18705
 continuum mechanics, introduction, book 9-30234
 continuum mechanics and field theory, role of Thomson and Maxwell 9-17179
 continuum with microstructure, general model 9-25848
 Cosserat surfaces 9-2629
 coupled fluid-structure systems, vibr. anal. by displacement method 9-7323
 cylinder, thick walled, thermal stress calc. taking nonlinear creep into account 9-46184
 cylindrical non-axisymmetric wave propagation in laminated medium, continuum theories 9-14293
 cylindrical shell, submerged 9-18715
 cylindrical shell of elliptic section, stability (*Bulgarian*) 9-9108
 cylindrical shells, loading history, effect on plastic buckling (*Russian*) 9-14288
 cylindrical shells, mildly sloped, with circular aperture, bending problem 9-18704
 cylindrical shells, orthotropic, noncircular, problem solubility (*Ukrainian*) 9-32255
 damped string, vibr. freq. depend. on kinematical nonlinearities 9-14296
 diaphragm supported cylindrical shells, static anal. using curved finite strip 9-27507
 disc calc. by iterative method (*Polish*) 9-14252
 dissipative processes, nonlinear theory (*Russian*) 9-30400
 dissipative systems, limit cycles and constants of motion 9-35555
 dual elastic continuum model, internal mobility induced consolidation 9-14352
 dual mechanics of tensional and fissional fields, appl. to continuum media 9-37156

classical mechanics of continuous media continued

- dynamic plastic instabilities in stretching plates and shells 9-7302
 eight node solid element for pure bending 9-44734
 elastic circular cylinder, axisymmetric end-problem solns. 9-18700
 elastic continuum, two-dimensional, side effects of discrete methods 9-58
 elastic discs, high frequency vibr. spectra, second order approx. theory
 potentiality (*Russian*) 9-10515
 elastic interface waves and sliding between two solids 9-18800
 elastic materials, strongly anisotropic, wave propagation 9-14300
 elastic quadrilateral plates 9-46201
 elastic shell, stable solutions of simplified problem (*French*) 9-5984
 elastic shell revolution, transient motion in acoustic medium 9-7333
 elastic strip pressing against elastic half plane, strain anal. 9-7345
 elastic structure buckling models for higher order catastrophes 9-1122
 elastic system, rotation effects on natural vibr. frequency (*Russian*)
 9-7319
 elastic tube, cylindrically symmetric vibr. (*German*) 9-7330
 elastic-plastic frames, deformation anal. Monte Carlo technique 9-7295
 elastic-plastic materials, dynamic behaviour (*German*) 9-14271
 elastodynamic stress intensity factors, ray theory approach 9-7339
 elastoplastic circular plates, nonlinear behaviour equilib. eqns. 9-14279
 elastoplastic solid, fracture and yield conditions 9-14344
 elastostatics, appl. of modified integral eqn. method 9-14254
 elementary tensor analyses (*Japanese*) 9-30232
 endochronic theories of material behaviour, uniqueness and stability
 9-18752
 energetically stable systems 9-2647
 evolving shells, postcritical deformations (*Ukrainian*) 9-32310
 fibre reinforced shell-type structures, strength estimation using limit state
 method 9-18820
 finite element analysis, natural mode technique, review 9-44728
 finite extension of an elastic strand with a central core 9-46217
 flat sheet, tensile deformation, strain rate sensitivity and necking 9-41590
 flexural vibration mode shape change by defects 9-7335
 fluid coupled concentric cylindrical vessels, normal mode solution
 9-37157
 fluid saturated porous elastic cylinders, vibrations 9-10521
 fluid-solid dynamic interactions and wave forces, numerical treatment
 9-3944
 fluid-structure coupling method in dynamic analysis of structs. 9-7322
 fluid-structure systems, time integration, mixed methods 9-41568
 fluid-structure systems, transient anal. 9-32232
 forces on sinusoidally oscillating cylinder, parametric study 9-32547
 fracture mechanics, self-adaptive finite element capability 9-14345
 frames, elastoplastic anal., uniqueness 9-7297
 general physics and heat, book 9-25814
 general shell and axisymmetric shell elements, diagonal lumped mass
 matrix formulation 9-3911
 generalised displacement functions, elastic continuum 9-7289
 granular materials flow, micropolar continuum theory 9-35565
 gyroscopic problems in elasticity, orthogonality principle 9-17218
 H-columns, local and member buckling finite strip method anal. 9-7306
 hard rods and spheres, radial distrib. function, differential difference eqns.
 in Percus-Yevick approx. 9-18701
 heat instability in thermoviscoelastic coupled dynamic problems (*Russian*)
 9-10489
 helically armoured cables, stiffness matrix derivation considering tension
 and torsion 9-46187
 heteroelastic beam, progressive creep under loading (*French*) 9-7290
 holed plates, stress and deformation, finite quadrilateral elements tech-
 nique (*Rumanian*) 9-18707
 homogeneous isotropic bar, torsional stress anal. for variously shaped cross
 sections (*Russian*) 9-32269
 horizontally curved beam finite element including warping, nodal displace-
 ment degrees-of-freedom 9-44735
 hyperbolic paraboloids elastic stability analysis, using reduced scale models
 9-3910
 ice domes, time dependent deformation 9-37152
 implicit-explicit finite elements in nonlinear transient analysis 9-44729
 implicit-explicit finite elements in transient analysis: implementation and
 numerical examples 9-17216
 implicit-explicit finite elements in transient analysis: stability theory
 9-17215
 infinite plate with two holes, stress concentration reduction by interference
 fits 9-37158
 inhomogeneous elastic material, antiplane crack problems 9-14343
 Kirchhoff shells, static and dynamic anal. based on mixed finite element
 formulation 9-32328
 Koite's modified energy functional, appl. to cantilever circular cylinder
 shell freqs. 9-1130
 laminated composite media, crack tip propagation, model by two-dimens.
 mixture theory 9-10528
 laminated plates and shells, eqn. construction (*Russian*) 9-30254
 large deflections of a plate sealing a liquid 9-27508
 large strain applications of modified const. strain finite elements 9-2632
 layered shells, stress states, asymptotic approach (*Italian*) 9-10461
 limit analysis, complete static solns., appl. to vertical cut (*French*)
 9-18702
 limit analysis in continuum mechanics, nonlinear optimisation problems,
 numerical methods 9-2628
 linear elastic continua, variational principles, finite element techniques
 (*German*) 9-9113
 localized dynamic contact on structs. anal. by matched asymptotic expan-
 sions 9-7342
 Marguerre's shallow shell theory 9-32239
 massive homogeneous elastic string, on rot. platform, deformation study,
 constitutive equations soln. 9-9107
 material symmetry transformation, density preservation 9-35552
 materials with variable bonding 9-1100
 membranes, arbitrarily shaped, vibrs. and dynamic response 9-7334
 metal sheeting, profiled, shear deformation, stressed-skin anal. 9-1121
 metal targets, penetration by conical projectiles, ductile hole formation
 study 9-23220
 micropolar elastostatics, J-integral type conservation laws 9-18710
 micropolar thermoelasticity, radiation conditions, uniqueness theorems
 9-12606
 mixed problems in theory of harmonic functions, Monte Carlo method
 appl. 9-10464
 mixtures of interacting continua, thermodynamics and nature of 2nd law
 9-26016
 motion stability in neutral case (*Ukrainian*) 9-41594

classical mechanics of continuous media continued

- multibar structure strength from heteroplasticity concept (*French*)
 9-18742
 multicomponent continual system, dynamic processes, variational principle
 (*Russian*) 9-12595
 multicomponent random media, central momentum functions of material
 characteristics (*Russian*) 9-9188
 multilayered shells and directed surfaces 9-46185
 multiparametric elastic system, lower frequencies and crit. loadings (*Rus-
 sian*) 9-44739
 multistorey elastic frames, critical load numerical determ. (*French*)
 9-14262
 nematic liquid crystal, extensible, micropolar continuum theory 9-4244
 net shells of revolution, equilib. eqns. under rotationally symmetric loads
 9-14246
 nets, orthogonally woven, propagation fronts, from impulsive excitation
 9-46199
 non-conservative systems, with ignorable coords. 9-25843
 non-self-adjoint problems and essential boundary conditions 9-44732
 nonholonomic systems, Hamilton-Jacobi integration method generalisation
 9-12598
 nonhomogeneous cylinders and cylindrical shells, torsional oscillations anal.
 9-18768
 nonlinear analysis, natural force approach 9-2631
 nonlinear dynamics, finite element anal., accuracy versus computational
 efficiency 9-40362
 nonlinear dynamics of tank containing fluid, direct method of soln.
 (*Ukrainian*) 9-35554
 nonlinear elastic cylinder, parametric biharmonic vibrs., reson. modes
 (*French*) 9-10522
 nonlinear elasticity incremental eqns., bifurcation of pressurised spherical
 shells 9-17225
 nonlinear elasticity incremental eqns., membrane theory 9-17224
 nonlinear finite element analysis, review of soln. techniques 9-3914
 nonlinear isotropic body, plasticity theory determinantal ratios (*Russian*)
 9-14274
 nonlinear physical media, boundary value problem soln. by finite element
 anal. 9-17214
 nonlinear shell problems, hybrid stress finite element model 9-14251
 nonlinear structural dynamics, direct time integration methods 9-44730
 nonlinear vibrating system, combination reson. response amplitude calcs.
 (*German*) 9-10527
 nonlinear viscoplastic materials, upper yield points 9-10490
 nonlinear wave process in a finite dissipative region (*Russian*) 9-17240
 nonlinear wrinkling of nonlinear membranes of revolution 9-32242
 nonlocal thin elastic plates, impact by cylindrical projectile, shearing stress
 anal. 9-10467
 nonstationary multicomponent continuous systems, variational principle,
 eqns. of motion (*Russian*) 9-27512
 normal dissipativity and concealed variables in eqns. of evolution (*French*)
 9-25859
 Norton-Hoff material, limit anal. appl. (*French*) 9-23202
 object shape rel. to physical description 9-42422
 optimal design of bending elements 9-10470
 orthotropic annular plates, general nonsymmetric postbuckling anal.
 9-7307
 orthotropic plastic plate, optimal design under in-plane loading 9-7303
 orthotropic plate flexure, theoret. considerations, expt. investigations (*Ger-
 man*) 9-10463
 orthotropic sandwich plates, large deflection governing eqns. 9-7301
 orthotropic shells of revolution, free oscillations (*Russian*) 9-18796
 oval cylindrical shells, free vibrs. modal method calcs. 9-7332
 partial differential equation system integration in mechanics, comments
 9-30233
 piezoelectric structures, asymptotic anal., book 9-25851
 piezoelectric resonator, disturbances characterised by dissipative mech.
 parameters 9-28682
 pipe, use of dynamic absorber to control parametric instabilities 9-46198
 pipe conveying fluid, equilib. position stability 9-32319
 pipelines, installation, nonlinear finite element anal. 9-46183
 plastic structures, dynamic adaptation to stochastic excitation 9-1116
 plate, circ., large deflection anal., with nonuniform Jacobi polynomial load
 9-37184
 plate, circular, flexural response on bilinear foundation 9-32238
 plate, homogeneous, circular, prestressing effect evaluation 9-59
 plate, linear elastic, classical boundary value problem 9-14261
 plate, linearly elastic, free harmonic vibration fundamental frequency,
 approx. solution 9-46256
 plate, nonlinear struct. response to sonic booms 9-32322
 plate, optimal design under dead weight and surface loading 9-3915
 plate, out of plane bending, steady state crack propagation, rotatory iner-
 tial effects 9-7340
 plate, perforated, under axial loading, geometric discontinuities, in stress
 fields, optimization 9-37150
 plate, prestressed simply supported rectangular, large deflections under
 uniform pressure 9-32235
 plate, rate sensitive plastic, circular hole, dynamic expansion 9-10509
 plate, thick infinite, transversely isotropic, containing circ. hole, end effects
 9-27510
 plate element, 2nd order (*German*) 9-10466
 plate flexure with arbitrary boundary conditions, boundary integral
 formulation 9-25858
 plate incompressible isotropic, stability under all-round compression
 (*Ukrainian*) 9-37149
 plate infinite, oscill. in strong rarefied gas under constant force 9-10623
 plate structs., finite strip method for post-locally buckled anal. 9-30246
 plate theory, justification of nonlinear model (*French*) 9-25852
 plates, clamped orthotropic rectangular, with varying thickness, natural
 frequencies 9-46253
 plates, nonlinear vibrs., reson. phenomena under Duffing's eqn. 9-14305
 plates, orthotropic laminated, stress-strain state (*Russian*) 9-46189
 plates, rectangular with linearly varying thickness, deflection and surface
 stress formulae 9-30244
 plates, simply supported, plastic buckling under edge thrusts 9-10510
 plates, thermal stresses, temp. fields for butt-end narrow zone heating
 (*Russian*) 9-14248
 plates, thick circular, axially symmetric vibration, elastodynamic deforma-
 tion 9-37214
 plates, thick orthotropic on elastic foundations, freq. anal. using triangular
 plate bending element 9-46273
 plates, thin rectangular elastic, bending, finite difference anal. 9-46181

classical mechanics of continuous media continued

plates, variable thickness annular, axisymmetric bending 9-46193
 plates and shells, dynamic plastic anal. using stress resultant finite element formulation 9-37191
 Poincare gauge invariance, conservation laws for particle, string and membrane systems 9-55
 portal frame, elastic-perfectly plastic behaviour under column axial force variations 9-7296
 pressure vessels, secondary creep problem, lower bound approx. soln. sequence 9-14284
 pseudocontinuum theory, correspondence between representations 9-35553
 rate sensitive materials, deformation mechanics, approx. anal. technique 9-23221
 rectangular orthotropic plates, buckling strengths stress diagrams (*German*) 9-14289
 rectangular plate, thick, general expression for exact soln. of dynamic anal. (*Chinese*) 9-37154
 rectangular plate buckling, Von Karman eqns., generic bifurcation theory, symmetry props. 9-44748
 reinforced concrete structures, nonlinear finite element anal. 9-41569
 reinforced plate homogenisation by period system of curvilinear bars (*French*) 9-10462
 research in the mechanics of deformable solids in the USSR (*Russian*) 9-27516
 right-angled ribbed plates, variable thickness calcs. (*Russian*) 9-27509
 rigid body, moments and products of inertia, tensorial charact. 9-25847
 rigid indenter sliding over power law viscoelastic layer, anal. 9-7346
 ring, under diametral compression, geometric discontinuities, in stress fields, optimization 9-37150
 rods, coupled thermoelastic wave propagation, asymptotic theory 9-12609
 rods, large curvature, residual stresses determ. 9-41571
 rods, optimality necessary conditions (*Russian*) 9-14249
 rods, quasi-bifurcation within axial plastic compressive wave 9-10513
 round bar, tensile deformation, mathematical description 9-10500
 rubber bonded cylinder, Lagrange anal. of dynamic props., conf., Haifa, Israel, (July 1977) 9-15683
 rubber bonded cylinder, Lagrange anal. of dynamic props. 9-14304
 semi-infinite plate, crack from triangular notch 9-41570
 shallow shells, arbitrarily oriented cracks, stress intensity factor 9-7341
 shallow shells, optimisation, formfinding, load bearing behaviour, stability (*German*) 9-27505
 shallow spherical shells, stability under axisymmetric loading (*Russian*) 9-14287
 sheet, plane elastic, containing circular hole or inclusion, radial deformation 9-41575
 sheet metal, limit strains, predictions from yield criterion 9-27539
 sheet metal stamping, finite element anal. 9-7344
 shell, aerohydroelastic opening of shell in nonstationary flow (*Ukrainian*) 9-32258
 shell, cylindrical, cantilever, dynamic deforms. and stresses under impulsive loads 9-27504
 shell, cylindrical, fibre-reinforced, axisymmetric damped vibrations calc. 9-14297
 shell, cylindrical, semi-infinite, with end plate subjected to centrifugal force, large deflection analysis (*Japanese*) 9-1104
 shell, elastic cylindrical, impact on surface of compressible fluid (*Russian*) 9-37181
 shell, spherical, non-shallow, moderately thick, stresses and deform. 9-32241
 shell, stretched cylindrical, with Z elliptical holes, stress concentration 9-46194
 shell bending, static geometric analogy in classical shell theory (*Russian*) 9-37159
 shell of revolution, structural anal. using ANTRAS program (*German*) 9-46192
 shell of revolution with maximum torsional rigidity (*Russian*) 9-46188
 shell wall anal., circular tanks under axisymmetrical pressure 9-46202
 shell with 6 reinforcing ribs, nonaxially symmetrical loading (*Russian*) 9-46190
 shells, cylindrical, nonlinear parametric vibrations calcs., deflection (*Russian*) 9-46191
 shells, free-form, nonlinear anal. by flat finite elements 9-14247
 shells, parabolic, shallow, thin, elastic behaviour approximate calc. 9-57
 shells of revolution, rigid perfectly plastic, limit anal. program, plasticity criterion (*French*) 9-37155
 shells of revolution, rigid-plastic limit anal. under rotationally symmetric loading (*French*) 9-14276
 shells of revolution, ring type finite element method (*German*) 9-14250
 simply supported plate, obtuse corner, numerical modeling 9-32243
 slabs, anisotropic skew ribbed, orthotropic plate theory anal. 9-37151
 soil-structure systems, time integration, mixed methods 9-41568
 solid body, motion about centre of mass under Newtonian force, stationary solns. (*Italian*) 9-9094
 solid dynamics, SU(3) type configurations, global view (*Russian*) 9-25850
 solid mechanics, elementary tensor anal. (*Japanese*) 9-40363
 solids, classical and quantum scaling 9-35626
 spherical elastic shell, thick walled, transient response, ray theory determ. 9-10484
 spherical membranes, inflated nonlinear, dynamic snap out instability 9-32237
 spherical shells, nonlinear state and dynamic response 9-32236
 square plates, laterally loaded, point supported, collocation soln. 9-18706
 stability of explicit-implicit mesh partitions in time integration 9-1101
 stiffness matrix for sandwich beams with thick anisotropic laminated faces 9-46182
 stochastic boundary-value problems, solns. using digital simulation of space-random fields 9-41510
 stretched elastic sheet, punched hole, wave propagation 9-10524
 strong discontinuity wave in initially strained elastic medium 9-14301
 structural analysis, dynamic condensation method 9-3943
 structural analysis, nonlinear theory of shells 9-30230
 structurally inhomogeneous solid bodies, mechanics (*Russian*) 9-30231
 superposed rigid body motions, invariance 9-37153
 tank with fluid, variational anal. of dynamic reaction (*Ukrainian*) 9-32234
 tapered cantilever columns, post buckling finite element anal. 9-1119
 thermodynamic fundamentals of continuum mechanics, equilibrium states 9-40373

classical mechanics of continuous media continued

thick infinite plate with circular hole, axisymmetric stress and displacement boundary value problems 9-27511
 thick plates and rods, under biharmonic loads, calculation model 9-14253
 thin layer surface inhomogeneity effect on dynamic surface response 9-7288
 thin plate Semiloof element for structural anal. 9-3913
 thin shell structs. mixed elements, theory, criticism, examples (*German*) 9-27506
 thin structures, finite element anal. of large displacements 9-27514
 time-evolution of the scattering kernels for half-space gas-solid systems 9-25849
 toroidal shells, branching solns. to nonlinear eqns. (*Russian*) 9-27557
 transient nonlinear mechanics problems, finite element anal., computational aspects 9-41565
 transient response of continuous elastic structures with viscous damping 9-46254
 triangular finite difference scheme for large deflection problems 9-32233
 triangular plate elements, numerical investigation using variation principles with relaxed continuity conditions (*German*) 9-10465
 undamped linear elastic systems, stability under follower forces, perturbation study 9-1110
 variable thickness, curved beam and shell stiffening element with shear deformations 9-44733
 vibrating heterogeneous string (*French*) 9-7317
 viscoplastic wave propagation, inversions for const. vel. case 9-12614
 wave diffraction theory appl. to free floating and moored rigid structs. 9-7321
 wind loaded structure, deterministic stability anal. 9-7314

classical mechanics of discrete systems

see also N-body problems
 3-D cable networks, finite element study of free vibration 9-23197
 adiabatic invariant motion, charged particle in space periodic wave, variable length pendulum (*Russian*) 9-2623
 asymptotic and total stability for generalized dynamical systems 9-17205
 asymptotical level density of a physical system, Lanczos method 9-5977
 balls packing in rotating cylinder (*Ukrainian*) 9-41566
 bar under pure follower force, nonlinear static anal. 9-23199
 bifurcations in dynamical systems with internal resonance 9-46255
 Boolean systems, atomicity and determinism 9-35518
 brachistochrone, arbitrary initial vel. object, for teachers 9-21500
 brachistochrones, tautochrones, evolutes, and tessellations, for teaching 9-25798
 circulant and near circulant systems, dynamics 9-12585
 column, free flying, asymptotic solns. to problem of lateral stability 9-14242
 completely integrable systems and symplectic actions 9-44712
 complex elastic systems, appl. of generalised functions to analytical methods of study (*Ukrainian*) 9-35537
 complex mechanical systems, small oscillation eqns. (*Russian*) 9-35539
 composite mechanical systems dynamical flexibility, fictitious source method in polar coordinates (*Polish*) 9-32225
 conditional jointed structures, mechanical and mathematical models 9-23200
 conservation laws on dynamical systems via D'Alembert's principle 9-30217
 conservative systems, perturbation expansion validity 9-12587
 constraint formalism of classical mechanics, covariant relativistic quantisation, two-body problem 9-2622
 coupled motion of rigid bodies about their center of mass 9-40065
 coupled response of a dynamic element riding on a continuously supported beam 9-46176
 crank-type four-bar function generators with transmission angle control 9-18699
 dynamical systems, equilib. configurations and small oscillations 9-25832
 dynamics of systems of solid bodies with combined control (*Russian*) 9-17209
 education, rotating water sprinkler anal. 9-9064
 elastic collisions of N billiard balls in three dimensions. space 9-30223
 elastic structures, force method of anal. 9-18689
 extended Delaunay method, appl. to disturbed hamiltonian dynamic system reson. (*French*) 9-21539
 flexible damped satellites, Liapunov stability anal., comparative study 9-37148
 foundation of theoretical mechanics, inverse problem in Newtonian mech., book 9-25838
 foundations of mechanics, book 9-25837
 four rigid body system, transformation operator approach, spacecraft modelling appl. 9-25834
 Galilei relativity in Newtonian mechanics, possible Lie admissible algebras, addendum 9-2619
 generalized Galilei groups in classical dynamics 9-30221
 geometric formalisation of classical dynamics (*Russian*) 9-9105
 geometric quantisation, correl. between classical and quantum mech. in geometric language 9-25905
 group theoretical foundations, elementary systems 9-30282
 gyroplatform orientation in geographical meridian, effect of earth non-sphericity (*Russian*) 9-14240
 gyroscopic structure synthesis, Rayleigh-Ritz approach 9-18695
 gyroscopic systems, precessional equations, admissibility of passage (*Russian*) 9-30219
 gyrost with fixed point, lateral inertial imbalance effect on spin stability 9-32229
 Hamilton's principle for nonholonomic systems (*Russian*) 9-9097
 Hamilton system, instability of equilib. position (*Russian*) 9-9100
 Hamilton-Jacobi generalised theories 9-2681
 heavy rigid body motion, Hill and Hadamard characteristics (*Russian*) 9-9103
 Heisenberg infinite classical and quantum models, intertwining, Trotter approx., coherent state formalism 9-44713
 helicoideal spring, braking action and highest twisting moment 9-27502
 horizon gyrocompass, stability of precessional motion, third order resonance (*Russian*) 9-46173
 inhomogeneous symplectic group, role in framework of Wigner isomorphism (*French*) 9-12589
 instantaneous invariants in three-dimensional kinematics 9-18698
 invariant perturbation theory as alternative to Hamilton-Jacobi approach in classical mechanics 9-12588
 invariant tori of fixed freq., Langrangian variational principle 9-25833
 invariante analytical mechanics of point-like bodies 9-5978

classical mechanics of discrete systems continued

- kinematic equivalence of system of forces (*Polish*) 9-12590
 Lane's equation, Arnold-Moser-Russman criterion, elliptic stability 9-25836
 large structural systems with local nonlinearities, finite element dynamic anal. 9-44711
 lifting system cascade struct., signal flow graphs in modelling (*Polish*) 9-32224
 linear system, external parametric random perturbations, oscillations (*Russian*) 9-17207
 linear systems, multicoordinate problem (*Russian*) 9-9102
 many-body problems, orthogonal polynomials, asymptotic density of zeros 9-30286
 mechanical response and the initial value problem 9-2620
 molecular energy distribution in quasiperiodic and ergodic regimes 9-41227
 motion rigidity (*Russian*) 9-9099
 multidegree of freedom system, response to nonstationary random excitation 9-32228
 multilink spatial mechanism structure and analysis (*German*) 9-21544
 multiply charged periodic classical systems and random EM radiation, statistical equilib. 9-2621
 multirigid body systems, equations of motion 9-46177
 network constructions, large strain anal., simplex membrane elements 9-32220
 Newton's law, linear depend. of mass (*Italian*) 9-12706
 Newton and Heisenberg eqns. of motion relation, harmonic and anharmonic oscill. 9-6018
 nonconservative dynamical systems, stationarity principle 9-30216
 nonholonomic dynamical systems, generalized Hamilton-Jacobi method second form 9-30222
 nonlinear dynamic damper, subharmonic oscillation extinction 9-25835
 nonlocal theories satisfying Bell's inequality 9-12642
 nonreactive scatt., classical differential cross sections in Legendre polynomials 9-836
 optimal control of moving bodies, use of Bulgakov normal coords. method (*Russian*) 9-9104
 oscillator with bilinear hysteresis, response to stationary random excitation, stochastic averaging 9-46179
 oscillators with nonlinear damping, stochastic anal. 9-41567
 overhung shaft-disc system with disc effect, critical speed determ. 9-46172
 parachute influence on motion of axially symmetric air dropped object (*Polish*) 9-14243
 parametric excitation system instability region determ. 9-23201
 parametric stabilisation of unstable equilibrium forms of mechanical systems (*Russian*) 9-46175
 pendulums in orbiting spaceship, equilibrium and stability 9-44667
 periodic systems, optimisation by analytic construction of control 9-21543
 phase space methods and the Hamilton-Jacobi form of dynamics 9-21542
 plane mechanisms, relative motion (*German*) 9-14245
 Poincare gauge invariance, conservation laws for particle, string and membrane systems 9-55
 Poincare-Chetaev's equations, integration (*Russian*) 9-35547
 Poisson brackets, canonical invariance, for teaching 9-25810
 potential operators and the inverse problem of classical mechanics, differential eqns. 9-2618
 proportionally damped dynamic systems, eigenvalues (*German*) 9-21540
 resonance between weakly coupled oscillatory systems 9-40357
 rigid bodies, Euler-Poisson equations, reduction to obliquely symmetric form (*Russian*) 9-35548
 rigid bodies having inertia ellipsoid of revolution 9-32223
 rigid body containing moveable mass, motion anal. (*Russian*) 9-32221
 rigid body dynamics, air table expt. 9-5941
 rigid body dynamics, nonexistence of single valued integrals and branching of solns. (*Russian*) 9-9098
 ring, circular, force, displacement influence functions 9-18694
 road vehicle stopping distance, weight transfer effect, for teaching 9-25800
 rolling missile, apsidal limits 9-3909
 rotation kinetics anal. with air cushion apparatus (*Hungarian*) 9-25811
 rotor, elastically supported, automatic balancing (*Polish*) 9-10458
 satellite orientation in a given direction, steady circular orbit (*Russian*) 9-46174
 satellite stabiliser system with 2-stage suspension, dynamics (*Russian*) 9-32222
 shape modes in damped systems 9-44715
 solid body rotation in Newtonian force field (*Russian*) 9-35546
 speed-optimal control synthesis in near spherical symmetry problems (*Russian*) 9-9095
 spinning particle, Lagrangian function using variational formalism 9-40356
 spinning shell, Magnus instability 9-18693
 stationary response of a randomly parametric excited nonlinear system, truncation schemes 9-46178
 steel rods, longit. impact on plate, contact time meas., student expt. 9-5939
 structural dynamics, time integration procedures, computational aspects, error propagation 9-32227
 structural dynamics, time integration processes, computational aspects, implementation 9-32226
 structural optimisation problems, iterative methods 9-18690
 structures dynamic problems, eigenvalue economisation, program (*Italian*) 9-35544
 successive finite rotation of a rigid body 9-46180
 symmetric top on horizontal surface, computer program for initial value problem 9-44714
 synchrotrons, accelerated particle resonances, perturbation treatment in classical dynamics 9-22506
 three dimensional mechanisms, position, velocity, acceleration function recurrence relations 9-14244
 transient nonlinear mechanics problems, finite element anal., computational aspects 9-41565
 uniform acceleration, student laboratory expt. 9-40326

classical theories of fluid structure

- see also kinetic theory; liquid theory
 BBGKY hierarchy, the closure problem 9-14505
 charged hard spheres near charged hard wall, mean spherical approx. 9-23510

classical theories of fluid structure continued

- dense gases and liqs., three-body nonadditive interactions, thermodynamics props., mol. dynamics simulation 9-7435
 dynamical correlation functions of classical liquids 9-1381
 electrolytes, free energy, due to Coulombian and hard core pots. 9-23748
 equation of state, hard-sphere fluid, Yukawa tail pot. 9-42211
 Fokker-Planck fluid, orientational correl. time 9-23512
 hard sphere fluid struct. near hard wall 9-23511
 hard-disc fluid, free volume props. 9-46534
 hard-sphere fluid, direct correl. function 9-41918
 hard-sphere fluid, liq.-solid instability, bifurcation anal. 9-27888
 Helmholtz free energy of triangular well fluid, Barker-Henderson perturbation theory 9-4218
 inhomogeneous fluid, pair and density correl. functions 9-27887
 ionic fluid, equilib. props. using corresponding states concepts 9-27889
 itinerant libration, two-dimens., simulation by 120 annuli 9-14662
 Mayer function, delta-function expansion, virial coeffs. appls. 9-4221
 molecular fluid, spherical harmonic formalism, thermodynamic props. 9-27886
 nematogenic solutions, binary, Van der Waals theory 9-27916
 nematogenic solutions, Van der Waals theory 9-27915
 Percus-Yevick integral eqn. perturbative soln. for of intermolecular pot. 9-30348
 polar fluid, long range and short range dipole correls., separation 9-1376
 polarisable hard sphere fluid, thermodynamic props. 9-42277
 rigid particle fluid, statistical mech., general zero-separation theorem 9-46533
 scaled particle model for mixtures of hard spheres with nonadditive diameters (*German*) 9-10765
 simple liquid, dynamical structure factor and Green's functions 9-4228
 surface tension, hard-sphere fluid, interacting with wall, virial coeffs. 9-23808
 velocity autocorrelation function, density depend. 9-14665
 Yukawa-tail fluid, semiclassical fluid struct. and thermodynamics props. 9-27895
 Ar gas, thermally excited density fluctuations, neutron scatt. 9-23392
 SF₆-N₂O solution, IR and Raman rot. correl. functions, expt. and theory 9-46541
- classification** see also indexing
 galaxies, luminosity classifications, systematic and accidental errors 9-12510
 linear and angular dimensions, classification and symbols for means of meas. 9-6081
 seawater, optical classification using solar radiation spectral attenuation meas. 9-12127
- classification, pattern** see pattern recognition
- clathrates** see molecules; organic compounds
- clay**
 calcining, particulate emission removal using electrostatic precipitator 9-24925
 fault gouge, mineralogy and physical nature 9-16454
 flocc, settling velocity, rel. to permeability 9-43636
 gas-bearing water-saturated sediment, sound vel. as function of bubble distrib. 9-39703
 Indian continental shelf, distrib. patterns of Al, Ti, Mn, Cu and Ni in sediments 9-25225
 E.Indian Ocean, clay minerals distrib. in sediments 9-44172
 Indian Ocean, deep-sea sedimentation, lithologic and palaeomag. study 9-20810
 kaolin, -flint mixtures, polyethylene oxide additive effect on plastic strength after tempering 9-24568
 marine sediments, underconsolidated, adhesive resistance 9-20814
 montmorillonite, clay mineral, expanding type, surface props. rel. to heat treatment 9-29406
 mudboils nature and genesis, Keewatin, Canada 9-5478
 Nottingham clay tobacco pipes, chronological groups, chemical analysis 9-29422
 Okhotsk Sea, clay minerals distrib. in recent sediments 9-20804
 Philippine Sea, clay sediments comp. and accumulation rates 9-2221
 plasticity determ. using drying process and shrinkage 9-20307
 polygonal patterned ground in central New Jersey, origin during Wisconsin glaciation 9-25248
 Rideau clay loam, moisture profiles during steady vertical flows in swelling soils 9-5524
 Rother catchment, W.Sussex, fine sediment mineralogy of source rocks and suspended sediment 9-20827
 seawater-clay suspension, turbulent boundary layer 9-20858
 Triassic assemblages of Europe 9-12118
 K-Ar dating method for argillaceous sediments 9-8716
 Li, occurrence in flint clay and related rock types in United States, preliminary survey 9-48475
- cleaning** see surface treatment
- cleanliness** see hygiene
- cleavage, crystal** see crystal cleavage
- Clebsch-Gordan coefficients**
 see also elementary particle theory
 compact connected Lie groups, tensor product representation, decomposition 9-6021
 coupling coefficients for cubic groups, $3j\Gamma\gamma$ symbols for double octahedral SU(2) group 9-21571
 coupling coefficients for cubic groups, permutation symmetry 9-21572
 De Sitter group SO(4,1), Wigner's coeffs. (*Russian*) 9-9134
 double tetrahedral group, Wigner symbols, coupling effects 9-44760
 extended integrity bases of finite groups 9-40349
 integral transformation describing Clebsch-Gordan coefficients, d-function SU(2) and their symmetry (*Russian*) 9-2665
 Legendre moments calc. from partial waves 9-17273
 SL(2,C) group, Clebsch-Gordan coeffs. 9-6022
 SU₃ group, normalisation 9-106
 SU_n theory, generating invariants of Clebsch-Gordan coeffs. 9-302
 symmetry group, Clebsch-Gordan coeff. as eigenvectors of projection matrices 9-19175
 tensor properties of second-quantization operators and analysis of composite physical systems 9-25903
 β -W, coeff. for XXX and RXX irreducible representations 9-14732
 β -W structure Clebsch-Gordan coeffs. 9-37645

climatology

- see also *atmospheric humidity; atmospheric precipitation; sunlight; wind*
 ancient Mesopotamia, barley harvest dates rel. to temp. 9-5597
 Antarctic Polar Front Zone, climatic characts. 9-2358
 anthropogenic influences on climate, review 9-48565
 Arctic ice cover evolution rel. to climatic changes 9-29781
 artificial satellite, SEOCS, design 9-29965
 astronomical theory of climatic oscils. (*Russian*) 9-34937
 N.Atlantic region, temp. trend 1970-77 period, warming (*German*) 9-16640
 atmospheric research, introduction and current areas of interest 9-2351
 Bahrain, discomfort index based on wet-bulb temps. 9-20964
 Baikal-Amur region, climatic regionalization of estimated winter temps. 9-39842
 Baltic Ice Lake levels, dating rel. to S.Finland Salpausselka moraines 9-20872
 Barents Ice Sheet as a relay regulator of glacial-interglacial alternation 9-2309
 baroclinic instability, critical temp. gradient, eddies, climate model 9-5562
 Black Sea, Upper Quaternary deep-sea sediments stratigraphy 9-20811
 Bolivia, evidence for glaciation 3.27 Myr BP 9-34865
 boundary layer climates, book 9-8682
 Brussels, urban climate modifications, first obs. (*French*) 9-2356
 Budyko-Sellers models, steady state solns. 9-16638
 climatic change, long-term, prod. by fossil fuel usage, proposed space obs. 9-29844
 cloud cover over surface types, climatological analysis 9-16596
 contemporary climate changes, natural and anthropogenic factors 9-34938
 continental ice sheet model, spectral response to insolation vars. 9-2300
 correlations of changes in geomag. field, climate and weather 9-39648
 energy balance models, stability expts. with improved albedo and IR emission 9-2357
 energy consumption effects on climate 9-29848
 energy use and climatic changes 9-29846
 environmental obs. from space based systems, present and future 9-5657
 Europe, climatic and human history rel. to Latin American comparison 9-2590
 evolution of atmosphere, climatic changes 9-34962
 forecasting, review of major causative factors, economic and ecological effects (*French*) 9-48564
 Genoa, 1833 to 1900 meteorological obs. (*Italian*) 9-34936
 geomagnetic intensity rel. to climate, historical records 9-39638
 geophysical timescales from absolute-dated ice cores from Greenland (*Danish*) 9-34776
 glacial periods, implications of solar neutrino expts. 9-16918
 glaciation, causes 9-20961
 global climate, steady-state format 9-44244
 historical atm. comp. and climate from gas parameters meas. on Greenland ice cores 9-8681
 historical climatology 9-16641
 hydrologic cycle, climatic sensitivity, numerical model 9-8654
 ice age, relation to Sun interstellar dust accretion and neutrino prod. 9-12441
 ice ages, prod. by Earth albedo sudden change 9-44241
 ice ages and continental drift, theory 9-44209
 inland ice sheet thinning due to Holocene warmth 9-34873
 instantaneous rainfall rates, climatology 9-39841
 interstadial sea level of -40 m at 30000 yr BP, $^{230}\text{Th}/^{234}\text{U}$ age support 9-16504
 IR cloud opacities averaging for climate modelling 9-8692
 Japan, late glacial age chronology from morainic features and Lake Biwa sedimentary sequence 9-34872
 Late Miocene Antarctic glaciation, correl. with phosphatic nodule beds in Victoria 9-12105
 Latin America, climatic and human history rel. to European comparison 9-2590
 mechanisms and models of climatic change 9-12229
 Mesozoic greenhouse and climatic warming 9-20963
 model of climate change, internal and external causes 9-16637
 Netherlands, winter temps. rel. to solar cycle 9-5596
 North Sea and Baltic pollution, natural and man-made influences (*German*) 9-5508
 northern hemisphere, temp. trend to year 2000, prediction 9-16646
 northern hemisphere climate vars. rel. to N.Atlantic tropical cyclones characts. 9-39843
 numerical simulation of climate and climatic change 9-16643
 palaeoclimatic change, 230000 to 100000 BP, results from speleothems stable isotope geochemistry 9-2234
 palaeoclimatic features, based on stable isotope compositions, Lake Biwa, central Japan 9-12230
 palaeoclimatic inferences from former glaciers in Scotland and the Lake District 9-44243
 palaeoclimatology, overview, and European air temp. trends (*German*) 9-16639
 palaeoclimatology and vegetation changes during 2000 years BP, from anal. of varved lake sediments 9-25279
 palaeotemperature series from last 700000 years, statistical study 9-5598
 palaeovariations rel. to almost intransitive Sun 9-21255
 Pleistocene deglaciation, influence on true polar wandering 9-44079
 predictability of climate 9-16645
 river sands, climatic influence on petrology and chemistry 9-25274
 Rumania, climatic conditions and electronic equipment operation (*Rumanian*) 9-44242
 Sahel region, general and regional circulation effects on climate (*French*) 9-20962
 Salpausselka moraines, S.Finland, dating rel. to Baltic Ice Lake levels 9-20872
 solar activity effects on weather and climate 9-16644
 solar radiation, stochastic variation, effect on climate 9-21262
 Southern Hemisphere in 1928, explosive volcanic eruption effects 9-2204
 space observations of long-term climatic change, conf., Prague, Czechoslovakia (Sep. 1977) 9-29843
 stratosphere, recent temp. trends 9-29845
 stratosphere, seasonal climate, numerical simulation, energetics 9-5567
 stratosphere, seasonal climate, numerical simulation, zonal temp. and wind 9-5566
 temperature changes since 1665, statistical study of likely influence of causative factors 9-8680

climatology continued

- terrestrial heat flow palaeoclimatic and topographic corrections, erosion effects 9-34767
 thermal balance meas. by radiation pressure on satellite microaccelerometer 9-2380
 thermal history, CO_2 content rel. to thermodynamic balance 9-29847
 tree-ring evidence of past climatic variability 9-16642
 United Kingdom Climatological Network, history and role of co-operating observers 9-5618
 variations and temp. at Bergen, Norway (*Norwegian*) 9-39840
 warming effect on W.Antarctic ice sheet 9-34864
 wind velocity magnitude and persistence, probability models 9-5583
 Zaire Basin, climatic atlas (*French*) 9-39844
 CO_2 climate and society, IIASA conf. (Laxenburg, Austria, 1978 February 21-24) 9-8679
 CO_2 levels from combustion of fossil fuels, effects 9-2359
 $^{18}\text{O}/^{16}\text{O}$ palaeoclimatic, implications of subglacially precipitated calcite 9-20897
- climb, dislocation** see *dislocation climb*
clipping circuits see *limiters*
clock paradox see *special relativity*
clocks
 see also *atomic clocks; chronometers; time measurement*
 circadian clocks, mathematical models 9-34470
 crystal tuning fork development and biography of Jurgen Staudte (*German*) 9-30182
 crystal-controlled, accuracy setting and control (*Czech*) 9-40541
 digital clock using MM53151C and CMOS ICs (*Spanish*) 9-8841
 digital timer, IC, high accuracy and repeatability, photographic appl. 9-35683
 electrical stopwatch testing using semiautomatic device 9-30424
 electronic programmable timers for industrial lab., Xanadu up-timer 9-9207
 electronic timer using TTL or CMOS ICs, for programmed delays 9-35684
 equipment and services, 1979 video yearbook 9-14197
 non-autonomous (secondary), pulse and frequency controlled (*Czech*) 9-40540
 radio clock for reception and display of time code information 9-175
 satellite time system for utility companies 9-12774
 time and freq. transmission, OMA 50 kHz Czechoslovak station (*Czech*) 9-30425
- closed circuit television**
 neutron radiography edge enhancer 9-24706
 reading aid, portable, for partially-sighted 9-29665
 thermal NDT system, production quality control appl. 9-11751
 undersea stereoscopic television for offshore appls. 9-5677
- closed loop control systems** see *closed loop systems*
closed loop systems
 see also *feedback*
 seismographs, feedback-controlled wide-band, design, rel. to undesired side effects 9-39909
 seismometers, wide-band feedback instrument 9-39907
 wind energy conversion system control, on-line, performance in turbulent wind environment 9-48069
- cloud chambers**
 SO_2 , gas, photooxidation, cloud chamber obs. 9-1961
- cloud physics** see *clouds*
clouds
 see also *atmospheric precipitation; sky*
 American Meteorological Soc. Conf. (Issaquah, Wash., 1978 July-Aug.) 9-5551
 artificial clouds form. possibilities and methods 9-29823
 attenuation of 1.25 and 2.0 mm waves, radiotelescopic obs. 9-34897
 brightening of disperse media, role of laser fluctuations 9-41405
 cirrus clouds, radiative props. in NOAA 4 VTPR channels rel. to satellite exploration 9-39853
 condensation of water, thermodynamics of nucleation on charged centres 9-20955
 convective clouds assoc. with severe thunderstorms, nature and effects on society 9-5560
 convective dynamics, simulation of three-dimens. cloud model 9-16590
 convective model, appl. to waste heat removal from nuclear power plant 9-34452
 convective parameterization, Arakawa-Schubert scheme apcl. 9-16587
 cover over surface types, climatological analysis 9-16596
 cumulonimbus cloud top heights over Deccan Plateau and adjoining plains, radar obs. 9-48542
 cumulonimbus motion and splitting, role of downdraught, numerical simulation 9-44227
 cumulus, aircraft meas. if ice, Florida 9-12213
 cumulus, numerical simulation, of weak development (*French*) 9-16607
 cumulus convection in shear flow—three-dimensional numerical experiments 9-34915
 cumulus friction and moisture budget in tropical wave-CISK 9-16580
 cumulus transports in tropical wave composite during GATE 9-2336
 cyclonic storm, Arabian Sea, 1976 June, diurnal var. and secondary vortices form. 9-20915
 diffuse solar radiation field in cloud layer (*Russian*) 9-29851
 drop growth in atmosphere by condensation, cloud physics apcl. 9-44216
 drop size distrib., Keily probe assessment for ground-based meas. 9-12317
 drops, 8-12 μm radiant energy transfer effects on mass and heat budget 9-5571
 electrical and microphysical meas. in maritime and urban clouds 9-12173
 electrical charges fate in evaporating droplets 9-48559
 electrification in axisymmetric time-dependent model 9-16594
 entraining plume model, sensitivity analysis and appl. 9-20944
 fractional coverage rel. to humidity and condensation in wave model 9-34911
 graupel development, numerical simulation 9-5573
 hail nuclei determ. by radar and radiometric combined meas. (*Russian*) 9-12195
 height derivation using High Resolution IR sensor data 9-48539
 humid plume interaction (*French*) 9-16605
 hydrologic cycle, climatic sensitivity, numerical model 9-8654
 ice nucleation, on natural and man-made particles 9-48530
 ice nucleation in atmosphere, natural nuclei origin 9-48531
 industrial cumulus, numerical simulation, comparison with obs. 9-12202

clouds continued

- inter-tropical convergence zone cloud clusters of Indian Ocean basin, features 9-29822
- IR cloud opacities averaging for climate modelling 9-8692
- IR radiation flux in atmosphere with cloud, approximation 9-39854
- IR satellite data automatic segmentation and classification 9-5638
- laser beam attenuation at mountain altitudes by fog and clouds (Russian) 9-48566
- laser evaporation of cloud medium, self-focusing possibility 9-27306
- laser equation for inhomogeneous atm., double-scatt. approx. 9-29855
- laser returns from clouds, double scatt. contrib. 9-5615
- light propag. through horizontally non-uniform scattering cloud layer (Russian) 9-25326
- meteorological physics, recent developments, review 9-25313
- microphysical properties from lidar obs. 9-39811
- microphysics anal. 9-16853
- moisture content of atmosphere determ., long-range, by thermal radioemission meas. (Russian) 9-5637
- morning and evening temp. differences of cloud tops over tropical continents and oceans 9-12219
- motion estimation, Fourier phase difference technique 9-21046
- motion of a large dusty buoyant thermal with a vortex ring 9-48561
- noctilucent, cine and television high-resolution obs. 9-39891
- noctilucent clouds, circularly polarised light detect. 9-48568
- noctilucent clouds observed during 1976 in Poland 9-16559
- nonconvective condensation, parameterization scheme, cloud water content prediction 9-12215
- nonspherical extinction and absorption efficiencies 9-7074
- nuclei concs., Robertson, New South Wales, Australia, 1968-1973 meas. 9-5569
- particle size distribution from spaceborne line spectrum imagery, theory 9-5613
- physics, course book 9-44239
- polar and equatorial cloud bands interaction, GOES-1 imagery 9-39786
- pollution from coal-fired power plants, effects on cloud and precip. processes 9-20933
- precipitation initiation in updraughts, seeding 9-20924
- pulse diffusion in densely distributed scatterers 9-3632
- radiative transfer in cloudy atmosphere, model solar radiation and cloud struct. 9-21016
- radiowave attenuation statistics at 15 and 35 GHz for very low elevation angles 9-8674
- raindrop, single, growth by condensation and droplet capture, props. 9-12208
- raindrop growth physics, for teaching 9-35502
- raindrop size distrib. with collision breakup in axisymmetric warm cloud model 9-34918
- remote sensing, integral humidity, integral moisture temperature and height of drop cloud phase determ. (Russian) 9-5635
- rime growth, splintering mechanism 9-39788
- severe local storms, St. Louis region, urban effects 9-12199
- sky cover predictions, possible sunshine 9-16565
- snow, epitaxial relationship during three dimensional dendrite form. 9-23875
- snow, growth mechanism with specific grain boundary 9-23547
- snow size spectra and snowflake aggregation efficiencies, theory and obs. 9-8660
- stability analysis of deep cloud streets 9-2335
- steady convection, two-dimens., in const. vertical shear, dynamical struct. 9-12209
- stereophotogrammetric measurements of clouds in tropics, TROPEX data 9-29833
- stratosphere cirrostratus, obs. over Scotland 9-16627
- transfer processes, approx. analysis (Russian) 9-34902
- tropical cumuli, props. and bulk thermodynamic effects 9-8657
- tropical interaction with and modification of the subcloud region 9-34914
- tropical troposphere, three-dimens. wind struct. around cumulus clouds over island 9-5588
- tropospheric dynamics, influence of clouds (Russian) 9-8653
- Typhoon Della, weather conditions in eye of storm 9-29828
- United States, recent increase in sunshine duration rel. to cloudiness 9-20930
- urban effects on convective cloud heights, St. Louis region 9-16599
- urban effects on precipitation initiation in convective clouds, radar first echoes appl. 9-16601
- warm fog and steam clouds, emission spectra variations, evidence for clusters in vapour phase 9-39849
- water droplets acidity rel. to SO_4^{2-} prod. 9-5546
- CO_2 laser radiation influence on liquid drop cloud medium, dissipation 9-39858
- SO_2 , vertical distrib., influence of clouds and rain, one-dimens. model 9-20982

Clusius-Dickel columns see *isotope separation*

cluster analysis see *pattern recognition*

cluster approximation

- alkali halides, U_2 centres, cluster-Bethe lattice calc. for electronic density of states 9-4531
- alloy, substitutional, analytic approximation for Herglotz property 9-37946
- alloys, self-consistent cluster theories for diagonal and off-diagonal disorder 9-37950
- Bethe lattice, bootstrap percolation 9-30376
- binary alloys, electronic density of states, generalized cluster-Bethe-lattice approach 9-42432
- boson gas, rigorous second-order cumulant expansion 9-44853
- charged particle moving in medium, electron density fluctuations, plasmons, wakes and clusters 9-47032
- chemisorption of H on large cluster, bonding energy, HF calc. 9-39204
- cluster size and shape in random and correlated percolation 9-35633
- disordered alloy, self-consistent boundary site approx. in cluster theories 9-19500
- disordered media, elec. transport theories, effective medium approx. improvement 9-47071
- ferromagnetism, Bethe-Peierls-Weiss model, phase transition calc. 9-2585
- homomorphic cluster CPA, rigorous proof for analyticity 9-19504
- impurity cluster pairs, lattice localised modes 9-33058
- irreducible cluster expansion for the logarithm of the s-particle density matrix of a many-boson system 9-21657
- Ising cluster size and shape, Whitney polynomial 9-33080

cluster approximation continued

- localised site cluster expansion, interacting paramagnetic sites, spin symmetry projection 9-7951
- magnetic impurities and Kondo effect, theoretical model 9-33455
- many-electron systems, ions, pot., excitation energy, cluster expansion direct calcs. 9-26912
- metal cluster, electronic spectrum fluctuations, appl. to Ni and Ti 9-19501
- microclusters, morphology, Hund and Jahn-Teller tendencies 9-46996
- naphthalene, excitation migration, variable range cluster model 9-33762
- naphthalene- h_8 and - d_8 mixed crystal, two-dimens. lattice, cluster-cluster interactions, model inhomogeneous distrib. 9-23922
- nonperturbative open shell theory, mol. ionisation pot. and excitation energies, HF multiple cluster expansion 9-22599
- orthophosphates, dynamics of ferroelectric cryst. 9-37801
- plane wave set, orthogonalised, construction method, bound states 9-25894
- plasma, weakly ionised, ion interaction through phonon exchange in neutral gas 9-27775
- plasma, weakly ionised, ion interactions through acoustic field, plasmoid existence 9-27776
- rare earth alloys, amorphous random anisotropy ferromagnetism in pair approx. 9-47276
- refractory metal compounds, electronic structure and chem. bonding 9-27948
- spin glasses, thermodynamic props., cluster mean-field theory using Ising Hamiltonian 9-33499
- square lattice, appl. of real-space renormalisation group to site percolation 9-30377
- square lattice, percolation and cluster distrib. variable range interactions, exciton cluster model, layers 9-30379
- substitutionally disordered systems, analytic extension of CPA to clusters 9-19503
- uniform cluster estimates for lattice models 9-25992
- variational, localised site cluster expansion, wave function higher ansatz, linear Heisenberg model 9-7959
- variational localised site cluster expansion, wave function ansatz, many body theory 9-6827
- vibronically coupled systems 9-19540
- $\text{Al}(111)$, chemisorption of O_2 , SCF X_α scatt. wave MO calc. 9-42374
- AmO_2 and AmO , electronic struct. and chem. bonding and XPS line shape calcs. 9-33264
- BkO and BkO_2 , electronic struct. and chem. bonding and XPS line shape calcs. 9-33264
- CmO and CmO_2 , electronic struct. and chem. bonding and XPS line shape calcs. 9-33264
- Cs_2O_3 , ionic clusters in alkali metal suboxide cryst., struct., vibr. freqs., Raman spectra 9-37772
- Cu, lattice and force consts., pairwise atomic repulsions in cluster model 9-32939
- α -Fe, lattice and force consts., pairwise atomic repulsions in cluster model 9-32939
- GaAs, electronic struct., mol. cluster model, SCF multiple scatt. method 9-42446
- $\text{GaP}(\text{Sb})(\text{As})$, (110) surface, trned in energy distrib. of Ga dangling orbital surface states 9-28397
- $\text{LiCl}:\text{Cu}^+$, MO calc. of luminesc. Cu^+ centres 9-38609
- Na, metallic, Auger cross relaxation energy, SCF cluster model calc. 9-46945
- Nb clusters, scattered wave X_α calcs. 9-15068
- Nb_6 clusters, electronic struct., scattered wave- X_α calc. 9-11053
- NbO , electronic struct. from photoelec. and X-ray emission spectra and X_α calcs. of NbO_6^{10} cluster 9-23892
- Ni, FCC, H-Ni $_n$ self-consistent electronic screening charge density 9-33255
- Ni, lattice and force consts., pairwise atomic repulsions in cluster model 9-32939
- Ni:He, defect props., quantum-chemical and lattice-defect hybrid approach 9-4528
- NpAl_4 clusters, band struct., variational X_α calc. 9-4508
- NpO and NpO_2 , electronic struct. and chem. bonding and XPS line shape calcs. 9-33264
- PuAl_4 clusters, band struct., variational X_α calc. 9-4508
- PuO and PuO_2 , electronic struct. and chem. bonding and XPS line shape calcs. 9-33264
- Rb_2O_2 , ionic clusters in alkali metal suboxide cryst., struct., vibr. freqs., Raman spectra 9-37772
- Sb_2O_3 , XPS, electronic struct. calcs. using scattered wave method 9-11502
- Si (111), adsorption of Cl, electronic energy states, cluster-type calcs. 9-47149
- Si, energy spectrum of Fe group impurities 9-23932
- SiO_2 , g-tensor and ^{29}Si hyperfine tensors of E_i' -centre for model of O^- vacancy 9-19777
- SiO_2 system, cluster plus effective medium tight-binding study 9-33216
- TiO_2 , OH^- adsorption on defect site, electronic struct. 9-47150
- UAl_4 clusters, band struct., variational X_α calc. 9-4508
- V_2O_5 , electronic and band struct. and spectra, CNDO CI cluster method 9-11091

cluster model (nuclear) see *nuclear cluster model*

clustering, impurity see *segregation*

clustering, solute see *segregation*

clusters, atomic see *atomic clusters*

clusters, globular (stellar) see *globular star clusters*

clusters, metal see *metal clusters*

clusters, molecular see *molecular clusters*

clusters, stellar see *stellar clusters and associations*

clusters of galaxies

see also *galaxies; intergalactic matter*

Abell 1367, H I list from 610 and 1415 MHz obs. 9-35401

Abell 1367, H I deficient spiral galaxies 9-17072

Abell 1367 central region, peculiar radio sources Westerbork obs. 9-2574

Abell 193 and 2255, ellipticities of member galaxies (Russian) 9-8986

Abell 2142, spectroscopic obs. of X-ray cluster (40 1556+27) 9-48940

Abell 2218, complex radio source in centre, 2.7 GHz obs. 9-30137

Abell 2255, red shifts of galaxies 9-40276

Abell 2256, X-ray cluster, steep-spectrum radio source obs. 9-9016

Abell 754, radio and optical obs. 9-25737

clusters of galaxies continued

- Abell clusters, 4C radio sources struct. and props. in declination ranges 10 to 20° and >50° 9-25743
- Abell clusters 401 and 399, possible gravitationally bound system, diffuse X-ray emission 9-25736
- adiabatic density perturbations in early universe, evolution 9-25769
- anticorrelation rel. to dark intergalactic matter in galactic haloes 9-2567
- brightest members, statistical model and galaxy evolution 9-35405
- CA 0340-538, core radius and mass segregation 9-35396
- Carafe Group, spectroscopic and photographic obs. of peculiar galaxies 9-35387
- cD galaxies in poor clusters, radial vel. meas. 9-8994
- cluster effect on Hubble Modulus, numerical simulation test 9-2569
- clustering models, discrimination of statistical measures 9-35404
- Coma, accurate positions of faint optical objects in fields of radiosources 9-9015
- Coma, core radius and mass segregation 9-35396
- Coma, H I deficient spiral galaxies 9-17072
- Coma Berenices supercluster, appl. of nonisotropic Newtonian cosmological model (Spanish) 9-48978
- Coma galaxy cluster, relativistic electrons streaming at speeds above Alfven vel. 9-40068
- compact groups of compact galaxies, morphology of 27 groups (Russian) 9-9008
- core radii and mass segregation 9-35396
- correlation function evolution and density perturbations in expanding Universe 9-44646
- correlation functions hierarchy rel. to galaxy clustering 9-30138
- discrepant redshifts in galaxy groups, examples 9-25722
- distant galaxies clustering amplitudes, evolution effects 9-40260
- double radiosources, compact hot-spots correl. with galaxy cluster membership 9-48947
- dust, IR and radio radiation, upper limits (Russian) 9-21449
- dynamical evolution of hot intracluster gas from galaxies, Fe abundance in X-ray clusters 9-12530
- dynamical models 9-9013
- E galaxies in Abell clusters, UR surface photometry 9-12525
- elliptical and S0 field and cluster galaxies, photometry, colour distrib. 9-17071
- faint galaxies apparent distrib. 9-21444
- formation of galaxies and gravit. clustering, efficiency 9-48903
- galaxies number densities and radial cumulative distributions, in nine clusters 9-40278
- galaxies spatial density fluctuations, rel. to QSO-galaxy and QSO-QSO discrepant red shift assoc. 9-8999
- galaxy clustering depend. on cosmological density parameter 9-48971
- gas replenishment rates in galaxies, stripping of spirals to form S0 galaxies 9-40253
- gravitational encounters in rich clusters of galaxies 9-17110
- groups of galaxies, viral props. 9-9010
- head-tail radio galaxies in clusters, radial vels. 9-9014
- Hercules cluster, membership of galaxy (Markarian 295) 9-44608
- Hercules supercluster, radio luminosity function at 610 MHz 9-44625
- hierarchical model of clustering 9-35403
- hot intracluster gas, Sunyaev-Zel'dovich effect in millimetric region 9-25765
- intergalactic H I clouds, search in NGC 1023 and Canes Venatici II 9-35389
- intergalactic H I search in nearby groups of galaxies 9-30121
- intergalactic hot gas in clusters of galaxies, distrib. 9-17089
- intergalactic hot gas stability problem, role of massive photons (Russian) 9-44614
- ionized gas in rich clusters of galaxies, angular broadening of distant compact radio sources 9-35380
- IR luminosity/H I vel. width relation and distance scale 9-44596
- large-scale structure in universe, formation and development 9-12526
- Leo triplet (NGC 3623/7/8), H I distrib., 21 cm line obs. 9-44623
- light neutral leptons, dynamical role in cosmology 9-35407
- Local Group, discovery of three new members, dwarf galaxies 9-5907
- Local Group, H I 21 cm obs. of newly discovered dwarf galaxies 9-30133
- M87 region, Fe XVII-XXIV X-ray line complex obs. 9-21425
- M87/Virgo cluster X-ray source spectrum, 1.1 keV Fe line emission discovery 9-25758
- Magellanic Stream and galactic wakes 9-48904
- morphological characteristics 9-17109
- N-body simulations, density profiles 9-35398
- N-body simulations, set of separation vectors 9-35399
- N-body simulations of clustering, groups 9-44621
- N-body simulations of clustering, initial conditions and galaxy collapse times 9-44620
- nearby clusters, galaxy content and evolution 9-17108
- nearest groups and field galaxies, distances from secondary indicators 9-8987
- NGC 5128 group, eight UKS dwarf galaxies 9-25738
- non-spherical, hydrostatic struct. of hot plasma and X-ray morphology, rel. to Perseus cluster rot. 9-35406
- paired galaxies, classification into groups differing in phys. and kinematic props. 9-21443
- pairs and triplets of galaxy clusters, list of 68 pairs and 21 triplets 9-35408
- Perseus, accurate positions of faint optical objects in fields of radiosources 9-12527
- Perseus cluster of galaxies, soft X-ray struct. 9-9009
- Phoenix group, example of plate processing via two-dimensional digital filtering 9-16835
- poor clusters, cD galaxies props. 9-48907
- radio galaxy luminosity and source size rel. to cluster membership 9-25729
- relativistic electrons in intracluster space, hard X-ray spectra and gas heating 9-25735
- rich cluster at 00^h47^m, -29°46', galaxies static props. using COSMOS meas. 9-40279
- rich clusters, Fe mass and distrib. in intracluster space 9-5895
- rich clusters, galaxy density and vel. distrib. rel. to cosmological density 9-44644
- rich southern clusters, bright galaxies photoelectric photometry 9-21436
- SC 0627-544, Fe XXV and Fe XXVI emission lines in X-ray spectrum 9-48941
- Sculptor group, search for intergalactic H I clouds 9-30122

clusters of galaxies continued

- Seyfert Sextet, membership of clumpy irregular galaxies (Markarian 296 and 297) 9-44608
- space distribution, comparison with radio sources (Chinese) 9-17111
- spatial distrib. in southern galactic hemisphere 9-12518
- stabilisation by subclustering 9-44624
- stable heavy neutrinos, dynamical interactions and astrophys. effects 9-5743
- statistical mechanics of gravitating systems 9-35311
- Stephan's Quintet, H I emission search 9-30136
- tidal interaction of galaxies within cluster 9-35395
- velocity dispersion profiles 9-35397
- very rich clusters of galaxies, comprehensive study, dynamics 9-21448
- Virgo, H I deficiency in spiral galaxies (Russian) 9-21438
- Virgo, H I survey of early-type galaxies 9-30123
- Virgo, large cluster area study from taxonomy (French) 9-35400
- Virgo cluster, optical jet assoc. with M89, discovery 9-25731
- Virgo cluster and M87, X-ray emission, Ariel V SSI obs. 9-12528
- Virgo cluster core, membership and vel. distrib. 9-35402
- viscous heating of intracluster gas, theory 9-9011
- X-ray and microwave obs., cosmological deceleration parameter determ. 9-21476
- X-ray brightness distrib. of cluster sources, gravitational potentials 9-12529
- X-ray clusters, X-ray emitting gas evolution 9-40266
- X-ray galaxy clusters, luminosity function 9-40277
- X-ray halos, extended X-ray emission 9-5909
- X-ray sources, evolution 9-17133
- X-ray sources, luminosity-temp. relation 9-44622
- X-ray spectra, OSO 8 data discussion 9-25734
- X-ray spectra in 2-20 keV range, OSO 8 obs. 9-5908
- Zwicky catalogue selection effects and intercluster dust tests 9-9012
- Zwicky clusters, pencil beam and interferometer obs. of radiosources 9-9019
- H I content of intracluster medium 9-5896
- Si XIII and Si XIV line emission search with ANS crystal spectrometer 9-17131
- CNDO calculations**
- acetylene, mean polarisability derivatives, variational calc. procedure 9-27108
- adenine, tautomers, polarisation, barriers and tunneling times calcs. 9-41114
- Al₃ systems, 1b, orbital effect on geometry, CNDO/2 calcs. 9-13640
- benzene, vibronic coupling and IR intensities, CNDO/S semiempirical calc. 9-36596
- carboxylic acids, crystals, empirical interatomic potential functions 9-7567
- charge transfer complexes, geometries, CNDO/2 and EHT calcs. 9-36530
- cyclopropane, IR band intensities, anal. using Coriolis interaction and CNDO/2 calcs. 9-41172
- diamond, tetrahedrally bonded valence crystals, SCF perturbation theory appl. 9-37658
- dimethyl sulphide dimerisation, S lone pair nonbonded contacts, EH, MINDO/3, CNDO/2 calcs. 9-773
- p-N,N-dimethylaminobenzonitrile, multiple fluores., mechanism 9-45742
- ethane, mean polarisability derivatives, variational calc. procedure 9-27108
- ethylene dimer, intermot. pot., dissoc. energy, CNDO/2 calcs. 9-31641
- ethylene mean polarisability derivatives, variational calc. procedure 9-27108
- ethylene oxide derivatives, substituents effect on electronic state of epoxide ring, CNDO/2 calcs. 9-26891
- fluorobenzenes, UV spectra calc., oscill. strengths 9-18203
- graphite, adsorption and dissociation of O₂, CNDO/2 calcs. 9-28206
- graphite, adsorption and migration of O₂, CNDO/2 calcs. 9-28205
- hydrocarbons, mol. geometry, CNDO/BW and MINDO/2 calcs. 9-41109
- hydroxyquinones, H-bonded, zero-phonon photochem., hole burning obs. 9-11802
- II-VI compounds with transition metal impurity, SCF LCAO MO formalism in CNDO and INDO approx. 9-38017
- invariance requirements in approx. SCF MO theory 9-6824
- methane, mean polarisability derivatives, variational calc. procedure 9-27108
- N-methyl acetamide, Na⁺, Mg²⁺ binding to carbonyl O, lipid membrane permeation mechanisms 9-16134
- 1-methylindan, circular dichroism, rot. strengths, CNDO/S calc. 9-3452
- 12-methylsulphonyl-1-phenylethanol, S-O interactions, conform. anal. 9-31418
- modified CNDO method using d-functions (German) 9-22603
- molecular orbital methods, speed and accuracy, comparison of methods 9-41106
- molecular polarisability, CNDO calcs. including polarisation functions in the basis set 9-6891
- naphthalene and fluoro derivations, CNDO calcs., σ core effect 9-41107
- nonrigid inorganic molecules, pot. surfaces, CNDO and ZDO calcs. 9-41112
- occupied molecular orbitals, CNDO character orders, virtual pars orbitals contrbs. 9-3373
- organic molecules, Raman spectra intensities, electronic polarisabilities, quantum mech. calc. 9-27041
- PCILO method, modified, second-order energy using CNDO/2 and INDO Hamiltonian approx. 9-36533
- phthalazine, fluoresc. and phosphoresc., expt. and CNDO/S CI calcs. 9-31585
- polyenes, electronic struct., spectra interpretation, CNDO/S2 calcs. 9-6870
- porphyrin, ground-state energies, force const. and vibr. freqs., CNDO/2 calc. 9-18118
- porphyrin, spin-spin coupling const., MO LCAO CNDO/2 calc. 9-41108
- Raman intensity of molecules, modified CNDO/2/INDO method 9-825
- 11,11,12,12-tetracyanonaphthoquinodimethane, XPS anal. by CNDO/2 9-31593
- tetrakis(trifluoromethyl)germane, gas phase electron diff. struct., torsional force const., CNDO/2 calc. 9-31687
- thymine, tautomers, polarisation, barriers and tunneling times calcs. 9-41114
- transition metal hydrate complexes, physico-chem. props. CNDO calcs. 9-41110

CNDO calculations continued

- transition metal hydrate complexes, struct., bond energies, CNDO calcs. 9-41111
- trifluoromethane, quadratic CNDO force fields calcs., coord. effects 9-6877
- TTF, atom-atom approx. and lattice energies 9-7568
- TTF-TCNQ, molecular coordination along stacking directions 9-47031
- TTF-TCNQ, TCNQ and TTF bandwidths, extended Huckel and CNDO/2 calcs. 9-7771
- uracil, aq. soln., fast electron induced radical identification 9-24870
- water dimers, stability, CNDO/2 and STO-3G calcs. 9-760
- xanthine, and biological methyl derivatives, electronic struct. from UV photoelectron spectra 9-24949
- y-base, ground and excited states, dipole moment, CNDO/S and INDO/S calcs. 9-36534
- Ag clusters, open-shell CNDO-MO calcs. 9-20397
- As₂O₃, X-ray emission spectrum and XPS, electronic struct. calcs. using scattered wave method 9-11502
- B₂H₆ and B₂H₅NH₂, electronic struct. and bonding, comparative calcs. 9-31397
- BN tetrahedrally bonded valence crystals, SCF perturbation theory appl. 9-37658
- BeO, tetrahedrally bonded valence crystals, SCF perturbation theory appl. 9-37658
- Br₂CO and Br₂CS, signs of dipole moment derivatives, semiempirical CNDO calcs. 9-26890
- Br(H₂O)_n⁻, geometric and electronic struct., CNDO/2 calc. 9-41113
- H-bonded complexes, geometries, CNDO/2 and EHT calcs. 9-36530
- (H₂O)-HF complexes, (x=1 or 2), geometry, CNDO/2 calc. 9-36531
- I(H₂O)_n, geometric and electronic struct., CNDO/2 calc. 9-41113
- LiBH₄, comparison of potential surfaces, calculated ab initio and semiempirical CNDO/2 scheme 9-41112
- Mg(H₂O)_n²⁺, geometric and electronic struct., CNDO calc. 9-36532
- V-O coordination complexes, CNDO calcs. of stability and bonding (*German*) 9-31404
- V₂O₅, electronic and band struct. and spectra, CNDO CI cluster method 9-11091

coagulation

- aerosol, turbulent coagulation in pipe flow 9-37385
- aerosol coagulation and diffusion in turbulent jet 9-23355
- aerosols, coagulation, kinetics 9-39209
- binary liquid system, colligative prop., composition diagram (*Russian*) 9-14663
- Brownian particles, reversible adsorption and reversible coagulation, kinetic eqns. 9-16045
- colloid coagulation, 1st-order diffusion effects 9-39213
- haemocagulometer 9-39541
- interaction energy of two unequal spheres, heterocoagulation 9-29411
- PMMA aqueous colloid, coagulation kinetics, light scatt. determ. 9-39215
- retinal photocagulation by laser beam, temp. and bleaching dynamic meas. (*German*) 9-2098
- sol, coagulated, viscoelastic props., elastic floc model 9-37270
- theory, new aspects (*Russian*) 9-8453

coal

- see also mining*
- ash characterisation with X-ray photoelectron spectroscopy 9-1977
- automated multiclement analysis using neutron-induced gamma spectrometry 9-48015
- bituminous coal emulsification by ultrasonics 9-47997
- catalytic hydrogasification, effectiveness factor 9-47966
- combustion wastes, resource materials recovery, using combination sinter-dilute acid leach methods 9-48063
- conversion, underground, integrated fuel-generation and power-generation concept, using electrochemical engines 9-48053
- conversion, underground, US Department of Energy status 9-48054
- electrical properties, meas. as function of freq., polarisation, EM wave direction and temp. 9-12113
- EM modelling of transmissions through in situ gasified coal seam 9-12298
- energy conversion, Conf., San Diego, CA, USA (Aug 1978) 9-48038
- gasification, fluidised-bed, low-BTU gas production, ash agglomeration process appl. 9-48065
- gasification, in situ, instrumentation development 9-48055
- gasification, in situ, of eastern bituminous coals, linked vertical well concept 9-48051
- gasification, Synthane process appl. 9-48057
- gasification system, Westinghouse fluidised-bed, low-Btu fuel gas production 9-48058
- hardness variations with maceral and orientation 9-24605
- hydrogeneration, direct appl. to power generation 9-48056
- laser pyrolysis in He or H₂, products exam. 9-20356
- liquefaction, 1978 status and development trends in US 9-48061
- liquefaction, Exxon donor solvent process development 9-48059
- liquefaction processes, research status 9-48060
- low rank, appl. to metal extraction from ammoniacal solution 9-11530
- polished section prep., structural anal. 9-15924
- power generation, alternative processes development, IEA activities 9-48064
- power station pollution, physics 9-44659
- pyrolysis, in entrained bed flow reactor, theoretical exam. with aid of physical models 9-48062
- specific energy ash and moisture by combined neutron and gamma-ray meas. 9-39255
- underground conversion to hydrocarbons, for industrial appl. 9-48052
- vitritine, in bituminous coal, microporosity and micromineralogy, small-angle X-ray scatt. study 9-12117

coating processes *see coating techniques*

coating techniques

- see also anodisation; cladding techniques; coatings; electrodeposition; electrophoretic coating techniques; encapsulation; epitaxial growth; metallisation; spray coating techniques; vapour deposition*
- geological samples, prep. for SEM 9-12785
- glass-enamel coatings, effect of firing method on adhesion 9-24647
- graphite, pyrolytic C coating within pores 9-41035
- inorganic thin layers, two-stage formation 9-27450
- optical fibres, application using cylindrical bore dies, theoretical anal. of coating thickness and experimental comparison 9-46095
- plastic powder coating, technique and appl. 9-38786

coating techniques continued

- protective coating production, principles and technology of electron beam deposition 9-24439
- skin technology, industrial appl. of space processing 9-28991
- solution deposition of inorganic glass, protective coating for anodized Al, solution deposited 9-34205
- steel, C, siliciding in US field 9-39043
- steel, low-C, bond form. between powder layer and dense basis during hot pressing 9-24669
- thin film coating techniques, for SEM and X-ray microanalysis 9-12783
- C fibre, cementation technique for coating with metal 9-39000

coatings

- see also anodised layers; antireflection coatings; claddings; decorative coatings; electrodeposits; electrophoretic coatings; epitaxial layers; insulating coatings; protective coatings; spray coatings; sputtered coatings; vapour deposited coatings; varnish*
- boride coatings, high temp. resist. and struct. 9-39008
- brittle coating analysis of orthotropic materials 9-27606
- enamel, rapid method for determining thermal expansion coefficient 9-20308
- film thin, limits of observation of X-ray fluorenc. anal. 9-24857
- glass fibres, epoxy-acrylate coated, static and dynamic fatigue, tensile strength 9-1906
- glass plastic coating, thick-walled, compressive strength evaluation method 9-15897
- glyceryl dibenzoate, external plasticiser, for styrene-acrylic terpolymer, compatibility, surface tension meas. 9-15834
- hydrogel coatings, and impregnations in silastic, dacron and polyethylene 9-20719
- metallic, thickness depend. of wall heat transfer during nucleate N₂ boiling 9-32210
- metals, coating with H-transparent Pd layers, spot welding technique 9-47816
- oxides, on Fe, Fe alloys, combined ion-, electron-beam techniques appl. 9-43700
- photoelastic coating combined with moire method for strain meas. (*Japanese*) 9-32400
- porcelain enamel panels, TiO₂-opacified, quantitative X-ray diffr. anal. of anatase, rutile 9-32857
- residual stress meas. by improved ring-core method (*German*) 9-34272
- selective surface coatings, solar energy collector appl. (*Chinese*) 9-34439
- stresses in oriented transformer steel induced by coating layers (*German*) 9-28569
- vibration absorbing coating, cut constraining layer effectiveness 9-32130
- X-ray fluorescence gamma-thickness meter based on NaI scintillation counters, improvement 9-35670
- X-ray fluorescence thickness gauge, spectrometer channel with Si(Li) detector 9-35671
- Ag on Cu, corrosion by thermal degradation products of chloroprene and silicone rubber 9-47801
- Al, coating thickness determ. H₂ generating method (*German*) 9-35660
- Au on Cu, corrosion by thermal degradation products of chloroprene and silicone rubber 9-47801
- B fibres, plasticizing and wettability-enhancing coatings 9-29252
- C fibres, plasticizing and wettability-enhancing coatings 9-29252
- Ga, spreading kinetics on thin Ag films, influence of melt-support interaction (*Russian*) 9-37903
- GeS₄ layers, formation on Ge surface in S vapour 9-7757
- Na₂O-SiO₂ glass, vitreous coating, adhesion to Fe-Ni alloy 9-20336
- RuO₂-TiO₂ coatings for Ti anodes, microstructural investigations 9-43469
- Si, coating of mullite ceramic substrate, for solar cell appl. 9-34432
- SiC fibres, plasticizing and wettability-enhancing coatings 9-29252
- SiO₂-Al₂O₃-CaO-MgO-NaO-K₂O-B₂O₃-ZrO₂, glaze, exam. of zircon crystallisation 9-19155
- Zn fast reactions in hot galvanising rel. to props. 9-43486
- Zn, phosphate coating, effect of grain size on film formation kinetics 9-34203
- ZrO₂ coating on Zircaloy-4, effect on ductility 9-47819

coatings, protective *see protective coatings*

coaxial cables

- fibre coaxial alignment system 9-37022
- permittivity determination of plastic samples using freq. variation (*German*) 9-26078

coaxial lines *see coaxial cables*

cobalt

see also nuclei with

- allotropic transformation, X-ray diffr. analysis exam. (*Russian*) 9-34027
- amorphous and liquid, density of electronic states 9-23881
- Anderson-Gruneisen parameter, temp. depend., third-order elastic consts. calc. 9-46776
- anodic oxidation in neutral and basic soln. 9-39032
- atomic and metallic 3p excitation 9-22633
- bulk modulus and thermal expansion coefficient, mag. contributions 9-8039
- DC reactive sputtering, glow discharge mass spectrometry and X-ray diffr. 9-38701
- diffusion in Ni, and W diffusion, 1050 to 1400°C (*Russian*) 9-28147
- dipole field anisotropy, at interstitial sites, lattice-deformation effects 9-33584
- electrodeposited coating, struct. and magnetic props. 9-46985
- extraction equilibrium, with versatic acid 911 9-43620
- FCC, electrodeposition of HCP Co layer 9-11527
- FCC, electron response and modified Bhatia model 9-37771
- ferromagnet, energy band struct. X-ray emission spectra (*Russian*) 9-15564
- film, low-angle grain boundary struct. (*Russian*) 9-42807
- film, magnetic domain wall width, shadow and interf. electron microscope exam. 9-11330
- HCP, relationship of effects of systematic reflections to the crit. voltage 9-41916
- II-VI semiconductor:Co²⁺, IR luminesc., local density of phonon states 9-33778
- internal friction meas. during polymorphic transform. (*Russian*) 9-29049
- liquid, electrical transport 9-38040
- metallic coated, produced by electrospray alloying, corrosion behaviour in Cl saturated NaCl solns. (*Russian*) 9-39026
- molten, mag. small-angle scatt., persistent spin fluctuations 9-11288
- nuclear orientation on implanted ^{114m}In meas. 9-47345
- optical consts. and electronic characts., 20 to 1750°C 9-38516

- cobalt continued**
- oxidation, use of SIMS for ^{18}O location 9-8394
- oxidation at Curie temp. 9-29279
- Permalloy-Co film, domain walls, magnetisation ripple (*Russian*) 9-47314
- Purification from CoCl_2 and $\text{CoCl}_2\text{-NaCl}$ by H_2 reduction (*Russian*) 9-28981
- surface ($10\bar{1}2$), struct. and CO chemisorption obs. 9-4474
- surfaces, Van der Waals forces computation 9-15204
- tensile strength, and elongation, influence of FCC phase retained at room temp. 9-47677
- ultrafine particles prepared by vacuum evap. on running oil substrate, mag. behaviour 9-28565
- uniaxial magneto-crystalline anisotropy, temp. depend. 9-42753
- $\text{CaF}_2\text{:Co}$, X-irrad., F-centre form., optical absorpt. spectra and dichroism obs. 9-42998
- $\text{CaF}_2\text{:Co}$, X-irrad., luminesc. spectra 9-28801
- Co^{2+} , impurity ion in frozen aq. solns., effect on Fe^{3+} spin-spin relax., Mossbauer obs. 9-33573
- $\text{Co}^{2+} + \text{H}_2\text{O}$, reaction rate consts., product distrib., ICR obs. 9-8428
- ^{57}Co :Fe Mossbauer source linear polarisation rate meas. (*French*) 9-30633
- ^{60}Co contamination of freshwater food chains, direct water borne contamination of organisms (*French*) 9-20688
- ^{60}Co γ -rays, dose assignment criteria, beagles, bilateral exposure 9-16305
- ^{60}Co ion removal in waste water by oxine impregnated activated charcoal 9-26558
- ^{60}Co , radioactive waste migration by complexing agent ethylenediaminetetraacetic acid 9-20687
- ^{60}Co , radionuclide leaching from hardened cement grout, container dimension depend. 9-13439
- ^{60}Co teletherapy installations calibrations, US national evaluation 9-5360
- GaAs:Co^{2+} , piezoabsorption meas. tunnel splitting and Jahn-Teller effect in $^4\text{T}_1(\text{P})$ state 9-14944
- $\text{KMgF}_3\text{:Ni}$, Co, emission from Ni-Ni and Ni-Co pairs, exchange coupling const. 9-33788
- LiF:Co , impurity effect on elec. cond. 9-7709
- LiF:Co^{2+} , solid soln. decomp., precip. of new phase, electron microscope expt. 9-11619
- $\text{LiNbO}_3\text{:Co}$, pure and doped, nonlinear excitation, multiphoton photorefractive process 9-36950
- $\text{MgCl}_2\text{:Co}^{2+}$, Zeeman electronic Raman scatt. spectra 9-42962
- $\text{MgF}_2\text{:Co}$, photoluminesc. due to X-rays, colour centre thermal breakdown 9-24359
- $\text{MgF}_2\text{:Co}$, thermoluminesc. and TSC in activator band 9-24359
- MgO:Co , X-ray stimulated luminesc. 9-28802
- $\text{Na}_2\text{O-CaO-P}_2\text{O}_5\text{:Co}$ glass, bonding, symmetry meas. 9-46572
- Si:Co , substitutional Co and Co precipitates, identification by Mossbauer spectroscopy 9-11631
- $\text{YbFeO}_3\text{:Co}$, mag. struct. factors, neutron diffr. study 9-47248
- ZnS:Co^{2+} , EPR and spin-lattice relax. of Co^{2+} centres (*Russian*) 9-1706
- cobalt alloys continued**
- Co-Cr-Al-Y coated turbine airfoils, effect of electron beam deposition rate on struct. 9-23870
- Co-Cr-Ni-Ta-Al-Y (25, 10, 5, 3, 0.5 wt%), exam. of hot corrosion 9-20251
- Co-Cr-Ni-TaC eutectic, directionally solidified, microstructural stability 9-38815
- Co-Cr-Ta(Al) alloy, high temperature wear resistant coatings, CrO_2 hardened 9-24677
- Co-Cr-Zr(Ni), phase diagram calc. 9-1848
- Co-Cr-(Al-Y) coatings, hot corrosion resist., ductile-brittle transition 9-24674
- Co-Cu(Ti)(Fe), neutron radiation stimulated diffusion, electrical resistivity exam. (*Russian*) 9-14959
- Co-Fe (6 wt.%), magnetic properties, 850 to 1000°C range (*Slovak*) 9-4698
- Co-Fe alloy films, magnetostriction and orientation of easy magnetisation axes (*Russian*) 9-19756
- Co-Fe alloys, transformation induced microstructs. extended total dislocations, TEM study 9-42073
- Co-Fe-B sputtered amorphous films, mag. props. and corrosion resist. 9-28567
- Co-Fe-Cr-P-B sputtered amorphous films, mag. props. and corrosion resist. 9-28567
- Co-Fe-Nb, heavily cold worked, magnetic hardening 9-20073
- Co-Ga, phase diagrams and cryst. struct., DTA, X-ray diffr. and microprobe anal. (*French*) 9-47660
- Co-Ga alloys, transition metal partially substituted, elec. resist. anomalies 9-38044
- Co-Ga-Mn, small-angle mag. neutron scatt., states of mag. order study rel. to Mn and Fe substitution 9-11292
- Co-Gd-B, rules of cmpd. form. in related systems 9-34010
- Co-Mn, dil., hexagonal hyperfine field at ^{54}Mn , nucl. orientation meas. 9-8057
- β -Co-Mn-Sn Heusler alloy, constitution and magnetic props. (*German*) 9-34009
- Co-Mo alloy electrodeposits, codeposited impurities rel. to H_2 permeation, props. 9-19493
- Co-Ni-Cr-B, centrifugally cast metallurgical coatings for wear resistance in plastics molding machines 9-29285
- Co-Ni-Cr-C, carbide precipitation 9-29065
- Co-Ni-Cr-Mo, hip joint anchorage stem, superior fatigue strength, high corrosion resist. 9-29671
- Co-Ni-Fe, semi-hard magnet, irreversible magnetisation changes, directional distrib. 9-24196
- Co-P, amorphous, electrical transport 9-38040
- Co-P amorphous alloy, ferromagnetic reson. exam. 9-28620
- Co-P amorphous alloys, electrodeposited, magnetic anisotropy 9-28568
- Co-P grains, mag. props. (*French*) 9-33510
- Co-Pt films, mag. and magneto-optic props., appl. to holographic and bit-by-bit storage 9-33512
- Co-Si alloy, secondary ion mass spectrometry (*Dutch*) 9-1809
- Co-Sn, dil., ferromag., temp. anomalies of Sn mag. hyperfine field and thermal expansion 9-33270
- Co-Sn, electrodeposited, oxide films, XPS/AES expts. 9-15862
- Co-Sn (Sb), dilute ferromagnetic alloy, resistivity and magnetoresist. anisotropy 9-11106
- Co-transition metal, transition metal additives influence on struct., specific resistance, microhardness, mech. props., magnetic props. 9-29078
- Co-V (12.4-18.7 at.%), ferromag. behaviour 9-24163
- CoAl, compositional depend. of oxidation rates 9-8393
- CoB and Co_2B , electrochem. behaviour in H_2SO_4 9-39030
- Co(Cr,Ni)-TaC fibrous eutectic, deformed, thermal stability of microstruct. (*Russian*) 9-1895
- CoCrMo, artificial hip joints, fatigue strength 9-48375
- ($\text{Co}_{0.83}\text{Cu}_{0.17}$)Ce, cryst. struct. and mag. props., decomp. during ageing (*Russian*) 9-37661
- Co_2CuCe , cryst. struct., mag. characts., ageing and decomposition (*Russian*) 9-4272
- $\text{Co}_{0.91}\text{Fe}_{0.09}$, X-ray scatt. factor 9-41907
- $\text{Co}_{0.92}\text{Fe}_{0.08}$, phonon dispersion and Debye temp. temp. depend., neutron inelastic scatt. 9-33047
- CoGa, defect struct. model 9-46648
- CoGd, H_2 and N_2 contaminated amorphous films, mag. props. 9-1690
- CoGe, vacancy conc. in B2 phase exhibiting triple defects 9-42058
- CoMnSi, CoMnSi $_{0.85}\text{Ge}_{0.15}$, mag. props. 9-42758
- $\text{Co}_{40}\text{Ni}_{40}\text{B}_{20}$, spontaneous Hall effect and resistivity 9-19576
- CoNiCrMo, artificial hip joints, fatigue strength 9-48375
- CoP metallic glasses, elec. and optical props., annealing effects 9-38565
- CoPr, coercive force variation as function of annealing temp. (*Japanese*) 9-47787
- CoPt $_3$, meas. of ordering instability 9-38818
- CoSi, plasma refl., 80 to 300K, energy overlap of valence and conduction bands 9-28366
- Co_2Sm , coercive force variation as function of annealing temp. (*Japanese*) 9-47787
- Co_2Sm sintered magnet, effect of surface conditions on mag. props. 9-28556
- $\text{Co}_2(\text{Ti,Mn})\text{Sn}$, Heusler alloy, mag. meas. 9-47261
- Cr-Co, spin density wave, neutron diffraction studies 9-1664
- Cr-Fe-Co dilute alloys, Neel temp., thermal expansion rel. to Co content 9-47281
- Cr-Mo-Co, dil., behaviour of mag. impurities 9-4672
- Cu-Co, liquid, surface tension (*Japanese*) 9-19431
- Cu-Co, solid soln., mag. susceptibility near solubility boundary (*Russian*) 9-15281
- $\text{Cu}_3\text{Au-Co}$, single crystal, overaging mechanism 9-20081
- $\text{Dy}_2(\text{Fe,Co})_{17}$, mag. anisotropy fields by singular pt. detection 9-24156
- ErCo_5 , absorption of H_2 , 77-300K 9-23737
- Fe-Al-Co-Ni, Alnico alloys, irreversible remagnetisation processes in rotating fields (*Russian*) 9-8015
- $\alpha\text{-Fe-Be(P)(Mo)(W)-Co}$, effect of Co on solubility anomaly due to mag. transition (*Japanese*) 9-42257
- Fe-Co, amorphous alloy, stress effect on mag. domain struct. 9-33502
- Fe-Co, dil., Mossbauer source, self-absorption effects (*French*) 9-24246
- Fe-Co, hyperfine field, variation with atomic order 9-7953
- Fe-Co, liquid, activity meas. by transportation method (*Japanese*) 9-4949
- Fe-Co, long range order, neutron powder diffr. meas. 9-42243
- Fe-Co, mag. moment of Cr and Mn atoms, polarised neutron scattering 9-11290
- cobalt alloys**
- see also cobalt compounds
- amorphous ribbon, saturation magnetostriction, and electronically controllable delay line 9-1700
- binary, and MAR-M322 type, influence of phase transform. on diffusion and mech. props. (*Russian*) 9-5000
- corrosion resistance for long-term implants (*German*) 9-8565
- earth reentry exposure, simulated, effect on mech. props., oxidation of Haynes 188 9-5086
- films, deposition onto Cu, Ni surfaces, twinning 9-11527
- high heat resistant, industrial appl. and comp. (*Korean*) 9-24716
- ($\text{Ni}_{1-x}\text{Co}_x$) $_{0.98}\text{Mn}_{0.02}$, average mag. moment of Mn atoms 9-28509
- Nimonic 105, quantitative STEM chem. anal. using standard and standardless programs 9-17578
- rare earth-Co, powdered, fine grinding in gastight attrition mill 9-33967
- rare earth-Co, RCO_3 ($\text{R}=\text{Gd, Dy and Ho}$), effect of absorbed H_2 on mag. behaviour 9-33483
- rare earth-Co alloy, mag. anisotropy origin 9-38319
- rare earth-Co system, spin reorientation and sp. ht. anomaly (*Japanese*) 9-47287
- rare earth-cobalt intermetallic, RCO_2 9-19725
- satellite, hardness and erosion resistance to aqueous SiO_2 slurry 9-43441
- sheet metal, deep-drawn, for implant device encapsulation, mech. and metallographic props. (*German*) 9-8564
- steel, martensitic, Cr-Ni-Co-Mo-Ti, Kh12N8K5M3TYu, ageing of C free martensitic (*Russian*) 9-1884
- steel, Ni-Co-C (9, 4, 0.2 wt.%) enthalpy, sp. ht. to 2000K 9-10960
- steel, Ni-Co-Cr-Mo-C (10,14,2,1,0.16 wt.%), stress corrosion cracking at 22°C in 3.5% NaCl 9-8390
- superalloy, aluminite coating, improvement by sputtering (*French*) 9-29278
- surgical implant materials, corrosion fatigue props. 9-39604
- surgical implant materials, corrosion props. 9-39605
- Udimet 700, Ni-Co-Cr-Ti, hold time effects on high temp. fatigue crack growth 9-5036
- Vitalium, surgical implant, SCC and corrosion fatigue in Tyrode's soln. 9-29263
- wear resistance, struct. effect 9-29229
- Au-Co, electrodeposited, 'polymer' inclusions, chem. identity obs. 9-37931
- Au-Co electrodeposit, struct. and hardness characts. 9-28245
- Be-Co-Ni, phase relations (*German*) 9-43209
- Cd-Co(Mo), amorphous films, thermal stability of mag. props. (*Japanese*) 9-47307
- Ce-Sm-Co-Fe-Cu, permanent magnet props. 9-8013
- CeCo_{5+x} , Cu and Fe modified, coercive force (*Czech*) 9-42805
- Co-Al, positron lifetime and angular correl. curves 9-47538
- Co-Al system, nucl. spin relaxation exam. 9-19798
- Co-B alloys, amorphous, mag. moment and exchange stiffness constant 9-1662
- Co-B alloys, amorphous, saturation magnetisation, mag. moments, X-ray diffr. obs. 9-4704
- Co-B glass, X-ray obs. of struct. 9-1399
- Co-C solid solns., surface graphite layer form., high-temp. metallography investig. 9-29306
- Co-C-TaC directional eutectic, high-strength, interphase boundaries (*Russian*) 9-38812
- Co-Cr orthopedic implants, surface oxide layer investigations using ESCA technique 9-25157
- Co-Cr-Al, protective coating, exam. of interdiffusion kinetics, development of analysing procedure 9-5085

cobalt alloys continued

- Fe-Co (33 wt.%), oxidation and domain structure, electron microscope exam. (Russian) 9-1437
- Fe-Co based alloys (52KF, 35KKh, 35KFN), effect of heat treatment and mech. working, on sensitivity of mag. props. to mech. stresses (Russian) 9-34161
- Fe-Co films, ordered and disordered, Mossbauer study 9-24241
- Fe-Co-Cr, magnetic, phase transform. obs. (French) 9-47676
- Fe-Co-Cr (50, 0.4 wt.%), ordering and recrystallisation 9-34029
- Fe-Co-Ni, at. mag. moments, neutron scatt. and Mossbauer meas. 9-42744
- Fe-Co-Ni-Si-B amorphous alloy, magnetostriction and permeability, effect of annealing 9-1701
- Fe-Co-Ta for semipermanent magnets (French) 9-47675
- Fe-Co-V-Cr alloys, struct. transform., appl. of mag., thermomag. methods (French) 9-20318
- Fe-Co(V), neutron irradiated, influence of dislocation doping on recovery 9-46715
- Fe-Cr-Co, mag. props. of ductile permanent ductile alloys (Chinese) 9-19746
- Fe-Cr-Co martensite, ordering and segregation (Russian) 9-20052
- Fe-Cr-Co-Al(V)-(Nb)(Ti), phase equilib., X-ray diffr. meas. (Russian) 9-47658
- Fe-Nb(Ta)-Co, Recalloys, semihard mag. alloys, mag. and elec. props., hardness, thermal expansion (Japanese) 9-5066
- Fe-Ni-Al-Co-Cr-Ti, YuNDK35T5BA, exam. of hypodissociation process (Russian) 9-11547
- Fe-Ni-Co alloys, struct., appl. of mag., thermomag. methods (French) 9-20318
- Fe-Ni-Co foils, mag. reversals of mag. domains in low-coercivity channels (Russian) 9-42813
- FeCo, isothermal annealing effect on lattice const. (Japanese) 9-20076
- FeCo, ordered and disordered alloy, annealing of point defects created by neutron irradi. at 20K (French) 9-1467
- Fe₅₀Co₅₀, disordering by laser irradiation, Mossbauer transmission spectroscopy and electron microscopy study (French) 9-23639
- Fe₃Co₁₀B₁₇, two amorphous phases form. and crystallisation 9-27924
- Fe_{90-x}Co₁₀B₂₀, spontaneous Hall effect and resistivity 9-19576
- (Fe_{1-x}Co_x)₇Si₁₀B₁₃ alloys, amorphous, induced mag. anisotropy by mag. annealing 9-4671
- (Fe_{1-x}Co_x)₇Si₁₀B₁₃, amorphous, mag. moments at 0K, Curie temp., mag. interactions 9-4670
- Fe_{1-x}Co_xSn, transferred hyperfine fields at ¹¹⁹Sn, Mossbauer spectroscopy 9-33582
- FeCo₂V, ordered and disordered alloys, annealing of point defects created by neutron irradi. at 20K (French) 9-1467
- Gd-Co, amorphous, RF sputtered, prep. and props. 9-1693
- Gd-Co amorphous films, mag. anisotropy, static and ferromag. reson. expts. 9-33477
- Gd-Co amorphous thin film, mag. and optical props., conc. depend 9-19748
- Gd-Co film, amorphous, ferrimagnet, mag. anisotropy, effect of ion bombard. during prep. 9-1692
- Gd-Co film, amorphous ferrimagnet, anisotropic short range order effects on mag. props. 9-1691
- Gd-Co film, temp. depend. of mag. aftereffect (Russian) 9-8021
- Gd-Co(Au) amorphous film, domain wall dynamics near compensation point 9-1696
- Gd-Co(Au) film, ferrimag. amorphous, coated with Permalloy films, mag. props. 9-1695
- GdAl₃-GdCo₂ system, EPR and mag. props. 9-33478
- GdCO₂, lattice parameter determ. 9-14737
- Gd(CO₂Ni_{1-x})₂, mag. interactions, effects on moments (Rumanian) 9-15296
- GdCo₂, magnetovolume effects in itinerant electron ferromagnets 9-8038
- GdCo₂, mag. interactions, effects on moments (Rumanian) 9-15296
- Gd₂Co, amorphous ferromag. obtained by sput. cooling, local and bulk mag. props. 9-1685
- Gd₂CoAl₁₁, NMR and mag. susceptibility 9-15367
- Gd₂(CoFe_{1-x})₂, mag. props., composition and temp. depend. 9-15289
- Gd₂Co₃Ga, crystal struct., X-ray determ. (Russian) 9-27951
- Gd(CO₂Ni_{1-x})₂, EPR exam. 9-28600
- Gd(CO₂Ni_{1-x})₂, mag. props., composition and temp. depend. 9-15289
- Gd₂(FeCo)₁₇, mag. anisotropy fields by singular pt. detection 9-24156
- (Gd_{1-x}Y_x)₂Co₂, mag. interactions, effects on moments (Rumanian) 9-15296
- LuCo₂, high-field magnetisation, Fermi liquid model 9-11303
- LuCo₂, mag. interactions, effects on moments (Rumanian) 9-15296
- Mn₄₀Co₆₀, amorphous alloy prep. by high-rate sputtering, struct. and prop. characteris. 9-24462
- NdCo₂, absorption of H₂, 77-300K 9-23737
- Nd₂Co₃Ga, crystal struct., X-ray determ. (Russian) 9-27951
- Ni-Co, cryst. growth from melt, distrib. of growth directions 9-33924
- Ni-Co, elementary excitations, exchange stiffness const., inelastic neutron scatt. study 9-47294
- Ni-Co, fatigued, struct. and cyclic stress strain, influence of stacking fault energy and atomic size-module-interactions (German) 9-42082
- Ni-Co, liquid, activity meas. by transportation method (Japanese) 9-4949
- Ni-Co, plasticity, athermal and thermal (Russian) 9-11685
- Ni-Co alloy, stiffness const., interpretation within band model 9-42748
- Ni-Co film, spin wave resonance 9-33542
- Ni-Co-Al (1, 35.2 at.%), tempered martensite, new ordered phase 9-11560
- Ni-Co-Cr-Mo-Al, Astroloy, extruded powder metallurgy superalloy, recrystallisation study 9-4976
- Ni-Co-Mo alloys, electrodeposition, struct. 9-28970
- Ni-Co-Mo-Al-Cr, melt, effect of Al, Cr on O₂ activity, electrochemical determ. 9-11556
- Ni-Cr-Co alloys, relax. resist. exam. by bending and tension 9-24564
- Ni-Cr-Co-Mo-Ti-Al, powders, HCl surface treatment to prevent TiC precipitation, fracture props. 9-8397
- Ni-Cr-Co-W (47.5, 25, 12, 8.75 wt.%), vaporization of IN-643, high-temp. mass spectrometry 9-7685
- Ni-Fe-Co, alloy with step hysteresis loops (German) 9-42806
- NiCo film, crit. angle meas., pinning mech. 9-1719
- Ni₆₂Co₃₈Al₃₄, fine struct. of martensite, electron microscopy obs. (Russian) 9-46672
- Rh₃Co₃Ga, crystal struct., X-ray determ. (Russian) 9-27951
- Rh-Co (20 at.%), mag. virtual bound state alloys, XPS of core states 9-47588

cobalt alloys continued

- Sc-Co, phase diagram determination, using X-ray diffr., metallography and DTA techniques (Russian) 9-34004
- Sc₂Co, new struct. type related to Fe₃C and Re₂B by periodic unit-cell twinning 9-4268
- Sm-Co alloy magnets, operational control of residual induction, maximum mag. energy 9-15324
- Sm-Co deposit, arc plasma sprayed, crystal and micro struct. exam. 9-28248
- Sm-Co-Cu-Fe-Ti magnets, comp. and sintering effects on coercivity 9-15326
- SmCo₂ magnets, effect of heat treatment on coercive force (Russian) 9-1684
- SmCo₂ magnets, magnetisation and demagnetisation, heating effects 9-38357
- SmCo₂, single cryst., grown-in dislocations and stacking faults, TEM investigation 9-19253
- SmCo₂, single crystals, mag. props. study and role of anisotropy (French) 9-38356
- SmCo₂ sintered magnets, periodic struct. and coercive force (Russian) 9-28554
- SmCo₂, specific heat and kinetic props. at elevated temp. (Russian) 9-28530
- SmCo₂+₂ Cu and Fe modified, coercive force, demagnetization curves (Czech) 9-42805
- SmCo₂Cu_{1-x}, single crystals, mag. props. study and role of anisotropy (French) 9-38356
- SmCo₂Cu, nonuniform comp., domain struct. and mag. reversals process (Russian) 9-1681
- SmCo₂Cu_{0.7}, highly anisotropic ferromag., mag. state after large Barkhausen jump (Russian) 9-4699
- Sm₂Co₃Ga, crystal struct., X-ray determ. (Russian) 9-27951
- Sm_{0.5}Pr_{0.5}Co₂ sintered magnets, periodic struct. and coercive force (Russian) 9-28554
- Tb₂Co₃Ga, crystal struct., X-ray determ. (Russian) 9-27951
- Ti-Co, eutectoid decomposition 9-24491
- Ti-Co-Al(Ga), Th₆Mn₂₃ type struct., mag. susceptibility (Russian) 9-42736
- Ti-Ni-Co, shape memory temp., alloying effect 9-38912
- Ti(Al_{1-x}Co_x)₂, 0<x<0.4, influence of Al on H sorption props. X-ray cryst. struct. determ. 9-28198
- TiC-TiB₂-Co coatings, deposited by electron evaporation, struct. and props. 9-23871
- UCo₂, cubic Laves phase, prep. and stoichiometry 9-24459
- UCo₂ Laves phase, alloy systematics, rel. to the long periodic table 9-37649
- WC-Co, prep. temp. effect on fine struct. of WC phase, X-ray obs. 9-33971
- WC-Co, quantitative charact. of surface damage by electrochemical grinding 9-47836
- WC-Co (12 wt.%), sintering with various binding phases (German) 9-28984
- WC-Co (5wt.%) hardmetal, η -phase precipitation effect on struct. and mech. props. 9-47696
- WC-Co cemented carbide, stress-strain curves using ultrahigh-pressure apparatus 9-43322
- WC-Co compacts and sintered alloy, fine struct. of carbide phases, pre-forms-repressing under high press. effect 9-28987
- WC-Co hard alloy, preheating influence on explosive shock hardening (Russian) 9-29083
- WC-Co hard metal, binder phase charact. by magnetic props. 9-29439
- WC-Co hard-alloy cermets, strength, fatigue, static tests 9-29314
- WC-Co molten Zn reaction, lamellar struct. form. 9-33964
- WC-NbC-Co, TiC and TiN coating by ion plating, and cutting tests 9-24678
- WC-TiC-TaC-Co cemented carbides, transverse-rupture strength at 600 to 1000°C obs. (Japanese) 9-43374
- WC-TiC-Ta(Nb)C-Co, CVD and activated reactive evaporation of TiC, AES obs. of substrate-layer interactions 9-24679
- YCo₂, mag. interactions, effects on moments (Rumanian) 9-15296
- Y_{2-x}Co_{17-2x}, single crystal, magnetocrystalline anisotropy 9-38320
- Y₂Co₃Ga, crystal struct., X-ray determ. (Russian) 9-27951
- Y₂(FeCo)₁₇, mag. anisotropy fields by singular pt. detection 9-24156
- Zr-Co-Co, mag. susceptibility in phases of structural type Th₆Mn₂₃ (Russian) 9-24130
- Zr₇₀Co₃₀, metallic glass, low temp. resist., supercond. T_c 9-38235
- Zr₅₀Co_{50-x}Ni_x, transform. and deform. studies 9-1864

cobalt compounds

see also cobalt alloys

- [Co(CN)₆]³⁻, electronic struct., ab initio LCAO SCF MO calcs. 9-18112
- AgCoPO₄, crystalline struct. (French) 9-1422
- Co₄P, amorphous ferromag., spectral density functions calcs. 9-47269
- CdTe-Co system, reaction of components, DTA, microstruct. and micro-hardness obs. 9-38804
- CeFe₂O₄, prep. by double decomp. reaction, mag. characts. (French) 9-33463
- (Co,Mg)SiF₆·6H₂O, phase transition at low temp., IR spectra 9-24302
- (Co,Mn)SiF₆·6H₂O, phase transition at low temp., IR spectra 9-24302
- (Co,Zn)SiF₆·6H₂O, phase transition at low temp., IR spectra 9-24302
- Co complex, Co(III) diamine, ¹³C NMR, spin-spin coupling const. (Japanese) 9-6952
- Co complex, Co(III) five coordinate, paramagnetic behaviour 9-15276
- Co complex, cobalt pyridine chloride, EPR, effective g-values 9-42825
- Co complex, A⁺[Co(en)₃]³⁺, quadrupole transition circ. dichroism, production mechanism 9-3428
- Co complex, monofumaratetetraaquacobalt(II) monohydrate, cryst. struct. and cryst. binding 9-37681
- Co complex, with p-amino salicylic acid, X-ray K-absorpt. discontinuity, shape, chem. shifts 9-47545
- Co complexes, NMR studies (Japanese) 9-8068
- Co-O thin films, exam. of oxide phase reduction, by electron photographic analysis (Russian) 9-34359
- Co-porphine, ab initio LCAO SCF MO calcs. 9-6860
- Co-S, thermodynamic anal., phase diagram 9-43226
- CoAl₂Ga_{2-x}O₄, mag. interactions, susceptibility obs.; 4.2 to 300K 9-15294
- CoAl₂O₄, compatibility with containment metals 9-13534
- Co₂(AsO₄)₂·8H₂O, optical absorpt. spectra, spin orbit splitting and cryst. field parameters 9-38560

obalt compounds continued

- Co_{1-x}BaFe_{0.2}Fe_{1.8}O₇, influence of spin-reorientation on magnetoelastic props. (*Russian*) 9-8028
 CoBr₂, magnon Raman scatt. 9-15462
 CoBr₂·2H₂O, metamagnetic, relax. phenomena at phase transitions 9-24164
 Co(CN)₃⁻, electronic struct., photochem. props., MS X α calcs. 9-22600
 CoCO₃, weak ferromagnet, optic study of spin wave spectrum (*Russian*) 9-47263
 CoCl₂, electronic absorpt. spectra and coord. in cryst., soln. and melt 9-38570
 CoCl₂, purification by H₂ reduction, of Co, exam. of conductivity (*Russian*) 9-28981
 CoCl₂-LiCl-glycerin-water system, Co²⁺ ion coordination transition, spectral investig. 9-42953
 CoCl₂-NaCl purification by H₂ reduction, of Co, exam. of conductivity (*Russian*) 9-28981
 CoCl₂(Br₂)(I₂), prep. using chem. transport via gas complexes (*German*) 9-15599
 CoCl₂·2H₂O, phonons and electronic transitions, Raman spectra 9-28761
 CoCr₂S₄, CVD grown, surface microstruct. 9-4905
 CoCr₂S₄, specific heats 9-11315
 CoF₂, elastic constant determ. by US pulse echo overlap 9-14874
 Co_{1-x}Fe_{1-x}²⁺Fe_{3-x}O₄, Mossbauer parameters, effect of Fe²⁺, Zeeman patterns 9-28647
 CoFe₂O₄ synthesis, chem., thermal histories rel. to fine cryst. struct. 9-43186
 CoFe₂Se₄, low-temp. thermal expansion anomalies and isothermal compressibility, mag. ordering and magnetorestriction 9-38363
 Co₃Mg_{0.5}O, compatibility with containment metals 9-13534
 CoMoP, X-ray cryst. struct. anal. (*French*) 9-4281
 Co(NH₃)₆(IO₄)₂·2H₂O, dynamics of IO₄⁻ vibr. in lattice 9-42157
 Co(NH₃)₆(Pb₂Cl₁₁), cryst. struct., and relationship with the chlorolead struct. moieties in NH₄(Pb₂Cl₄) and PbCl₂ 9-32954
 Co(NH₃)₂(SO₄)₂·6H₂O Tutton salt, low-temp. spin orientation, mag. props. 0-0.1K 9-15286
 (Co_{1-x}Ni_x)O, single crystals., morphology change during compressive creep testing 9-29144
 CoO, compatibility with containment metals 9-13534
 CoO, cryst., Debye characteristic temp. calcs. 9-37796
 CoO, electronic struct., XPS and UPS expts. (*French*) 9-38711
 CoO, H₂ ortho \leftrightarrow para conversion on mag. surface 9-47969
 CoO, surface layer spacing relax., electrostatic argument 9-46901
 CoO, under controlled atmosphere, exam. of composition and temp. dependence, of lattice parameter (*French*) 9-19214
 CoO, valence band struct., cryst. field anal., photoelectron data 9-47007
 CoO-MgO, cryst. oxide demixing in O pot. gradient 9-37849
 Co_{1-x}O, point defect struct., elec. cond. and Co tracer diffusion 9-10849
 Co₃O₄, electronic struct., XPS and UPS expts. (*French*) 9-38711
 Co₂O₃, anodic, comp. of layers formed by anodic oxidation of Co in neutral and basic soln. 9-39032
 CoRh₂Ga_{2-x}O₄, mag. interactions, susceptibility obs., 4.2-1000K 9-15293
 CoS-MnS(ZnS)(CdS), phase study by X-ray obs., lattice const. 9-1854
 Co(S_{1-x}Se_x)₂, metamagnetic transition, ⁵⁹Co NMR 9-38322
 CoV₂O₇:Fe, spinel, prep. and Mossbauer spectra 9-28660
 CoZn, complex, Co_{0.9}Zn_{1-p}(C₂H₅NO)₂(CPO₄)₂, dilute simple-cubic antiferromag., sp. ht. near crit. conc. 9-38336
 Co₂Zn_{1-x}Rh_xO₄ spinel, crit. conc. for long range mag. order, expt. evidence 9-47239
 CsCoCl₃, antiferromag., spin wave spectrum 9-28514
 Cs₂Co₂, cryst. struct. and thermal props. (*German*) 9-23578
 FeCoCrO₄, Mossbauer study, cation distrib. and Neel temp. determ. 9-33571
 FeCoCrO₄ spinel, elec. resistivity, temp. var. 9-38065
 (Fe_{1-x}Co_x)₂P, magnetisation, susceptibility, thermal expts. 9-11302
 Fe₂Co_{1-x}S₂, ferromagnetic solid soln., electronic props. 9-7990
 Fe₂O₃-BaO-CoO system, phase comp. and mag. props., Bi₂O₃ additions effect 9-29032
 Fe₂O₃-NiO-ZnO-CoO (15.1, 17.6, 0.6 wt.%) ferrite, effect of electron beam machining on surface layer 9-34178
 HCl-CoCl₂·H₂O, activity coeffs., 298.15K, electrostatic terms effects 9-24812
 KCoF₃, single crystal, mag. susceptibility, ¹⁹F NMR and static measurements 9-11301
 K₂CoF₄, obs. of short range order by optical birefringence 9-11318
 K₂Co₂(SO₄)₃ polycryst., growth and phase transitions 9-33918
 K₂Mn_{1-x}Co_xF₄, mag. and neutron scatt. exam. 9-33466
 K₂Na[Co(NO₄d₂)₆], single cryst., X-ray diffrs. determ. of electron density distrib. 9-14746
 Mn_{1-x}Co_xSb, ferromagnetic, NMR exam. 9-24228
 Na₂CoGeO₄, single cryst. growth and study of their piezoelec. and elastic props. 9-4906
 Ni-Co-Zn ferrite, exam. of electromag. characteristics 9-1409
 NiZnCo ferrites, temp. stability, effect of Fe content and processing conditions 9-28993
 Pb-B₂O₃-SiO₂-Li₂O-ZrO₂-CoO, coloured, glass enamel, chemical durability and microstruct., CoO addition effect 9-29256
 TiO-CiO solid soln., lattice thermal cond. 9-23791
 ZnO-Co₂O₄, ceramics, impurity at. states, elec. cond. 9-11130
 Zn₃[Co(CN₆)₂]₂·12H₂O, X-ray cryst. struct. determ. 9-14751

cochlea see ear

coding see encoding

coefficient of thermal expansion see thermal expansion

coercive force

see also magnetic hysteresis

- amorphous ferromagnetic materials status and appls. (*Japanese*) 9-15325
 bubble peak vel., analytical method of determ. from overshoot data 9-33513
 ferrite core, strength improvement method, SiO₂ and Bi₂O₃ additions, mag. characts. 9-24484
 ferrites, M type anisotropic, powder prep. and, sintered, effect of powder and pressing technology on alignment (*German*) 9-24472
 ferromagnet, lattice coercivity of narrow domain walls 9-28552
 ferromagnetic domain wall dynamics and soliton theory, coercive force determ. 9-42796
 ferromagnetic metals and alloys, coercive force, automatic meas. by remote means 9-24690
 ferromagnets, hardening by non-mag. inclusions, meas. of coercivity 9-38841
 Gentallay, in Fe-W system, damping capacity (*Japanese*) 9-20094

coercive force continued

- magnetically-soft materials, mag. characts. determ. methods, review 9-40593
 rare earth alloys, amorphous, study of hysteresis effects using Monte Carlo technique 9-1686
 rare earth amorphous alloys, random mag. anisotropy, antiferromag., Monte Carlo calcs. 9-33471
 rare earth orthoferrite, RFeO₃, spin reorientation and magneto-optical effects (*Japanese*) 9-47414
 semiautomatic portable coercimeter 9-34250
 steel, coercive force measurement method of quality inspection of heat and thermomechanically treated parts 9-5113
 steel, low alloy and C, hardened and tempered parts, nondestructive magnetic inspection 9-1929
 steel, low C, mech. props. determ., NDT methods 9-29176
 Ba ferrite powder, effect of lattice defects on coercivity (*German*) 9-24194
 BaO.n Fe₂O₃, magnet, effect of SiO₂ on texture and densification behaviour (*German*) 9-24631
 Ce-Sm-Co-Fe-Cu alloy, permanent magnet props. 9-8013
 CeCo_{5-x}, Cu and Fe modified, coercive force (*Czech*) 9-42805
 Co, electrodeposited coating, struct. and magnetic props. 9-46985
 Co-Fe (6 wt.%) alloy magnetic properties, 850 to 1000°C range (*Slovak*) 9-4698
 Co-Fe-B and Co-Fe-Cr-P-B sputtered amorphous films, mag. props. and corrosion resist. 9-28567
 Co-Fe-Nb, heavily cold worked, magnetic hardening 9-20073
 Co-Pt films, mag. and magneto-optic props., appl. to holographic and bit-by-bit storage 9-33512
 (Co_{0.83}Cu_{0.17})₆Ce, cryst. struct. and mag. props., decomp. during ageing (*Russian*) 9-37661
 Co₄CuCe, cryst. struct., mag. characts., ageing and decomposition (*Russian*) 9-4272
 CoPr, coercive force variation as function of annealing temp. (*Japanese*) 9-47787
 Co₂Sm, coercive force variation as function of annealing temp. (*Japanese*) 9-47787
 Cr_{1-x}Rh_xO₃, (0<x<0.5), effect of x on coercive field 9-43164
 DyFe₂ powders, mag. and hysteresis props. (*Russian*) 9-42800
 ErFe₂ powders, mag. and hysteresis props. (*Russian*) 9-42800
 (Fe,Ni)₈₃Bi₁₇C₂, amorphous alloy, mag. props., possible appl. to power transformers 9-28558
 (Fe,Ni)₈₀P₁₄B₆ amorphous alloy, mag. props., possible appl. to power transformers 9-28558
 Fe, coercive force measurement method of quality inspection of heat and thermomechanically treated parts 9-5113
 Fe-B-C amorphous alloys, room-temp. saturation induction over 17.5 kG 9-47300
 Fe-C, Fe-Si-B, and Fe-Cr-P-C sputtered amorphous films, mag. props. and corrosion resist. 9-28567
 Fe-Co-Cr, magnetic, phase transform. obs. (*French*) 9-47676
 Fe-Ni-Al-Co-Cr-Ti, YuNDK35T5BA, exam. of hypodissociation process (*Russian*) 9-11547
 Fe-Pd-Pt alloy powders, coercive force and specific remanence (*Russian*) 9-47302
 Fe-Pt films, mag. and magneto-optic props., appl. to holographic and bit-by-bit storage 9-33512
 Fe₉₄Ni₄P₁₄B₆, amorphous ferromagnet, domain struct., Rayleigh region and coercive field 9-28559
 Fe₂O₃, haematite, single domain, defect moment components-coercivities 9-16438
 FePd_{1-x}Pl_x, permanent magnet, coercive force increased by Pt 9-24157
 Gd-Co amorphous thin film, mag. and optical props., conc. depend 9-19748
 Gd-Co film, temp. depend. of mag. aftereffect (*Russian*) 9-8021
 Gd-Co-(Au) film, ferrimag. amorphous, coated with Permalloy films, mag. props. 9-1695
 Li_{0.5}Fe_{2.5}O₄, microwave material, mag. props., review 9-33504
 MnBi, thin film, struct. and mag. props. 9-47315
 Ni-Co-Zn ferrite, exam. of electromag. characteristics 9-1409
 Ni-Fe alloys, high-permeability, development trends (*Slovak*) 9-4694
 Sm-Co-Cu-Fe-Ti magnets, comp. and sintering effects on coercivity 9-15326
 SmCo₅ magnets, effect of heat treatment on coercive force (*Russian*) 9-1684
 SmCo₅, single crystals., mag. props. study and role of anisotropy (*French*) 9-38356
 SmCo₅ sintered magnets, periodic struct. and coercive force (*Russian*) 9-28554
 SmCo_{5-x}, Cu and Fe modified, coercive force, demagnetization curves (*Czech*) 9-42805
 SmCo₅Cu_{1.5}, single crystals., mag. props. study and role of anisotropy (*French*) 9-38356
 SmFe₂ powders, mag. and hysteresis props. (*Russian*) 9-42800
 Sm_{0.5}Pr_{0.5}Co₂ sintered magnets, periodic struct. and coercive force (*Russian*) 9-28554
 Tb₂Ag₄₈, amorphous, mag. after-effect meas. 9-24200
 TbFe₂ powders, mag. and hysteresis props. (*Russian*) 9-42800
 UGa₂, cryst. struct., mag. and magnetoelastic props. (*Russian*) 9-38364
 WC-Co hard metal, binder phase charact. by magnetic props. 9-29439
 (YEuTmCa₂)(FeGe)₃ bubble garnet films, ion-implanted, mag. susceptibility meas. 9-47311
 YFeO₃, thermomag. recording in surface layer of orthoferrite 9-24165
 (YSmCa)₃(FeGe)₂O₁₂ LPE film, growth and coercivity 9-4707

coercivity see coercive force

coherence

see also light coherence

- atom, coherent transients, spherical tensor treatment 9-26940
 cavity, optical, 1-dimens., with output coupling, thermal radiation, fluctuation-dissipation theorem 9-978
 coherent states of an electron in a quantized electromagnetic wave 9-22000
 dispersive medium, envelope-soliton propagation for interacting coherent excitations 9-2639
 electron microscope image interpretation, instrumental, environmental conditions (*Polish*) 9-30623
 excitons, coupled coherent-incoherent motion, rel. to mean square displacement 9-19519
 ionosphere S₂ currents, spatial coherence scale of day to day variability over Europe 9-44299

coherence continued

- magnetosphere chorus and hiss observed by GEOS, coherence function appl. in automatic recognition technique 9-44307
- molecular system interacting with radiation field, equilib. mean values 9-27224
- naphthalene-d₈:naphthalene, betamethylnaphthalene, ¹B_{2u} naphthalene exciton percolation kinetics, exciton coherency 9-33750
- Na, reson. two-photon ions., photoelectron ang. distrib. and polariz., nucl. spin influence 9-10083

coherence distance *see coherence length***coherence length**

- EM coherence length in supercond. with mag. impurities 9-42696
- superconductor-normal metal interface in a finite geometry 9-33404
- Nb films, supercond. props. and electronic density of states (Russian) 9-28439

coherent antiStokes Raman scattering

- acridine dyes, resonance multiplex CARS spectra 9-13722
- air, LF spectroscopy 9-13727
- angularly resolved coherent Raman spectroscopy, crossed beam config., 9-30570
- chrysene, excited electronic state, CARS obs. 9-31514
- crystals lacking symmetry centre, cancellation by nonresonant background 9-14039
- density and temp. meas. (German) 9-27321
- flavin adenine dinucleotide, resonance CARS line shapes, excited state parameters 9-3448
- gas, intensity pressure variation (French) 9-45998
- gases, review 9-27322
- gases, vibr.-rot. transitions 9-18198
- homonuclear diatomic molecules, CARS spectral profiles, computer program 9-13723
- linewidth determination by integrated power meas. 9-3744
- liquid, third-order nonlinear susceptibility ratio meas. by CARS Maker fringe technique 9-989
- liquid media, comparison of inverse Raman scatt. and CARS 9-7178
- molecule, resonance CARS intensity calc. 9-36959
- noncentrosymmetric crystals, anti-Stokes stimulated Raman scatt. by polarizations 9-36962
- polydiacetylene solutions, third-order nonlinear mixing (CARS) 9-10354
- resonance spectroscopy, quasiresonant pumping 9-6190
- resonance spectroscopy, results for β -carotene band 9-6189
- review 9-16051
- rotation relaxation in continuous media (Russian) 9-10186
- three laser coherent Raman scatt. 9-23016
- very high resolution CARS spectroscopy in mol. beam 9-30568
- CaCO₃, calcite crystal, higher-order CARS spectra 9-14035
- H₂, linewidth determ. by integrated power meas. 9-3744
- H₂O in flames, CARS spectrum 9-36652
- I₂, reson. CARS spectrum, electronic resonance enhancement 9-14033
- LiF crystal, polariton CARS spectra 9-36961
- N₂, discharge excited vibr.-rotation states meas. by CARS (Russian) 9-3429
- N₂, gas, picosec. pulse CARS obs. 9-6942
- N₂, rot. temps. determ. in diffusion flames using CARS 9-29358

coherent potential approximation *see CPA calculations***cohesive energy** *see binding energy***coils***see also inductors; solenoids; windings*

- Argonne/GA TNS Tokamak reactor supercond. ohmic heating coil design 9-31197
- coaxial, for signalling between surface and buried coils, max. induced voltage calc. 9-12299
- eddy current induction calc., transient, in plate of finite thickness (German) 9-27129
- eddy-current speed meter operating characteristic analysis 9-40543
- ELMO Bumpy Torus Reactor toroidal magnet system design 9-31196
- fusion reactor coil insulation and winding techniques 9-31210
- heavy ion storage supercond. coil radial sector guiding field calc. 9-31262
- JET Tokamak inner poloidal field coil design 9-31209
- JET Tokamak toroidal field coil design 9-31205
- JET Tokamak toroidal field coil manufacture 9-31206
- Mirror Fusion Test Facility supercond. coil development 9-31202
- poloidal field coil design and development of JT-60 Tokamak 9-31204
- superconducting for Fermilab doubler, design and fabrication techniques 9-36443
- thick ellipsoidal coil and ferromagnetic ellipsoid system, vector potential 9-41269
- Tokamak ohmic heating coil design and testing 9-32806
- Tokamak power reactor supercond. coil design, experimental 9-31198
- Tokamak power reactor supercond. poloidal magnet system design, experimental 9-31207
- Tokamak power reactor toroidal field coil design and manufacture 9-31201
- Tokamak superconducting toroidal field coil concept 9-31200
- Tokamak toroidal magnet supercond. cluster test design 9-31199
- toroidal field coil design and development for JT-60 Tokamak 9-31203
- toroidal magnet coil design and testing 9-31195

coincidence circuits*see also counters*

- constant fraction differential discriminator for use in fast timing coincidence systems 9-45580
- dead time correction by the pulser method for single channel nuclear counting systems 9-13611
- dissector one-electron current pulse timing, delayed self-coincidence method 9-26846
- high rate 4π β - γ coincidence counting system 9-45588
- modular coincidence circuits and shapers, parameters 9-3320
- multidetector meas. of ang. correl. 9-41084
- MWPC, Bellecord—a multilevel fast preprocessor for 1024 ECL channels 9-45577
- scintillation hodoscope, track correlator as a fast trigger in the detection of π - μ Coulomb bound states 9-45574
- e- γ delayed coincidences using magnetic lens spectrometer and Ge(Li) detector 9-710
- Li isotopic comp. determ., using coincident meas. of complementary particles in ⁶Li(p, α) and ⁷Li(p, α) 9-5201

coincidence counters *see coincidence circuits; counters***cold-cathode tubes***see also counting tubes; photomultipliers; phototubes*

- ion source, floating potential of metal surface under ion bombardment 9-41057

cold rolling

- Duralumin 2017, superplasticity (Korean) 9-38902
- metal, cubic, heavily rolled, shear band occurrence 9-34058
- recrystallisation, conf., Leeds, England (April 1978) 9-47706
- steel, Al killed, cold rolled and recrystallised grain shape anisotropy 9-34064
- steel, austenitic stainless, matrix precipitation of Cr₂N, due to P addition, TEM exam. 9-4973
- steel, Cr, H-dislocation interaction 9-8307
- steel, low alloy, high strength, residual stresses during low cycle fatigue 9-29201
- steel, low C, cold rolled and recrystallised, containing Nb(CN) dispersion struct. and textural aspect of deform. 9-47712
- steel, low C, rolling deform., effect on NbC particle size distrib. 9-47717
- steel, rolls for cold-rolling mills, surface hardening, contact fatigue strength 9-24664
- steel, stainless, Cr (17 wt.%), recrystallisation texture, effect of N (Japanese) 9-4978
- steel, stainless, ferritic Ti stabilised, changes in structure and mech. props., after alkali bath etching (Russian) 9-29271
- steel, stainless, Kh25T, impact strength and substructure produced by deform. during cold rolling (Russian) 9-24535
- steel, stainless, type 304, description of deformation induced plastic anisotropy 9-43268
- Al and Al alloy 5022, plastic anisotropy of textured sheet (Japanese) 9-34103
- Al, cutting mechanism, anisotropy effects 9-11760
- Al, fatigue, effect of pre-existing subgrains 9-5041
- Al, single crystal, deformation behaviour during cold rolling 9-47751
- Al-Cu-Mg-Mn-(Zn-Cr), low temp. deformed, ageing and mech. props. 9-1881
- Al-Mn(Cu)-Zr, particle stabilized structures, hot deform. 9-47733
- Cu, recrystallisation of cold rolled samples (French) 9-43269
- Cu-Al₂O₃ coatings, electrodeposited, dispersion hardened, exam. of props. 9-34181
- Cu-Al₂O₃ electrodeposits, dispersion hardened, props. 9-28258
- Cu-Sn-Mg, precipitation, effect of thermomechanical treatment (Japanese) 9-4970
- Fe, Armco, flat-rolled and annealed, dislocation struct. and mech. props. (Russian) 9-20062
- Fe, rolled sheet, magnetic film form. at metal/calamine interface after ferrous products cooling (French) 9-43274
- Fe-Ni (32.86, 30.65 wt.%), characts. of quenched struct. formed in textured sheets, TEM and optical microscopy study 9-34084
- Fe-Ni-C (24, 0.45 wt.%), single crystal, plastic deform. effect on martensitic burst transform. 9-15695
- Fe-Si (3.1 wt.%), solubility product of BN 9-10955
- Ni, cold rolled, influence of impurities on recovery and recrystallisation positron annihilation meas. 9-15696
- Ni-ThO₂ (2.51 wt.%), dispersion hardened, high temp.-strength, deform. method and annealing effects 9-1882
- Ti, cold rolled, transcrystalline SCC in methanol-bromine soln., crystallographic texture effect 9-15872
- Ti-Ni, eutectoid decomposition, effect of interphase boundary struct. on mech. 9-4952
- Zn-Al eutectoid alloy, straining at elev. temp., whisker crystal 9-29087

cold shortness *see brittleness***cold working**

- see also bending; cold rolling; plastic deformation; slip; work hardening*
- alloy, two-phase, deform. struct. and recrystallisation, review 9-34061
- alloy, two-phase, recrystallisation mechanisms 9-47708
- fastener hole, cold worked, residual strain 9-29088
- Incoloy 800, mechanical props., heat treatment and appl. conf., Petten, Netherlands (March 1978) 9-43296
- Incoloy 800, review of mech. props. up to 600°C 9-43368
- Incoloy 800, review of structural charact., heat treatment and comp. effects 9-43297
- Incoloy 800H, high temp. low cycle fatigue, ageing and cold working effect 9-43277
- Incoloy 800H, high temp.-low cycle fatigue, ageing and cold working effect on initial stress/strain curve 9-47720
- metal, cold worked, grain size depend. of dislocation density 9-7614
- metal, deformed struct. role in recrystallisation nucleation, review 9-34060
- metals, cold forging, upset tests anal., stress-strain law determ. appl. (French) 9-20064
- Nylon 6, small-angle X-ray scatt. struct. changes w.r.t. thermal and mech. history 9-41976
- plastic deformation incompatibilities, resulting from moderate cold drawing, X-ray line broadening determ. (French) 9-43265
- SIPA irradiation creep, material with preferred direction for dislocation Burgers vector, cold worked 9-20118
- steel, 11YuA, cold worked, heat treated, electromagnetomech. props. NDT 9-4980
- steel, austenitic, 30KhGSA, heat treatment, preliminary, cold deform., elec. heating rel. to mech. props. 9-24554
- steel, austenitic, cold worked, derivation of simple void-swelling equation 9-7631
- steel, austenitic stainless, struct. and mech. props. under low temp. deform. under linear and plane stress conditions 9-1902
- steel, austenitic stainless, type FV 548, 20% cold worked irradiated with 22 MeV C²⁺ ions or 46 MeV Ni⁸⁺ ions, study of void swelling 9-37744
- steel, C, cold strained, effect of rapid heating on strain ageing (Russian) 9-11642
- steel, C, type 1792AF 9-38966
- steel, C, X-ray line fitting by Gram-Charlier distrib., appl. to tension test (French) 9-15689
- steel, ductile fracture under cold metal forming conditions, metallurgical struct. influence 9-34125
- steel, ferritic, MA 956, oxide dispersion strengthened, mech. props. and damping behaviour 9-47702
- steel, low-C, preliminary thermomech. treatment, cold deform. effect on struct. and props. 9-38847

cold working continued

steel, railroad rail, effect of cold worked layer on Rayleigh wave dispersion 9-1014
 steel, stainless, 304, shot peened, stress corrosion cracking, const. strain rate investig., cold work, sensitisation effect 9-20259
 steel, stainless, ferritic, high CR penny shaped central bursting defect in cold drawing 9-20071
 steel, stainless, microduplex, austenite/ferrite, recrystallisation, annealing and cold work effects 9-47713
 steel, tool, maraging, based on Ni2M10, exam. of hardening, crack resistance and wear (*Russian*) 9-34047
 steel austenitic stainless, cold working type, heat treated, tool wear during cutting 9-47782
 steel cold plastically deformed, exam. of structure of diffusion layers after borating (*Russian*) 9-34054
 steel tube eversion, effect of material and geometrical parameters 9-15690
 steels, C, H₂ embrittlement after patenting and cold deform. (*Russian*) 9-29175
 steels, tool, cold hydrostatic extrusion rel. to struct., props. 9-20068
 Al alloy, recrystallisation during hot deform. and after cold working 9-47715
 Al alloy 7075-Tb, coldworked fastener holes, elastic-plastic boundary layer determ. 9-34066
 Al-Cu(Mg)(Zn), cold working causing preprecipitation, thermoelec. power (*French*) 9-8306
 Al-Mg (2 wt%), high temp. creep, effect of cold working on mechanism 9-43351
 Al-Mn (1 wt.), commercial, recrystallisation 9-47710
 Bi polycrystalline, plastic deform. and stored energy of cold work 9-43348
 Ca₁₀(PO₄)₆X₂ (where X is F, Cl, OH or Co), influence of mech. treatment on struct. and reactivity (*German*) 9-43272
 Co-Fe-Nb, heavily cold worked, magnetic hardening 9-20073
 Cu, cold work, P effect on annealing 9-47707
 Cu, polycrystn., cold worked, calc. of dislocation density as function of plastic strain 9-38924
 Cu, recrystallised, inhomogeneous deform. due to texture changes (*German*) 9-29158
 Cu-Au, (0.02-5 at.%), cold worked, internal friction peaks 9-11652
 α-Cu-Ni-Zn-Pb, fire cracking, effect of pores and impurities 9-29207
 Cu-Ti (4 wt.%), combined recrystallization and precipitation 9-29072
 α-Cu-Zn(Al), solid soln., intermediate temp. embrittlement (*Japanese*) 9-20158
 Fe, Armco, sleeve, deformed by cold drawing, exam. of surface and texture (*Russian*) 9-34057
 Fe-Co-Cr (50, 0.4 wt.%), ordering and recrystallisation 9-34029
 Fe-Co(V) alloys, neutron irradiated, influence of dislocation doping on recovery 9-46715
 Fe-Nb(Ta)-Co, Recalloys, semihard mag. alloys, mag. and elec. props., hardness, thermal expansion (*Japanese*) 9-5066
 Fe-Ni, martensitic alloys, effect of cold working before ageing 9-47736
 Fe-Si-B-S, grain-oriented, high induction, B and S addition effect on magnetic props. (*Slovak*) 9-4697
 Mn-Ni-Ti (Zr) systems, and mech. props. thermal expansion for different heat treatments (*Japanese*) 9-29123
 Mn-Ni-Ti(Zr), non-ferromagnetic Elinvar-type alloys 9-24566
 Mo cold worked, dislocation struct. change during postdeform. at 493K 9-43271
 Mo-Zr-C (0.63, 0.06 wt.%), quenched and deformed, structural changes during heating to ageing temp. (*Russian*) 9-1879
 Nb, cold-worked, Snoek-Koster relaxation transient period, comparison with Schoeck's theory 9-34086
 Nb-W-Mo-Zr (5, 2, 1 wt.%), surface-layer struct. and mech. props., effect of O₂ diffusion saturation 9-5087
 Nb₃Al, mechanical and supercond. props. 9-38214
 Nb₃Sn-Cu superconducting composites, produced by cold extrusion of fine powders 9-38767
 NbTi, supercond., crit. current densities and anisotropy factors, heat treatment effects 9-38285
 NbTi, supercond., processing parameter optimisation for high mag. field appls. 9-38290
 Ni-Cu (30 wt.%), cast cold- and warm-worked, recrystallization 9-29092
 Ta:H, recovery after cold working at 4.2K, resist. meas. 9-4977
 Ti, cold worked, annealed, internal friction meas. of H degassing (*French*) 9-43304
 Ti-Mo-Zr-Sn-Fe-C-Si alloy, δ-III, cold deform. and annealing, effect on struct. and mech. props. (*Russian*) 9-24533
 Ti-Nb, cold strained, exam. of ω and α phases, precipitated during ageing (*Russian*) 9-11620
 Zr, low temp. deformed, O₂ effect on production and recovery of defects, elect. resist. meas. 9-47705
 Zr-Nb (1 wt.%), stress drop expt. during creep 9-29152
 Zr-Nb (2.5 wt.%), annealed, irradiation growth at 353K 9-46710

collections of physical data

A=117 nuclear struct. data sheets to June 1978 9-36130
 A=141 nuclei, data sheets 9-6371
 A=142, nuclear struct. data sheets to Oct. 1977 9-30769
 A=147 nuclear struct. data sheets to May 1978 9-30770
 A=195 nuclei, data sheets 9-6372
 A=199, nuclear level scheme data sheets, decay scheme 9-13186
 A=201 nuclear struct. data sheets to May 1978 9-30771
 A=203, nuclear data sheets, level struct., decay schemes 9-13187
 A=211, nuclear struct. data sheets to July 1978 9-36131
 A=46, nuclear data sheets, level struct. and decay props. 9-13185
 A=52 nuclear struct. data sheets to April 1978 9-36129
 A=54 nuclei, data sheets 9-6370
 A=70, nuclear struct. data sheets to Oct. 1977 9-30768
 A=143, nuclear data sheets, level energies, J^π assignments 9-30775
 A=202 nuclear data sheets, levels and transitions 9-40831
 A=86, nuclear data sheets, level and decay schemes 9-30774
 advanced reactor Centralised Reliability Data Organisation 9-13463
 n-alkanes, vibr. data and force field const., review 9-31750
 asteroids, diameters for 396 objects and taxonomic system 9-2510
 astronomical data, in observer's handbook of Royal Astronomical Society of Canada, (1979) 9-8796
 atmospheric absorption line parameters, AFGL, compilation update 9-21013
 atomic energy level and Grottrian diagrams, S I to Ti XXII, book 9-3387
 atomic ionisation of K-shell by Coulomb excitation 9-18272

collections of physical data continued

audiometric thresholds, pure-time, relation to age, comparative anal. of data 9-5299
 Canadian earthquakes, 1976, catalogue 9-44139
 cavity resonators, natural frequencies of coaxial and concentric cavities (*French*) 9-31760
 Earth crust, in situ stress in N. America, compilation 9-29728
 Earth crust in situ stresses, tabulation and depth depend. 9-29729
 earthquakes, instrumentally determined, in China, catalogue 9-12081
 elastic electron scattering, by atoms and molecules, momentum-transfer cross sections 9-25777
 elastic moduli, Kroner limits of technically important materials, function of temp. (*German*) 9-28032
 EM cascades in air, Pb, Fe and Cu, caused by 10-100 GeV electrons and photons 9-21120
 empirical data tables, equivalent transformation (*Russian*) 9-9208
 environmental radioactivity, meas. of water, soil, and foodstuffs 9-5378
 fourth row element ions, relativistic Dirac-Fock-Slater orbital binding energies, one-electron transition energies 9-25778
 gamma-ray internal conversion coeffs. for all at. shells, 30≤Z≤104 9-45206
 halomethanes, ideal gas thermodynamics props. 9-32733
 heavy elements, Z=84-103, at. electron binding energies 9-31735
 indentation hardness number conversion table analysis 9-11736
 internal conversion coefficients, 30≤Z≤104, Hartree-Fock-Slater model calcs. 9-36199
 internal conversion coeffs. for E5, M5 transitions, 30≤Z≤104 9-26396
 ions, H-, He-like, Z=4 to 34, wavelengths, radiative transition probabilities, autoionisation rates 9-25776
 libraries of nuclear data (*Spanish*) 9-36120
 light-diffusing glass catalogue and basic operational characteristics 9-46019
 materials review of mech., corrosion, thermal, elec. props., appl., economics, design considerations 9-1818
 metal ions, in unusual valency states, reaction rate const. 9-47921
 meteorological data from DBI data buoy in North Sea 9-21079
 NMR, wide-line, investigation of inorganic and organic solids, reference list 9-19786
 nuclear and atomic data sources 9-25081
 Nuclear Code Centre, Japan, history, activities (*Japanese*) 9-13618
 nuclear data sheets for A=109 nuclei 9-9441
 nuclear data sheets for A=195 to Jan. 1978 9-17781
 nuclear data sheets for A=205 nuclei 9-9442
 nuclear data sheets for A=51 nuclei 9-9440
 nuclear data tables, recent references May-Aug 1978 9-30773
 nuclear energy level transition probabilities for even-even nuclei 9-6406
 nuclear physics recent references (May-August 1977) 9-441
 nuclear structure data sheets for A=141 to 01 Sept 1977 9-13184
 nuclear structure data sheets for A=54 to Dec. 1977 9-17780
 nuclear structure references 1975-7 9-30772
 nucleon-nucleon scattering, radiative corrections 9-26335
 Pand S-phase data from local earthquakes, California, 1966-75 period 9-12088
 photonuclear data index 1973-1977 9-6568
 pion-nucleon scattering, radiative corrections 9-26335
 polyatomic chain molecules, vibr. freqs. 9-31731
 polyethylene, vibr. data and force field const., review 9-31750
 positron-annihilation, Doppler broadened line shapes 9-19947
 raindrop induced forward and backward scattering amplitudes 9-34884
 rainfall and temp. anomalies, 1891-1975, for European USSR, N.Kazakhstan, and W.Siberia 9-39826
 reactivity calc., cross-section library inadequacy 9-9697
 reactor design performance calc. improvement by data adjustment 9-9698
 row element ions 9-25778
 selective information distribution system for international scientific co-operation (*Russian*) 9-179
 solar neighbourhood C and M-type stars 9-16946
 solar weak Fraunhofer lines, effective form. depths tables (*Russian*) 9-44439
 tropical winds, anal. and data listings 9-39787
 underground nuclear explosions since 1963, in book 9-681
 USA Energy R&D Administration effluent data collection and reporting system 9-13545
 vapour-liquid pipe flow, data bank of expt. data (*German*) 9-41739
 π⁺p→π⁰n, polarisation meas. 617 to 2267 MeV/c 9-9401
 A=229 nuclei, nuclear struct. data sheets to March 1978 9-26361
 A=233 nuclei, nuclear struct. data sheets to March 1978 9-26362
 A=49 nuclei, nuclear struct. data sheets to Dec. 77 9-26360
¹⁰B(n,α)⁷Li, 10 keV to 1 MeV, review of cross section meas. 9-9587
¹³⁷Ce-¹³⁹La, internat. comparison of activity meas. March 1976 9-13613
 Fe VIII to Fe XXVI, wavelength tables (*Japanese*) 9-13661
 H to Ca, leading atomic lines, solar spectra 9-25560
 H₂, photoionisation cross-sections, involving vibr. states, data tables 9-18242
 He, lifetimes of doubly excited states, autoionisation and radiative decay 9-18146
 (Pu,U)O₂, <5 wt.% PuO₂, criticality data generated by SU-HAMMER 9-3198
 UO₂-water tightly-packed lattices, ENDF/B-IV data evaluation 9-9805
²³³UO₂/ThO₂ water-moderated lattice analysis with ENDF/B-IV data 9-9800
 YbI, first spectrum, wavelengths and intensities, Zeeman effect 9-3389
collective states, nuclear see *nuclear collective states and giant resonances*
collimators (optical) see *optical collimators*
collision processes
 see also *atom-surface impact; atomic inelastic collisions; charge exchange; chemical reactions; elastic scattering of atoms and molecules; elastic scattering of electrons by atoms and molecules; electron attachment; electron impact; elementary particle interactions; intermolecular mechanics; ion-surface impact; molecular inelastic collisions; molecule-surface impact; negative ions; Penning ionisation; plasma collision processes; potential energy surfaces for collision processes; quantum field theory; quasimolecules; radiation quenching*
 aerosols, highly dispersed, with elec., acoustic fields, collision rates 9-47986
 aerosols, particle-droplet inertial collisions 9-47989
 asteroidal belt, primaevial collisional process rel. to orbital characts. 9-8874

collision processes continued

- asteroids, collisional disruption rel. to Fe meteorites cosmic ray exposure ages distrib. 9-30015
- atomic, two-state approximation in the adiabatic and sudden-perturbation limits 9-22780
- Bethe approximation 9-18249
- classical theory of collisional entropy production 9-10162
- classical trajectory model for electronically nonadiabatic collision phenomena 9-18248
- Earth/comet collision, rel. to Earth albedo sudden change and ice age onset 9-44241
- elastic bodies, nonlinear surface waves (*Ukrainian*) 9-32331
- elastic three-body linear collision, inverse scatt. problem, for teaching 9-35468
- galaxies, interactions rel. to spiral structs. origin 9-25714
- galaxies head-on collision, dynamical friction effects 9-44600
- gas clouds in Seyfert galaxies and quasars, containment by particle flux 9-8820
- inelastic cross sections from microscopic optical model pots. 9-22792
- inelastic scattering, R-matrix soln. of coupled eqns. 9-10163
- interstellar C⁺ ions, collisions with oxide grains rel. to formaldehyde prod. 9-40246
- interstellar matter, collisional growth of giant mol. clouds 9-48877
- ionosphere, electron collision freq. model and vertical incidence absorpt. during winter anomaly 9-21098
- ionosphere photoelectrons, Coulomb-collision induced trapping by geomag. field 9-8739
- M82 with intergalactic dust cloud, dynamical evidence from Ne II 12.8 micron emission 9-17082
- magnon elementary excitations damping (*Russian*) 9-28515
- Manych meteorite, L-3 chondrite, impact remelting rel. to droplet chondrules comp. and origin 9-30014
- meteorites collisions with planets, review 9-8884
- molecular collisions in a laser field: effect of the laser linewidth 9-6980
- permutation operator, explicit representation, for teaching 9-35469
- shock waves, astrophysical, post-collisional propag. and amplification (*Russian*) 9-44360
- stars in dense stellar systems, disruptive collisions and ultimate fate 9-25652
- VII Zw 466, ring galaxy, UBV photometry rel. to form. by collision 9-8991

collision sequences, focused see sputtering

colloid chemistry see colloids

colloids

- see also Brownian motion; coagulation; electrophoresis; electroviscous effect; emulsions; gels; magnetic fluids; thixotropy
- aggregation, powdered Pt electrode 9-11830
- alkali metal-iron sulphides colloid, produced by reaction of iron salts with alkali sulphides 9-43635
- anisalazine, colloidal particles in water, elec. polarisability anisotropy 9-39208
- coagulation, 1st-order diffusion effects 9-39213
- concentrated dispersions, dynamic light scattering 9-15469
- critical binary liq. mixture, wall phenomena (*French*) 9-16041
- diamond, colloidal particles in water, elec. polarisability anisotropy 9-39208
- dichroic colloidal particles, size distrib. determ. by electro-optical method 9-6087
- dichroism in homogeneous elec. field 9-8122
- dichromatic colloidal layer holographic diffraction grating characteristics 9-27424
- electrophoresis of particles with adsorbed polyelectrolyte 9-47991
- electrostatic effect in elec. field 9-39210
- ferritin particle visibility in SEM with field emission gun 9-25174
- Graphon, colloidal dispersion in butanol, stability ratio 9-29413
- Graphon, in butan-1-ol, colloidal particles, dispersion force interactions calcs. 9-24842
- hexadecyltrimethylammonium bromide, micelle shape and aggregation, conc. depend. 9-24833
- interacting Brownian spheres, depolarised light scattering 9-34370
- interaction force, calc. of electronic component 9-11829
- ionic surfactants; conductance stopped flow study of micellar equilibria 9-43642
- latex, colloidal concentrated dispersions, dynamic light scattering 9-15469
- micellar solutions, fluoresc. quenching rel. to aggregation numbers 9-34364
- micelles, organic reaction kinetics 9-29416
- microparacrystals in physics, review (*German*) 9-27933
- neutron scattering techniques in applied research, medium-flux research reactors 9-13514
- nonlinear rheological behaviour and shear dependent struct. 9-7358
- petroleum, study of colloidal nature using automated Bonse-Hart X-ray small-angle scatt. unit 9-16044
- photosensitive glass, full-colour polychromatic, subcolloidal Ag precipitation 9-47953
- PMMA aqueous colloid, coagulation kinetics, light scatt. determ. 9-39215
- polystyrene, colloidal dispersion in butanol, stability ratio 9-29413
- polystyrene, in butan-1-ol, colloidal particles, dispersion force interactions calcs. 9-24842
- PTFE, in butan-1-ol, colloidal particles, dispersion force interactions calcs. 9-24842
- pyrene, in micellar environments, fluoresc. quenching by nitroxyl radical 9-13754
- pyrene, micellar system, fluoresc., solubilisation distrib. statistics, kinetic model 9-34366
- rhodamine 6G, micellar soln., aq., fluoresc. decay for rot. diffusion const. 9-11826
- sodium dodecyl sulphate, micelle shape and aggregation, conc. depend. 9-24833
- sodium octyl benzene sulphate, micellar aq. soln., Cotton-Mouton effect in mag. field 9-16047
- spherical particle, electrophoretic mobility 9-34316
- stimulated resonance between electrical and shear fields by a colloid system 9-1971
- Van der Waals attraction between two spheres 9-24837
- Ag halide, fine grain, colloidal stability 9-20443
- Co particles, ferromagnetic colloids in toluene, small-angle X-ray scatt., interparticle correlations 9-11831

colorimeters

- see also colorimetry
- display colour meas. appl. 9-40605
- photoelectric colorimeter reconditioning methods 9-39618
- scanning, computerised, for meas. of white uniformity on colour TV picture tube 9-26098
- self-calibrating automatic ranging spectrophotometer/colorimeter 9-30574
- Technicon Autoanalyzer II, systematic absorbance errors 9-21802

colorimetry

- see also colorimeters; spectrochemical analysis; spectrophotometry
- biomembrane potentials meas. using the dye safranin 9-48386
- colour reversal films, colorimetric investigations (*German*) 9-44961
- D65 source, reproduction accuracy 9-32016
- di(alkylbenzylthio)ethane, oil additive, thermal stability determ. by chromatography, colorimetry 9-15969
- light source, D65, for colour meas. 9-32018
- lunar colorimetric map, absorpt. strip intensity distrib. at 0.95 μm (*Russian*) 9-44381
- multicolour image storage on black and white film, using crossed grating 9-31813
- Munsell rennotations for samples of OSA uniform colour scales 9-12833
- online shade monitor, strip materials 9-30526
- rose tinted instrument, features 9-218
- standards, colour matching and adaptation exam., using Japanese observers (*Japanese*) 9-6163
- standards, prep. of OSA Uniform Colour Scales Committee samples 9-2807
- uniform colour scales, space lattice used to sample colour space 9-26100
- Al₂O₃-SiO₂-CaO-B₂O₃ (1,1,1 wt.%) chemical analysis by photocolourimetry and titration 9-20483

colour

- see also colour vision
- chemical analysis of coloured cpds. by reson. Raman spectroscopy (*Japanese*) 9-48017
- chemical origins 9-21479
- cholesteric liquid crystals, additive colour properties and colour gamut 9-7546
- holographic pseudocolor encoding, spatial filtered imaging technique 9-18370
- LANDSAT data digital chromaticity mapping for water quality anal. 9-29872
- Moon, Mare Crisium spectrally distinct units correl. with radar-detected subsurface interface 9-16848
- polycarbonate, colour appearance during oxidation (*Russian*) 9-24643
- polycarbonate, turning yellow during oxidation, kinetic regularities (*Russian*) 9-24644
- polyethylene, with various antioxidant, stabilized and TiO₂ pigment additions, photo-yellowing and oxidation 9-16015
- primary colours used in physics and art, for teaching 9-35464
- rainbow hologram colour blur 9-13922
- secondary colour aberration limited system performance estimation 9-23041
- standards, prep. of OSA Uniform Colour Scales Committee samples 9-2807
- textiles, uniformity meas., appl. of microdensitometry (*Czech*) 9-30524
- uniform colour scales, space lattice used to sample colour space 9-26100
- Si₂N₄ powders, synthesis, charact. 9-33977

colour blindness see colour vision

colour cameras, television see colour television cameras

colour centres

- see also F-centres; OH⁻-centres; paramagnetic resonance of colour centres; U-centres; V-centres
- alkali halides, electron irradiated depth distrib. profiles of colour centres 9-27977
- glass film compositions, electrochromism (*Russian*) 9-28721
- ion implantation, appls. to colour centre research, review 9-19272
- magnetic semiconductor, mag. colour centre continuum model 9-28321
- quartz, E₁' centre formation and regeneration, α and γ radiation efficiency 9-32992
- quartz, pulse electron irradiat., temp. effect on colour bleaching 9-1779
- α -quartz:Ge, Ge³⁺ centres, dynamic interchange, EPR obs. 9-19776
- Al₂Ga₂(1-2)O₃:Cr³⁺, luminesc., lifetime, 77 and 4K, struct., energy transfer 9-28798
- As₂S₃, D-centres, microscopic model (*Russian*) 9-46654
- As₂Se₃, D-centres, microscopic model (*Russian*) 9-46654
- As₂Te₃, D-centres, microscopic model (*Russian*) 9-46654
- B₂O₃-Li₂O-LiCl glass, X-irradiated, EPR of Cl₂⁻ centres (*French*) 9-47333
- CdS, local cathodolum. of single crysts. under colour contrast conditions in SEM 9-8191
- CsBr, impurity absorpt. spectra after γ -irrad., aggregated colour centres 9-4829
- GaP:Cu, deep levels, photoluminesc. and optical cross sections 9-38653
- KBr, optical conversion, luminesc. and colour centre formation 9-24354
- KBr:KI, microcrystalline powder, isothermal decay of colour centres 9-42995
- KCl, electron impact, colour centre distrib., channelling 9-14866
- KCl:CrCl₃, photoluminescence of Z₄-centre and associated Z type colour centre (*Russian*) 9-4851
- KCl:Ti⁴⁺, Ca²⁺ (S²⁺), electrolytic colouring, colour centre form., optical absorpt. spectra 9-15497
- K₂O-B₂O₃ glass, laser decolorisation of colour centres 9-43008
- MgF₂:Mn(Co), photoluminesc. due to X-rays, colour centre thermal breakdown 9-24359
- NH₄ClO₄, formation of colour center by X-irradiation, optical absorption spectra 9-19247
- NaCl, additively coloured, sensitised with O, photochromic props. 9-28792
- NaCl, electron impact, colour centre distrib., channelling 9-14866
- NaCl, microcryst. powder, isothermal stability of colour centres, thermolum. glow curve 9-15535
- NaCl, optical conversion, luminesc. and colour centre formation 9-24354
- NaCl:O, photographic recording in far-UV, colour-centre formation 9-23035
- NaCl:OH⁻, additively coloured, form. and decay of defect clusters and elec. double layers, Au decoration obs. 9-10850
- Na₂O-B₂O₃ glass, γ or UV-irrad., laser and thermal bleaching of colour centre, absorpt. spectra 9-33744
- NdGa₃(BO₃)₄ crystal structure by X-ray spectral microanalysis 9-46621

colour centres continued

- SiO₂, g-tensor and ²⁹Si hyperfine tensors of E₁'-centre for model of O⁻ vacancy 9-19777
 SrF₂:Na, γ -irrad. cryst., spontaneous and induced colour centre emission 9-7131
 WO₃(WO₃-UF)(WO₃-MoO₃) glass film compositions, electrochromism (*Russian*) 9-28721
 ZnS:Au, phosphor, 'blue' and 'green' centre form. (*German*) 9-38665
 ZnSe:Ga, P, optically detected mag. reson. of P_{Se}-centre 9-33566

colour display tubes, television see colour television picture tubes

colour filters see optical filters

colour model

- Adler's classical algebraic chromodynamics, construction method 9-26295
 Adler chromodynamics, colour charge algebras 9-22040
 axions, astrophys. constraints on axion mass and number of quark flavours 9-36009
 bag model, variational principle description (*Russian*) 9-40757
 bag model of quarks (*Hungarian*) 9-13032
 bare Pomeron in four-dimensional quantum chromodynamics 9-336
 baryoniums coupled directly to photon 9-17694
 broken colour gauge theories, effective weak vertex, colour contrib. 9-40750
 broken QCD (N)₂ operator soln. for massless quarks 9-13055
 CERN School of Physics, Austerlitz-Zeist, Holland (June 1978) 9-30857
 charmonium and asymptotic freedom in QCD 9-6327
 classical solutions of quark confinement model 9-13084
 color embeddings, charge assignments, and proton stability in unified gauge theories 9-6309
 colour confining pot., upper bound, Yang-Mills theory and lattice QCD 9-2992
 colour zitterbewegung, non-Abelian Wilson loop integral evaluation 9-36007
 coloured dual diagrams 9-22072
 compound quarks, gluons and parton confinement 9-22017
 convergence properties of the Padé approximants on a lattice 9-17615
 Cottingham formula renormalisation, hadron mass EM contrib., np mass difference in QCD 9-36053
 coupling strengths and renormalization scale parameter in QCD by dimensional transmutation 9-6316
 CP violation in weak interaction, renormalization of QCD vacuum parameter θ 9-40683
 deep inelastic structure function suggested by saddle points of the anomalous dimension 9-13127
 deep processes in non-relativistic confining potentials 9-9329
 dipole ghost, taming, four dims. field theory 9-22019
 diquark-antidiquark states, mass difference in lattice gauge theory 9-2985
 diquonium decay into mesons, exact selection rules for chromo-harmonic potl. 9-13054
 divergences, IR and collinear, cancellation in one-loop corrections to QCD cross sections 9-40730
 Drell-Yan conjecture in asymptotically free theories 9-17689
 Drell-Yan process as a probe of color excitation 9-36021
 Drell-Yan processes, perturbative QCD corrections 9-22035
 dynamical symmetry breakings in quantum chromodynamics (*Chinese*) 9-22050
 exotic four-quark states in two-dimensional quantum chromodynamics 9-45055
 forbidden states in collisions between clusters of parafermions 9-22025
 gauge theories, facts and prospects, conf., Schlading, Austria (Feb.-Mar. 1978) 9-26203
 gluon and quark observation, QCD interactions and confinement 9-2981
 gluon bremsstrahlung and multiperipheral cluster models 9-22082
 gluon collective excitations, nonabelian gauge theories, effective chiral Lagrangian 9-22034
 gluon colour charge measurement 9-22028
 gluon distribution in hadrons, colour cancellations and coherence effects 9-40746
 gluon mass shell Ward identities verification in axial gauge 9-13037
 gluon momentum fraction, colour elec. tube and linear potential model anal. 9-17679
 gluonic long-range forces between hadrons 9-9339
 gluons in e⁺e⁻ annihilation, QCD anal. of strong interaction dynamics 9-9386
 hadron+hadron- $\mu^+\mu^-X$, QCD anal. jet recoil on large p_T muon pair 9-9416
 hadron masses, soliton model and QCD 9-13083
 hadron states, quark sea and non-Abelian gauge field contrib. 9-327
 hadron-hadron weak interactions, right handed currents effects in QCD 9-13016
 hadronic μ -pair prod., hadron mass corrections and parton transverse momentum 9-36034
 hadronic collisions, production of D⁻ and ψ -mesons, QCD calc. (*Russian*) 9-9348
 hadronic colour singlets systematics, narrow quark states with baryon number one 9-13039
 hadronic large p_T phenomena, effect of parton transverse momenta, QCD Born terms 9-30716
 hadronic structure functions and form factors in low-order QCD with Migdal regularization 9-30720
 hard QCD processes, relations through mass singularity universality 9-22054
 heavy quark leptonproduction in QCD, characts. 9-17733
 heavy quark potential, non-perturbative contrib., appl. to QCD 9-13025
 heavy quark semileptonic decays, gluon corrections 9-17688
 heavy quark system prod. in QCD, duality predictions 9-13074
 heavy quark systems, spin dependent interactions, QCD perturbation theory anal. 9-36019
 Higgs self coupling effects on asymptotic freedom 9-266
 high p_T processes, parton transverse momentum effects, QCD description 9-17774
 inclusive leptonproductions, scaling violation, colour-octet model effect 9-13077
 inelastic Compton scatt., hadronic contrib., two-dimens. QCD calcs. 9-45062
 infrared regularizations in a model gauge theory 9-30700
 instanton suppression as origin of quark confinement 9-9338
 instantons, relationship to confinement, one-dimens. quantum mech. model anal. 9-12962
 instantons, the quark model, and the 1/N expansion 9-36005

colour model continued

- IR singularities, spin 1/2 quark confinement in three dims. 9-337
 IR singularity quark confinement model, coloured bound state absence 9-338
 jet and lepton-pair production in high-energy lepton-hadron and hadron-hadron scattering 9-17729
 jet asymmetry in polarized proton collisions (*Russian*) 9-17685
 jet production by a gluon source in QCD 9-22056
 jet structure in e⁺e⁻ annihilation, deviation variable, QCD calc. 9-9388
 large Q_T transverse momentum lepton pairs and hadron jets prod., reaction mech., perturbative QCD 9-2999
 large transverse momentum particle and jet prod., QCD approach 9-17761
 lattice gauge theory, map between corner and link operators, QCD relation 9-35926
 lepton pair prod., nonfactorisability of inclusive distrib. in nonperturbative QCD 9-13085
 leptiquark bosons, confinement in SU₄ theory 9-45052
 M1 radiative meson decays, QCD corrections 9-17718
 many-body interactions from quark exchanges, nuclear tetrahedral struct. and props. 9-6459
 mass singularities and coherent states in gauge theories, QED and QCD results 9-12948
 mass singularities factorisation for polarised parton legs in low order QCD perturbation theory 9-40737
 massive gluinos 9-2987
 massive lepton pair transverse momentum distrib. in hadron collisions, QCD predictions 9-9391
 massless field theory observables, infrared finiteness proof for all perturbation theory orders 9-21917
 massless QCD, instanton contrib. to fermion Green's functions 9-22037
 meson masses in gauge theory with harmonic oscillator pot., coloured quark-gluon model 9-350
 meson spectroscopy, spin struct., effective scale quark confinement in QCD 9-17684
 MIT bag, 2-dimens., force between two point colour charges 9-334
 MIT bag model, approx. QCD lower bound for bag constant B 9-17681
 multibaryon resonances, coloured quark-cluster model, possible 3-baryon state 9-6318
 multi-quark states as verification of colour 9-13067
 N-flavour quark model, axial-vector current anomaly, decay constants and η - η' problem 9-13045
 negative parity baryons, spectrum and mixing angles, QCD type quark model 9-26307
 non-Abelian gauge theory of quarks and gluons in two dims. 9-30654
 nuclear forces in saturated nuclei 9-13211
 octonionic Hilbert space description of elementary particles 9-9306
 pairing theory of Yang-Mills field and string phase 9-13047
 perturbative aspects of QCD, an introduction 9-30714
 perturbative QCD, gluon bremsstrahlung by confined sources 9-45067
 perturbative QCD, parton primordial transverse momentum 9-40728
 perturbative QCD and hard scattering processes, review 9-45075
 photon and lepton hadroproduction, QCD test 9-17745
 photon structure functions, QCD predictions in asymptotically free gauge theory 9-30736
 Pomeranchuk singularity in QCD (*Russian*) 9-22078
 prompt lepton prod., QCD anal. 9-9346
 protons, flavour symmetry breaking in antiquark distrib. 9-36006
 pseudomesoniums, spectroscopy, prod. and decay props. 9-45058
 Q² dependence of quark and gluon fragmentation functions in a parton picture based on QCD 9-9336
 QCD, 2-D, evidence against colour confinement 9-26293
 QCD, 2-dimens., confinement effects on analyticity meson inelastic form factor, scatt. amplitude 9-333
 QCD, 2-dimens., nonleptonic weak decays of charmed and storage mesons 9-40773
 QCD, Bjorken scaling violations 9-22033
 QCD, coloured cuts and mass gaps 9-9335
 QCD, effective low energy Lagrangian 9-40731
 QCD, field theoretical aspects, perturbative effects 9-26286
 QCD, gauge invariant quantum variables, SU(N)_c⊗SU(N)_f⊗SU(N)₃ algebra 9-30705
 QCD, hadronic charm production, cross section and charmed quark mass 9-36017
 QCD, hadronic semi-inclusive processes, calc. of scaling props. 9-13027
 QCD, hadroprod. of heavy quark flavours 9-22062
 QCD, impulse approx. and scaling phenomena 9-22043
 QCD, inclusion of parton transverse momentum 9-26290
 QCD, inclusive distributions in extended leading logarithms 9-13066
 QCD, IR behaviour of higher order derivative field theories 9-30699
 QCD, jet anal. in lepton-hadron deep inelastic scatt. 9-40785
 QCD, jets, deep inelastic scatt., renormalisation group 9-26287
 QCD, jets in high energy collisions 9-45114
 QCD, leptonprod. and Drell-Yan processes beyond leading approx., Bjorken scaling 9-6323
 QCD, nonperturbative, fundamental scale of strong interactions 9-36002
 QCD, parton and dimuon intrinsic transverse momenta 9-13038
 QCD, resonance props. from sum rules 9-26301
 QCD, spontaneous breaking of chiral SU(2)_c×SU(2)_f symmetry 9-36013
 QCD, transverse quark polaris. in large- p_T reactions, e⁺e⁻ jets, and leptonproduction 9-17741
 QCD, two dims., multiparticle amplitudes 9-36029
 QCD, universal multiplicity hypothesis, quark-gluon coupling constant 9-6319
 QCD, vector gluon propagator using gauge technique 9-45049
 QCD anal. of p_T^2 behaviour observed in semi-inclusive neutrino data 9-36015
 QCD and Feynman-x depend. of lepton pairs produced in hadron collisions 9-36036
 QCD and jets in leptonproduction 9-45059
 QCD and resonance physics, appl. of sum rules to ρ - ω mixing 9-22060
 QCD and resonance physics, appl. of sum rules to reson. props. of mesons 9-22059
 QCD and resonance physics, general technique for deriving sum rules 9-22058
 QCD at high temp., MIT bag model and thermodynamic pot. 9-30706
 QCD constituent-interchange to p_T^{-4} dominance transition at high transverse momentum 9-40744
 QCD diagrammatic structure, deep inelastic scatt. in asymptotically free theories 9-2996
 QCD gauge field strength and dual variable formulations 9-35946

colour model continued

QCD hadronic spectrum, α -expansion method extraction, harmonic oscillator test 9-3009

QCD in 2-D quark confinement and parton model 9-17670

QCD in axial gauge, boundary terms and Poincare invariance, asymptotic gauge pots. 9-329

QCD jet dynamics, hadron and photon prod. at large transverse momentum 9-45077

QCD jets, algorithm to determ. multiparton distrib. 9-45064

QCD jets, multiparton distrib. 9-13065

QCD jets, transverse momentum struct. 9-22031

QCD jets, transverse spread 9-22032

QCD model for gluon jet fragmentation, oblate transverse momentum struct. 9-9340

QCD observables in higher order calcs. 9-9334

QCD perturbation theory, high energy behaviour of jet and lepton-pair prod. 9-2932

QCD perturbation theory, nonperturbative effects on factorisation in high momentum processes 9-36016

QCD perturbation theory predictions, applications and expt. verification, review 9-13026

QCD perturbation theory test for various processes, review 9-326

QCD prediction for ang. distrib. of dileptons in hadron collisions 9-26300

QCD predictions, high p_T processes subject to sum rules, SU(3) symmetry constraints 9-354

QCD predictions, parton and gluon transverse momenta for large p_T particle prod. 9-40723

QCD predictions for e^+e^- annihilation jets, ang. correlations and asymmetries 9-9389

QCD predictions for inclusive and semi-inclusive lepton prod., hadron ang. distrib. 9-13041

QCD predictions for processes involving real photons 9-6330

QCD predictions of deep inelastic scaling violations, non-perturbative effects 9-40732

QCD qq running coupling constant, β -function from string model, Pade approx. 9-343

QCD spectrum, infinite number of colours at fixed coupling, interacting string model 9-2993

QCD spectrum calcs. in lattice gauge theory using Wilson's fermion method 9-367

QCD systematic description of heavy quark systems 9-9341

QCD three jet prod. in large p_T processes, two particle inclusive distrib. 9-9342

QCD vacuum, effects on hadronic currents, instantons, e^+e^- annihilation and precocious scaling 9-332

QCD vacuum props., strong interaction theory 9-26233

quantum chromodynamics psi-spectroscopy model (Hungarian) 9-13068

quantum number correlations at large transverse momentum and QCD 9-9337

quark cluster, model of ordinary and exotic hadrons 9-40759

quark confinement, infinite momentum frame formulation 9-36026

quark confinement and lattice calculation, by Monte Carlo methods 9-13023

quark decay patterns, liberated QCD and confined QCD theory 9-9328

quark distributions and quark jets from the CERN bubble chamber neutrino experiments 9-45085

quark jet fragmentation, semiclassical model 9-45071

quark liberation from chromodynamical confinement, possibilities 9-30708

quark mass dependence on QCD parameters 9-17675

quark mass effects as isospin and SU(3) violations in radiative decays of vector mesons 9-22091

quark pair condensation and confinement 9-17677

quark-line rule for hadron nonets, review 9-26304

radiative transitions and gluon-exchange contributions in QCD 9-45074

relativistic many-body theory, quantum chromodynamics and neutron stars/supernova 9-40752

renormalization of Yang-Mills theory developed around an instanton 9-45009

rest frame proton, colour gluon content, bag model and QCD calcs. 9-335

review of quark model with SU(n) symmetry, 3 colours and 5 flavours 9-9343

semi-inclusive deep inelastic neutrino scatt. QCD effects 9-30724

six quark s-wave states, props., depend. on number of quark flavours 9-45060

SO(8) \times SO(8) phenomenological symmetry, synthesis for leptons and hadrons 9-13035

static colour change screening in classical gauge theories 9-45050

static potential energy of a heavy quark and anti-quark 9-13028

static quark forces in classical chromodynamics, bag models, SU(2) Yang-Mills field 9-2990

Sterman-Weinberg jet formula 9-6325

Sterman-Weinberg jet formula corrections for e^+e^- annihilation from QCD perturbation theory 9-36086

SU_N gauge group uniqueness in grand unified model, U₁ color, proton stability 9-316

SU(2) symmetry, classical quark confining solns. incorporating colour 9-339

SU(4) \times S₃ scheme, straton model, T (9.5) props. (Chinese) 9-9347

SU(6) breaking of baryon wave functions, chromodynamic spin-spin force 9-340

superalgebra generalisation, 3-colour extension of OSP (4,1) de Sitter and SU(2,2;1) Wess-Zumino superalgebras 9-330

tachyons, monopoles and related topics, book 9-44718

tensor product of the octonionic Hilbert spaces and colour confinement 9-2982

three gluon exchange contribution to forward high energy scattering 9-26310

two particle inelastic scatt., mass divergences, QCD and parton model 9-22049

unified gauge theory, improved Pati-Salam model for strong+EM+weak interactions 9-318

vacuum polarization about instantons 9-21928

vector meson mass spectrum, radiative decay, QCD nonrelativistic potential model 9-36046

Yang-Mills theory, non-Abelian structure, IR finite asymptotic states 9-265

Yang-Mills theory, quark confinement and observables in covariant canonical formalism 9-6322

colour model continued

Z(N) topological excitations in Yang-Mills theories: duality and confinement 9-12938

$\chi(3,45)$, radiative M1 transitions with charmonium model 9-13132

D₁₅- $\pi\gamma$, SU(6) selection rule violation from quark hyperfine interactions 9-6329

e^+e^- -hadrons, finite energy sum rules in QCD 9-40754

e^+e^- , vector and axial vector gluon prod., as signatures for axial chromodynamics 9-40729

e^+e^- annihilation, event shapes, QCD perturbation theory calcs. 9-36056

e^+e^- annihilation, hadron jets transverse momentum and ang. distrib. from QCD 9-40793

e^+e^- annihilation, is there a QCD test at available energies? 9-40748

e^+e^- annihilation and other processes, event shape anal., QCD perturbation theory 9-13140

e^+e^- annihilation energy correlations, QCD test 9-13141

e^+e^- -hadron jets, test for planar events in QCD 9-40794

f₁(3,55) absolute γ -decay rates from tensor meson dominance and QCD pots. 9-9377

F^{*}-F, D^{*}-D, pseudoscalar-vector mass differences, QCD nonrelativistic quark model 9-6339

hh- $\mu^+\mu^-$ -jet+X, QCD anal. of recoiling jets and angular effects in large q_T pair prod. 9-45078

J/ ψ , radiative M1 transitions with charmonium model 9-13132

$\mu N \rightarrow \mu X$, colour model explanation of νW , rise 9-45092

μp , semi-inclusive, ang. correl. tests of QCD 9-17735

$\nu(\bar{\nu})$ deep inelastic scattering, scaling violations of struct. function moments and perturbative QCD 9-40736

$\nu(\bar{\nu})N$, 2-200 GeV, q and \bar{q} distrib. Nachtmann moments, gluon distrib. 9-392

$\nu(\bar{\nu})N \rightarrow \mu^+\mu^-X$, colour excitation in deep inelastic scatt. 9-13099

νN , charm and strangeness production, role of gluons 9-13104

νN , semi inclusive π prod., angular asymmetries in QCD 9-9360

νN scatt. with charge exchange, quark-parton model and QCD description (German) 9-26324

p(pp) $\rightarrow W^{\pm}X$, QCD perturbative predictions 9-40812

pp, transverse momentum fluctuations and high p_T processes in QCD 9-36014

pp and $p\bar{p}$, Higgs-boson production at large transverse momentum in quantum chromodynamics 9-40745

pp collisions, real photon prod. at large p_T , cross section calc. 9-13149

pp interactions, effects of hard gluon bremsstrahlung in dimuon and T prod., QCD anal. 9-13058

pp- $\mu^+\mu^-X$, gluon corrections to Drell-Yan model 9-36037

pp- $\mu^+\mu^-X$, muon pair ang. distrib., QCD model study 9-36035

pp- $\mu^+\mu^-X$, spontaneously broken colour gauge theory effects in Drell-Yan process 9-26344

pp polarisation asymmetry in high p_T inclusive prod., QCD and gluon models 9-40819

$\pi \rightarrow e\gamma$, vector form factor, quark masses and isospin breaking 9-13111

ψ , radiative M1 transitions with charmonium model 9-13132

qq-3 gluons-3 jets, jet kinematics and observability 9-45070

qq non Abelian gluon interactions, long distance behaviour of chromostatic potential 9-17676

qq+1 γ -hadrons, probe of OZI suppression 9-17680

τ semihadronic decay rate and branching ratio, QCD calc. 9-36119

T- e^+e^- , harmonic oscillator model, QCD gluon-bottom quark coupling 9-3016

V- γ h, use of QCD in OZI-violating radiative decays 9-26302

X(2,83), radiative M1 transitions with charmonium model 9-13132

pp- $\pi^+\pi^-X$, QCD testing by high energy hadroprod. of lepton pairs 9-26343

$\pi^-N \rightarrow \mu^+\mu^-X$, lepton ang. distrib. calc. by QCD 9-26303

colour perception see colour vision

colour photography

archival storage of colour films by rainbow holographic technique 9-18373

colour TV faults recorded using 35 mm Kennedy monobar camera 9-21824

crop canopy complex aerial photographic images, analysis and electronic area meas. 9-26159

distortions due to inaccurate modelling of process, cinematography appl. (Russian) 9-17533

disulfides as antisilvering compounds in fixing developers 9-24795

film material sensitivity, copier technology appl. (German) 9-26156

fogging effects diagnosis, use of granularity meas. 9-47952

four-colour thin achromat design 9-27364

image amplification by redox couple reaction 9-24802

IR film for mapping and multispectral photointerpretation 9-25356

magenta pyrozone azomethine dye, electrochemistry of fading mechanism 9-24761

multispectral scanner data principal-axis transformation to colour composite picture 9-29879

non-mechanical dispersion of color couplers 9-24799

optical laboratory experiments (Spanish) 9-21510

photosensitive glass, full-colour polychromatic, subcolloidal Ag precipitation 9-47953

SEM and TEM temporal event representation by colour microphotography 9-17566

slides preparation, using heat shrinkable material 9-6202

spectroscopic light source factors in exterior photography (Russian) 9-40638

subtractive colour photographic printing, exposure parameter calc. 9-26167

vegetation resources interpretability for various space acquired image types 9-26160

zero order diffraction microimage reproduction from surface relief gratings 9-17518

Ag, graining, comparison with colour image (German) 9-29380

colour picture tubes, television see colour television picture tubes

colour television

imaging computer peripheral 9-20667

photography of colour TV faults 9-21824

three dimensional video images formed by parallax panoramagrams, real-time transmission 9-31807

undersea stereoscopic television for offshore appls. 9-5677

visual perception of chromatic blur, effect of luminance contrast 9-39419

colour television cameras

three colour channel hybrid system to synthesize complex point spread functions 9-41347

colour television picture tubes

white uniformity meas. using computerised scanning colorimeter 9-26098

colour tv *see colour television***colour vision***see also eye*

aftereffects, spatial frequency contingent range 9-2071

afterimages, interactions with simultaneous contrast 9-2069

binocular image perceived direction 9-43923

cell stimulation in insect eyes, using blue SiC LED (*German*) 9-39623

chromatostereopsis, 28 annotated references covering 166 years 9-5290

colour TV images, effect of luminance contrast on chromatic blur

9-39419

complementary colours, composition and efficiency in prod. whites

9-29529

cone light adaption, frog, receptor rel. to ganglion sensitivity changes

9-48253

cone sensitivity to flicker, primate, during light and dark adaptation, ERG

obs. 9-43900

discrimination, report on 30 ophthalmologically normal old people

9-5287

dyschromatopsias, hazards in aviation 9-11934

edge and colour discriminations, retinal neurons network 9-48256

electro-oculographic ratio, rod and cone contribution 9-11925

electro-oculography, on-line system for quantitative study of ocular kinet-

ics 9-34699

extrafoveal vision, vernier acuity and apparent depth for targets of differ-

ent hues 9-39420

flicker visibility, spectrally mixed adapting fields 9-43901

general zone theory of colour and brightness vision, formulation 9-29527

general zone theory of colour and brightness vision, space-time field

9-29528

goldfish, absolute visual sensitivity 9-48258

luminance and opponent colour contribs. to visual detect., temporal and

spatial integration 9-8510

luminance and opponent colour contribs. to visual detect., temporal and

spatial integration 9-8509

matching functions obs. using Japanese observers, rel. to photometry and

colorimetry standards (*Japanese*) 9-6163

McCullough effects, binocular interactions during establishment 9-48271

pair of heterochromatic light pulses, mixture and resolution 9-34565

perceived colour differences, two dimensional fluctuation effects 9-29531

retina, teleost, enhancement of hyperpolarising S-potentials of surround

illumination 9-2051

retinal ganglion cells, macaque, macular pigmentation and spectral sensi-

tivity 9-43877

retinal sensitivity, monochromatic stimuli, large eccentricities 9-5285

rods, role in iconic storage 9-24987

serous retinopathy, monolateral central, colour discrimination in 23

patients 9-5286

spectral sensitivity of light-adapted goldfish, reflex obs. 9-48263

tawny owl, visual pigments and colour vision in a nocturnal bird 9-48262

tetrachromatic matches, Maxwell spot and additivity 9-29530

transient tritanopia, expts. in blue cone monochromacy 9-16209

visual masking, action of red sensitive colour mechanism on blue sensitive

colour mechanism 9-8511

visual processor, human colour-vision discrimination, statistical-

communications approach 9-5288

wavelength discrimination near absolute visual threshold, goldfish

9-48264

columbium *see niobium***COM** *see computer output to microfilm***coma** *see aberrations***combinational mathematics** *see combinatorial mathematics***combinatorial mathematics***see also graph theory; sorting; trees (mathematics)*

cation-deficient close-packed structures, combinatorics 9-23558

combustion*see also explosions; flames; heat of combustion; reaction kinetics*

condensed fuel, combustion and extinction in stagnation pt. boundary layer

9-29356

corundum-based refractory lining, wear resistance in combustion gas flow

(*Russian*) 9-8370

droplet, finite reaction rate model rel. to flame sheet model 9-34306

fluid, electric field induced promotion of combustion, vaporisation, and

heat transfer 9-20370

fluidised-bed, development for HTGR fuel reprocessing pilot plant

9-45397

fossil fuel, combustion in atm., effect of CO₂ on climate 9-2359

fuel droplets, mathematical models of transient heat flow 9-18673

furnaces, heat transfer and pollution (*French*) 9-16001

furnaces, large, gas-fired, combustion modelling 9-32710

gas turbine combustion chamber, isothermal model, bluff body, recircula-

tion phenomena in primary zone 9-47925

generalized ICE method for chemically reactive flows in combustion

systems 9-10617

Helmholtz pulsating combustion system, prediction of pressure and fre-

quency 9-43585

hydrocarbon fuels, universal formula for elec. cond. of combustion-

products plasma 9-19004

hydrocarbons, in combustion engines, CO₂ laser action 9-45924kinetics at high temperature, model (*Russian*) 9-29360

laminar flame propagation, asymptotic anal., review and extension

9-47926

methanol-O₂ flame, combustion and ionisation 9-20357

MHD generator, combustion stability 9-32827

microwave heating of flame plasma for enhanced combustion 9-20369

nonlinear medium is form of complex structures, burning 9-18688

oil recovery from Utah tar sand deposit, by in situ combustion 9-48046

pentane, combustion, form. and destruction of pentenes 9-1953

pentane, combustion, isotopic tracer studies of the further reactions of

pentenes 9-8438

PMMA fuel, combustion and extinction in stagnation pt. boundary layer

9-29356

premixed turbulent flow, spectral interpretation of the propag. vel.

(*French*) 9-4090

propane-air mixture, turbulent combustion zone, initial temp. fluctuations

influence on reaction evolution (*French*) 9-15998

quiescent fuel mists, ignition and flame quenching 9-8437

shock tube, combustion driving technique improvement 9-37350

combustion continuedshow wave reflection from wall in stream of burning mixture (*Russian*)

9-14496

solid propellant erosive burning, reacting turbulent boundary layer

approach 9-32703

space environment, expt. possibilities in combustion and fluid dynamics

9-46402

spin combustion, mathematical model 9-29364

supersonic combustion past a conical body with normal surface blowing

9-41770

thermionic diodes, flame-heated, ceramic and alloy materials suitability

evaluation 9-48157

turbomachine combustor, analysis and modelling of flow (*French*)

9-46401

urban aerosols, optically absorbing component identification as graphitic C

9-34939

Al combustion in water vapour thermodynamic calc. 0.1 to 40 MPa (*Rus-*

sian) 9-39148

CO₂, combustion gasdynamic laser, working cpds. simulation (*Russian*)

9-27239

CO₂ gasdynamic lasers, amplifying characteristics, combustion product

utilisation 9-27240

NO formation in constant volume combustion, prediction (*Japanese*)

9-16002

Pu fumes, aerodynamic and dissolution behaviour of laser-ignited droplets

9-13438

comets

1977, perihelion passage designations on Minor Planet Circulars 4583-

4622 9-16871

artificial comet, solar radiation interaction, proposed expt. 9-16887

P/Ashbrook-Jackson (1977g), total visual magnitude estimates for 1978

Oct.-Nov. 9-5787

Bennett (1970 II), emission features, coma comp. 9-16884

Bennett (1970 II), O⁺(D) and H₂O⁺ brightness profiles 9-35192

P/Borrelly, rotating nucleus model and fan-shaped coma 9-44414

Bradfield (1978o), parabolic orbital elements and ephemeris, (1978

October 29 to 1979 January 27) 9-2524

brightness variation and nucleus struct. 9-2521

capture by Neptune, lower bound on duration 9-2475

capture theory, orbits examination (*Swedish*) 9-40138

P/Chernykh (1977i), precise positions for 1977 Sept. 9-25546

p/Comas Sola (1977n), tentative obs. (1978, November 29) 9-16889

convolution of cometary brightness profiles by circular diaphragms

9-12433

P/Daniel (1979b), recovery on 1979 Feb. 2, precise position, ephemeris

9-30013

P/Denning-Fujikawa (1978n), precise positions, orbital elements 9-5780

dust release and mantle development 9-44412

Earth impact, rel. to Earth albedo sudden change and ice age onset

9-44241

electric current and mag. field struct. 9-40141

P/Encke, postperihelion interference filter photometry 9-2519

P/Encke, rotating nucleus model, and fan-shaped coma 9-44414

Fujikawa (1978n), precise positions, (1978, October 11 to 16) 9-5779

P/Halley, navigation capability for ion drive rendezvous 9-35096

P/Halley, orbital evolution tendency and ancient history (*Chinese*)

9-16886

Ikeya-Seki (1965 VIII), polarization reversal, grain segregation due to

radiation press. 9-8881

image enhancement by digital processing 9-25516

interplanetary submicron dust, cometary origin 9-30008

inverse-square orbits: A geometric approach 9-44662

P/Jackson-Neujmin (1978q), recovery, and ephemeris for 1978 Nov.-

1979 Feb. period 9-12435

Kohoutek (1973 XII=f), HF obs. 9-8883

P/Kowal 2 (1979a), precise positions, elliptical elements and ephemeris

9-40140

P/Kowal 2 (1979a), precise positions, improved orbital elements and

ephemeris 9-48739

Kowal (1979a), discovery report and positions, (1979, January 27 to 29)

9-25548

Kowal (1979a), precise positions, orbital elements and ephemeris

9-35195

Kowal (1979a), precise positions 1979 Jan., orbital elements, ephemeris

9-25549

long-period comets nature, implications of solar system origin 9-8856

Machholz (1978i), total visual magnitude estimates for 1978 Oct. 9-5785

Meier (1978f), precise position, orbital elements, ephemeris and magnitude

law 9-5781

Meier (1978f), precise position, total visual magnitude estimate, 1978

Nov. 9-5789

Meier (1978f), precise posn. and visual mag. estimate (1978 Nov.)

9-5784

MHD model 9-2522

nuclei origin in presolar nebula, dust gravit. instability 9-2523

orbital elements on Minor Planet Circulars 4583-4622 for 24 objects

9-16871

orbits catalogue, third edition 9-40092

origin from former asteroidal planet 9-16888

origin in interstellar gas cloud 9-8882

photoelectron fluxes in atmospheres 9-2520

plasma tails fine structure 9-12432

precise posns. on minor planet circulars 4521-4548 for 16 objects 9-2514

precise posns. on minor planet circulars 4549-4582 for five objects

9-12421

precise posns. on Minor Planet Circulars 4583-4622 for 14 objects

9-16871

precise posns. on Minor Planet Circulars 4623-4648 for three objects

9-25538

precise posns. on Minor Planet Circulars 4649-4688 for 11 objects

9-35178

probable discovery trail in Phoenix (1978 November 30) 9-25547

rotating nucleus model for comets with fan-shaped comae 9-44414

P/Schwassmann-Wachmann 1, appearance (1978 Nov.-Dec.) 9-12436

P/Schwassmann-Wachmann 1, compact condensation obs. 9-25550

P/Schwassmann-Wachmann 1, magnitudes (1979 February) 9-40139

P/Schwassmann-Wachmann 1, total visual magnitude estimate, (1979

February 4) 9-30011

P/Schwassmann-Wachmann 1, total visual magnitude estimates for 1978

Oct. 9-5788

comets continued

- P/Schwassmann-Wachmann 3, rotating nucleus model and fan-shaped coma 9-44414
 Seargent (1978m), continuation ephemeris for 1978 Nov.-Dec. period 9-5782
 Seargent (1978m), ephemeris extension and magnitude estimate 9-44416
 Seargent (1978m), total visual magnitude estimates for 1978 Oct. 9-5786
 Seargent (1978m), UV spectrum 9-44413
 Tago-Sato-Kosaka (1969 IX), tail structure (1969 Dec.-1970 Jan.) 9-44415
 tails, small-scale turbulence theory 9-44411
 P/Tempel 2, rotating nucleus model and fan shaped coma 9-44414
 P/Tempel 2 (1977d), BV photometry, (1979, January 28 and 31) 9-30012
 P/ Tschinshan (1978p), recovery and semiaccurate posns. 9-5783
 Tunguska event, 1908, new egregious theory 9-21229
 P/Tuttle-Giacobini-Kresak (1978r), recovery and semi-accurate positions 9-12434
 West (1976 VI), dust bursts, split nucleus, flare-ups, particle evaporation 9-30010
 West (1976 VI), photographic photometry near perihelion passage 9-35193
 West (1976 VI), striated tail study 9-35194
 C production in cometary coma, model 9-16885
 CO and CO⁺ bands intensities, reson. fluoresc. calc. 9-35191
 O I 7790 Å and 11287 Å branching ratios, astron. appl. 9-41134
 T 9-5766

command and control systems

- small submersible, command and control acoustic communications system design 9-5666
 UK-6 satellite, computer command system 9-25440

commissioning

- see also installation*
 PWR reactors, start-up procedures (Slovak) 9-36346

communication channels

- see also channel capacity*
 atmospheric scatter channel for ELOS optical communications system 9-29862
 sea surface scattering channel and undersea communications, modelling 9-1022
 troposphere, energy spectrum of delays (Russian) 9-2329
 VLF signals propagation, multi-mode, statistical anal. (Russian) 9-5702

communication networks

- see also computer networks*
 hierarchical control system, simple communication network 9-45610
 microwave transmission characteristics survey (Norwegian) 9-29834

communication systems *see telecommunication systems***communication theory *see information theory*****communications applications of computing *see communications computing*****communications computing**

- HF max. usable freq. prediction along foF2 line, MINIMUF-3 algorithm 9-25372
 propagation data, radiosonde utilisation 9-2350
 radiowave scattering signals, incoherent, spectral analysis (Russian) 9-5621
 sonar, digital phase shift beamformer, design and implementation 9-1034
 vowel identification using piecewise separation technique 9-46123
 Yugoslav soil medium-wave conductivity chart computation (Slovenian) 9-39718

community antenna television

- fibre optics market in Japan 9-32044

compacting *see densification***comparators (circuits)**

- cryogenic current comparators, double constant current source, appl. 9-21775
 frequency comparator based on delay line technique 9-6144
 voltage ratio meter for low-freq. AC 9-17440

compasses

- see also navigation*
 corrected gyrocompass asymptotic stability (Russian) 9-10457
 single-rotor corrected gyrocompass motion subject to random parametric disturbance (Russian) 9-10456

compensation

- see also error compensation*
 injection laser longitudinal mode stabilisation by temp. compensation 9-45964
 reference source radiation, temp. instability and compensation methods 9-14071
 thermocouple cold junction compensation method for portable instruments 9-2768
 thermoelectric thermometers, automatic compensation of thermal EMF of free ends 9-6123
 wavelength-scanning ellipsometer signal level regulation and dark current compensation 9-26105
 wedge compensator, operating nonlinearity elimination 9-32065
 X-ray tube anode voltage compensation under dropping power condition, digital compensation system (Bulgarian) 9-35902

compensation, charge *see charge compensation***complementarity**

- No entries

complete computer programs

- see also subroutines*
 astronomical period-finding technique, Fortran IV computer program 9-21195
 BULK: a computer program for calculating bulk-chemical analysis from mineral phases observed in thin section, FORTRAN IV program listed 9-2378
 curve fitting program on KIM-1 using FOCAL 9-35693
 education, recursive method for partition function calc., average energy calc., APL program 9-9050
 Fresnel rhomb design, TI 58/59 program 9-32040
 interferometers performance computing, Fabry-Perot, program for TI-59 calculator 9-35816
 logical searching of the lunar data, FORTRAN program incorporating Boolean search capabilities 9-2491

complete computer programs continued

- TEM convergent beam pattern anal., for Zr foil thickness determ., FORTRAN program 9-4215
 XLFRAC: a program for the interactive testing of magmatic differentiation models, in FORTRAN IV 9-2377

complex angular momentum plane

- see also angular momentum theory; Pomeranchuk poles and trajectories; Regge poles and trajectories*
 pseudoresonance Argand loops (Russian) 9-9354
 resonance multipoles, complexity, appl. to π^+p scatt. (Russian) 9-26346
 $\gamma p \rightarrow N\pi$, position and residue of the pole in the $M_{1+}^{(3/2)}$ amplitude (Russian) 9-22112

compliance constants *see elastic constants***composite insulating materials**

- electric field behaviour near singular points 9-31763
 space shuttle insulation coating, combined load testing at 1100°C 9-34261
 TiO₂-polycarbonate laminate, impulse surface flashover in vacuum, effect of normal elec. stress 9-4199

composite materials

- see also cermets; composite insulating materials; composite superconductors; concrete; eutectic alloys; fibre reinforced composites; fibres; filled polymers; laminates*
 anisotropic composite cantilever, bending and torsion, mathematical formulation 9-18708
 beam, vibr. and buckling anal. 9-1123
 bonded wedges, plane problem (Russian) 9-23284
 compressed laminar structures, stability (Russian) 9-18759
 cracked elastic surface layer bonded to half-space, fracture anal. 9-27586
 cylindrical tubes, compressible, wire-layer reinforced, inflation and extension 9-3922
 dough moulding compound, exam. of tensile and fatigue props. 9-20152
 elastic media, crack retardation at boundary (Russian) 9-23275
 elastic mixtures with long range spatial interaction 9-12600
 elastic multilayers systems, elastic fluid motion (Russian) 9-46211
 epoxy, reinforced, outgassing rate in vacuum, control by pretreatment 9-40583
 equivalence conditions from thermodynamical ratios (Russian) 9-9197
 gum and C black filled vulcanisates, rubber, natural and styrene/butadiene, uniaxial and equibiaxial fatigue 9-8363
 heat conduction, prismatic rod with concentric heat generating core 9-32183
 laminated composite media, crack tip propagation, model by two-dimens. mixture theory 9-10528
 laser beam determination, of elasticity-compressibility modulus, during compaction 9-43542
 layered elastic composites, harmonic wave frequency estimation, eigenfrequency bounds 9-46252
 linear reinforced composite material with anisotropic structural components (Russian) 9-30250
 macromolecules, epitaxial crystallisation, review 9-42409
 magnetoelectric composite, growth from melt, gas bubble form. ahead of solidification front 9-29044
 manufacture by explosive welding (German) 9-43171
 mechanical strength, internal stress depend. on density gradients (German) 9-1105
 metal reinforced, thermal activity, diffusivity, cond. meas. method 9-37141
 multipoint moments meas. by optical struct. anal. 9-15910
 particle dispersed composite, fatigue life anal., reliability concept (Japanese) 9-29200
 percolation, in a thin ply of unidirectional composite 9-42511
 polymer based composite propellants, solid 9-43431
 polymer-concrete composites, civil engineering appls., technical, processing, economic merits 9-11545
 polyorganosiloxane-asbestos composites, high-temp. transitions 9-38802
 prism under partial compression, photoelastic anal. 9-18852
 PVC metal particle composite, effect of size, shape, and oxide content of metal particles, on segregated network form. 9-20021
 reinforced open cylindrical shells, bending stability 9-41581
 reinforced organic composite, graphite, or C-C, ablation, mathematical modelling 9-41564
 reinforced shell, in plane stressed state, strength characts. 9-14264
 ring-stiffened filled cylindrical shell, loaded, stress-strain state 9-41582
 sandwich plates, simply supported in shear, critical stresses (Polish) 9-32247
 shell, cylindrical, composite with viscoelastic filler, optimisation w.r.t. long-term stability 9-18760
 skin technology, industrial appl. of space processing 9-28991
 stochastic struct., complex dynamic moduli using conditional averaging technique (Russian) 9-27513
 surface charact., combined ion scattering spectroscopy, SIMS, SEM, energy dispersive X-ray techniques 9-43702
 thermal properties, effective, bounds determ. 9-23745
 thermoelectric materials, thermoelec. props. degraded by strengthening additive 9-47114
 thermographic technique, for examining damage extent 9-43540
 wax-graphite composite, electrical cond. 9-24044
 windmill blades materials and design 9-43719
 Al-CuAl₃ lamellar composite, creep, microstruct. obs. 9-8331
 Al₂O₃-ZrO₂ composite, fracture toughness increase by microcracking in energy dissipative zone near crack tip 9-20156
 Au solar black, optical props., microstruct. influence 9-42937
 B₂C-Al composite moderator rods, production and props. (Russian) 9-18006
 B₂O₃-PbO(ZnO) glass-ceramic-cement composites, review 9-38783
 Bi₂Te₃-Sb₂Te₃ composite billet, diffusion during plastic deformation (Russian) 9-23767
 C-PVC composite, transport props. 9-38073
 Cu-ferrous alloy, hard inclusion composite exam. of wear resistance props. 9-34153
 Cu-W composite powder, prod. by H₂ reduction of CuWO₄ 9-20006
 Fe-Cu composite plates, vol. fraction and residual stress, effect on fatigue strength (Japanese) 9-8349
 Pb impregnated porous Ni, porous, internal friction and effective elasticity modulus, temp. depend. (Russian) 9-29118
 p-PbTe based composite material thermoelec. props. degraded by strengthening additive 9-47114
 SiC-Si, bulk resist. of technical SiC powders 9-28350

composite materials continued

SiO₂-Na₂O-K₂O water glass with polyethylene filler, thermogravimetric and thermomechanical anal. 9-20020
 Sn/graphite particulate composite, prep. using vacuum infiltration, microstruct., anal. 9-20005
 WC-Co molten Zn reaction, lamellar struct. form. 9-33964
 ZnO-B₂O₃-SiO₂ glass-ceramic-cement composites, review. 9-38783

composite models of hadrons

see also parton model; quark models
 constituent rearrangement model and hadron reactions review 9-26294
 four particle representation from Dirac's electron theory 9-36031
 lepton-hadron relation and the nucleon-nucleon potential 9-22207
 neutrino decay of hadrons and quantum number conservation laws (*Russian*) 9-348
 triple spinor model 9-13044
 unitary space of particle internal states 9-30712
 Weyl Lie algebra representations as elementary particle models 9-2949

composite particles

see also alpha-particles; deuterons; nuclei with mass number 1 to 5; tritons
 nuclear cluster theory of composite-particle interactions, computational procedures 9-13225

composite superconductors

AC losses, mag. field depend. of loss-freq. charact. 9-33384
 applied superconductivity, conf., Pittsburgh, USA (Sept. 1978) 9-33374
 barrier resistance meas. in multifilamentary composite superconductor 9-30506
 granular metal-semiconductor system, exciton enhancement of supercond. transition temp. 9-7921
 losses under high rate pulsed transverse field 9-33385
 multifilamentary, asymmetry of normal zone propagation velocity with respect to current 9-33415
 multifilamentary composite superconductor power losses 9-30507
 multifilamentary composite superconductor transport current distrib. 9-30505
 standards for practical superconductors, development 9-33442
 technical superconductors, preparation velocity of normal-conducting zone 9-24096
 transport current, interaction with transient external field 9-33393
 wire critical current density rel. to tensile stress at 4.2K, obs. 9-33439
 Cu alloy-Nb composite wires, resist.-temp. meas., percolation theory 9-28490
 Cu normal metal in composite superconductor, neutron irradiation effects 9-38049
 Cu-Nb multifilamentary composites, in situ formed, anomalous strength increase 9-43323
 Cu-Nb(Nb₃-Sn) composite wires, powder metallurgy prod., supercond. props. and annealing 9-33428
 Ga-insulator compound, obtained by impact compression method, superconducting properties (*Russian*) 9-7919
 Nb-Ti, multifilament composite technical superconductors, development and manufacture 9-19707
 Nb-Ti, multifilament superconductor, metallurgical design 9-33434
 Nb-Ti, wire drawn and hydrostatically extruded supercond., crit. current density 9-38275
 Nb-Ti filamentary superconductor critical current density rel. to thermal treatment 9-33440
 Nb-Ti multifilamentary supercond., commercial, crit. current density 9-38274
 Nb-Ti multifilamentary superconducting composite, subjected to rotating mag. induction, losses 9-33386
 NbSn multifilamentary superconducting composites, micromechanics 9-38878
 Nb₃Sn composite wires, supercond., degradation mech. under tensile strain at 4.2K 9-38284
 Nb₃Sn composites, crit. currents and microstruct. 9-38280
 Nb₃Sn conductor, bronze-process fine-filament, development and props. 9-33426
 Nb₃Sn filamentary composite conductor design 9-30515
 Nb₃Sn, multifilament composite technical superconductors, development and manufacture 9-19707
 Nb₃Sn multifilament conductor critical current rel. to mech. strain 9-31215
 Nb₃Sn multifilament conductors, fabrication and props. 9-33427
 Nb₃Sn multifilament superconductors produced by ECN technique, prep. and props. 9-33975
 Nb₃Sn, multifilament superconductor, metallurgical design 9-33434
 Nb₃Sn multifilament superconducting composites, alternative technologies for fabrication 9-38756
 Nb₃Sn multifilament superconductors, designed for high B appl., losses 9-33414
 Nb₃Sn, multifilamentary, optimization of high field crit. current density 9-38288
 Nb₃Sn multifilamentary conductor for fusion research 9-35797
 Nb₃Sn multifilamentary composite superconductor, reaction treatment, crit. current, transition temp. and bend props. 9-33430
 Nb₃Sn multifilamentary composite superconductor, effect of heat treatment on supercond. props. 9-33376
 Nb₃Sn multifilamentary conductors for large-scale magnets, crit. currents, stability, and stress effects 9-38291
 Nb₃Sn multifilamentary composite wires, supercond. crit. current density, temp. and mag. field depend. 9-33425
 Nb₃Sn multifilamentary hollow superconductor and magnet, fabrication and crit. currents 9-38289
 Nb₃Sn multifilamentary superconducting wires, crit. current density in high mag. field 9-38281
 Nb₃Sn multifilamentary superconductor, stress induced normal→supercond. transition 9-33377
 Nb₃Sn multifilamentary superconducting wires, improved high-field props. 9-47215
 Nb₃Sn, supercond. props. and appls., state-of-the-art 9-33413
 Nb₃Sn, supercond. tape, crit. current, effect of Sn-Nb phase, annealing 9-24119
 Nb₃Sn supercond. tape substrate structural changes 9-33373
 Nb₃Sn, superconducting, formed from Cu-Sn alloy, props. 9-42709
 Nb₃Sn superconducting multifilamentary composites, strain depend. of crit. current and crit. field 9-33432
 Nb₃Sn superconducting multifilamentary conductors, AC losses 9-33394
 Nb₃Sn superconducting multifilamentary wire, stress effects 9-33431

composite superconductors continued

Nb₃Sn superconducting multifilamentary conductors, localisation of defects by inductive procedure 9-33433
 Nb₃Sn superconducting wires, in situ multifilamentary, mech. props. 9-47746
 Nb₃Sn superconductors, Kirkendall voids, effects on mech. and supercond. props. 9-33429
 Nb₃Sn-Al₂O₃ composite, electron beam deposited, microstruct., rel. to supercond. props. 9-37935
 Nb₃Sn-Cu composite superconductors, in-situ, AC losses 9-38283
 Nb₃Sn-Cu multifilamentary wires, in situ prep., supercond. and mech. props. 9-38768
 Nb₃Sn-Cu superconducting composite, electron beam co-evaporated, TEM study 9-28247
 Nb₃Sn-Cu superconducting composites, produced by cold extrusion of fine powders 9-38767
 Nb₃Sn-Cu superconducting composite with submicrometer filaments, fabrication and props. 9-38282
 NbTi cabled and soldered superconds. with low losses, for fusion research magnets, development 9-35796
 NbTi, monocoore and filament conductors, crit. current densities and anisotropy factors, heat treatment effects 9-38285
 NbTi multifilamentary composite wires, supercond. crit. current density, temp. and mag. field depend. 9-33425
 NbTi, solid soln. supercond., crit. current anisotropy 9-38273
 Pb-Cd, oriented lamellar superconductor-normal composite, supercond. 9-1650
 Pb-Cd eutectic composite, mag. flux entry in proximity effect regime 9-33418
 Pb-Cd lamellar eutectic composite, pair potential meas. 9-33396
 V-Al/Cu-Ge, transition temp. and upper crit. field, heat treatment effects 9-38268
 V-Hf-Nb(Zr), multifilamentary, superconducting props. improvement 9-38267
 V₃Ga composite prep. and testing for high-field supercond. magnet 9-30513
 V₃Ga, composite-processed, with improved current carrying capacities in high mag. fields 9-38272
 V₃Ga multifilamentary supercond. wire, fabrication and props., crit. review 9-38271

composition measurement *see chemical analysis*

compressibility
see also compressibility of gases; compressibility of liquids; compressive strength
 charged two-dimensional isotropic Fermi liq., static and dynamical props. 9-19532
 consolidation in compressible mixtures 9-46271
 FCC cryst., theory of response to [110] uniaxial loading 9-19310
 heterophase systems, pressure-induced elastic fields, effective inclusion method 9-10502
 ionic solids, lattice and defect props., modified electron gas approx. 9-42054
 Ising double chain, compressible, mag. susceptibility and thermodynamic props. 9-15320
 metals, simple, binding energy, compressibility, interionic pot. and transition temp. using pseudopot. method 9-46598
 methane, solid, thermodynamic props. from US velocity obs. 9-46753
 optimisation of geometrically imperfect stiffened cylindrical shells under axial compression 9-3916
 perovskite structure crystals, appl. of repulsion parameters of ions and radicals 9-32943
 plate incompressible isotropic, stability under all-round compression (*Ukrainian*) 9-37149
 polyethylene, orthorhombic and triclinic lattices, eqns. of state 9-28069
 rock compressibility, nonelliptical crack effects 9-2227
 rocks, P-V meas., 5 to 45 kb (*Chinese*) 9-23676
 rubber-like solids, anisotropy of compressibility 9-43302
 ruby, cryst. struct. and compression up to 46 kbar 9-37682
 steel, stainless, atomised powder, effect of ultrasonic refining on processing preps. 9-33972
 Bi island films, effect of surface press. on lattice spacings 9-11045
 CdCr₂Sr₄, press. depend. optical absorption edge shift and compressibility 9-28714
 CoFe₂Se₄, low-temp. thermal expansion anomalies and isothermal compressibility, mag. ordering and magnetorestriction 9-38363
 CrAs, anisotropy of compressibility 9-7648
 D₂, solid, melting curve, meas. of P, V, T and longitudinal sound velocity 9-37814
 GeO₂, α-quartz structure, compression mechanism 9-23673
 H₂, solid, installation for isothermal compression up to 25 kbar, 60 to 130K 9-35769
 H₂, solid, melting curve, meas. of P, V, T and longitudinal sound velocity 9-37814
 InSb, sputtered NaCl-type compression 9-46751
 KCl, thermal expansion, compressibility and melting calcs. 9-33069
 K₂Pt(CN)₄Br_{0.3}2.7D₂O, under hydrostatic press., compressibility, neutron diff. 9-46742
 NaCl, thermal expansion, compressibility and melting calcs. 9-33069
 Pb, P-V meas., 5 to 45 kb (*Chinese*) 9-23676
 ReO₃, Fermi surface, pressure induced anomaly 9-19505
 α-Si₃N₄, lattice and atomic position parameters, neutron diff. study 9-42040
 SiO₂, α-quartz structure, compression mechanism 9-23673
 TaSe₂ (2H), thermal and elastic props., X-ray diff. exam. 9-37754
 W, P-V meas., 5 to 45 kb (*Chinese*) 9-23676

compressibility of gases
see also high pressure phenomena and effects
 chlorotrifluoromethane, compressibility, 298 to 348K, Burnett expansion obs. 9-27733
 equation of state, nonanalytic, modification for low density limit, appl. to ethylene 9-46779
 hard-sphere fluid, direct correl. function 9-41918
 spherically centralized compression wave (*Russian*) 9-10622
 CO₂, fugacity at high temps. and press. from exptl. decarbonation reactions 9-16439

compressibility of liquids
 benzene-toluene and benzene-o-xylene mixtures, US vels., compressibility, exsn. coeff. 9-33038
 cryogenic binary mixture, ultrasonic velocity, compressibility, heat capacity, at 298.15K 9-10898

compressibility of liquids continued

- p-dioxane-water mixtures, adiabatic compressibilities and sound vels., temp. depend. 9-28044
- hard-sphere fluid, direct correl. function 9-41918
- liquid metal, isothermal compressibility, harmonic pot. model calc. 9-14870
- methane+N₂(Ar), compressed-liquid dielectric const., derived excess vol. 9-11377
- nitrobenzene-aniline, US vel., sp. ht. and compressibility 9-33037
- polarisable hard sphere fluid, thermodynamic props. 9-42277
- polarity parameters correlation with compressibilities 9-19305
- ternary liquid mixtures, physical props., determ. by density and US vol. meas. 9-37751
- triangular-potential fluid, Zwanzig's perturbation theory, appl. to thermodynamic props. 9-41920
- Al-Si, compressibility and struct. factors at zero wavevector 9-23515
- Hg, expanded liq., thermodynamic and electron transport props. 9-23938
- Hg-In (3 at.%), amalgam, thermodynamic and electron transport props. 9-23938
- Hg-Na (3 at.%), amalgam, thermodynamic and electron transport props. 9-23938
- KI, soln. in organic solvents, elec. cond., shock compression effects 9-46822

compressible flow

- see also compressibility*
- acoustic resonance in vaneless radial diffusers with swirling flows 9-18882
- acoustic velocity, compressible liquid flow with heat transfer 9-14131
- air jet, heated, turbulent, discharged downward, temp. profiles 9-27677
- atmosphere, MHD wave propag. in presence of rot. and variable mag. field 9-40024
- atmospheric air, shock formation distance 9-37351
- boundary layer flow past profile set between permeable walls 9-46335
- branched converging compressible flows, separation and blockage 9-37337
- canal, converging, unsteady 2-D compressible boundary layer flow 9-20885
- duct flow, base press. oscils. 9-46386
- duct flow, laminar, numerical method 9-4030
- finite element methods, book contrib. 9-32446
- gravity wave, internal, propag. in shear layer, discontinuity form. 9-32543
- Hartmann-Sprenger tube, gas temperature calc., using Lagrange equations (Japanese) 9-4041
- holonomic formulation of boundary layer eqns., use of tensors 9-1153
- hot wire anemometry of turbulent compressible gas flows 9-46408
- laminar compressible boundary layer flow at stagnation pt., vectored mass transfer 9-27661
- laminar compressible boundary layer flow at stagnation pt. 9-10583
- laminar compressible MHD boundary layer flow, effect on heat transfer 9-14489
- liquid layer adjacent to gas stream, surface waves, subsonic and supersonic disturbances 9-23336
- MHD, in transverse mag. field, streamline orthogonal-net anal. 9-37417
- MHD streams, interaction of bounded subsonic and unbounded supersonic MHD streams 9-37419
- mixed compressible flow, type-independ. soln. 9-4035
- molecule, moving in compressible viscous fluid, hydrodynamic drag 9-27732
- Navier-Stokes solutions using Stetter's method 9-32551
- nonlinear one-dimensional waves in near-sonic flows 9-41701
- nozzle, heat transfer of transonic air flow 9-1230
- nozzle, subsonic and supersonic, turbulent boundary layer heat transfer 9-1229
- nozzle of rocket, compressible turbulent boundary layers, heat transfer and skin-friction 9-14451
- obstacle in potential flow, vortical and entropic distortions 9-32532
- permeable plate gas screen region, heat transfer and friction laws 9-1250
- polymer solution, compressible flow about spherical polymer mol. 9-10595
- over rectangular cavities, induced tones and press. oscils. meas. 9-32493
- practical piston flow, approx. analytical soln. (French) 9-27660
- stagnation point boundary layers, unsteady, three dimensional, compressible, numerical soln. 9-37335
- subsonic, density function approximation (Hungarian) 9-14421
- subsonic viscous flow, 3-D unsteady actuator disc theory 9-27615
- suction effects on shock wave-boundary layer interaction, numerical Navier-Stokes soln. 9-1243
- supersonic corner flow, boundary region 9-32559
- supersonic corner flow, viscous-inviscid interaction 9-32563
- supersonic flow, viscous, past corner, energy eqn., asymptotic solns., heat transfer 9-32564
- supersonic two-phase flow, phase separation 9-23358
- turbulent boundary layer on permeable plate 9-1169
- turbulent compressible boundary layer on permeable rough surface with heat transfer 9-1176
- unsteady compressible flow in ducts, modified governing eqns. 9-46392
- unsteady two-dimensional and axisymmetric compressible boundary layers 9-27616
- variational principle and finite element method 9-46336
- viscous flows in unbounded domains, weight function approach to uniqueness 9-46334
- vortex tube, gas separation calc. and obs. (Japanese) 9-4021

compression, bandwidth *see bandwidth compression*

compressive strength

- see also compressibility*
- anisotropic plasticity, theory development, expt. results 9-27553
- brittle materials under complex loading systems, design parameters 9-38917
- compression, high strain rate, 1023 steel 9-34099
- concrete, porosity determ. from combined US and gamma absorption meas., mech. props. 9-29295
- cylinder, at small elastico-plastic deformations (Russian) 9-10497
- Duraluminium rings, stress/strain relations, compression and tension tests, rigid plastic theory 9-34098
- epoxy-polyglycol elastomers, fracture strength under compression 9-38929
- filament wound material, lamination theory for failure envelope prediction under biaxial loading 9-38931

compressive strength continued

- glass, engineering type 13v, strength under static and cyclic loads 9-43356
- glass, strength under linear tension, bending, torsion and compression of type K8 9-14062
- glass, technical, STL10, A-1, A-3, A-6, 13V, statistical features of strength characts. 9-43353
- glass fabric reinforced phenol resin, effect of thermal loading on physical characts. 9-24622
- glass fibre reinforced polyester tube, strength under biaxial loading 9-38892
- glass plastic coating, thick-walled, compressive strength evaluation method 9-15897
- granite, exam. of fracture mech. under dynamic loading 9-29218
- graphite-epoxy laminates, AS/3501-5, compressive fracture strength 9-43396
- Kevlar aramid fibre reinforced composites, flexural strength 9-11671
- Mo, slip line study of pure single crystal compressively deformed at low temps. 9-43361
- optical fibre cables with spacers, transmission characts. and mech. props. 9-46070
- optical fibres, surface compressive strength, increase after ageing under load 9-46065
- plexiglas, strength in biaxial compression, testing machine 9-15899
- polycapromide, deformability props. in cyclic extension-compression 9-20183
- polycarbonate, compressive recovery behaviour 9-38919
- polydimethylsiloxane, rubber elasticity in uniaxial tension, compression 9-15714
- polyethylene, increase in strength on compression (Russian) 9-34119
- polymer, hollow spherical particle filled, strength criterion 9-11682
- polypropylene, increase in strength on compression (Russian) 9-34119
- polystyrene, glassy, thermally activated deform. 9-20126
- porcelain, elec., high-strength, development from ceramic raw materials, mech., elec. props. 9-24630
- PVA carbonisation process and carbonised block props., high temp. resistant materials (Russian) 9-8268
- rectangular plate, stability, mechanical props. dependent on strained condition (Russian) 9-10494
- rings, circular optimal plastic, stress/strain relations for rigid plastic material 9-34098
- ruled shell exposed to internal load pulses, compact strength 9-3929
- steel, austenitic stainless, porous fibre, sintered and compacted, mech. props. 9-15623
- steel, type 4130, high strain rate compression, plastic flow 9-34099
- W, static deform., removal of surface layer effect on mech. props. in single crystal 9-43359
- Al 7039 alloy, high strain rate compression 9-29137
- Al alloy, mechanical properties, correlation with elect. cond. 9-34114
- AlCu, electron microscope spot prep. of deform. bands 9-15922
- C, dense hard-type solids prep. from petroleum coke powder by grinding 9-20002
- C fibre reinforced CuO-H₃PO₄ effect of C fibre on props. 9-43192
- C fibre reinforced plastics, angle ply systems, calc. of strength and elastic response 9-20108
- C glass fibre hybrid plastics, review of mech. props. 9-20107
- CaO-SiO₂, cements, effect of additives on compressive strength, carbonisation shrinkage, frost resistance 9-1897
- β -Ca₃(PO₄)₂, synthesis and fabrication, prosthetic appl. 9-24479
- CdTe, single crystals, plastic deformation and dislocation struct. 9-8321
- (Co)_{1-x}(Ni)_xO, single crystals, morphology change during compressive creep testing 9-29144
- Cu₃Au-Co, single crystal, overaging mechanism 9-20081
- Cu₂O, creep tests, exam. of a creep machine mech. ability (French) 9-20325
- Fe-Al, single crystal, twinning and pseudoelasticity 9-15718
- Fe-Ni (15, 25 at.%), longitudinal forces in the hot torsion test (German) 9-38889
- HfC-HfBr₃, preparation and high temp. antifriction props. 9-1918
- MgO, ultrafine grained Fe doped, high temp. creep 9-15727
- Ni-Ta-C, eutectic alloy, fibre reinforced, directionally solidified, anisotropic yielding behaviour 9-11675
- NiO-CaF₂, hot-pressed, mech. props., thermal expansion rel. to CaF₂ additive 9-43321
- Pb(ZrTi)O₃ type piezoelectric ceramics, compressive properties 9-33612
- (SN)₂, single crystal, mech. props. 9-24580
- Sb, compressive stress-strain curves in single crystals device (French) 9-47852
- Si-Al-O-N, compression creep, comparison with SiC and Si₃N₄ 9-15728
- SiC, compression creep, comparison with Si₃N₄ and sialon 9-15728
- SiC pyrolytic coatings for HTGR fuel particles, props. rel. to deposition conditions 9-31088
- Si₃N₄, reaction bonded and hot pressed, compression creep, comparison with sialon and SiC 9-15728
- SiO₂-Al₂O₃-CaO-MgO-Na₂O (1.58, 7.16, 3.59, 14.9 mole.%), polished sheet, strength in commercial state and after strengthening by ion exchange 9-1904
- SiO₂-Na₂O-K₂O water glass with polyethylene filler, thermogravimetric and thermomechanical anal. 9-20020
- TiC-TiB₂, preparation and high temp. antifriction props. 9-1918
- UO₂, superplastic creep 9-15730
- W, polygonisation critical stage in single crystals deformed in compression 9-4979
- Zr-Dy dil. alloys, plastically deformed, mech. props. and microstruct. (Russian) 9-20112
- ZrC-ZrB₂, preparation and high temp. antifriction props. 9-1918

compressors

- annular axial, nonaxisymmetric flow anal. 9-32679
- axial flow stator blade, boundary layer development 9-4002
- high-pressure, 6-piston device for elastoplastic media, 100 kbar 9-35774
- isothermal compression installation, for solid H₂ up to 25 kbar, 60 to 130K 9-35769
- Rankine cycle, Stirling engine powered heat pump appl. 9-48164
- transonic axial rotor, flow field anal. by laser velocimetry 9-4009
- vaneless radial diffusers with swirling flows, acoustic resonance study 9-18882

Compton effect

- γ -ray sources for Compton profile meas. 9-35907
- active galactic nuclei, X-rays from inverse Compton refl. 9-48920
- alkali halides, electron momentum distrib. and Compton profiles 9-13631

Compton effect continued

- atoms, off-mass-shell and binding effects, Compton profile depend. 9-18154
- atoms, X-ray Compton and photo-effect in laser field 9-13688
- bonds, AH and AB (A, B=Li-F), linear momentum operator expectation values calcs. in molecules 9-7566
- cancellous bone, densitometry meas. 9-39489
- charged vector mesons, Compton scatt. cross section meas. 9-22102
- clusters of galaxies, intracluster relativistic electrons hard X-ray spectra and gas heating 9-25735
- coherent radiation novel sources, book 9-27231
- cosmic X-ray sources, spectra, rel. to Comptonization of X-rays by low-temperature electrons 9-35108
- deposition profiles of irradiated materials interfaces, Monte Carlo calcs., photo Compton current 9-24383
- dopplertrons and gyrotrons, coherent radiation from magneto-resonant relativistic electron beams, book contrib. 9-27227
- electron plasma in mag. field, photon absorpt. quantum mechanical treatment 9-1296
- electron-photon cascades, Monte Carlo simulation of cascade development 9-44322
- electronic potential energy and X-ray scatt., relationship 9-28311
- electrons, ultrahigh energy, traversing cosmic blackbody photon gas, effective penetration distance 9-5742
- energy-momentum relation for electron, for teachers 9-40322
- ethanol, liq., Compton profile at 60 keV 9-47535
- ethanol-H₂O, liq., Compton profile at 60 keV 9-47535
- free electron laser basic mechanisms, stimulated Raman and Compton backscattering 9-7106
- free electron lasers, mag. bremsstrahlung, Compton and Cherenkov, types (Chinese) 9-31851
- gamma-ray elastic and Compton scatt. through small angles, Ge(Li) meas. 9-718
- gamma-ray penetration in heterogeneous systems 9-18050
- gamma-ray-detector, form of high energy interaction, effect on spectral peak centroid determ. 9-36468
- hydrogenic atoms, Compton profile and X-ray scatt. factors, elec. field and elec. field gradient effects 9-31458
- methanol, liq., Compton profile at 60 keV 9-47535
- methanol-H₂O, liq., Compton profile at 60 keV 9-47535
- moving poles in the scale-dimension plane and scaling violation 9-12983
- multiple Compton effect, cross sections, γ spectra and number (Russian) 9-370
- particles accelerated by Alfvén waves, distrib. function self-similar solns. 9-32757
- positrons, planar channelled, Compton scatt. anal. 9-7639
- proton Compton effect, γ p elastic scatt., <450 MeV, dispersive anal. 9-396
- radiation and relativistic electrons spectra form. by Compton scatt. at nonzero particle fluxes 9-8825
- relativistic electron+laser photon scatt., angular and energy distrib. (Russian) 9-3029
- secondary bremsstrahlung, contrib. in gamma quanta transport problems 9-40782
- solvated electrons, Compton profile evaluation 9-29339
- stimulated backscattering from relativistic unmagnetized electron beams, book contrib. 9-27334
- stimulated EM shock radiation, book contrib. 9-27149
- tetrahedrally coordinated semiconductors, electronic struct. and Fourier transformed Compton profiles 9-38689
- vector meson photoproduction and Compton scatt. by nucleons 9-22114
- $e\gamma$ scatt., coherent states and quantum nonperturbing measurements 9-315
- $\gamma e \rightarrow \gamma e$, polarised photon splitting on unpolarised electron (Russian) 9-371
- π^0 decay, Compton electron scatt., 0.1 to 5.0 GeV 9-397
- ²⁴¹Am spectrometer for Compton scatt. studies 9-2899
- CO₂, electron impact spectra, 35 keV electrons, Bethe surface and Compton profile 9-27091
- Ge, Compton profile anisotropy, pseudopot. calc. 9-28854
- Ge, directional Compton profile meas., structural information 9-28855
- Ge, inelastic X-ray scatt. cross section accompanied by intermediate momentum transfer 9-24387
- H₂O, liq., Compton profile at 60 keV 9-47535
- H₂O, mol., Compton profile, directional, polarisation functions 9-36706
- KCl, Compton profile anisotropies, charge and momentum distrib., LCAO-SCF-MO calc. 9-3500
- LiBr, Compton profile anisotropies 9-27044
- LiCl, Compton profile anisotropies, charge and momentum distrib., LCAO-SCF-MO calc. 9-3500
- LiH, cryst., Compton profile, position space anal. 9-47536
- LiH, directional Compton profiles 9-4867
- N₂, electron Compton profiles from energy loss spectra 9-7013
- NH₃, electron scatt., 35 keV, Compton defect 9-27092
- NH₃ molecule, Compton profile asymmetry, 35 keV electron impact spectroscopy 9-7025
- NaBr, Compton profile anisotropies 9-27044
- NaCl, Compton profile anisotropies, charge and momentum distrib., LCAO-SCF-MO calc. 9-3500
- Pt, atomic Compton cross sections 9-18152
- Si, Compton profile anisotropy, pseudopot. calc. 9-28854
- Si, directional Compton profile meas., structural information 9-28855
- Si, inelastic X-ray scatt. cross section accompanied by intermediate momentum transfer 9-24387
- Si, three-dimensional electron-positron pair momentum density from positron annihilation meas. 9-43059
- V deuteride, Compton profiles 9-8206

Compton profile *see* **Compton effect****Compton scattering** *see* **Compton effect****computation** *see* **calculation****computational complexity**

- neutron transport, probability table method extension 9-584
- novel Monte Carlo binning technique 9-160

computer-aided analysis

- see also analogue simulation; CAD; control system analysis computing; digital simulation; electric machine analysis computing; hybrid simulation*
- advanced reactor cycles, total core analysis 9-9782
- air pollution, housing estate heat supply methods comparison (Hungarian) 9-2366

computer-aided analysis continued

- airbase noise contours, prediction via NOISEMAP program 9-1025
- amorphous metals, computer simulations of tensile deformation and radiation damage (Japanese) 9-42137
- bioelectric signal waveform analysis, computerized method for electronystagmogram anal. (Croatian) 9-20697
- breath volume and time components, computer aided meas. using magnetometers 9-16332
- cataract formation in rabbits and monkeys by acute microwave irradiation, computer thermal model 9-5326
- district heating power station chemical water treatment pH value calc. (Russian) 9-43572
- EEG, multivariate pattern recognition technique, cerebral abnormality localisation 9-16327
- EEG field plotting method for isopotential maps 9-39542
- electric field, permittivity meas. through ponderomotive forces determ. 9-215
- engineering design, numerical, vital role of expt. stress anal. 9-32418
- gas turbines, temperature gradient along cooling channel surface, heat transfer in initial hydrodynamic section, computation 9-18892
- heating of single family dwellings, heat pump appl. 9-43784
- incompressible flow, losses due to direction change 9-18896
- medical radioactivity, absolute meas. technique using a gamma camera 9-25087
- molecular topological symmetry 9-41251
- optokinetic stimulus pattern by computer graphics for study of optokinetic nystagmus 9-44008
- pump pipeline pressure surges calc. (Spanish) 9-23364
- radiographic screen-film system, determination of charact. curve and its gradient 9-5362
- radiographs, hardware configurations, software strategies 9-16290
- radiowave propag., direct attenuation function and field strength calc. 9-25373
- radiowave scattering signals, incoherent, spectral analysis (Russian) 9-5621
- refinement of initial parameters in overlapping spectral bands resolution 9-41198
- solar concentrator performance, parabolic dish, pointing errors effects on receiver performance 9-48097
- solar plant composite heliostat, computer anal. and optimisation 9-39283
- solar radiation, numerical model based on standard meteorological observations 9-34929
- structures dynamic problems, eigenvalue economisation, program (Italian) 9-35544
- sunlight reflected from polygonal heliostat, optical simulation 9-29452
- TEM convergent beam pattern anal., for Zr foil thickness determ. 9-4215
- thermoelasticity in solid symmetrical bodies of revolution, thermal transients calc. (Spanish) 9-23208
- two dimensional electrostatic field shape investigation (Czech) 9-27126
- VVER-440 reactors, emergency operating conditions following main circulation pipe failure 9-9823
- walking, computer animation of gait 9-11957
- Fe laminated cores, eddy currents calc. in arbitrarily shaped three-dimens. cores, appls. (German) 9-45886
- Si ribbon growth, technology assessment 1978-1986, computer anal. using PECAN 9-8244

computer-aided design *see* **CAD****computer-aided instruction***see also* **education**

- automated simulation of direct school/society interaction 9-35487
- biomechanics film data reduction and anal. using PLATO system 9-35873
- chemical equilibrium teaching, computer method using minimisation of free energy 9-30168
- chemical spectroscopy, computer-simulated laboratory experiments for students 9-40339
- chemistry at University of Surrey 9-30167
- clinical experiences, computer simulated patients 9-17162
- ecology, CAL approach to population dynamics 9-30166
- field effect transistors, computer simulation, student lab expt. 9-44673
- interactive computer assistance with calculations arising in undergraduate laboratory experiments 9-35493
- interactive learning, the Millikan Lecture 78, educational uses of computers 9-25785
- kinetic theory of gases, computer modelling of mol. vel. distrib. 9-30169
- lesson design for computer-based instructional systems 9-35490
- microcomputer applications in physics teaching, review 9-30171
- microcomputer systems, comparative eval. 9-30173
- microcomputer use in high school physics 9-30172
- nuclear medicine computers 9-25096
- physics tutoring, personal computer feasibility 9-30174
- PLATO, programmed logic for automatic teaching operations, student assessment 9-35486
- recursive method for partition function calc., average energy calc., APL program 9-9050
- ship structural design for diploma and undergraduate courses 9-35494
- student computer aided laboratory instruction Karlsruhe Univ. 9-12556
- teacher/administrator training, educational computer use 9-35489

computer evaluation *see* **computer selection and evaluation****computer facilities**

- laboratory computer system for routine, plant and environmental radiation monitoring appl. 9-9912
- R20 computer centre, noise level meas. (Hungarian) 9-41513

computer-generated holography

- acoustic hologram correction for nonuniform relative motion 9-46119
- algorithm for synthetic Fourier transform hologram, variable magnification imaging system 9-3655
- distorted image convolution deblurring by Fourier-Bessel transform holograms (Russian) 9-22897
- double-phase holograms, Fourier transform subcells and phase coding 9-27200
- filter synthesis for coherent optical image deblurring 9-3646
- generalized sampling theorem with application to computer-generated transparencies 9-41343
- hologram matrix US imaging method 9-46120
- kinoforn synthesis by Fresnel transform evaluation, least squared error method (Russian) 9-22913
- Lohmann hologram, detour phase error 9-41351

computer-generated holography continued

- one-dimensional kinoform preparation using photographic template (*Russian*) 9-22914
- one-image-only digital holography 9-41352
- radio data aperture synthesis reconstruction 9-21191
- scanner, computer-generated hologram, for laser materials processing 9-18367

computer graphic equipment

- see also *interactive terminals*; *plotters*
- cardiology, computer graphic techniques for heart damage quantification 9-29654
- cursor, aided-track, for improving digitising accuracy 9-29899
- video-sync mixer for cassette videotape recording of computer images 9-29604

computer graphics

- see also *curve fitting*; *interactive systems*
- atmospheric refraction, interactive computer graphics applied to visual image transmission 9-8689
- chemical structures, pictorial reproduction 9-43708
- computer films for research, review 9-21512
- designer work station link for ES computers 9-30442
- distributed computing system THESEUS for mag. field analysis 9-41293
- medical images, computer definition of regions of interest, double-cursor method 9-29612
- nuclear fuel cycle cost sensitivity to data uncertainties, interactive graphic computation 9-9837
- optokinetic stimulus pattern for study of optokinetic nystagmus 9-44008
- photograph simulations, on storage display, appls. to X-ray topography and TEM 9-14637
- polarcardiography, triaxiacardiometry and other displays 9-39581
- polymers, adsorbed molecules, configurational behaviour, computerised dynamic display 9-874
- rocks, activation anal., gamma-ray spectra processing with computer graphics 9-2228
- sea ice, airborne laser profiles, interactive correction and anal. system 9-25338
- shear modulus of superplastically formed sandwich cores 9-32286
- space filling molecular models 9-18309
- surveying and cartography, interactive graphical systems appl. (*German*) 9-21023
- TEM multistrip component design appl. 9-30630
- USA National Weather Service graphic display network 9-12320
- walking, computer animation of gait 9-11957

computer interfaces

- see also *CAMAC*; *data communication equipment*; *program processors*
- bulk holographic store controller (*Russian*) 9-22915
- digital drift chamber digitizer system 9-45602
- measured value preprocessing and direct sample identification (*German*) 9-5418
- microdensitometer with computer-controlled scanning table (*Russian*) 9-6197
- microprocessor based interface/controller for desktop programmable calculator 9-35690
- NMR spectrometer interfacing 9-12828
- PQR line shape, digital-analogue interface for data processing 9-45615
- spectrometer user interface to computer systems 9-9986
- tide gauging network, automated, microcomputer interface and telemetry 9-5692
- transthoracic impedance curve processing, patient-computer interface 9-34686

computer maintenance

- wear problem, review 9-20210

computer networks

- see also *distributed processing*
- USA National Weather Service graphic display network 9-12320

computer operator training see *training***computer output to microfilm**

- laser imaging dry process development film (*German*) 9-9253

computer printers see *printers***computer programming** see *programming***computer programs, complete** see *complete computer programs***computer programs (listings)** see *complete computer programs***computer science education**

- physics joint honours degree course at Manchester University 9-35456

computer selection see *computer selection and evaluation***computer selection and evaluation**

- microcomputer systems 9-30173

computer software

- not used for applications software for which see *specific applications*
- see also *programming*
- No entries

computer storage devices see *storage devices***computer subroutines** see *subroutines***computerised control**

- see also *chemical engineering computing*; *command and control systems*; *computerised materials handling*; *direct digital control*; *electrical engineering computing*; *industrial computer control*; *mechanical engineering computing*; *nuclear engineering computing*
- acoustic data buoy, microprocessor controlled, underwater signals processing 9-21024
- application node system image manager subsystem within distributed function laboratory computer system 9-45606
- HV pulse controller and temp. monitor microcomputer-based, Kerr effect study appl. 9-6103
- microprocessor for mirror sight stabilisation 9-27369
- neutron activation anal., control software for high throughput system 9-11849
- neutron detector, expt. control and data acquisition system 9-45589
- NODAL interactive language for synchrotron control 9-9987
- oceanographic monitoring stations in Arabian Gulf, computer control and data acquisition 9-8728
- pool boiling expt., computer controlled temp.-controlled operation 9-14238
- radiation therapy, comprehensive computer system, design and development 9-25078
- radiation therapy 9-25099
- superconducting solenoid, control of field-changing tasks by microcomputer 9-216

computerised control continued

- XRF and emission spectrometry, equipment developments 9-20486
- GaAs, vapour phase epitaxy using computer control 9-38744

computerised industrial control see *industrial computer control***computerised instrumentation**

- see also *astronomy computing*; *astrophysics computing*; *automatic test equipment*; *biology computing*; *chemical engineering computing*; *chemistry computing*; *computerised monitoring*; *computerised spectroscopy*; *computerised tomography*; *electrical engineering computing*; *electronic engineering computing*; *geophysics computing*; *nuclear engineering computing*; *physics computing*
- ambient air monitoring, microprocessor appls. 9-48201
- antibiotic concentration assay, computer-aided method (*German*) 9-5414
- automated gain measurement system for high-energy chemical lasers 9-36914
- automated microprobe (*French*) 9-6237
- automated multichannel meas. systems, microcircuit program device for analog signal switching 9-26042
- automatic potentiometer, microprocessor-controlled for nanovolt meas. 9-21771
- biomechanical spatial motion, data collection method using sonic digitiser 9-39441
- blind mobility aid, mechanical position sensing, evaluation 9-12045
- blood cells, spectral meas. 9-25058
- blood gas analysis data processing system (*German*) 9-5419
- body surface and epicardial activity, computer-aided meas. system 9-39551
- body surface ECG potential mapping, data acquisition system 9-29653
- cardiac arrhythmia, pill electrode, system 9-39566
- cardiograph processing and display, online (*Italian*) 9-25135
- chemical analysis, 1978 exhibition in Munich (*German*) 9-20482
- computer data input/output control panel, for thermophysical experimentation 9-17401
- conference on analysis instrumentation, Charleston, West Virginia, USA (May 1977) 9-16100
- Contourmat hardwired left ventricular angio processing system 9-16326
- Contourmat hardwired left ventricular angio processing system 9-16325
- Daresbury Laboratory automated magnet field meas. facility 9-30509
- data compression in microprocessor-based data acquisition systems 9-12270
- deformable-mirror system, computer-aided, using differential angle control 9-27356
- diffractometer, two-circle SSD, microcomputer control, appls. in angle dispersive mode 9-14641
- digital data logger, microprocessor-based, for radiation detectors 9-26848
- digital memory recorder, electromyography and nerve conduction appls. 9-43999
- direct-readout photometry system with automatic instability correction 9-26099
- ECG systems, current status and future trends (*Japanese*) 9-44013
- echosonography, real-time, computer controlled bidirectional phasing 9-12023
- EEG signal averager, flexible and low cost 9-43998
- eight-channel scanning electromyograph 9-29674
- electrochemical apparatus, multi-purpose microprocessor based 9-43592
- electrochemical data interpolation, fast Fourier transform method 9-16061
- electrocortaneous tracking, evaluation of sensory feedback codes 9-25004
- eye autorefractor, optical subsystems 9-25127
- field emitter electron beam exposure system for semiconductor fabrication 9-30624
- Finnish seismic array, data transmission, recording and handling 9-39917
- fluorometer, automated, for U analysis 9-11871
- gait analog tracings and computerized analysis through a PDP-11/45 9-29643
- gated regional spirometry (GRS) 9-25097
- grating generating by microcomputer, appls. to human visual system 9-2172
- gross and segmental motion analysis in dynamic cardiac imagery 9-25093
- high energy physics CAMAC hardware 9-13617
- high performance liquid chromatography, with CRT display, microprocessor-controlled 9-20478
- HTGR nuclear fuel microspheres, automatic particle size analyser 9-12921
- image sensor, minicomputer controlled, fluctuating image time averaging and coherence function detect. 9-41341
- INI-3 measuring system for nanosecond pulses 9-35793
- interferometer, computer-controlled Fabry-Perot, for Brillouin spectroscopy 9-40622
- interferometer, large aperture AC, for optical testing 9-27446
- isotachophoretic analysis, development of data processing system (*Japanese*) 9-24873
- Knudsen cell quadrupole mass spectrometer, high temp., control and data acquisition, system 9-26171
- laboratory automation approaches 9-12777
- laboratory instrumentation system, computerised, real-time 9-12786
- laboratory multimeter with microprocessor, precision (*French*) 9-6139
- laboratory vehicle for air-pollution measurements with computer-controlled data acquisition and navigation system (*German*) 9-39327
- Large Azimuthal Telescope program control system 9-16829
- liquid chromatography, automatic high temp., Waters GPC 150C equipment, polymer appl. 9-10806
- marine digital gravity meter, computing unit design (*Russian*) 9-39936
- mass spectrometer solid state magnet control unit 9-12879
- mass spectrometry, features, book 9-26179
- measured value preprocessing and direct sample identification (*German*) 9-5418
- meteorological instruments development in Finland, by Vaisala Oy manufacturer 9-12310
- microcomputer-based system for rat locomotor activities meas. 9-20722
- microprocessor based digital scan generator, interface to image processing computer 9-12902
- microprocessor based telemetry demodulation system 9-20738
- microprocessor for biomedical meas. 9-44065
- microprocessor-based, programmable laboratory equipment controller and data acquisition system 9-6104
- microscope photometry, on-line data collection and processing for solids, fossils and organic matter (*German*) 9-26101
- microwave instrumentation review 9-212

computerised instrumentation continued

minicomputer high-level languages and real-time operating systems for scientific instrumentation 9-12778
 minicomputer system, automatic visual stimuli, hand and eye movement monitoring (*French*) 9-34682
 minicomputer-aided ECG diagnostic system 9-44024
 minicomputer-controlled diagnostic and display system for high-energy lasers 9-36915
 minicomputerised pressure transducer data logging system (*Russian*) 9-6102
 minicomputerized automatic radiocardiogram analysis (*Japanese*) 9-29614
 moire fringe data handling system, industrial lab. appl. 9-30523
 multimeter, control functions performed using 4 bit, microprocessor chip (*Slovenian*) 9-181
 multiple fuel failure resolution with gas tagging, barycentric coordinate technique 9-13485
 multiunit spike train sampling control by peak discriminator 9-34717
 muscle contraction, time resolved studies using small angle X-ray diff., design of data collection system 9-12052
 myocardial contractility, real time meas. by analogue computer with digital displays (*Japanese*) 9-44015
 NDT instrument for grain size and anisotropy meas. 9-11753
 neuronal response analyser with microprocessor (*French*) 9-20730
 noise analysers, microprocessor based 9-18654
 noninvasive His bundle and sinoatrial node activity recording system 9-39560
 nuclear, LMFB subassembly fault detection, microprocessor-based distributed system appl. (*Japanese*) 9-41002
 nuclear, multichannel analyzer data processing by minicomputer systems 9-36497
 nuclear fuel reprocessing, destructive chem. anal. system 9-13508
 nuclear materials accounting and control system 9-13507
 nuclear medicine, computers and quality control 9-16295
 nuclear physics data acquisition with UNIX time-sharing system 9-41085
 nuclear power plant diagnostic instrumentation experience 9-3218
 nuclear pulse height analyser, microprocessor based digital controller 9-3335
 ocean observation system, microcomputer based 9-16677
 ocean-bottom seismometer capsule, operationally optimized 9-39911
 oceanographic data system, microprocessor based 9-16676
 oceanographic integrated research ship, with data acquisition and processing systems 9-34969
 on-line and real-time processing in radio astronomy 9-16838
 optokinetic stimulus pattern by computer graphics for study of optokinetic nystagmus 9-44008
 organ Boehm Professional 2000, programmable (*German*) 9-37096
 particle size distribution measurement apparatus, rel. time 9-17390
 patient topology, optical process for three dimensional assessment 9-20692
 peripheral nerve, single unit detection by real time correlation 9-12047
 photoelastic method, automated system for treating exp. data 9-15929
 plotter/printer, HP-IB 7245A model, microprocessor-controlled 9-35689
 power spectral density signature analysis, statistical algorithm 9-624
 process chromatograph system, minicomputer-based, computer controlled 9-16102
 process gas chromatograph, microcomputer based 9-16101
 Proton-Electron Tandem Ring Accelerator magnet field meas. 9-31271
 psychrometer, microprocessor-based, for determ. of relative humidity and dew point (*German*) 9-29875
 pulmonary conductance, elastic recoil, on-line meas. system 9-16317
 pulse height analysers, CAMAC data acquisition interface 9-3336
 radiation therapy, dose distributions, wedge-shaped, computer-controlled collimator motion 9-5358
 radioimmunoassay anal. system 9-25100
 radioisotope imaging, rapid dynamic studies 9-16297
 real time recorder and display for reconnaissance sensor data 9-32081
 Refractor III system, computer-assisted eye examination 9-34698
 renal, thyroid and hepatic clearance, automatic meas. 9-34644
 scanning colorimeter, for meas. of white uniformity on colour TV picture tube 9-26098
 scanning microscope stage for microdensitometry, computer-controlled 9-26117
 scintillation counter, microprocessor-controlled, with programming facilities 9-26831
 seismic instrumentation and data analysis, conf., Durham, England (Aug. 1977) 9-39905
 SEM, automatic quantitative anal. of images 9-6229
 semiconductor wafer defects, study by ASLEEP, SEM and scanning AES 9-19256
 spiral galaxies surface photometry, computerised data reduction system, (appl. to NGC 157) 9-40264
 steel, non metallic inclusion eval. using Quantinet systems 9-15923
 steel, stainless, ferritic, 430, precipitate study using ion microprobe mass analyser 9-15678
 stopped-flow system, computer controlled, for fundamental studies of reaction kinetics 9-15953
 tachystoscope, computer-controlled, for eye accommodation time and rest position meas. (*German*) 9-2143
 TEM multistrip components using computer graphics 9-30630
 test facility for far IR focal plane array testing 9-5755
 Therac 6 linear accelerator, computer controlled evaluation for X-ray therapy 9-5363
 thin-layer fluorescence chromatograms, automatic meas. and data processing 9-29424
 tide gauging network, automated, microcomputer interface and telemetry 9-5692
 toxicity studies, TOXIPAC-300 data processing system (*Japanese*) 9-25172
 urethral pressure profiles, meas., microcomputer system (*Slovenian*) 9-2154
 vibration-acoustic diagnostics, random signal patterns recognition (*Slovak*) 9-18612
 vidicon, Si target, and minicomputer system, for laser intensity profiles meas. 9-27267
 visual acuity meas. computer-aided system (*German*) 9-2144
 voltmeter, digital, microprocessor controlled, calibration and averaging 9-40550
 voltmeter, LF, fast response, for true RMS 2 mV-10 V range 9-21770

computerised instrumentation continued

X-ray spectrometer, basic oxygen furnace, process monitoring 9-17586
 Pu, determ. by automated coulometric method, apparatus 9-16114
computerised materials handling
see also stock control data processing
 automated sintering and hot pressing system 9-33961
 dynamic materials accounting for LWR fuel cycle 9-36325
 Mars Viking surface sampler subsystem, acquisition assembly 9-12380
computerised monitoring
 air pollution, CO₂-laser long-path absorption system, error anal. 9-25340
 air pollution monitoring by pulsed dye laser 9-48204
 antischistosomal drug screening in vitro by multichannel US activity monitor 9-20604
 Arabian Gulf, comprehensive oceanographic monitoring programme 9-8728
 automated multichannel data and meas. system type MIIS-1, for transducer data 9-2754
 ECG monitoring system features (*Swedish*) 9-44005
 effluent sampling programme data statistical evaluation 9-13547
 exposure to vinyl chloride monomer, gas chromatograph system 9-21727
 foetal heart rate variability monitoring by digital filtering 9-48353
 HP 5600A patient monitoring system 9-25152
 HV pulse controller and temp. monitor microcomputer-based, Kerr effect study appl. 9-6103
 in plane strain displacement near crack tip at high temp., optical meas. 9-32412
 industrial health service automated ECG analysis results 9-39563
 micro-computer based system for the management of the critically ill 9-25153
 nuclear power plant loose parts monitoring techniques and experience 9-3211
 nuclear power plant machinery surveillance and diagnostics automation 9-641
 nuclear power plant operational diagnostics and control computerisation 9-3233
 nuclear reactor core protection and surveillance system 9-9811
 online Reactor Noise, Vibration and Loose Parts Monitor 9-3212
 patient critical care fluid balance monitoring 9-25151
 patient fluid management records system 9-25150
 power plant machinery monitoring and online diagnostic systems 9-9810
 Reactor Noise, Vibration and Loose Parts Monitor 9-3212
 sick sinus syndrome 24-hour Holter ECG monitoring 9-39562
 transthoracic impedance curve processing, patient-computer interface 9-34686
 underground explosions, using Gauribidanur seismic array 9-39913
 USA Energy R&D Administration effluent data collection and reporting system 9-13545
 West German LWR primary system online surveillance 9-3217
 Pu laboratory stack monitoring, computerised system 9-3256
computerised navigation
 laboratory vehicle for air-pollution measurements with computer-controlled data acquisition and navigation system (*German*) 9-39327
 Navy navigation satellite system TRANSIT, on-board computer 9-29978
 submersibles, acoustic navigation for precise underwater surveys 9-5683
computerised pattern recognition
 arrhythmia sorting, oesophageal electrode for atrial electrogram 9-39574
 body surface mapping of cardiac field 9-39553
 ECG diagnostic information from HF notches 9-39570
 EEG, multivariate pattern recognition technique, cerebral abnormality localisation 9-16327
 electrocorticography, clinically effective spike recognition program 9-44000
 epithelial tissue pattern recognition 9-25145
 GEOS-1, magnetosphere plasma resons. on-line tracking for electron density small-scale struct. 9-35073
 gradient pattern coding—an application to the measurement of pneumococci in chest X-rays 9-34632
 gross and segmental motion analysis in dynamic cardiac imagery 9-25093
 image analyser and algorithm for pattern discrimination 9-18362
 Japanese reactor noise pattern library 9-3338
 LANDSAT images segmentation, spectral, spatial and semantic constraints exploitation 9-25336
 medical image structural analysis, fast feature extraction (*German*) 9-5393
 morphometric cytology pictorial pattern recognition appl. 9-25179
 organic compounds, classification from voltammetric data, computerised pattern recognition 9-16057
 P-wave, a new method of detect. in electrocardiograms 9-48360
 Pipberger program QRS onset and offset determ. algorithm parametrisation 9-39559
 stomach radiograms, pattern anal. system (*Japanese*) 9-39481
 visual and nervous systems, straight line recognition algorithm 9-34562
computerised picture processing
see also computer-generated holography
 acoustic image improvement using statistical estimation theory 9-46115
 angiograms, digital, comparison of methods of meas. blood flow (*German*) 9-39468
 antibiotic concentration assay, computer-aided method (*German*) 9-5414
 artificial stereo created by digital processing 9-31806
 astronomical plate processing, two-dimensional digital filtering techniques 9-16835
 atmospheric research system 9-39873
 biological data processing and synthesis 9-25180
 biomechanics film data reduction and anal. using PLATO system 9-35873
 biomedical image processing fundamentals 9-25144
 body surface potential image recording and processing methods 9-20704
 C-filter: a method for filtering of biomedical specimens 9-20736
 cell microscopic images (*Japanese*) 9-39373
 chest X-ray images, recognition of feature points, by sequential decision-process model (*Japanese*) 9-39480
 clinical nuclear cardiology computer system 9-25094
 colour TV imaging computer peripheral 9-20667
 CRT screen image distortion corrections in R7912 transient digitiser, FORTRAN programs 9-30440
 deblurring of coherent optical image using digital computer 9-3646
 digital image processing, book 9-910
 diploid fibroblasts, human, nuclear morphometry 9-43831
 ECG data processing development, status, and trends 9-39558

computerised picture processing continued

- ECG map reconstruction computer system 9-39561
- electron image processing 9-30613
- electron micrograph images, HV, man-machine interactive digital image processing 9-17568
- electron microprobe analysis, computer controlled beam-scanning and camera cct. 9-43706
- electron microscope image real-time processing 9-25181
- epithelial tissue pattern recognition 9-25145
- feature subset selection in remote sensing 9-25337
- gamma-angio-encephalographs, enhancement, reduction of statistical fluctuations (*French*) 9-5345
- gated cardiac studies, data processing system 9-25091
- gated regional spirometry (GRS) 9-25097
- Graphic Interactive System for Processing of Electrocardiographic Maps 9-39552
- holographic, image digital reconstruction with limited-length arithmetic register (*Russian*) 9-22910
- holographic image reconstruction, unconditionally stable algorithms (*Russian*) 9-22909
- HPD-SHP-IBM 360/44 system for anal. of meson diffraction dissc. experiments 9-22573
- image analysis system for Earth resources surveys 9-5644
- image feedback computer contrast control expts. (*Japanese*) 9-22903
- image resolution through atmospheric turbulence 9-36855
- LANDSAT data digital chromaticity mapping for water quality anal. 9-29872
- LANDSAT images segmentation, spectral, spatial and semantic constraints exploitation 9-25336
- liver gamma camera scans, clinical evaluation of computer processing 9-29579
- mammogram inspection, computer-assisted microcalcification outlining 9-16291
- man-machine conversational image processing system 9-13916
- medical diagnostics problems of computer applications (*German*) 9-20696
- medical image structural analysis, fast feature extraction (*German*) 9-5393
- meteorological satellite visible and IR image data, computer processing 9-29864
- microdensitometer with computer-controlled scanning table (*Russian*) 9-6197
- microprocessor based digital scan generator, interface to image processing computer 9-12902
- microprocessor based interactive radiographic image display 9-25092
- microthin film chromatogram evaluation by scanning fluorimetry and digital image analysis (*German*) 9-5188
- myocardial perfusion images using ^{201}Tl , quantitative evaluation methods 9-39479
- nuclear medicine, composite video output signal from GAMMA-11 computing system 9-29610
- nuclear medicine imagery data smoothing with digital filter 9-25070
- oncology, radiation, use of computers review 9-25098
- phased array US imaging, real-time digital scan conversion and multi-dimensional processing 9-48363
- platelet aggregation studies using TEXAC whole picture analysis 9-25133
- quality improvement by computer, electron animation, satellite pictures, X-ray appl. (*Russian*) 9-6105
- radar and optical imaging, three-dimensional density function reconstruction, inverse problem 9-27197
- radar image simulation, point scatt. model, remote sensing appl. 9-12296
- radiographs, hardware configurations, software strategies 9-16290
- radionuclide tomographic section synthesis and enhancement 9-25103
- real-time adaptive contrast enhancement for imaging sensors 9-32079
- reconstruction of 3-D objects from cone beam projections 9-34665
- regional myocardial function quantitative parameters 9-25095
- satellite IR pictures, automatic digital techniques for oceanic features enhancement and extraction 9-5682
- scintigraphic restoring filter, appl. of constrained optimization 9-39494
- SIMS ion images, multifeature mass analysis utilising digital image processing, Fe anal. appl. 9-43684
- solar corona and comet details enhancement, digital image processing 9-25516
- texture analysis and EPQ of radiographic images 9-34643
- tomographic image enhancement techniques 9-25102
- transaxial image reconstruction and processor architecture 9-34633
- TV image anal. system, software based 9-40559
- videodensitometry and image analysis, minimum computer system 9-34664
- white blood cell images boundary finding 9-12021
- X-ray real-time subtraction imaging, digital video image processor 9-25080

computerised power station control see power station computer control

computerised process control see process computer control

computerised signal processing

- see also biology computing; computerised pattern recognition; computerised picture processing; medical diagnostic computing
- acoustic data buoy, microprocessor controlled, underwater signals processing 9-21024
- conference on analysis instrumentation, Charleston, West Virginia, USA (May 1977) 9-16100
- digital techniques for beamforming and signal processing 9-18619
- ECG, Karhunen-Loeve expansion, automatic phase alignment 9-48356
- ECG processing A/D convertor control by microprocessor (*Bulgarian*) 9-25123
- ECG signals, random noise influence quantitative assessment of program accuracy (*Slovenian*) 9-25143
- ECG waveform automatic processing using syntactic methods 9-44006
- EEG, frequency domain and time domain anal. 9-34676
- EEG signal averager, flexible and low cost 9-43998
- electro-oculography, on-line system for quantitative study of ocular kinetics 9-34699
- electrocardiography technological development and clinical appl. (*Italian*) 9-25136
- geophysics, digital signal processing appls. to seismology 9-29915
- INI-3 measuring system for nanosecond pulses 9-35793
- metal adhesive bond quality meas., digital US signal analysis 9-47863
- NMR spectroscopy, Fourier, S/N ratio optimisation, influence of receiver circuit and digital processing (*Czech*) 9-17461

computerised signal processing continued

- nondestructive eval., internal friction technique, computer-assisted digital processing system 9-43537
 - power spectral density signature analysis, statistical algorithm 9-624
 - radio beacon position calc. from satellite Doppler data using microcomputer 9-12271
 - scintigram improvement by computer processing 9-16296
 - seismic recordings, dynamic range compression (*Russian*) 9-39930
 - US computerised tomography scanner evaluation 9-48301
 - vectorcardiogram parameter sensitivity to digital filtering 9-39576
- computerised spectroscopy**
- see also spectroscopy computing
 - 100 GHz to 1 THz atmospheric emission and absorption meas. 9-34980
 - AAS, microcomputer based, 2-channel spectrometer 9-24864
 - acousto-optic spectrograph, for radioastronomy (*Russian*) 9-25506
 - AES, digital acquisition and processing 9-43698
 - Auger electron spectrometer, control using HP 9845 desktop computer 9-21726
 - beam-foil spectroscopy facility at University of Liege, computer controlled system 9-45866
 - blood alcohol determ., spectrophotometric method (*German*) 9-5415
 - dual wavelength spectrophotometer, computer-controlled, for UV-vis. mol. absorpt. meas. 9-40620
 - electron energy loss spectroscopy, anal. appl., processing requirements 9-43692
 - electron microprobe, automation using microcomputer system, anal. appl. 9-43703
 - electron microprobe analysis, computer controlled beam-scanning and camera cct. 9-43706
 - electron microscopy, scanning, high voltage computerised particulate charact. 9-48036
 - electron probe anal., energy dispersive/wavelength dispersive combined X-ray system, automated control 9-43705
 - electron probe analysis, electron beam positioning, computer automated 9-43704
 - electron-probe computerisation development 9-11859
 - far IR complex reflectivity meas., automated asymmetric interferometer 9-30534
 - far IR Fourier spectrometer automation (*Russian*) 9-6192
 - gamma-ray four-detector counting system, computer controlled 9-9957
 - gamma-ray spectra, mobile computerised analysis and data processing system 9-9959
 - gamma-ray spectra from heavy ion-nucleus reactions, interactive computerised system 9-9509
 - gamma-ray spectrometer, remote computer-controlled, for nuclear power plant monitoring 9-9916
 - gamma-ray spectrometry, original version of neutron activation analysis 9-11861
 - gamma-ray spectrometry appl. in radiological protection meas., small computer system 9-9917
 - gas chromatography-mass spectrometry integrated anal. systems, review 9-1972
 - high resolution scanning resonant Raman spectrometer 9-6185
 - inductively coupled plasma spectrometer, data processing using APL 9-17501
 - internal reflection spectroscopy of biological samples (*German*) 9-5417
 - laboratory-based computer, minis, midis and desk-top calculation 9-9984
 - mass-analysed ion kinetic energy spectrometer, computer-controlled system 9-35884
 - microbeam anal., conf., Ann Arbor, MI, USA (June 1978) 9-39258
 - microprocessor controlled optical spectrophotometer operational principle 9-26104
 - Mossbauer CAMAC data acquisition system 9-30439
 - multichannel Cerenkov mass spectrometer, automatic meas. of electronic apparatus characts. 9-26173
 - multichannel Cerenkov mass spectrometer, electronic recording apparatus 9-26174
 - neutron activation anal., absolute, computer-based system 9-11846
 - neutron activation anal., comparative, computer system 9-11855
 - neutron activation anal., control software for high throughput system 9-11849
 - neutron activation anal. instrumental, in US Geological Survey (Reston) 9-11850
 - neutron activation analysis, multi-user computer system 9-11854
 - neutron irradiation short-lived products, rapid anal. using minicomputer based pulse height analyser 9-11866
 - NMR, Fourier, S/N ratio optimisation, influence of receiver circuit and digital processing (*Czech*) 9-17461
 - NMR frequency-ratio spectrometer for investigating isotopic effects of light nuclei 9-21793
 - NMR spectrometer interfacing 9-12828
 - one-arm magnetic spectrometer, Alfa facility, description and characts. 9-26809
 - optical constant calculation from frustrated total internal reflection meas. 9-33658
 - photographically recorded spark source mass spectra 9-43658
 - PLT Tokamak cyclotron radiation Fourier transform spectral analysis 9-32815
 - PQR line shape, digital-analogue interface for data processing 9-45615
 - programmable timer for pulsed NMR spectrometers 9-40598
 - pulse height analyser data, on-line method for peak area determ. 9-755
 - pulse height analysers, windowless stabilisation scheme 9-9976
 - pulse height analysis computer system 9-9975
 - radiative decay curve anal., computer applications (*Hungarian*) 9-45617
 - radioactive waste, control and accountability by gamma scan assay 9-9913
 - Raman spectrometer, scanning and computer controlled, for study of gases 9-26148
 - residual gas analyser, microprocessor-based 9-26175
 - spectrochemical analysis in hydrocarbon flames, computer processed laser Raman spectra 9-43652
 - spectrophotometer, high-energy, 0.25-2.4 μm , for rapid food constituent anal. 9-17508
 - video fluorometer, computer-controlled, multichannel, features 9-20495
 - X-ray photoelectron spectroscopy, quantitative, parameters, appls. 9-43697
 - X-ray spectrometry, quantitative, comparison of mathematical models 9-17587
 - ^{252}Cf , ^{235}U subcritical multiplier, computer-controlled cyclic activation anal. 9-11865

computerised spectroscopy continued

Si(Li) energy dispersive X-ray spectra 9-1981
U, mass analysis for accountability in nucl. fuel processing 9-16112
U resource survey, NURAB system for processing neutron activated samples 9-11847

computerised test equipment see automatic test equipment

computerised tomography

abdominal aortic aneurysms, comparative study with ultrasonography 9-29586
air pollution remote monitoring, two-dimens., via computerised tomography 9-39330
angio-tomographic device, posterior fossa midline visualisation 9-34642
beam hardening, post-reconstruction method for correction 9-39491
beam hardening correction, polyenergetic X-ray beam 9-25082
brain, anatomic and pathologic correlates 9-34636
brain, clinical interest of coronal and sagittal sections 9-29587
brain, CT scanning, traumatic and emergency patients 9-34639
brain, neurodiagnostic studies and head injury management 9-39470
brain, positron imaging device for dynamic studies 9-48327
brain, sella and parasella lesions, sagittal and coronal reconstructs. 9-39471
brain and body imaging, review 9-34659
brain imaging, role and relation of CT to radionuclide imaging 9-34637
brain metastasis, clinical symptomatology 9-29584
cardiotomography, methods and results of morphological anal. 9-34647
cerebral blood flow, confidence limits with positron emission system 9-11994
cerebral regional blood volume, variations meas. 9-29583
cerebrovascular disorders, CT diagnosis, review 9-34638
coding sequences for classical tomographic imagery reconstruction 9-8530
colour TV imaging computer peripheral 9-20667
conference, international congress of radiology, Rio de Janeiro, Brazil (Oct. 1977) 9-16284
conference on nuclear power systems, Washington, USA (1978) 9-41045
convolutional techniques in three-dimensional image reconstruction, generalised correction functions 9-25085
craniocerebral CT scanning in the neonate, review 9-34640
data treatment in transaxial tomography, optical improvement 9-34666
development and prospects, three generations equipments survey (Italian) 9-25061
digital video image processor for real-time X-ray subtraction imaging 9-25080
dose from CT scan, meas. using pencil shaped ionisation chamber 9-20683
dose specification philosophy 9-16309
fan-beam scanners, suppression of ring artefacts by software algorithm 9-5394
grey-scale image recording systems, comparison of 9 different types 9-16319
image algorithm improved for CT scanners 9-20664
image enhancement techniques 9-25102
image restoration and enhancement, conf., London, England (Dec. 1978) 9-25101
imaged distribution, continuous time-dependence 9-20662
information extraction at different energies 9-39488
intracranial cystic abnormalities, children, CT diagnosis, review 9-34641
maximum entropy reconstruction from cone-beam projection data 9-39469
medical appl. (Japanese) 9-5355
medical diagnostics problems of computer applications (German) 9-20696
medical microprocessor applications and costs 9-44011
merits rel. to US and radionuclide imaging 9-48324
microprocessor based interactive radiographic image display 9-25092
multiplanar emission tomography, new method using a 7 pinhole collimator and Anger scintillation camera 9-16281
nuclear imaging, positron emission tomograph, design and performance characts. 9-48328
nuclear imaging using multi-slice fan beam collimators 9-44993
nuclear medicine, computer appls. in image and data processing 9-16294
nuclear medicine, computers and quality control 9-16295
nuclear medicine computers 9-25096
particles and radiation therapy, conference, Berkeley, USA (1976) 9-20619
picture quality, artefacts in CT pictures 9-16286
positron emission tomography and its applications 9-11996
positron-emitting radiopharmaceuticals, new imaging system 9-16280
pulmonary nodules, noninvasive diagnosis 9-29582
quantitative US attenuation tomography, effects of phase cancellation, reflection and refraction 9-48302
radiation therapy, compensation for inhomogeneities 9-25065
radiation therapy, dose calcs. from CT data 9-25062
radiation therapy, treatment planning system, clinical application 9-29588
radiation therapy, use of CT scanning 9-20660
radionuclide scanner, potential resolution using ¹³⁷Cs, radiotherapy planning 9-48323
radionuclide tomographic section synthesis and enhancement 9-25103
reconstruction from projections, uniqueness and resolution, book 9-43989
reconstruction method for limited field of view 9-48325
reconstruction of 3-D objects from cone beam projections 9-34665
relevance and accuracy for radiotherapy planning 9-20627
scanner principles and problems 9-20625
scanners, radiation beam and image slice parameter evaluation technique 9-39487
scatter reduction in nuclear medicine and computed axial tomography 9-5368
spectral effects on transmission values, mathematical model 9-16287
spine, upper cervical, pathology evaluation 9-29585
statistical limitations, attenuation coeff. variance derivation 9-8537
technical review of CT scanning 9-34635
thoracic region, diagnostic capability of CT (German) 9-39498
thorax 3D reconstruction, ultra-high speed, parallel processing computers appl. 9-48338
tissue heterodensity meas. for charged particle radiotherapy 9-20623
trabecular bone density, increased in children with chronic renal failure 9-20612
trabecular bone density and other parameters, normal values in adults and children 9-20611
transaxial image reconstruction and processor architecture 9-34633

computerised tomography continued

tuberculous thoracic aortic aneurysm, early diagnosis 9-34634
twin-cone beam projections, 3D reconstruction by algebraic reconstruction technique 9-2155
US computerised tomography scanner evaluation 9-48301
US imaging, digital data acquisition system 9-39454
US resolution improvement techniques and C-mode scan 9-25052
video image analysis (Japanese) 9-29599
X-radiation therapy, computer simulation of central axis dose distributions 9-8531
X-ray, axial, principle and medical diagnosis appl. (Spanish) 9-20698
X-ray beam calibration, determ. of effective energies 9-20666
X-ray tomography, dose, detectivity and information content 9-25141
¹⁵³Gd sources for computerised tomography scanners, radiation therapy planning 9-20626
computing applications to aerospace engineering see aerospace computing
computing applications to architectural design see architectural CAD
computing applications to art see art
computing applications to astronomy see astronomy computing
computing applications to astrophysics see astrophysics computing
computing applications to biology see biology computing
computing applications to biomedical engineering see medical computing
computing applications to chemical engineering see chemical engineering computing
computing applications to chemistry see chemistry computing
computing applications to civil engineering see civil engineering computing
computing applications to command and control systems see command and control systems
computing applications to communications engineering see communications computing
computing applications to control system analysis see control system analysis computing
computing applications to control system design see control system CAD
computing applications to education see educational computing
computing applications to educational administration see educational administrative data processing
computing applications to electric machine analysis see electric machine analysis computing
computing applications to electrical engineering see electrical engineering computing
computing applications to electronic engineering see electronic engineering computing
computing applications to engineering see engineering computing
computing applications to geophysics see geophysics computing
computing applications to history see history
computing applications to linguistics see linguistics
computing applications to mathematics see numerical analysis
computing applications to mechanical engineering see mechanical engineering computing
computing applications to medical administration see medical administrative data processing
computing applications to medical diagnostics see medical diagnostic computing
computing applications to medicine see medical computing
computing applications to music see music
computing applications to nuclear engineering see nuclear engineering computing
computing applications to physics see physics computing
computing applications to psychology see psychology
computing applications to social and behavioural sciences see social and behavioural sciences computing
computing applications to stock control see stock control data processing
concrete
albedo number meas. using ⁶⁰Co, ¹³⁷Cs sources 9-26768
beam with mixed type of reinforcement, shear and bending strength 9-20124
creep, long term prediction and shrinkage from short term tests 9-20122
fatigue, load-deform. behaviour (German) 9-11693
ferroconcrete, cracked, strain meas. (German) 9-34275
gamma-ray buildup factors, Techeycheff-fitted Berger coeffs. 9-31226
heat resisting, exam. of deform. behaviour, description of testing rig and operation (French) 9-15720
high alumina cement concrete, quality, thermal anal. investig. 9-15912
high density, radiation shielding below 1 MeV 9-13535
LMFBR, post-accident containment, high-temp. behaviour of concrete 9-31000
LMFBR accident, large scale Na/concrete reactions 9-30999
marine structures for energy conversion 9-43712
nuclear reactor prestressed concrete safety containments, calc. and constructional problems (Russian) 9-30961
polymer-concrete composites, civil engineering appls., technical, processing, economic merits 9-11545
porosity determ. from combined US and gamma absorption meas., mech. props. 9-29295
prestressed, comparison of tension testing instruments for reinforcement rods 9-8410
reactor vessels, behaviour of perforated slabs under temp. and external load 9-30917
refractory concretes, review of new developments (French) 9-15636
nuclear reactor prestressed concrete structures, missile impact loading, nuclear power plant appl. 9-31237
reinforced deep beams, with web opening, structural idealization 9-20125
steel reinforced concrete, local bond-stress/slip relationships under repeated loading 9-20123
steel reinforced concrete slabs, connected via shear connectors, exam. of fatigue in shear connectors, exam. of method 9-43539
stress determ. by holographic and speckle techniques (French) 9-27603
stress-strain diagrams, anal. and classification of low deforming materials by their behaviour under stress 9-15753
tensile strength determ. under impulse loading (German) 9-15919
testing accelerated, using accelerated curing procedures 9-5091
transducer, viscoelastic, in-situ, Duomorph, appl. to polymeric materials 9-30463
C fibre reinforced CuO-H₃PO₄ effect of C fibre on props. 9-43192

concurrency (computers) *see* multiprocessing systems

condensation

- see also clouds; drops; fog*
 acoustic reflection from liquid surface, influence of condensation and evaporation 9-46097
 aerosol formation, growth, general dynamic eqn., $\text{H}_2\text{SO}_4/\text{H}_2\text{O}$ aerosol simulation appl. 9-47990
 aerosol growth by condensation, general dynamic eqn., exact solns. 9-39218
 atomic absorption spectrometry, graphite furnace, electrothermal atomisation 9-24852
 benzothiazoline products, bicondensed, for thermographic recording 9-24767
 butane drops, nucleation in flowing water 9-1099
 capillary condensation, Kelvin eqn. direct exptl. verification 9-33159
 capillary condensation and absorption processes 9-28175
 cluster model, excluded volume effect 9-10932
 dew point calc., iteration scheme 9-19359
 dibutylphthalate, supersaturated vapour, aerosol form. by mixing of flows 9-39212
 dielectric fluids vapours, freon-113 and diethyl ether, heat exchange obs. (Russian) 9-1055
 drop growth in atmosphere by condensation, cloud physics appl. 9-44216
 film condensation inside pipes, heat transfer, general correlation 9-46312
 flow of vapour over horizontal cylinder, two-phase boundary layer eqns. 9-46306
 gas mixture, binary, condensation in boundary layer flow, numerical method 9-1236
 horizontal elliptical conduits, turbulent film evaporation and condensation 9-1182
 imperfect gas, generalised theory of condensing systems 9-35653
 Ising cluster size and shape, Whitney polynomial 9-33080
 isotope separation, using nonequilibrium condensation with selective laser photoexcitation, mathematical model 9-31720
 kinetic theory, physical-mathematical problems (Italian) 9-40505
 kinetic theory treatment of nonlinear half-space 9-27500
 laminar condensation heat and mass transfer at stagnation point of droplet in ternary mixture 9-14227
 laminar film condensation inside tubes, with noncondensable gas 9-14234
 lattice gas, one-dimens., for teachers 9-18
 liquid metal vapour, laminar film condensation under effect of electromotive force 9-1258
 liquid-gas interface, Stefan flow of binary mixture, with evap. or condensation 9-37381
 LWR post-accident aerosol removal, steam condensation expt. 9-13456
 MHD converter, phase transition in condenser (Russian) 9-1350
 non-isothermal condensation, temp. distrib. 9-27501
 particle, spherical, transient heat-mass exchange 9-7276
 pendular ring condensation on spherical adsorbent, surface tension curvature depend. 9-46926
 phase transformations, second order, critical phenomena, space environment applications 9-46783
 pipes, two-phase stream, stratified flow, condensation calc. 9-23349
 pulsed condensation of matrix mixture for spectroscopic investigations 9-36799
 quantum statistical mechanics 9-42232
 raindrop, single, growth by condensation and droplet capture, props. 9-12208
 raindrop growth physics, for teaching 9-35502
 rarefied gas 2-D flow in presence of condensation 9-32577
 rough surfaces, adsorpt., capillary condensation 9-1544
 solar nebula, gaseous matter condensation rel. to planetary system form. 9-8857
 solar nebula, Th, U, Pu and Cm condensation and fractionation 9-35154
 steam, dropwise condensation on electroplated Au layer, thickness depend. 9-46791
 steam bubbles, condensation, influence of noncondensable gases (French) 9-23717
 steam condensation in capillaries 9-1066
 steam droplets growth in Laval nozzle 9-32648
 thermal plumes development, effect of condensation (French) 9-23192
 thermodynamics of nucleation on charged centres 9-20955
 tube flow, laminar film condensation 9-46388
 vapour deposited coatings, two-component from two sources, geometrical aspects of prod. (Russian) 9-38743
 water, droplet growth rel. to condensation coeff. (Russian) 9-34901
 water, thermodynamics of nucleation on charged centres 9-20955
 water vapour, photoinduced nucleation 9-10934
 water vapour-Ar mixture, rarefaction waves 9-46796
 water vapour-N₂ mixture, rarefaction waves 9-46796
 Al film, condensation from partially ionised vapour flow, peculiarities of form. and struct. 9-28252
 CO₂, free expts. of jet, nonequilibrium effect 9-27676
 CO₂ jets, homogeneous condensation, similarity law 9-42229
 CO₂-N₂-H₂O gasdynamic laser, water vapour condensation and mol. relax. processes 9-13946
 Er, laser evaporation and condensation in H₂ and Ar atmospheres 9-10941
 Fe, adsorption and condensation on W foil, meas. by thermal desorption in pulse time-of-flight mass spectra 9-15023
 Fe, condensation in planetary nebulae rel. to form. models 9-40238
 Fe(III), hydrazine multilayer condensation 9-46956
 He charged drops in cryogenic vap., He⁺ mobility, 1.3-2.0K 9-32734
 (NH₄)₁₀[W₁₂O₄₀(OH)₂].H₂O, thermal polycondensation 9-14924
 Ni (111), C monolayer phase condensation, LEED and AES obs. 9-46960
 SO₂+H₂O+O₂(N₂)(Ar), condensation nuclei form., ion polarity and age depend. 9-39220
 Si, electron-hole droplet condensation, phase diagram and surface tension 9-19521

condensers (electric) *see* capacitors

condensers (steam plant)

- Arizona Nuclear Power Project waste water reclamation for cooling 9-9861
 tube corrosion resistance performance review 9-39046

condensing *see* condensation

conductance, electric *see* electric admittance

conductance measurement, electric *see* electrical conductivity measurement

conducting materials

see also bimetals; electrolytes; metals; semiconductor materials; superconducting materials
 No entries

conduction, heat *see* heat conduction

conduction bands

- see also Fermi level; semiconductor materials*
 actinide compounds, conduction electron polarisation, model density of states 9-37949
 Anderson model, perturbation expansion in infinite conduction bandwidth limit, Kondo temp. 9-28506
 crystal with narrow allowed band, elec. field ionisation of deep impurity level 9-15118
 ferroelectric transition, conductivity band theory rel. to vibronic theory of ferroelectricity 9-19854
 III-V semiconductors, conduction-band struct. from reflectivity meas. when subject to mechanical strain 9-42449
 indirect exchange interaction through narrow conduction zones (Russian) 9-4538
 mixed valence state, electronic structure 9-11092
 parametric wave excitation in semiconductor electron plasma (Russian) 9-33252
 rare earth-Al₂ (Zn), mag. coupling mechanism 9-4655
 semiconductor, electron-donor recombination, Monte Carlo studies of transitions between excited donor states 9-38093
 semiconductor, hot electrons, photoexcited in quantizing mag. field, energy distrib. calcs. 9-42586
 CdS, photocond. cryst. characterisation of electron-trap responsible for acoustic holographic echoes (French) 9-19544
 CoSi, plasma refl., 80 to 300K, energy overlap of valence and conduction bands 9-28366
 Cu, conduction band, high momentum components determ. from annihilation radn. ang. correlation 9-19508
 Cu, multipole wave functions, singular points in band struct. and Wannier function tails 9-37956
 CuI, thermoreflectance spectrum, 4-7 eV region 9-19904
 Fe-based alloy, effect of sp-3d impurity interactions in resistivity 9-46696
 FeF₃, thin film, optical absorpt. meas., lack of F to delocalised states in cond. band 9-15546
 Ga_{1-x}Al_xAs electrodes, interface capacitance meas., flatband pot., conduction and valence band boundaries (French) 9-33339
 GaAs, diffusion coeff. of hot electrons 9-15156
 GaAs:Sn, doping characts. during LPE 9-10866
 GaAs-Ge heterojunction, band discontinuities, angle-resolved UPS obs. 9-7878
 GaAs_{1-x}P_x electrodes, interface capacitance meas., flatband pot., conduction and valence band boundaries (French) 9-33339
 GaP, luminesc. from electron-hole drops, 2 to 77K 9-11454
 GaP, stress-induced X_{1c}-X_{3c} conduction band mixing 9-19515
 GaSb, inversion of Γ and L conduction bands under uniaxial stress, photoluminescence meas. 9-33229
 GaSb, photolum. spectra under hydrostatic press., energy shift of direct gap and L-conduction band 9-19930
 Ge, direct gap recombination, at high excitation level and low temp. 9-38650
 Ge, energy-gap narrowing and state filling under laser irradi. 9-42441
 Hg_{1-x}Cd_xTe films, Tamm surface states, Kane model 9-28395
 InAs, photoluminescence exam. 9-28809
 InP, deep-level traps and cond.-band struct. 9-19542
 n-InSb, conduction-band struct. from reflectivity meas. when subject to mechanical strain 9-42450
 InSb, intraband photocond. in mag. fields 9-47123
 n-InSb, photoluminescence exam. 9-28809
 InSb, polar semiconductor, impact ionisation in crossed elec. and mag. fields 9-28355
 InSb:Cr:Zn, cond. band, change in electron density with mag. field 9-15169
 Nb, BCC lattice, optical props., energy band calc. of combined density of electron states 9-15075
 Ni clusters, electronic props. and implications for chemisorption 9-23886
 PbS, conduction band nonparabolicity and carrier scattering mechanism 9-11065
 Pd (111), energy dispersions for valence and conduction bands 9-38719
 Si, amorphous, clean and O₂ adsorbed, light sensitive electron laser meas. 9-24396
 Te, inversion layer, single sub-band, splitting due to sheet separation in cond. band 9-15207

conduction electron spin resonance *see* CESR

conduction in solids, ionic *see* ionic conduction in solids

conductivity, electrical *see* electrical conductivity

conductivity, thermal *see* thermal conductivity

conductors (electric)

see also bimetals; wires (electric)

AC forces acting on conductors of bifilar lead (German) 9-41281

conducting bodies, capacity and energy calcs., for rotational symmetry (Polish) 9-875

EM field penetration, mean time constants calc. (German) 9-3613

plate surface element models 9-41290

confinement, plasma *see* plasma confinement

connecting *see* joining processes

connectors (electric) *see* electric connectors

conservation laws

- see also C invariance; CP invariance; CPT invariance; elementary particle symmetry; P invariance; T invariance*
 baryon number generation, examples unitary and CPT invariance 9-35960
 baryon number generation in grand unified theories 9-26279
 bilocal quantum field theories, conservation laws 9-12931
 Bohr's correspondence principle (Russian) 9-17627
 cosmological baryon production, expanding Universe, baryon to entropy ratio, number nonconservation 9-44652
 deuterons, current conservation and off-shell effects with arbitrary interaction 9-45183
 elementary particle symmetry, rel. to conservation law, Noether theorem 9-45034

conservation laws continued

elementary particle systematization, conservation and symmetry principles 9-9295
 energy problem, struct. of gravitational field (*Russian*) 9-21598
 Fermion number violation in the presence of instantons 9-12949
 general relativistic plasma MHD conservation laws, black hole rot. energy 9-2685
 geometrised gravitational theory, energy-momentum tensor 9-25958
 geometrized theories of gravitation 9-21636
 hadron decay neutrino prod., and quantum number conservation laws (*Russian*) 9-348
 hyperbolic system, first order, supplementary conservation law 9-9077
 hyperon nonleptonic decays, $\Delta I = 1/2$ rule violation 9-45087
 infinite conservation laws for EM and asymptotic gravitational fields 9-21613
 Korteweg-de Vries equation, invariances and conservation laws 9-26244
 magnon elementary excitations damping (*Russian*) 9-28515
 matter field spacetimes, symm. mappings satisfying vanishing contraction of Lie deform. of Ricci tensor 9-113
 micrononcausal Euclidean wave functions for baryons by assuming 'Yukawa type' couplings and G-parity 9-45030
 multiplicative baryon number conservation, $H \rightarrow \bar{H}$ oscill. upper limit, baryon to lepton transform. 9-298
 nonlinear evolution equation soln. by spectral transform, conservation laws, cylindrical KdV eqn. 9-2658
 nonlinear evolution equations, conservation laws by spectral transform 9-5985
 Poincare gauge invariance, conservation laws for particle, string and membrane systems 9-55
 relativistic magnetofluids and symmetry mappings 9-23379
 relativistic magnetofluids and symmetry mappings. II 9-27701
 s-channel helicity conservation at $\gamma V, \gamma\gamma$ and NN vertices, vanishing of spin-zero covariant coupling 9-40691
 Schwinger model, new and local Lorentz-covariant soln. for arbitrary gauge 9-40668
 soliton solutions, nontopological, conservation laws 9-45022
 string in static field, conservation laws 9-21969
 supersymmetry, spontaneous breaking through dimensional reduction 9-40441
 symmetry and conservation, for teachers 9-26
 $\nu\bar{\nu}$ oscillations, conditions for observation 9-17636
 $\pi^+p \rightarrow \delta^+p$, near production threshold, nonobs. of $\delta^+ \rightarrow \pi^+\pi^-\pi^+$ enhancement 9-13113
 $(\psi\bar{\psi})^2$ two dimensional model, equivalence to sine Gordon systems, conservation laws 9-2917

constant current modulation *see amplitude modulation*

constant current sources

double, for cryogenic current comparators, appls. 9-21775
 high stability constant current source (*Chinese*) 9-44991

constant voltage diodes *see avalanche diodes; Zener diodes*

constants

see also elastic constants; gravitational constant; lattice constants; optical constants
 electric fractional charge, $1/3e$, expt. determ. on Nb sphere 9-21694
 fundamental constants, self-consistent values (*German*) 9-12758
 gas constant, determ., low freq. acoustic thermometry, 4.2 to 20K 9-30477
 precession matrix based on IAU (1976) system of astronomical constants 9-48653
 Rydberg const., determ. using H_α polaris. spectroscopy 9-9202
 variation of fundamental constants, summary of obs. evidence 9-12759

constitution diagrams *see phase diagrams*

construction *see building*

construction engineering *see civil engineering*

contact angle

see also capillarity; surface tension; wetting
 dynamic contact angle correlation 9-46889
 elastically deformable bodies, wetting, influence of vol. deform. of solid 9-11008
 elastically deformable bodies, wetting, reduction of effects of deformation to line tension 9-11007
 MBBA, nematic liq. cryst., surface alignment using lecithin monolayers, contact angle meas. 9-4247
 metal-liquid insulator interface, in presence and absence of applied elec. field 9-19429
 nematic liquid cryst., surface alignment using lecithin monolayers, contact angle meas. 9-4247
 rivulets, flowing down vertical solid surface, contact angles, roughness effect 9-27731
 surface problems with prescribed contact angle, max. and min. principles 9-37907
 ^4He , superfluid against solid ^4He , surface tension and contact angle 9-42339
 A-SiC, self-bonded polycryst., wetting by Si, base plate surface roughness effect 9-23809

contact e.m.f. *see contact potential*

contact potential

see also contact resistance
 meter, IC, for meas. work function of electrons 9-35780
 physics course demonstration (*Russian*) 9-21508
 semiconductor-conductor interface, book contrib. 9-1621
 Al-dimethyl terephthalate contacts, effect of elec. field on contact electrification 9-19660
 Cu-dimethyl terephthalate contacts, effect of elec. field on contact electrification 9-19660
 n-GaAs (110) surface, Cs adsorption, work function meas., contact pot. difference vs. coverage curves 9-23839
 p-Ge (111) surface, Cs adsorption, work function meas., contact pot. difference vs. coverage curves 9-23839
 Ir (110), chemisorption of O_2 , sorption and dissoc. kinetics 9-33186
 Ir, chemisorption of CO on clean and oxidised (110) surfaces 9-11015
 Ir, work function changes rel. to O_2 adsorption, continuous meas. method 9-33328
 k, adsorption on Re ($10\bar{1}0$) surface, electron-adsorption props. 9-33192
 Mo-dimethyl terephthalate contacts, effect of elec. field on contact electrification 9-19660
 $\text{NbC}_{0.86}$, single crystal work function, thermionic emission and contact pot., microhardness and binding 9-19649

contact potential continued

Pt and Au threads in air, pull-off force, influence of electric charge 9-11196
 Si-insulator structures, contact pot. meas., vibr. condensor method (*German*) 9-11232
 $\alpha\text{-SiC:Al}$ diodes, ion implanted, transient characts. of electrolum. 9-24369
 W-dimethyl terephthalate contacts, effect of elec. field on contact electrification 9-19660
 $\text{ZrC}_{0.84}$, single crystal work function, thermionic emission and contact pot., microhardness and binding 9-19649

contact resistance

see also contact potential
 Ag-Pd-Cu, contact-spring props., fatigue and spring limit (*Japanese*) 9-29117
 Au, immersion plating on Al, adhesion and contact resist. 9-39033
 Cu_2O and CuO powders, contact resistance, temp. and pressure dependence, obs. (*German*) 9-4555
 GaAs, ohmic contact form. to n- and p-type samples by MBE, characts. 9-47159
 n-GaAs:Sn, heavily doped, nonalloyed ohmic contact form. by MBE and metalisation 9-7895
 GaAs:Te-implanted by laser-annealing, ohmic contacts 9-19658

contacts, electrical *see electrical contacts*

continuous creation hypothesis *see cosmology*

continuum hypothesis *see set theory*

continuum mechanics *see classical mechanics of continuous media*

contours, surface *see surface contours*

contrast transfer function *see optical transfer function*

control equipment

see also controllers; electric control equipment; relays; telecontrol equipment; thermostats; valves
 wire spark erosion machine for hard metals, control cct. 9-35695

control facilities

CRT man-machine communication system in nuclear power stations 9-45364
 nuclear power station, design of advanced control room 9-45362

control gear, electric *see electric control equipment*

control rooms, radio *see radio studios*

control system analysis

see also correlation methods; frequency response; linearisation techniques; perturbation techniques; phase space methods; piecewise-linear methods; poles and zeros; sensitivity analysis; stability; state-space methods; transfer functions
 respiratory ventilator model and design optimisation 9-20713

control system analysis computing

laboratory computer system for routine, plant and environmental radiation monitoring appl. 9-9912
 wind energy conversion system control, on-line, performance in turbulent wind environment 9-48069

control system CAD

PWR power plant self-tuning control and simulation 9-9827

control system computer aided design *see control system CAD*

control system synthesis

see also correlation methods; frequency-domain synthesis; frequency response; linearisation techniques; perturbation techniques; phase space methods; piecewise-linear techniques; poles and zeros; sensitivity analysis; stability; state-space methods; transfer functions
 HWR dynamics modelling for digital control system design 9-9829
 plasma frequency response investigation as automatic control problem 9-10649
 reactor spatial control during nuclear station load cycling, multivariable control algorithm 9-13490
 signal amplitude digital automatic control system, instrumental realisation algorithm (*Russian*) 9-39924
 speed-optimal control synthesis in near spherical symmetry problems (*Russian*) 9-9095
 stochastic object, suboptimal adaptive control 9-30371
 toroidal plasma, ion temp. control by neutral injection 9-37514

control systems

see also adaptive systems; closed loop systems; delay-differential systems; discrete time systems; distributed parameter systems; multi-dimensional systems; multivariable control systems; optimal control; physical instrumentation control; sampled data systems; time-varying systems
 LMFBR inherent shutdown system, expts. and analyses 9-31041
 seismic recording equipment, digital automatic amplitude control unit parameters choice (*Russian*) 9-39964

control theory

see also control system analysis; control system synthesis; optimal control; stability; two-term control
 dynamics of systems of solid bodies with combined control (*Russian*) 9-17209
 nuclear plant mix with minimum natural fuel requirement, optimum theory 9-26469

controllability

see also stability
 biped locomotion dynamics, control theoretic study (*Japanese*) 9-11963

controllers

see also cryostats; instruments; servomechanisms; thermostats
 cell freeze conservation control unit (*German*) 9-5410
 electron microscope stabilisers, Hg-Zn battery as reference voltage source 9-9262
 eye continuous movement monitoring, proportional-integral adaptive system (*German*) 9-16320
 holographic system path length difference controller (*Russian*) 9-22916
 HV pulse controller and temp. monitor microcomputer-based, Kerr effect study appl. 9-6103
 hydrophones, towed, location system, shipboard microcomputer controller 9-2401
 liquid He transfer controller, semiautomatic 9-17428
 magnet-current regulator for RE1301 microwave spectrometer 9-21779
 manostat, stable automatic pressure controller, use of thin polyester film 9-35700
 microprocessor based interface/controller for desktop programmable calculator 9-35690
 microprocessor-based, programmable laboratory equipment controller and data acquisition system 9-6104

controllers continued

- nuclear pulse height analyser, microprocessor based digital controller 9-3335
- temperature, two-point, for inductive loads (*German*) 9-26051
- temperature control of electrometer varactor-bridge amplifiers 9-9219
- temperature regulator, contact, analytical and experimental study 9-185
- temperature regulator circuits, using thyristors and triacs (*Spanish*) 9-6115
- temperature regulators using Darlington cct. as sensor and controller (*German*) 9-30467
- vehicle speed, using Pb-acid battery, response to chopper-controlled discharge 9-48120
- Cu-constantan cryogenic thermometer and temp. controller (*Czech*) 9-26056

convection

see also convection in liquids

- air jet, heated, turbulent, discharged downward, temp. profiles 9-27677
- annulus with inner rot. tube, heat transfer 9-1204
- Arctic fjord waters, saline convection and mixing 9-48504
- asymptotic laminar thermal convection, unified treatment (*Italian*) 9-18883
- atmosphere, circulation associated with cold front, moist case 9-2334
- atmosphere, convective vortex model, unsteady two-cell similarity soln. 9-16626
- atmosphere, turbulence characts. under convective conditions (*Russian*) 9-16577
- atmosphere boundary layer dynamics, IR radiation effects 9-39815
- atmospheric boundary layer, turbulent penetrative-convection planforms, laboratory obs. 9-48550
- atomiser chamber electrode-diffusion flame, atoms distrib. in absorpt. zone, convection currents role (*Russian*) 9-34420
- auto-oscillations and instability phenomena in the simplest model of convection (*Russian*) 9-32504
- Benard convection, transient, laser speckle photography obs. 9-32508
- boiling, forced convection in uniformly heated annular channel, generalised correlations 9-46171
- boiling, transition type, in forced convective flow, boundaries meas. 9-27499
- boundary layer turbulence, at vertical plate 9-32501
- boundary layer with blowing, numerical exponential box scheme 9-1240
- building, thermal energy balance, method for including environmental modulation (*French*) 9-3900
- casting in space environment, dendrite remelting and macrosegregation in low-gravity 9-47669
- central difference approximations to the heat transport equation 9-3885
- clouds, stability anal. of deep streets 9-2335
- collectors with absorbent selective surfaces, theoretical performance, convection aspects 9-29482
- conducting fluid, finite amplitude overstable convection, stability (*German*) 9-41751
- convective-convective transient heat transfer, finite-element method 9-3888
- convection-rolls, two-dimens., stability, temp. depend. viscosity 9-32507
- crystal growth and materials processing, future fluid flow research, space environment possibilities 9-47622
- cumulus transports in tropical wave composite during GATE 9-2336
- cylinder, circ., inclined, laminar 3-dimens. free convection, stability (*French*) 9-18884
- cylinder, heat transfer by free convection and radiation 9-14209
- cylinder array, wall attached and with tip clearance, heat transfer and press. drop 9-14394
- cylinder in pulsating air-water spray, forced convective heat transfer (*French*) 9-7274
- differentially heated inclined cavity, 2-D, convective loss determ. by finite difference methods (*French*) 9-24906
- dioctyl phthalate, polydisperse, spectrophotometer studies 9-21797
- disperse media thermal insulation, heat cond. anal. (*Hungarian*) 9-1056
- duct, vertical, laminar steady flow, combined forced-free convection, finite element anal. 9-27637
- Earth's crust, fault zone model, convection fluid dynamics 9-34778
- Earth core, Gruneisen parameter reevaluation rel. to adiabatic circulation 9-39685
- Earth interior, convection models having multiplicity of large horizontal scales 9-16430
- Earth mantle, convective instability of many-layered models 9-25216
- Earth mantle, parametrised convection model rel. to Earth thermal history 9-16429
- Earth mantle, simple tectonic plate model 9-25221
- Earth mantle, two-dimensional flow beneath rigid accreting, lithosphere 9-12102
- electrohydrodynamics, inversely normalised frequency, rel. to Prandtl number 9-23369
- enhancement of heat transfer, review 9-1196
- entrance region flow in a vertical cooled pipe with variable viscosity 9-7409
- film boiling on sphere, in forced convection 9-32211
- finite element analysis, book contrib. 9-32523
- finite element method in fluid mechanics, book contrib. 9-32521
- finite element methods, book contrib. 9-32522
- fluid dynamics, truncation error estimation due to upstream differencing, consistency check 9-23294
- fluid layer heated from below, thermal disturbance propag. 9-32464
- fluid-saturated porous layer with heat source, thermal convection onset 9-13406
- forced, rot. bodies with non-uniform surface temp. 9-23315
- forced, turbulent, in square cavity, shear effect 9-1180
- forced and free convective flow past a semi-infinite vertical plate 9-37286
- forced convection heat propagation eqn., singularity theory (*Italian*) 9-18670
- forced convection heat transfer from cylinder in cross flow, turbulence intensities 9-1190
- forced convection in annuli, experimental study (*Italian*) 9-37322
- forced convection in channel flows, turbulence, review 9-1195
- forced convection with chemical reactions, turbulent shear flow mixing, numerical modelling 9-1272
- forced convective flow from spheres 9-1189
- free and forced convection flow in rot. channel bounded by permeable bed 9-23366

convection continued

- free convection across inclined air layers with one surface V-corrugated 9-32198
- free convection flow from horiz. circ. cylinder with harmonically oscillating temp. 9-23323
- free convection from instantaneous heat source in viscous fluid 9-14210
- free convection in bounded vol. with heating from above 9-14211
- free convective heat transfer in near-critical region from vertical surfaces 9-23314
- free-convection boundary layer on an isothermal horizontal cylinder 9-41688
- freeze-drying of food models, heat and mass transfer 9-1098
- Freon-11, forced convection boiling heat transfer in vertical annular passage 9-32509
- gas, rotating, convective instability in gravitational field 9-27642
- gas injection through loose layered material, heat transfer, free convection effects (*Russian*) 9-18953
- gas plane flows in presence of weak supply of energy (*Russian*) 9-32498
- gas-solid suspension flow through packed beds, convective heat transfer 9-4075
- GCRR radial blanket velocity and temp. distrib., buoyancy effect 9-9678
- Hall and ion slip currents effect on heat transfer in MHD fluid in channel 9-27702
- heat island, numerical results, truncation errors 9-10447
- heat loss meas. from solid surface to airstream 9-37140
- heat storage, periodic, heat-carrying fluid and storage material transport kinetics 9-3901
- heat transfer bibliography, Japanese works 9-23317
- heat transfer from cylinder submerged in non-Newtonian fluid 9-1221
- heat transfer with diffusion, finite element anal. 9-4011
- horizontal channel, unsteady natural convection 9-41554
- horizontal layer, crit. slowing near Rayleigh-Benard convective instability 9-18889
- horizontal wire, heated, heat transfer expts. 9-32190
- HTGR piping, heat transfer characts. of horizontal annular insulation layer (*Japanese*) 9-26520
- humidity stratification, effect on conditions for free convection (*Russian*) 9-10562
- hydromagnetic free convection flow, similarity solutions 9-27639
- hydrothermal convection, theoretical study rel. to Cyprus ophiolitic sulphide ore deposits origin 9-29761
- hypersonic shock layer, screening of selective heat radiation in boundary layer (*Russian*) 9-32497
- inclined flat plate with isothermally heated surface downwards, natural convection heat transfer investigation 9-10563
- injection of hot-fluid against plate, laminar flow 9-32502
- jet, noise radiated from convecting quadropoles, flight effects 9-32601
- laminar forced convection to turbulent free convection transition over heated plate 9-32516
- laminar free convection flat plate problems, new formulation (*Italian*) 9-46302
- large wavelength convection rolls low Prandtl number fluids 9-27643
- liquid metals, flow at high temperatures through circular pipes, connection mechanism (*Spanish*) 9-37315
- LMFBR finite hexagonal bundles, laminar mixed-convection heat transfer 9-607
- Lorentz model of convective instabilities, 1-D dynamics of particle in pot. well 9-4007
- magnetic field influence on convective heat transfer in feebly ionised air 9-23370
- magnetosphere, adiabatic plasma convection in tail plasma sheet 9-25408
- magnetosphere, plasma dynamics in mag. field laboratory simulation 9-16757
- magnetosphere, plasma mantle dynamics rel. to plasma sheet form. 9-40022
- magnetosphere convection, role of particle precip. 9-25400
- magnetosphere dayside cleft, convection direction rel. to mag. field perturbations 9-40023
- mass transfer in laminar flow between two plane parallel plates 9-37321
- mass transfer with axial diffusion and chem. reaction 9-23376
- medium convection velocity vector using heat wave method 9-23183
- MHD, unsteady free convective flow past infinite plate with time depend. section 9-27704
- MHD convection with rot. spatial heat source, stability 9-4085
- MHD free and forced convective flow between porous plates with Hall effect 9-41763
- MHD Stokes problem for vertical plate, free convection 9-18970
- micropolar fluid flow in channels, convective heat transfer (*Russian*) 9-18920
- midocean ridge hydrothermal systems, hot water egress thermal constraints 9-39700
- mixed convection about a sphere with uniform surface heat flux 9-32519
- mixed convective flow, laminar, over horizontal plate, wave instability 9-32499
- monsoon circulation dynamics 9-5559
- natural, between circular cylinders, with internal heat generation (*Russian*) 9-27490
- natural, in confined region between two concentric square ducts 9-23320
- natural, in confined region between two horizontal ducts for variable fluid properties 9-23321
- natural convection in closed cavity, numerical technique 9-10446
- natural convection in enclosures, review 9-1193
- natural convection in porous layer with permeable boundary (*Russian*) 9-18941
- natural convection in porous media and geothermal systems, review 9-1194
- natural convection loop, transient behaviour, two vert. branches with point heat source and sink 9-46163
- natural convective flow through duct with restricted entry 9-14393
- nematic liquid, oscillatory convective instability (*French*) 9-1279
- nematic liquid crystals, coherent neutron scatt. studies, review 9-41956
- non-Newtonian fluid duct flow, heat transfer 9-1219
- nonlinear convection, in Hele-Shaw cell, stability 9-41685
- nonNewtonian duct flow, wall heat transfer in entrance region 9-4049
- numerical prediction of recirculation flows with free convection encountered in gas-agitated reactors 9-10602
- ocean surface mixed layer, heat transport during catastrophic mixing events 9-16503
- partial spectral expansions 9-32193
- photoabsorptive convection, steady states in field of continuous laser radiation 9-14212

convection continued

plasma convection in force-free mag. field, mechanism for chem. separation in cosmic plasmas 9-35125
plate, upward-facing inclined, measurements of heat transfer 9-23327
plate, vertical, heat transfer coeff., interpolating eqns. between two limiting cases 9-37309
point heat source, natural convection in rotating environment 9-10445
polar troposphere, convection as source of medium scale thermospheric gravity waves 9-21088
polyacrylamide solution, tube flow, friction and convective heat transfer, rheological changes effect 9-1220
porous layers, convective heat transfer by integral methods 9-7408
porous media, infinite, compact heat source 9-32659
porous medium, effect of temp. depend. viscosity and thermal expansion 9-32662
rarefied gas, high speed, convective heating of concave bodies 9-1214
Rayleigh-Bernard convection, flux ropes, dynamic effects 9-46166
recuperative heat exchanger, convective heat transfer, nonNewtonian carrier, conjugated problem 9-1086
rotating fluids, convective modes and convective stability 9-16818
solar atmosphere, convective efficiency rel. to solar const. time var. 9-21262
solar atmosphere, dynamo action in thin slab 9-44430
solar granulation, lines convective blue shift rel. to limb shift 9-12448
solar intense magnetic flux tube, convective instability 9-30038
solar interior, convective mixing rel. to interstellar dust accretion and neutrinos prod. 9-12441
space environment, transport processes in fluids 9-46825
spent fuel pool natural convection, multichannel analysis 9-9786
sphere, convective heat transfer coeff. 9-32511
spheres, concentric, cooling by forced convection, at low Reynolds no. 9-1183
spherical porous layer, multicellular free convection flow (*French*) 9-46375
stable finite element simulation of convective transport 9-46317
steady convection, two-dimens., in const. vertical shear, dynamical struct. 9-12209
stellar and planetary atms., thermal convection approximations 9-35127
stellar atmospheres, free convection effects on unsteady laminar boundary-layer flow 9-35237
stellar convection parameters, meas. technique 9-21273
stellar interior, semiconvection as occasional breaking of weakly amplified internal waves 9-48778
Stokes problem, free convection effects, rarefied gas flow past plate 9-32581
subsea permafrost, heat and mass transport by interstitial water convection 9-2302
Sun, anisotropic convective elements rel. to differential rot. mechanism 9-25556
Sun, convection in dirty solar models contaminated by accretions 9-44436
Sun, convection rel. to polar vortex, spectroscopic search 9-5801
Sun, meridional circulation and heat redistrib. in convective envelope 9-40150
thermal analysis, finite element method for temp. depend. parameters 9-32184
thermal energy storage material cylinders, heat transfer during melting 9-3894
thermal fluids of Abano region, N. Italy, forced convection circulation paths 9-20883
thermal plume modelling, review 9-4056
transient free convection from a suddenly heated horizontal wire 9-32515
tube turbulent convection, effective power dependence of heat transfer coeff. 9-4006
turbulence creation, review (*Hungarian*) 9-23312
turbulent advection, scalar spectrum model 9-32474
turbulent boundary layer, wall capacity and resistance effects 9-1192
turbulent convection in fluid layer with internal and external heating, reactor safety anal. 9-32514
turbulent convective heat transfer from rough surfaces 9-27638
turbulent forced convection, heat and mass transfer, analogous relationship (*Japanese*) 9-14396
turbulent jet, heat transfer to flat plate 9-1226
unsteady combined forced and natural convection from circular and elliptical cylinders (*Japanese*) 9-32510
unsteady convective heat transfer in fluid tube flows (*Russian*) 9-18961
unsteady forced convection heat transfer from impulsively started circ. cylinder 9-27633
upwindings of high order Galerkin methods in conduction-convection problems 9-3886
Uranus magnetosphere, plasma dynamics in mag. field laboratory simulation 9-16757
Venus atmosphere, dynamics rel. to Earth-synchronous rot. 9-25531
vertical plate, longit. and transverse vel. of free convection (*French*) 9-1177
viscous gas, with internal heat sources, thermoconvective stability (*Ukrainian*) 9-32495
volatile binary solution, theory of evaporation, of large drops 9-10931
wall, perforated, relative effects of external and internal convection (*French*) 9-1248
wall conductance effects on convective horizontal channel flow 9-23374
water, boiling curves, subcooled and forced convective conditions 9-14230
water droplet forced convection and heat transfer rel. to vapour conc. (*Chinese*) 9-23185
with volumetric heat sources, fluid layer in spherical segment 9-614
He, in confined region between two horizontal ducts for variable fluid properties 9-23321

convection in liquids

alternating circulation heat transfer, mathematical model (*Rumanian*) 9-14208
annuli, spherical rot., stratified convection of viscous Boussinesq fluid 9-27635
annulus, spherical, rot., forced thermal convection of viscous fluid 9-27634
Benard-Rayleigh convection, finite amplitude, nonlinear stability anal. 9-46311
buoyancy induced flow in water 9-23316
capacitor oil, electrical and gravitational convection (*Russian*) 9-27630
cavity flows, two and three dimens., multistep technique with implicit difference schemes 9-37398

convection in liquids continued

chemically active liquid in horizontal porous bed, convective instability 9-41769
diffusion to drop, convective, large Peclet no., finite Reynolds no., asymptotic soln. 9-41742
dissociating fluid layer, heated, effect of rot. on Benard convection 9-4020
drop in viscous fluid stream, nonstationary mass transfer (*Russian*) 9-10561
electroconvective instabilities overstable 9-27706
electrolyte, layer, convection onset condition 9-14492
enclosure between horizontal cylinders, steady, and transient convection 9-41553
ferromagnetic fluid rotating about vertical axis, convective instability of layer 9-27698
floating zone melting, microgravity simulation of Marangoni convection 9-28911
forced convection with rheological systems, review 9-1222
forced convective film boiling, math. model 9-18686
free, in saturated porous medium boundary layer with lateral mass flux 9-27689
groundwater with convective dispersion, finite element anal., book contrib. 9-34877
heat transfer with phase change, finite element anal. 9-3887
horizontal layer, heat transfer meas. 9-41555
horizontal liquid layer, convective instabilities dynamics 9-4008
hot layer, hydromagnetic stability, effect of non-uniform elec. cond. 9-14485
hydromagnetic thermal instability of rotating fluid layer, Hall current effects 9-27699
inclined surface, natural convection flow, transition, vortex system, meas. method 9-27632
incompressible viscous flow, finite element-anal. by penalty function formulation 9-41651
interface between immiscible liquids, convection induced by chem. react.-hydrodynamic coupling (*French*) 9-41682
liquid vertical layers, convective flows with spatially modulated temp. distrib. at boundaries (*Russian*) 9-32496
melt solidification, heat and mass transfer 9-14236
metals with variable thermal cond. and capacity, forced convection 9-37310
natural convection, in melted region around heated horizontal cylinder 9-46165
natural convection in liquid layer in flat inclined solar energy panel (*French*) 9-18894
nematic liquid crystal, electroconvective flow, vel. and orientation deform. angles (*Russian*) 9-37621
non-linear properties of thermal convection, review 9-18893
non-Newtonian fluid, pipe flow, heat and mass transfer 9-46309
nonlinear thermosolutal convection 9-10557
oscillatory hydromagnetic free convection flow past an infinite vertical flat plate with suction 9-32687
paraffin, solid-liq. interface motion during melting, convection effects, photographic obs. 9-18890
phase change region, cond. and natural convection, numerical method 9-41563
photoabsorptive convection, steady states in field of continuous laser radiation 9-14212
pool-boiling and bubbling heat transfer, freely convecting liq. 9-32212
porous medium, convective motions of saturating liquid near equilib. instability threshold 9-14398
rotating disc heat transfer with liq. jet impingement 9-4055
rotating liquid layer heated from below, form, and interaction of three-dimens. convective cells 9-14397
second order liquid, convection flow past hot porous circular cylinder 9-14476
simple fluid, energy stability method 9-27629
solidifying melt, concentration convection 9-14237
stability of convective motion caused by internal heat sources (*Russian*) 9-14390
surface tension driven instability of liq. film flow down heated incline 9-27620
transient natural convection heat transfer 9-1050
transition boiling heat transfer with forced convection, composite test section, steady state method 9-19361
tube, vert., uniformly heated, forced convection boiling, crit. heat flux 9-27498
turbulent free convection in fresh and salt water, characts., visualisation 9-18888
turbulent tube flow, of water, with nonuniform heating 9-32513
unsteady free convection flow past a vertical porous plate with variable suction and transverse magnetic field 9-32691
vertical channel flow, heat convection, fluid injection problem, Newton-Raphson method solns. 9-10556
vertical cylinder, internal flow, with const. heat flux 9-46307
vertical object in liq., total surface flux 9-37314
viscous fluid in channel, laminar steady forced convection flow 9-32505
viscous incompressible heat generating flow past porous plate with free stream oscillations, laminar free convection 9-37312
viscous incompressible heat generating flow past porous plate with free stream oscillations, laminar free convection 9-37311
wall, plane, nonsteady heat transfer, conjugate problem soln. 9-37128
wall with one-way heat flow, vertical inclined cavity stack 9-3899
water, convective heat transfer, free, with density inversion, in confined rectangular vessel (*German*) 9-18671
water, horizontal layer, convection onset with max. density effects, nucl. plant waste heat storage 9-46164
water, non-Boussinesq convective struct. near 4°C 9-18886
water, penetrative convection instabilities (*French*) 9-46304
water, thermally stratified, cooled, barrier effects on temperature structure and mixing (*German*) 9-41687
water, thermally-stratified, cooled from above, free convection 9-46315
water, vertical boundary layer convection, salinity and press. depends. 9-37316
water adjacent to vertical uniform flux surface, buoyancy driven flow, transition and transport 9-27631
water boiling in annuli under forced convection, boiling noise 9-1062
water in cavity heated from below, convective instability (*Russian*) 9-14391
water saturated porous box with conducting walls, convection onset anal. 9-18949

convection in liquids continued

- wedge, forced-convection film boiling, boundary layer flow 9-46366
 He, supercritical, laminar free convection heat transfer, analytical study 9-23311
 He, time depend. effects above convection, Rayleigh-Benard expt. using local probe 9-7718
 Hg, inductively stirred, convective flow rate controlled by Lorentz's number rel. to solidified struct. 9-10444
 Na, liquid, natural convection from vert. plate in fast breeder reactor 9-3202
 NaNO₃ melt, depend. of oscillatory Marangoni convection on zone length in cryst. growth melts 9-23555

convergence

- see also *convergence of numerical methods*
 convergence rates for elastic solutions method and variable elasticity parameters (*Russian*) 9-44740
 diatomic molecules, one-electron, heteronuclear, partial wave treatment 9-10017
 earthquake model, nonstationary, identification, nonlinear filtering approach 9-5458
 one-dimensional oscillator, matrix elements of position coord., upper and lower bounds 9-35578
 perturbation theory, Padé approximants and convergence, appl. intermolecular interactions 9-31635
 rotationally symmetric mag. field expansions into zonal harmonic functions 9-31772
 H+H⁺, interaction energy, perturbation expansion, symmetry forcing 9-22785

convergence of numerical methods

- constrained finite element solns., convergence proof 9-21537
 curved plate bending problem solved with nonconforming finite elements 9-37202
 EM wave scattering integral eqn. 9-22882
 finite elements construction for natural boundary conditions satisfaction 9-2610
 inverse iteration method convergence, for nonlinear elliptic eigenvalue problems 9-40353
 iterative methods, convergence rate, comparative study, appl. to hypersonic flow problem 9-40374
 linear system solution by modified Stone finite element method (*French*) 9-41279
 lumped mass approximation of heat eqn., uniform convergence 9-18669
 moment-method solutions, convergence improvement using interpolants 9-18335
 Monte Carlo simulation of Brownian dynamics, new method, convergence props. 9-12719
 neutron transport, 2-D, diffusion synthetic acceleration method 9-22357
 NMR bandshape, complex exchange-broadened, iterative computer anal. 9-35805
 perturbed energies, 2nd order, coupled HF iterative procedure, geometric approx. 9-9991
 Poisson's equation, finite difference form, numerical soln., unconditionally stable scheme 9-50
 potential flow, mixed hybrid finite element methods, book contrib. 9-32445
 Saint Venant partial differential eqn. four-point implicit numerical method 9-10582
 scattering, inelastic, R-matrix soln. of coupled eqns. 9-10163
 semiconductor, impurity ion pot., screening charge density expansion convergence 9-7799
 steam generators, steady 2-dimens. two-phase flow and heat transfer calc. 9-1237
 thermoviscoelasticity problems, numerical soln. processes, stability, convergence (*Russian*) 9-27536
 unbounded two-dimensional linear eddy current algorithm 9-41300
 wings, low aspect ratio, computation of nonlinear characts. 9-41690

conversion electron spectra

- Mossbauer depth selective spectra 9-35909
 nuclear isomers, 10⁻⁴ to 10⁻¹ sec lifetime, decay spectra, meas. procedure 9-36167
 thin foils, depth selection, Monte Carlo calc. of energy distrib. 9-45598
¹⁵²Eu, spectra meas. with Si(Li) detector 9-36460
¹⁴⁷Gd, γ -transitions, internal conversion electron spectra meas. 9-6475
¹¹¹In, rotational band detect., internal conversion electron spectra from ¹¹¹Cd(p,n)¹¹¹In 9-6362
¹⁰⁴Pd, characts. of the levels excited in ^{104,104m}Ag decay 9-9515
²³⁹Pu, spectroscopy in second minimum of pot. energy surface 9-30805
²²¹Rn, decay scheme, α -, β -, γ -spectra meas. 9-6507
¹¹⁹Sn conversion electron Mossbauer spectroscopy in β -Sn, CaSnO₃ and SnO₂ 9-33575
¹¹⁹Sn, thin foil, 19.6 keV conversion e⁻ energy, ang. contrib., Monte Carlo calc. 9-11360
¹⁶⁷Yb, spin and parity determ. from ¹⁶⁷Lu—¹⁶⁷Yb data, ϵ/β^+ anomaly 9-6380

convertors

- see also *analogue-digital conversion; digital-analogue conversion; direct energy conversion; frequency convertors; image convertors; magnetohydrodynamic convertors; power convertors; solar absorber-convertors*
 liquid level-to-frequency converter 9-6080
 logarithmic, principle and appl. (*German*) 9-9233
 time to digital convertor, wide-range 9-18090
 total exposure error, digital instrum. for cameras with or without built in exposure meter 9-6208

conveyors

- pendulum oscillation optimal passive suppression (*Russian*) 9-10454
 solid particle pneumatic conveyance, flow characts. 9-37380

cooling

- see also *Joule-Thomson effect; low-temperature production; magnetic cooling; refrigeration; supercooling*
 agitated vessels with bare and finned vertical tube baffles, heat transfer, power expenditure 9-1052
 alloy, ternary, transition of univariant form. equiliv. into decomposition equilib. (*German*) 9-43196
 annular gap with axial flow and rot. inner cylinder, heat transfer coeffs. 9-27489
 atmospheric radiation climate of Thailand, calcs. from routine meteorological data 9-29814
 Bitter solenoid efficiency factor, allowance for cooling holes 9-30502
 cold-bath, precision, laboratory appl. construction 9-26048
 cylindrical mould, heat cond. with phase change 9-37108

cooling continued

- diesel-driven chiller system simulation, with multi-tank thermal storage system, for large commercial buildings 9-48187
 dilution refrigeration, history from 1951 9-41
 direct contact cooling of crystallising MgCl₂ brine using kerosene drops 9-1053
 duct, annular, turbulent flow and heat transfer over backward facing step, finite difference soln. 9-1175
 epoxy-rubber glass transition rel. to filler, cooling rate 9-4403
 evaporation cooling, radiation effect on heat transfer and Lewis no. (*German*) 9-41562
 film, use of cholesteric liquid crystals for thermal flow visualisation 9-186
 film cooling, from single hole and hole row, free stream turbulence effect 9-46310
 film cooling, leading edge effectiveness 9-1185
 film cooling, with upstream injection and intermediate panel temp. 9-1184
 film cooling at separated zone 9-1187
 film cooling effectiveness of tube wall, axially and radially flowing coolant 9-1186
 fuel cell stacks, H₂PO₄ 9-48121
 gas transport by pipelines, temp. and pressure distrib. determ. 9-23326
 heavy ion+electron radiative recombination as cooling process, dipole approx. (*Russian*) 9-3565
 high thermal input sputtering heat transfer process 9-28914
 interface segregation through cooling 9-43294
 interstellar hot gases, cooling by H₂ molecules 9-12505
 ionosphere, cooling by 0.1, 63 μ m emission, meas. 9-16732
 IR detectors, thermoelectrically cooled, features and appls. 9-2828
 jet, cross stream injection boundary layer, flow and temp. field 9-1225
 laser, low-temp. ruby, with optical delay line inside resonator, cooling system 9-36922
 laser, solid state, plane active element initial cooling period (*Russian*) 9-36904
 liquid, superheated, gas content effect on boil-up and cooling 9-1061
 low heat resistance cylinders, nonlinear radiative cooling, matched asymptotic expansion anal. 9-41559
 mainstream acceleration effect on heat transfer and wall temp. downstream of gas injection 9-1251
 meteorites, cooling rate rel. to schreibersite growth for Emery mesosiderite 9-35211
 microcooler, threestage, with cascade thermocouples 9-2765
 mirror surface, high power optical damage threshold elevation by hypervapotron cooling 9-23002
 nuclear fuel storage options compared, dry, shallow pool and deep pool 9-9843
 nuclear power station cooling water impact on water surface temps. and ice conditions (*Finnish*) 9-20868
 pipe flow, laminar with nonlinear wall heat fluxes, axial cond. 9-27636
 plate, infinite, asymmetric cooling, direct and inverse heat cond. problems 9-37113
 plate, permeable, turbulent boundary layer with injection, heat transfer 9-1247
 polystyrene-SiO₂, glass transition rel. to filler, cooling rate 9-4403
 protogalactic gas cooling mechanisms (*Russian*) 9-17107
 PVC, enthalpy determ. of order 9-7556
 radiative cooling by use of inverse greenhouse effect 9-25329
 rivers, well-mixed, simple non-linear cooling models 9-20902
 rocks, igneous intrusions, convective cooling of infinite sill 9-20787
 selective covers for natural cooling devices 9-43750
 space vehicle radioisotope power system, using Rankine conversion cycle, emergency cooling by multifoil insulation melting 9-48168
 spacecraft nuclear dynamic power system, thermally-integrated 9-48166
 spacecraft radioisotope thermoelectric generator, in Shuttle 9-48142
 spheres, concentric, cooling by forced convection, at low Reynolds no. 9-1183
 spray cooling, characts. and minicomputer control (*French*) 9-3889
 steel, C, mech. props. rel. to heat treatment, ferrite-pearlite transform. (*French*) 9-20043
 steel, case carburised, residual stress effect in mech. performance 9-24659
 steel, Mn-Mo-Nb-C, transform. charact. and struct. during continuous cooling 9-29057
 sunspots, cooling by Alfvén waves refl., theory 9-5799
 supernova shock-accelerated cosmic rays, early radiation spectrum, cooling and escape 9-48626
 swirling film cooling in initial tube section 9-1256
 thermoelectric coolers for micromodules 9-6120
 thermoelectric cooling unit in mag. field 9-9218
 thermosphere, cooling by 0.1, 63 μ m emission meas. 9-16732
 transition metals and alloys, high-melting-point, fast cooling from melt, cooling rate influence on struct. (*German*) 9-43287
 tube wall, gas film-cooled, turbulent heat exchange, coolant turbulence intensity influence (*German*) 9-18895
 turbogenerators by H₂, heating-up detect. by gas stream chromatography and mass spectrography (*French*) 9-48024
 underwater plasma weld cooling 9-1932
 wall, perforated, relative effects of external and internal convection (*French*) 9-1248
 waste heat dissipation from cooling ponds at power generating stations 9-48191
 water, thermally-stratified, cooled from above, free convection 9-46315
 water droplets in hot gas flow, transient cooling 9-1063
 X-ray emitting gas in clusters of galaxies, bremsstrahlung cooling evolution 9-40266
 Ag-Ga (27 at.%), cooling rate depend. of thermal arrest, transform. temp. 9-29053
 Bi-Sb, conditions for dendritic crystallisation, accompanying rapid cooling (*Russian*) 9-34020
 CaO-SiO₂, melt, effect of cooling rate upon glass transition, X-ray analysis 9-27920
 Cu-Al-Fe-Mn (10,3,2 wt.%), phase comp. struct., continuous cooling from β -phase effect 9-24499
 Fe, cast, graphite nodule form., ion microprobe mass anal. appl. 9-43295
 He cooling systems, large, review of hydrodynamics and heat transfer 9-204
 KCl melt, effect of cooling rate upon glass transition, X-ray analysis 9-27920
 MgO-SiO₂, melt, effect of cooling rate upon glass transition, X-ray analysis 9-27920

cooling continued

- NaCl melt, effect of cooling rate upon glass transition, X-ray analysis 9-27920
 $\text{Na}_2\text{O}-2\text{SiO}_2$, melt, effect of cooling rate upon glass transition, X-ray analysis 9-27920
 a-Se, hole form. energy, heating time and cooling rate depend. 9-41958

cooling towers

- see also water supply
 Arizona Nuclear Power Project waste water reclamation for cooling 9-9861
 buoyant jet entrainment from single and multiple sources in draft cooling tower 9-32617
 convection caused by rejected waste energy 9-12169
 plume vortices, time-lapse photography 9-20950
 Texas nuclear power plant cooling water requirements 9-9859
 wet/dry surface for cooling towers 9-32199

Cooper Hewitt lamps see mercury vapour lamps

Cooper pairing see Cooper pairs

Cooper pairs

- see also BCS theory; Josephson effect
 non-adiabatic systems, supercond. originating from quasi-orbital conduction electrons 9-33382
 nuclear quadrupole vibration theory, potential oscillations and collective motion (Russian) 9-13222
 superconducting order parameter, rel. to macrowave function, near T_c 9-47191
 Al, superconducting, yield stress increase by destruction of Cooper pairs by dislocations 9-43313
 Al-Mg, superconducting, yield stress increase by destruction of Cooper pairs by dislocations 9-43313

coordination complexes

- inorganic complexes are indexed under the appropriate metal compound headings
 No entries

copolymerisation see polymerisation

copper

- see also nuclei with
 abrasion, low speed, strain rate effects 9-20208
 adhesion to polyethylene reactions of CuO with Cu or polymer 9-39118
 adsorbed CO on Cu(100) and Cu(111), struct., LEED pattern reinterpretation 9-28209
 adsorbed on polystyrene, unusual core level spectra, XPS obs. 9-24415
 adsorbed on W (100), electron field emission revealing unmasked surface reson. 9-15595
 adsorption of Cs, XPS exam. of Cu surface state and Cs valence electrons 9-19647
 adsorption of Hg, effect on mech. strength, creep, fatigue, embrittlement (Russian) 9-29267
 adsorption of Pd on stepped and low index surfaces, LEED, AES and desorption anal. 9-46942
 Aegean Sea, Cu, As and Hg conc. determ. 9-2292
 AES excited by X-rays, satellite lines 9-33893
 alkali halide: Cu^+ , high press. studies of luminesc. phenomena 9-43017
 amorphous, bombard. by Ar^+ ions, collision cascades, computer simulation 9-46731
 ang. fluctuating, diagnostics using spectral-image photographs (Japanese) 9-41896
 atom, highly ionised, spectral classifications below 55 Å 9-13658
 atom, isolated in mol. matrix, absorption spectra 9-22724
 atom, oscillator strengths of reson. transitions 9-22666
 atom in bulk, local density of states 9-37947
 atomic and metallic 3p excitation 9-22633
 atoms, electron scatt., ang. distrib. for 98.6 keV electrons 9-18295
 Auger M_{VV} line shape, bandlike and atomlike features 9-43075
 Auger-photoelectron coincidence measurements 9-19968
 band structure calcs., optimised LCAO version, appl. to Wannier states 9-33220
 cadmium maleate dihydrate: Cu^{2+} , EPR at 77 and 303K 9-33530
 catalyst, Al_2O_3 supported, effect on reduction of SO_2 by Cu 9-24819
 cementation, characterisation of nucleation and growth from aq. soln., TEM and SEM study 9-28972
 chemisorption of CO, on (100) face, XPS of core levels 9-15589
 circular plate perforation and deformation by square section punch 9-34100
 clusters, valence band and core binding energies, UPS meas. 9-38721
 coated with Au and Ag, corrosion by thermal degradation products of chloroprene and silicone rubber 9-47801
 cold work, P effect on annealing 9-47707
 compact, exam. of anisotropic shrinkage, as function of pressure 9-8257
 compressed powder, elec. cond. -30 to +30°C (German) 9-28335
 conduction band, high momentum components determ. from annihilation radn. ang. correlation 9-19508
 corrosion, photo-assisted, in anaerobic acidic medium 9-43466
 corrosion inhibitive films formed by corrosion determination of thickness by X-ray photoelectron spectra 9-15845
 crystal growth new technique for prep. from bulk using four pts., RHEED anal. 9-8240
 curvature factor, interpretation of de Haas-van Alphen oscillation amplitudes 9-47000
 cyclic strain hardening under deform. at various temps. 9-43273
 cyclic work hardening during frequency change fatigue tests (German) 9-34068
 cyclic work hardening frequency effects (German) 9-29090
 cylindrical shells, thickness determ. by inductive meas. 9-12760
 defect annealing around stage III, $\gamma\gamma$ ang. correlation expt. 9-14846
 deformation band, role in fatigue crack nucleation and propag. 9-24585
 deformation of single cryst., effect of surface layer 9-8315
 deformation potentials for isotropic strains 9-42506
 deformed by rolling and torsion, stored energy (German) 9-29160
 deposits, keweenanwan-type, exploration using LANDSAT-1 imagery 9-2398
 deposits on Cu (110) electrode, morphology and crystal growth 9-47644
 depth resolution for MeV $^4\text{He}^+$ backscattering in C, Al, Cu 9-14840
 determination, in salt, spectrochem. method (Russian) 9-29440
 diatomic molecule, bonding, ab initio pseudopot. calcs. 9-6857
 diffusion in CdSe, effect of laser radiation on diffusion 9-10983
 diffusion of Ag, 759-1081°C 9-10982
 discontinuous film, ageing effect on elec. cond. 9-24084
 dislocation core energy, core tension, Peierls model 9-27984

copper continued

- dislocation density, calcs. as function of plastic strain in cold worked polycrystn. sample 9-38924
 dislocation etch pit obs. on {111} surfaces 9-10861
 dislocation mechanism of luminescence during fracture 9-24376
 dislocation sources, grain boundaries in the premacroyield strain region 9-34096
 dislocation structure, around tips of propagating fatigue cracks 9-29211
 distribution in waters of Yarra River estuary 9-16552
 drilling with CO_2 laser pulses, influence of laser-supported detonation waves 9-28866
 electrochemical displacement reactions, electron microscope obs. of nucleation and growth, comparison of Cu/Fe and Cu/Al cementation systems 9-47939
 electrocrystallisation from CuSO_4 solns., current density under stationary surface diffusion (Russian) 9-8237
 electrocrystallisation from CuSO_4 solns., current density/overvoltage curves (Russian) 9-8236
 electrocrystallisation from CuSO_4 solns., expt. and slow surface diffusion theory (Russian) 9-11505
 electrocrystallisation from CuSO_4 solns., exptl. methods (Russian) 9-8235
 electrode, erosion due to high-current pulses, effect of media 9-10735
 electrode, photopotentials, rel. to corrosion 9-24648
 electrode degradation in coaxial plasmatron 9-14629
 electrodeposited, work function, heating temp. influence 9-33331
 electrodeposition, influence of specific adsorpt. of S, Cl 9-20001
 electrodeposition from cyanide solns., interaction with 2-butyne-1,4, obs. (Russian) 9-47936
 electrodeposition from nitrate solns., cathode polarisation obs. (Russian) 9-47937
 electron backscattering, X-ray prod., energy distrib. calc. 9-38698
 electron bombardment effects, gas evolution obs. (Russian) 9-1460
 electron inelastic mean free paths and energy losses, electron gas statistical model 9-46733
 electron radiated, formation of Frenkel pairs 9-23598
 electronic energy loss of protons (deuterons), 80-800 keV 9-23666
 electroplating, raising temp. by gelatin addition to plating soln. (Japanese) 9-38754
 electroplating acid-Cu electrolytes, effect of periodic reverse current process on deposit props. 9-33951
 electroreflectance, influence of surface microtopography 9-15437
 electroreflectance spectra of monocrysts., anisotropic surface effects 9-8123
 EM cascades caused by electrons and photons, 10-100 GeV, longit. development 9-21120
 energy band calc. by model-pseudopotential method 9-7779
 energy band dispersions, absolute determ. using ang.-resolved photoelectron spectrosc., symmetry method 9-15590
 extraction equilibrium, with versatic acid 911 9-43620
 fast electron transmission, contrib. of high-angle deflections 9-28024
 fatigue hardening and high cycle fatigue under reversed bending 9-20180
 fatigue of single crystals and low const. plastic strain amplitude 9-20174
 FCC, electrodeposition of HCP Co layer 9-11527
 FCC, high-angle (001) CSL twist boundaries, struct. 9-46677
 FCC, stacking fault, antiphase boundary energies, investig. methods, review (French) 9-42080
 FCC single crystal, crystal rotation accompanying scratch deform. (Japanese) 9-15733
 Fermi surface, positron annihilation study 9-4869
 Fermi surface and thermoelec. power, de Haas-van Alphen calc. 9-4503
 film, 1/f noise, role of substrate 9-28358
 film, continuous, 1/f noise, temp. and substrate depend. 9-24086
 film, evaporated, oxidation resistivity change meas. (Japanese) 9-11723
 film, excess (1/f) voltage noise 9-42598
 film, ion bombardment induced preferential orientation 9-19293
 film, single cryst., new technique for prep. employing two stages of evaporation 9-33932
 film, struct., oxidation, and exoelectron emission rel. to bulk samples (Russian) 9-37927
 film, thermal phonon radiation into α -quartz substrates 9-42363
 film, ultra thin, EXAFS 9-15559
 film, vapour deposited on polymer, ageing, adhesion, elec. cond., electrochem. pot. (Russian) 9-33362
 film growth on amorphous C, energy charact., in situ electron microscope determ. 9-11027
 film on Ni, AES comparison of ion plated and vacuum evaporated films 9-28250
 film self-generation on Cu doped glass ceramics, for low-expansion IR laser mirrors 9-14127
 films, adsorption of O, study of gravimetric uptake and work function 9-33179
 foil, 8 ns laser pulse-target interactions, ion-expansion struct. 9-14575
 fracture under influence of high power US waves (Russian) 9-5034
 Frenkel defects, diffuse X-ray scatt. obs. (German) 9-23600
 frequency spectra, and correlated spectral density between bulk atoms 9-19330
 friction stress meas. during high temp. creep of polycrystalline samples 9-1898
 gamma-ray scattering, incoherent, total at. cross section 9-13679
 grain boundaries, nucl. gamma reson. (Russian) 9-8080
 grain boundaries, struct. and energy, effect of temp. up to melting point 9-37718
 grain boundary character, revealed by etching and slip line continuity 9-33001
 graphite-Cu, brushes, friction and wear under severe sliding conditions against steel 9-38991
 Gruneisen parameter determ. using thermoelastic effect 9-28068
 Gruneisen parameters, dynamical study using modified Bhatia model 9-37797
 heat pipes for radioisotope thermoelectric generator, Cu/ H_2O , axially-grooved 9-48144
 heavily rolled, electron microscope obs. of cube oriented region, rolling texture 9-29093
 heterogeneous, new polishing technique (German, English) 9-20322
 high purity, low cycle fatigue, cumulative damage, absorbed plastic energy anal. 9-38932
 horizontal cylinder, electropolishing in phosphoric acid 9-47835
 hydroextrusion, effect of longitudinal US oscils. (Russian) 9-34071
 implantation of He ions, TEM exam. of He gas bubble lattice 9-46726
 inclusion, in Si, behaviour during annealing in elec. field (Russian) 9-23779

copper continued

- interface with ^4He , static and transient anomalous Kapitza conductance 9-19444
- intrinsic stacking fault energy, effect on cyclic hardening 9-11638
- ion bombarded, energy distributions of fast ionized recoils 9-24402
- ion bombardment by Ar^+ , blocking effect for fast ionized recoils 9-8221
- ion irradiated, impurity defect configuration, by DPAC-technique with ^{11}Li 9-28021
- ion-irradiation studies of damage function 9-37746
- ions, XVI to XIX, relativistic Dirac-Fock-Slater orbital binding energies, one-electron transition energies 9-25778
- isoelectronic series, core polarisation influence on oscillator strengths 9-45672
- K shell prod. cross section of Ti, Cr, Fe, Ni, Cu, Zn for 75 to 150 keV p and e excitation 9-47552
- Lake Monona, Wisconsin, Cu environmental chemistry 9-44214
- laser, coherent props., dynamic holography in VO_2 films 9-13929
- laser, comparison of copper acetate, acetylacetonate and CuCl lasants 9-31875
- laser, discharge-heated vapour 9-7149
- laser, electron energy distrib. in Cu-Ne(He) mixtures 9-13956
- laser, sealed vapour, service life and efficiency 9-27922
- laser, transversely excited pulsed, gas discharge parameters influence 9-10291
- laser, used for single crystal impurity luminesc. attenuation in Raman spectra 9-15467
- laser lines, broadening, induced emission cross-sections 9-26928
- lateral spread distribution widths MeV He ions in C, Al, Cu from energy spectra 9-14860
- lattice and force consts., pairwise atomic repulsions in cluster model 9-32939
- lattice vibrations and ideal elec. resistivity 9-46770
- liquid, electrical transport 9-38040
- liquid, X-ray diffraction analysis 9-4232
- low energy ion sputtering, theory 9-28880
- luminosity spectrum bombardment of Cu target by Ar^+ -ion beam 9-4884
- marine pollution determ. in Gulf of Fos, NW Mediterranean 9-12141
- matte, thermodynamics of converting, distrib. of Au, Ag, Pb, Zn, Ni, Se, Te, Bi, Sb, As, Noranda process 9-47648
- mechanical twinning characts., 4.2 to 300K (Russian) 9-37714
- melts, supercooled, influence of impurities in crystallisation 9-29042
- mirror, acted on by laser radiation, reflectivity meas. 9-10342
- mirror, single-point diamond-turned, evaluation for 8-beam CO_2 laser, Helios 9-23044
- molecule, emission band spectra and vibr. const. 9-36656
- monolayer (001), electronic struct., self-consistent LCAO calc. 9-4606
- multiple wave functions, singular points in band struct. and Wannier function tails, Cu cond. band appl. 9-37956
- multiple wave functions for photoelectrons, constant-energy-surface harmonics, s-d band appl. 9-37955
- neutron irradi. cryst., edge and screw dislocation groups, mean vel. 9-7607
- neutron irradiated, replacement sequences, calcs. using ADDES and COMENT codes 9-46714
- normal metal in composite superconductor, neutron irradiation effects 9-38049
- nuclear susceptibility thermometer rel. to ^{199}Sn Mossbauer effect thermometer, 6 mk to 1K 9-35737
- OFHC, strain rate variation effects on flow stress 9-43324
- oxidation of surface (111), growth modes of (111) Cu_2O , UHV-RHEED and TEM obs. 9-19481
- phonon dispersion, model pseudopotential method 9-23685
- phonon-limited elec. and thermal resistivity 9-42517
- photoelectrons, energy-angle depend. for UV light (German) 9-11495
- photoemission, angle-resolved, energy band symmetries 9-43104
- photoemission from indirect optical excitations 9-43103
- plasma, accelerated, velocity meas. using fast-scanning Fabry-Perot spectrometer 9-41869
- plastic deform., strain rate history and temp. effects depend. 9-11684
- plastically deformed at room temp., glide on {001} planes, TEM obs. 9-19257
- plasticity, athermal and thermal (Russian) 9-11685
- plasticity, temp. and rate dependence for different rigidities of stressed state (Russian) 9-29139
- pollution conc. determ. in estuarine waters, Raritan and Lower New York Bays 9-12139
- polycrystalline, secondary ion energy spectra, ionisation mechanisms 9-38700
- pores, produced in high temp. fatigue, small-angle neutron scatt. study 9-14795
- positive muon spin rotation frequency, Knight shift meas. 9-38421
- positive-muon spin depolarisation rate field depend. 9-33585
- positron lifetime changes, during cyclic fatigue 9-43060
- positron source using Na^{22} ion-implantation for annihilation lifetime expts. 9-45489
- positron-lifetime study of 4.5-25 MeV proton irradi. effects 9-33021
- powder, flowability, apparent density and comp., effect of Na, Mg, and Al additions 9-28986
- preferred crystallographic orientation of melt grown single crystals (Czech) 9-43134
- preferred crystallographic orientation of unidirectionally solidified polycrystals (Czech) 9-43233
- proton diffusion, config. and activation energies 9-37878
- α -quartz: Cu^{2+} , γ -irradiated, stabilisation of impurity atoms 9-8047
- range of $^{27}\text{Al}^+$ ions, meas. by (p, γ) reson. broadening 9-46729
- recrystallisation of cold rolled samples (French) 9-43269
- recrystallised, inhomogeneous deform. due to texture changes (German) 9-29158
- refinery electrolyte, glue determ., electrochem. method 9-48021
- rolled, dislocation struct. and recovery during annealing (Russian) 9-29084
- rolling textures and texture inhomogeneities, exam. of development in single- and poly-crystals 9-11637
- secondary ion emission, energy spectra, 0-55 eV, contamination levels 9-15573
- secondary negative ion emission, effect of adsorbed O_2 (Russian) 9-28881
- self-diffusion of ^{64}Cu , 737-1079°C, monovacancy and divacancy contribs. 9-19394

copper continued

- self-ion-irradiated, axial channelling along (110), by Rutherford backscatt. of He ions 9-4342
- sintered, residual voids, quantitative anal. of morphological changes by metallography 9-47854
- sintering powder compacts, depend. of neck form. on particle size and sintering temp. 9-28988
- solar selective absorbers, graphite on Cu, interf. films deposited on diffraction gratings 9-14103
- solubility and diffusivity of F, electrochem. meas. 9-46808
- spheres, rotation and translation during sintering onto a substrate, grain boundary energy SEM study 9-38759
- spheres, single cryst., dissolution, formation of etch pits, surface structure study using SEM 9-23735
- spin properties of conduction electrons 9-46999
- spreading of high-pressure polyethylene melt, index 9-37902
- sputtered-deposited, damage-resistant high reflectivity material for high energy laser appl. 9-47181
- sputtering processes, due to Ar^+ bombardment, computer modelling 9-19957
- steel, low C-Cu composite plates, vol. fraction and residual stress, effect on fatigue strength (Japanese) 9-8349
- steel fibre reinforced Cu, fatigue 9-29221
- strain hardening parameters, 4.2 to 300K (Russian) 9-20063
- stress-strain behaviour over large strain range 9-15745
- structure factor, absolute measured value of f(220), importance of extrapolation to zero extinction 9-19123
- surface, 10-35 keV Ar^+ bombarded, energy distrib. of ejected fast ionised recoils 9-47579
- surface, (001), inelastic scatt. of He atoms, 20K 9-8222
- surface, (001), surface relax. and thermal expansion calcs. 9-23820
- surface, (001) and (110), electronic wave functions by spherical wave method 9-42604
- surface, (100), 5-10 keV Ne^+ bombarded, time of flight meas. of ion fractions 9-47578
- surface, (100), coadsorption of Pb and Bi, LEED and AES meas. 9-15017
- surface, (100), diatomic mol. scatt., energy transfer and dissociative adsorption 9-46961
- surface, (111), bulk s orbital bands, sensitivity to oxidation, photoelectron spectra 9-47597
- surface, (111), photoelectron angle resolved spectra, perpendicular momentum conservation oxidation induced breakdown 9-24412
- surface, Ar^+ ion bombardment, O_2 enhancement of sputtered ion yields 9-38705
- surface, conditions for total refl. of low-energy atoms 9-19958
- surface, He, Ne, and Ar ion irradi., 0.05 to 3 MeV, orientation of fast ions excited in surface collisions 9-4876
- surface, low energy Ar^+ ion scatt., binary collision approx., SIMS meas. 9-47582
- surface, sputtering with 30 keV Ar^+ ions (German) 9-24407
- surface, total hemispherical emissivity 9-28115
- surface (001), adsorbed O, core-level XPS, azimuthal anisotropy 9-19969
- surface (100), influence of coadsorbed O_2 on work function of Cu 9-15014
- surface (100), O and O_2 ejection on ion bombard. 9-42373
- surface (100), self-consistent electronic struct. calcs. 9-1614
- surface (100), surface state-surface resonance density 9-28392
- surface (110), M_{23}VV , L_{23}VV spectra, cascade background corrections 9-43079
- surface (111), dilution of electron gas in Cu monolayer by O adsorption, plasmon energy losses 9-47036
- surface cleaning, by electron cyclotron resonance plasma of hydrogen 9-47822
- surface damage and thermal effects from transient thermonuclear radiation in inertial confinement fusion reactors 9-648
- surface irregularity statistics for laser component materials 9-14057
- surface plasma waves 9-47151
- surface reaction with NO_x , relative humidity depend. 9-5176
- surface roughness, liq. superheat and heterogeneous nucleation 9-37146
- surface subjected to friction, wear, exoelectron emission, rel. to O_2 , H_2O , gaseous adsorpt. 9-1816
- surfaces, Van der Waals forces computation 9-15204
- tension deformed single crystal, dynamic recrystallisation 9-47716
- thermal diffusivity meas. by flash with negative pulse, plasma jet heating 9-37888
- thermal neutron irradiated, isochronal resist. recovery, 30-400K 9-19287
- thermal quenching, by liq. N_2 , for boiling curve of N_2 9-14232
- thin films, ion plated on polyethersulphone, structural and resistivity study 9-42411
- ultrasonic velocity response to stepwise change of stress (Japanese) 9-38905
- US attenuation, nonlinearity parameter temp. depend. 9-42152
- US spot welding of metallic alloy glass 9-21730
- US velocity, depend. of applied stress and third order elastic const. (Japanese) 9-29124
- vacancies-gas impurity interactions in vacuum condensates (Russian) 9-15036
- vacancy annealing exam. by positron annihilation 9-14801
- vacancy clustering, in e-irradiated Cu by small-angle X-ray scatt. 9-14845
- vacuum-condensed film, structural changes under glow discharge (Russian) 9-15852
- VPE on W (110), alignment of (111)FCC-(110)BCC epitaxial metal pairs 9-19488
- well annealed crystal, etch pit technique refinement, dislocation config. study (Japanese) 9-4307
- whisker growth in Zn reduction, morphological change to dendrites 9-28261
- wire, electroplastic drawing X-ray diffraction anal. and mech. props. exam. (Russian) 9-29138
- wire, mech. props. and struct. after high-speed recrystallisation (Russian) 9-47704
- work hardening curves, critical points 9-43263
- X-radiation generation via electrons, nonlinear rise and line-narrowing, book contrib. 9-28865
- X-ray Debye-Waller factors, CGW vs. DAF models 9-37794
- XPS, angle resolved core level, from (100) crystals 9-33895
- XPS angular depend. (Russian) 9-38722
- ZnS:Mn,Cu , thin-film phosphors, LV DC electroluminescence 9-11472
- μ^+ meson spin relax. in cryst. lattices (Russian) 9-28664

copper continued

- Al/Cu laminates, vapour deposited, strength enhancement 9-24576
Al-Cu, thin-layered laminates, yield strength rel. to dislocation generation and motion 9-20137
BaS:Cu phosphor, photo- and electro-luminescence 9-43030
C fibre reinforced, thermal expansion and thermal fatigue (*Russian*) 9-38936
C fibre reinforced Cu, electrodeposited, tensile strength (*Japanese*) 9-43333
CaS:Nd, Cu, phosphor, electroluminesc., spectral characts. 9-19936
CdS:Cu, Auger excitation mech. of 1.6-2.0 micron luminesc. band 9-8184
CdS:Cu, IR photolum. at 10K 9-28824
CdS:Cu, US absorpt. in heavily doped piezoelec. semicond. 9-11189
CdS:Cu,Pb reflectivity of Ni-salt coated powder, pre-irrad. effect on defect form. 9-27973
CdSe:Cu,Cl film, induced impurity photocond., 0.6 to 1.2 eV 9-24012
Cl¹⁺+Cu, effect on projectile charact. X-rays and REC of target thickness 9-45662
CsBr:Cu⁺ off-centre, optical absorpt. meas. 9-33740
CsI:Cu⁺, cryst., influence of impurities on yield stress 9-15748
Cu corrosion, by COS, kinetic and morphological study (*French*) 9-43488
Cu I, radiative lifetime meas. 9-3409
Cu I lines, superradiance obs. in pulse vaporisation of pulverised Cu₂O, CuO 9-45934
Cu II, VUV wavelength comparison using imaging system 9-35686
Cu XXII, X-ray spectra in laser plasma, 2p⁶1s₀—2s2p⁵1p₁ 9-1340
Cu⁺ transitions in He-Cu halide gas discharges, CW laser oscill. 9-7116
Cu²⁺, impurity ion in frozen aq. solns., effect on Fe³⁺ spin-spin relax., Mossbauer obs. 9-33573
Cu-O channelling, analytical model and computer simulation calcs. 9-1450
Cu/Al bimetal film, structure, macroscopic defects (*Russian*) 9-1555
Cu/CuCl double pulsed laser, extrema by electron density and output pulse energy 9-10283
Cu/Ni double layer evaporated film, misfit dislocation effect on strength (*Japanese*) 9-42425
Cu/Ni film counter, surface counting method for diffusion study 9-42321
Cu/Ni interface, diffraction studies of conc. variations 9-42322
Cu-Al₂O₃ composite coating, electrodeposited, exam. of particle-cathode adhesion during formation 9-33954
Cu-Al₂O₃ electrodeposits, dispersion hardened, props. 9-28258
Cu-Al₂O₃(Al₂O₃-MgO) cermet selective surfaces for evacuated solar collectors 9-43785
Cu-dimethyl terephthalate contacts, effect of elec. field on contact electrification 9-19660
Cu-ferrous alloy, hard inclusion composite exam. of wear resistance props. 9-34153
Cu-Nb₃Sn superconducting composite, electron beam co-evaporated, TEM study 9-28247
Cu-Ne, hollow cathode laser discharge, spectroscopic temp. meas. 9-7490
Cu-Ne laser, spectral lines emission of gas-discharge pulse plasma 9-31883
Cu-Ni, bimetallic film, exam. of diffusion by electrical resistivity meas. (*Russian*) 9-14970
Cu-Ni bicrystals, epitaxial growth, chemical interdiffusion, X-ray diffraction profile anal. 9-1527
Cu-plexiglass (steel) channel with parallel flat walls, ice growth in laminar flow 9-3908
Cu-W composite powder, prod. by H₂ reduction of CuWO₄ 9-20006
Cu+H⁺, 4 MeV beam-foil X-ray production cross-section 9-7003
Cu+H⁺, atomic K-shell ionisation, X-ray emission 9-18280
Cu(II)-nucleic acid base interaction, MO calcs. 9-10013
p-GaAs:Cu, carrier drag by photons, rel. to IR detection 9-11185
n-GaAs:Cu, electron-phonon interaction in optical transitions between deep impurity level and allowed bands 9-42591
GaAs:Cu, sensitivity of impurity photocond., ordered surface irregularities 9-24018
GaAs:Cu electrode photographic device, CO₂ pulsed laser output high-speed meas. 9-14008
GaP:Cu, deep levels, photoluminesc. and optical cross sections 9-38653
Ge:Cu, press. effect on energy spectrum of carriers, elec. cond. and Hall coeff. expts. 9-23930
n-Ge:Sb,Cu, exactly compensated, static photocurrent-voltage characts. 9-38131
n-Ge:Sb,Cu, exactly compensated, unipolar injection influence on photoconductivity 9-42592
GeS₂:Cu, interpretation of dielectric behaviour 9-33595
Ge₂Si_{1-x}:Cu, solid soln., single cryst., photocond. spectra 9-24015
He-Cu hollow cathode discharge, Cu II CW laser oscill. at 8096 Å 9-31878
KCl:Cu⁺, absorpt. and emission spectra, 3d¹⁰4s²—3d⁹4s²4p bands 9-24343
KHSO₄:Cu, DC electrical cond. 9-37874
Kl:Cu⁺, absorpt. and emission spectra, 3d¹⁰4s²—3d⁹4s²4p bands 9-24343
KZnF₃:Mn²⁺, Cu⁺, exchange coupled, luminesc. props. 9-33781
LiCl:Cu⁺, MO calc. of luminesc. Cu⁺ centres 9-38609
LiNbO₃:Cu, pure and doped, nonlinear excitation, multiphoton photorefractive process 9-36950
MgO:Cu, X-ray stimulated luminesc. 9-28802
γ-Mn electrodeposition influence of Cu, Ag, and Be impurities (*Russian*) 9-47938
NaBr:Cu⁺, absorpt. spectra, pressure effects up to 6 kbar, comparison with NaCl:Cu⁺ 9-4826
NaBr:Cu⁺, luminesc. and lifetimes, press. depend. 9-33809
NaCl:Cu, X-irrad., thermoluminesc., F-centres 9-33849
NaCl:Cu⁺, luminesc. and lifetimes, press. depend. 9-33809
NaCl:Cu⁺, X-irrad., thermoluminesc. centre, EPR anal. 9-43045
NaCl:Cu⁺, absorpt. and emission spectra, 3d¹⁰4s²—3d⁹4s²4p bands 9-24343
Na₂O-Al₂O₃-B₂O₃ glasses, kinetic study of Cu⁺-Cu²⁺ equilib. 9-8448
Nb-Cu bilayers used in refractory lift-off process, appl. to high T supercond. circuits 9-47626
Nb₃Sn-Cu superconducting composite with submicrometer filaments, fabrication and props. 9-38282
Nb₃Sn-Cu superconducting composites, produced by cold extrusion of fine powders 9-38767
Ne-Cu, UV ion laser, dominant transition at 260 nm 9-942
p-PbTe-Cu, barrier props. 9-7898
Si:Cu, segregation effects after laser pulse melting 9-1843

copper continued

- SnO₂:Sb,Cu CVD thin film, resist. temp. coeff. 9-38198
SrS:Cu, phosphor electroluminescence characts. 9-33838
W wire reinforced Cu, exam. of thermal cycling induced deformation 9-5050
Zn/Cu film system, UPS during atomic diffusion 9-43097
Zn/Cu-Zn system, galvanic corrosion, anal. for coplanar electrodes with one electrode infinitely large 9-8398
Zn₃As₂:Cu, single crystals, gas phase growth, elec. props. 9-15598
ZnCdS:Cu, high field photoconduction in binder layer 9-47121
Zn₂Cd_{1-x}S:Cu, photoluminesc., Birman effect (*Russian*) 9-28837
ZnO:Cu, excited state, zero phonon lines in emission and Zeeman spectra 9-38026
ZnO:Cu, H(D), OH and OD centres, IR-active absorpt. line spectra 9-15496
ZnS:Cu, film effect of Cu valency on cond. 9-11246
ZnS:Cu, Gudden-Pohl effect, flash kinetics 9-24367
ZnS:Cu,Al, LV cathodoluminesc. 9-33844
ZnS:Cu,Er,Ci film, ageing and forming, DC electroluminesc., impact excitation 9-47522
ZnS:Cu 9-24350
ZnS:Mn, Cu powder devices, DC electroluminesc. 9-38674
ZnS:Cu, polycryst., influence of alternating elec. field and UV light on struct. defects, electrolum. expts. 9-43041
ZnS_{1-x}Se_x:Cu,Br ceramic, current oscills. and electrolum. under high elec. fields 9-38677
ZnSe:Cu, melt growth, dopant partition coeffs. 9-14837
ZnSe:Cu,Al, LV cathodoluminesc. 9-33844
ZnTe:Cu, voltage depend. on precip. contrast 9-1433

copper alloys

see also brass; copper compounds

- Al-Cu (4wt.%), θ' precipitation, effect on Young's modulus, electron microscope obs. (*French*) 9-47689
bronze, P type, experimental analysis of junction growth with a junction model 9-47783
bronze casting, graphite dispersed, graphite particle size effect on wear (*Japanese*) 9-15804
bronze-on-steel contact, lubricated, effect of zinc di-n-butyl dithiophosphate on wear 9-20219
hardness, elec. cond., photo emission, and mag. props. (*Norwegian*) 9-32909
hardness testing, depth of impression meas., automated 9-15892
melts, supercooled, influence of impurities in crystallisation 9-29042
metastable alloy formation by ion implantation 9-14828
Monel K-500, environmental fatigue crack growth in H₂ 9-5084
Monel K-500, fatigue crack growth rates in vacuum and O₂ environment 9-5083
solid solutions with 3d alloying impurities, exam. of thermoelectricity (*Russian*) 9-28339
steel, Cr-Cu-Mn, fatigue crack propag. rate eval. by J integral method (*Japanese*) 9-8346
steel, precipitation hardening, strength and struct. (*German*) 9-47701
steel-bronze bimetal mech. props., diffusional interlayer effects 9-29169
Ag-Cu (6.2 at.%), tricrystalline specimen, discontinuous precipitation, thermodynamics (*German*) 9-34043
Ag-Cu (6.2 at.%), with discontinuous precipitates, quantitative struct. anal. using SEM 9-43527
Ag-Cu eutectic composite wire, HF conductivity and skin effect 9-33305
Ag-Pd-Cu, contact-spring props., fatigue and spring limit (*Japanese*) 9-29117
Al-Cu, anal. of electron diffraction micrographs using Patterson function (*French*) 9-20044
Al-Cu, cold working causing preprecipitation, thermolec. power (*French*) 9-8306
Al-Cu, condensed films, metastable states 9-15046
Al-Cu, dil., anisotropic scattering of conduction electrons on dilute Cu impurities 9-47082
Al-Cu, effect of alloy purity and ageing on fracture mechanism, and resultant toughness 9-5049
Al-Cu, elastic interaction energy calcs. for Guinier-Preston zones 9-11617
Al-Cu, liquid alloys, exam. of Si diffusion (*Russian*) 9-28118
Al-Cu, melt near solid-liquid interface, diffusion during crystallisation (*German*) 9-29046
Al-Cu, partially solidified, viscosity and struct. (*Japanese*) 9-14950
Al-Cu, precipitate plate growth kinetics 9-15679
Al-Cu, stir cast microstructure, turbulent flow and solidification 9-20036
Al-Cu, work hardening under tension at 1.6-900K 9-38842
Al-Cu (2.6 wt.%), sheets, effect of strain path changes on formability 9-43347
Al-Cu (4 wt.%), effect of semicoherent precipitation on void swelling, when neutron irradiated 9-42115
Al-Cu (4 wt.%), single cryst., small angle X-ray scatt. map after spinodal decomp. 9-15645
Al-Cu (4 wt.%), with θ' precipitates, relation between elastic limit and hardness (*French*) 9-5018
Al-Cu (4.2 wt.%), precipitation strengthened, solute depletion at fatigue facets, AES study 9-38973
Al-Cu (4.5 wt.%), growth struts. with dendrite growth directions differing from heat flow direction during solidification 9-43235
Al-Cu (4wt.%), elastic limit, precipitation effects (*French*) 9-47738
Al-Cu (5.7wt.%), unidirectionally solidified, dendritic morphology and dendrite arm spacing 9-29043
Al-Cu alloy 2011, extraction and phase anal. 9-15673
Al-Cu alloys, positive muons diffusion and trapping 9-11372
Al-Cu liquid alloys, rapid quenching prep. of metastable solids, apparatus (*German*) 9-28990
Al-Cu-Fe, liquid, mag. moment and transition from mag. to nonmag. state 9-24132
Al-Cu-Mg (1.3, 1.3 at.%) alloy, natural ageing, meas. of quenching vacancy dislocation loops 9-15704
Al-Cu-Mg (2.0, 1.1 wt.%), Ostwald ripening of S' precipitates (*Korean*) 9-38831
Al-Cu-Mg alloy, struct. of Guinier-Preston zones (*Russian*) 9-1870
Al-Cu-Mg-Ag casting alloy, precipitation hardening in artificially aged condition 9-1874
Al-Cu-Mg-Mn-(Zn-Cr), low temp. deformed, ageing and mech. props. 9-1881

copper alloys continued

- Al-Cu-Mn-Mg-Fe-Si (4.48, 0.66, 1.55, 0.43, 0.23 wt.%), alloy D16, relationship between intercrystallite corrosion depth, and elec. cond. 9-20220
- Al-Cu-Mn-Mg-Fe-Si-Zn alloy D16, surface layers chem. composition rel. to fatigue resist., corrosion-fatigue resist. 9-29275
- Al-Cu-Ni, vacancy ordering, electron microscope and electron diff. obs. 9-27954
- Al-Cu-Si, Al rich, unidirectionally solidified, microstruct. 9-34021
- Al-Cu-Zr, particle stabilized structures, hot deform. 9-47733
- Al-Cu₂Al₃, interface undercooling-growth vel. relationship, horizontal and vertical solidification 9-8294
- Al-Cu₂Al₃, lamellar composite, creep, microstruct. obs. 9-8331
- Al-Cu-(Mg), normal and gravity segregation in ingots, expt. study (*Japanese*) 9-24526
- Al-Si-Cu casting alloy, optimum selection of chem. contents for optimum strength (*Czech*) 9-15625
- Al-Zn-Mg-Cu 7075, extraction and phase anal. 9-15673
- AlCu, electron microscope spot prep. of deform. bands 9-15922
- Au-Cu alloy, internal oxidation, calorimetric meas. 9-43258
- Au-Cu-Ni, computer characterisation, exam. of phase equilibria and miscibility gap 9-11561
- β -Au-Cu-Zn, martensitic transformation temps. ageing and quenching effect 9-47687
- AuCu II, periodic antiphase struct. (*French*) 9-14937
- Au₂(MnCu)₂, Heusler alloy, magnetic order and coupling 9-38303
- Be depth profiling by α and β detection in ¹⁰Be(p,d) and ¹⁰Be(p, α) 9-5203
- Ce-Sm-Co-Fe-Cu, permanent magnet props. 9-8013
- Co-Cu, neutron radiation stimulated diffusion, electrical resistivity exam. (*Russian*) 9-14959
- (Co_{0.83}Cu_{0.17})₆Ce, cryst. struct. and mag. props., decomp. during ageing (*Russian*) 9-37661
- Co₂CuCe, cryst. struct., mag. characts., ageing and decomposition (*Russian*) 9-4272
- Cu alloy-Nb composite wires, resist.-temp. meas., percolation theory 9-28490
- Cu-Ag, Auger spectroscopy, effect of composition on matrix parameters (*German*) 9-11489
- Cu-Ag, deformed, recrystallization nucleation at second phase particles, electron microscope obs. 9-34059
- Cu-Ag, liquid alloy, solubility and activity of O₂ 9-29028
- Cu-Ag-Zn, exam. of phase diagrams and thermodynamics props. 9-8275
- Cu-Ag(Mn)(Ni)(Si)(Zn), alloying effect on embrittlement of stainless steel during soldering 9-47773
- Cu-Al, dislocation core energy, core tension, Peierls model 9-27984
- Cu-Al, heavily deformed martensites, annealing 9-38873
- α -Cu-Al, kinetic behaviour of vacancies and atoms 9-28129
- Cu-Al, mechanical twinning characts., 4.2 to 300K (*Russian*) 9-37714
- Cu-Al, plasticity, athermal and thermal (*Russian*) 9-11685
- α -Cu-Al, single crystal, low cycle fatigue 9-43405
- Cu-Al (In), eutectic systems, specific phase boundary enthalpy, calorimetric study (*German*) 9-29016
- Cu-Al (10 wt.%), deformed and tempered transform. during heat treatment of β' martensite (*Rumanian*) 9-34031
- Cu-Al (11.47 wt.%), high temp. phase transforms., effect of pre-exposure to neutrons 9-20045
- Cu-Al (12 wt.%), acoustic emission related to props. 9-34032
- Cu-Al (15 at.%), CC Cu-Al(Si), single crystals, latent hardening study by meas. of flow stress on secondary systems (*Japanese*) 9-24538
- Cu-Al (15 at.%), rolled single crystals, metallographic study of deformation struct., orientational change, shear bonds (*Japanese*) 9-24582
- Cu-Al (9 wt.%) deformed, dispersed, ordered, microcalorimetry of plastic zones during fatigue crack propag. 9-47769
- Cu-Al alloy, dil., lattice expansion and localised vibr. mode 9-37789
- Cu-Al alloy, vibrs., average local information transfer approx. 9-46774
- Cu-Al alloys, strain hardening parameters, conc. and temp. depend., 4.2 to 300K (*Russian*) 9-20063
- Cu-Al dil. alloys, dislocation etch pit obs. on {111} surfaces 9-10861
- Cu-Al electrode, photopotentials, rel. to corrosion 9-24648
- Cu-Al martensite, temper hardening, study by TEM, DTA, microhardness and yield strength meas. 9-43260
- Cu-Al₂O₃ coatings, electrodeposited, dispersion hardened, exam. of props. 9-34181
- Cu-Al₂O₃(SiO₂) dispersion hardening single crystal, cyclic deform. (*French*) 9-1893
- Cu-Al-Fe-Mn (10,3,2 wt.%), phase comp. struct., continuous cooling from β -phase effect 9-24499
- Cu-Al-Ni, formation of martensitic phases during deform. by extension 9-20048
- Cu-Al-Ni, heredity of martensitic transformations 9-47688
- Cu-Al-Ni, phase diagram associated with stress induced martensitic transform. 9-8272
- Cu-Al-Ni alloys, successive stress-induced martensitic transformations and associated transformation pseudoelasticity 9-43245
- β -Cu-Al-Ni₂(DO₃), nonradial diffuse streaks and complex diffuse scatt. patterns of electrons 9-7527
- Cu-Al-Si, Si effect on mech. props. and microstructure (*Korean*) 9-38903
- α -Cu-Al(Ni)(Si), solid soln., ductility, comp. effect (*Japanese*) 9-43334
- Cu-Al(Si), preferred crystallographic orientation of melt grown single crystals (*Czech*) 9-43134
- Cu-Al(Si)(Fe)(Ni)(Pb), preferred crystallographic orientation of unidirectionally solidified polycrystals (*Czech*) 9-43233
- Cu-Au, (0.02-5 at.%), cold worked, internal friction peaks 9-11652
- Cu-Au, calc. of coherent phase diagram, using cluster variation method 9-11564
- Cu-Au, dil., thermal neutron irradiated, isochronal resist. recovery, 30-400K 9-19287
- Cu-Be (6.2, 9.3, 13.4 at.%), cell growth of discontinuous precipitation (*Japanese*) 9-24525
- Cu-Be(Al)(Mg)(Ti), study of internal oxidation using central diffusion of X-rays (*French*) 9-37839
- Cu-Bi (0.0115 wt.%), embrittled, grain boundary faceting, TEM study 9-27998
- Cu-C bushings, powder metallurgically prepared, exam. of friction and wear charact. 9-15813
- Cu-Cd, exam. of diamagnetic susceptibilities (*Russian*) 9-28504
- Cu-Cd (0.03 at.%), single cryst., deformed, dislocation arrangement 9-10856
- Cu-Co, solid soln., mag. susceptibility near solubility boundary (*Russian*) 9-15281

copper alloys continued

- Cu-Cr, eutectic, effect of comp. and solidification conditions on microstruct. (*Russian*) 9-29037
- Cu-Cr, formation of internal oxidation band 9-47820
- Cu-Cr, isothermal decomp. diagrams 9-38791
- Cu-Cr(Nb), formation of two phase microstructure, during volumetric, and directional crystallisation (*Russian*) 9-29040
- Cu-Cu Zr eutectic composite, struct. and props., heat treatment and crystn. rate influence (*Russian*) 9-38813
- Cu-Cu₂O crystallisation from melt, influence of crystn. conditions on struct. (*Russian*) 9-38814
- Cu-Fe, cluster form., Fe solubility determ., 450 to 1000°C, Mossbauer spectra obs. (*German*) 9-29021
- Cu-Fe, dil. alloy, spin relaxation rates, neutron scatt. study 9-47235
- Cu-Fe, Mossbauer studies of ageing and precip. 9-38415
- Cu-Fe, precipitation kinetics study by thermoelectric power measurement (*French*) 9-20050
- Cu-Fe (1.2 at.%), Fe moment and lattice distortion, neutron scatt. meas. 9-24133
- Cu-Fe alloy film, mag. susceptibility max. 9-24173
- Cu-Fe(Co)(Ni), liquid, surface tension (*Japanese*) 9-19431
- Cu-Ge (5 at.%), single crystal, Bridgman growth, neutron diffraction topographic obs. of layer substructure 9-27938
- Cu-Ge (8 wt.%), anelastic effect due to deform. twins (*Japanese*) 9-20095
- Cu-In, thermally cycled, effect on mech. props. and microstruct. 9-4987
- Cu-In eutectoid, coarsening at 829K 9-1885
- Cu-Mg, high temp. oxidation 9-43485
- Cu-Mn, dil., spin density magnetisation near magnetic atoms 9-33545
- Cu-Mn, magnetisation curves 9-24172
- Cu-Mn (10 at.%), meas. of mag. viscosity below freezing temp. 9-24171
- Cu-Mn spin glass alloy, neutron scatt. meas. of Edwards-Anderson order parameters 9-11323
- Cu-Mn spin glasses, spin dynamics, neutron scatt. meas. 9-8002
- Cu-Mn-Al, mag. props. and atomic ordering 9-24139
- Cu-Mn-Ni alloy, Manganin, elec. resist. under static pressures up to 110 kbar, pressure gauge appl. 9-1594
- Cu-Mn(1%) spin glass, remanent mag., zero-field NMR obs. 9-33492
- Cu-Nb multifilamentary composites, in situ formed, anomalous strength increase 9-43323
- Cu-Nb(Nb₃Sn) composite wires, powder metallurgy prod., supercond. props. and annealing 9-33428
- Cu-Ni, AES analysis of protective oxide film 9-39035
- Cu-Ni, corrosion, performance for condenser tube 9-39046
- Cu-Ni, Cu rich, chemical and intrinsic diffusion coeff. determ. 9-28130
- Cu-Ni, disordered ferromag., spin density aspericity, neutron diff. study 9-47251
- Cu-Ni, disordered muffin tin type, coherent pot. approx. appl. 9-15062
- Cu-Ni, initial oxidation study by microprobe-AES method (*Japanese*) 9-15867
- Cu-Ni, neutron radiation stimulated diffusion, electrical resistivity exam. (*Russian*) 9-14959
- Cu-Ni, powder, sintered, effect of cold and hot dynamic pressing, upon structure and props. 9-33970
- Cu-Ni, preferential sputtering Auger electron spectra obs. 9-33880
- Cu-Ni, surface comp. and catalysis, AES and thermal desorption meas. 9-46898
- Cu-Ni, surface comp. calc. by regular soln. theory, surface relax. effects 9-42355
- Cu-Ni alloy, dislocation density during deform., comparison of electron microscopy and X-ray diff. (*Russian*) 9-5002
- Cu-Ni alloys, XPS apparatus appls. (*Dutch*) 9-1982
- Cu-Ni alloys 706 and 715, corrosion in flowing seawater, O₂ effect 9-43460
- Cu-Ni bimetallic cluster, segregation and short range order props. at boundaries 9-29071
- Cu-Ni electrode, photopotentials, rel. to corrosion 9-24648
- Cu-Ni film, coevaporated, AES anal. and ion sputtering effects 9-15044
- Cu-Ni-Al, ageing charact., optical TEM, X-ray, hardness obs. 9-29079
- Cu-Ni-Fe, spinodal alloy, heat treatments for improved mech. props. 9-5024
- Cu-Ni-Fe tube, stressed, corrosion failure caused by cooling water, denickelation (*German*) 9-29286
- Cu-Ni-Zn, Portevin-Le Chatelier effect during tensile deform. (*German*) 9-8330
- α -Cu-Ni-Zn-Pb, fire cracking, effect of pores and impurities 9-29207
- Cu-Pd alloy, pressure effect on β -phase transition by elec. resist. meas. 9-15660
- Cu-SO₂ system, melt, blow hole form. during solidification 9-43238
- Cu-Sb, liq., partial interference functions, short range chem. order effects 9-7541
- Cu-Sb solid solution, dil., FCC, intergranular solid shortness mechanism (*Russian*) 9-5032
- Cu-Si (6.5 at.%), CC Cu-Al(Si), single crystals, latent hardening study by meas. of flow stress on secondary systems (*Japanese*) 9-24538
- Cu-Si-Ni, undercooled, grain refinement 9-34079
- α -Cu-Sn, cyclic work hardening frequency effects (*German*) 9-29090
- A-Cu-Sn, cyclic work hardening during frequency change fatigue tests (*German*) 9-34068
- Cu-Sn, deformed, martensitic transformation (*Russian*) 9-15668
- Cu-Sn, graphite fibre reinforced, high speed tribological props. against steel 9-15809
- Cu-Sn, self-diffusion of Sn, correl. with other props. (*Russian*) 9-23764
- Cu-Sn, Sn surface segregation in monolayer regime, model of kinetics, and equilib., AES data explained 9-7739
- Cu-Sn alloy chemical deposition process (*Russian*) 9-47642
- Cu-Sn alloy components, photometric determ. (*Russian*) 9-11842
- Cu-Sn-Mg, precipitation, effect of thermomechanical treatment (*Japanese*) 9-4970
- Cu-Ti, small-angle electron scattering in TEM, intensity meas. Grigson method 9-14658
- Cu-Ti (4 wt.%), combined recrystallization and precipitation 9-29072
- Cu-Ti alloys (0.5 to 4.0 wt.%) ageing charact. determ. 9-20089
- Cu-transition metal dil. alloy, virtual bound states 9-37975
- Cu-W, powder, prod. by controlled reduction in H₂O/H₂ mixture of CuWO₄ 9-24458
- Cu-W(Fe)(Ag), biphase material X-ray stress determ. (*Russian*) 9-5097
- Cu-Zn alloy, surface layer composition determ. by XPS 9-43682
- Cu-Zn-Al, polycrystn., β -phase, fatigue life, intergranular cracking 9-38974

copper alloys continued

- Cu-Zn-Al, reversible shape memory effect associated with $\beta_1 \rightleftharpoons \beta_1' \rightleftharpoons \alpha'$, transform. (Japanese) 9-43242
- Cu-Zn-Al, reversible shape memory effect obtained by heating under constraint (Japanese) 9-43335
- Cu-Zn-Al, TTT diagrams (German) 9-43208
- α -Cu-Zn-Al (18, 7 at.%), deform. and mech. props. 9-29159
- Cu-Zn-Al (26, 4 wt.%), martensitic transform. temp. variation after low temp. ageing 9-15666
- Cu-Zn-Al (35.45, 1.72 wt.%), memory effect and martensitic transform. (Russian) 9-43320
- Cu-Zn-Al martensite, the rubber effect 9-47684
- Cu-Zn-Al martensites, model for rubber like behaviour 9-47685
- β -Cu-Zn-Al pseudoelectroelasticity 9-29126
- Cu-Zn-Al wire, made from pendant drop melt extraction technique from bulk material, X-ray diff. and thermal anal. 9-43227
- CuAl₂, constitutional defect struct., from X-ray and density meas. proposed substitutional-vacancy model 9-37696
- Cu_{0.4}Al_{0.3}, chemical effect on valence electronic states, AES and SXAPS meas. 9-47558
- CuAu, exam. of streaming due to intrinsic fluctuations 9-11602
- CuAu, order-disorder transform., band theory for internal energy 9-19539
- Cu_{1-x}Au, neutron scatt., selection rules for phonon mass operator 9-28065
- Cu₃Au, atomic rearrangements during fast and thermal neutron irradiation 9-42114
- Cu₃Au, Debye-Waller factor measurement in anal. of diffuse scattering data 9-23494
- Cu₃Au, dynamics on transitional ordering process from disordered to ordered state 9-4267
- Cu₃Au, elec. resistivity, temp. depend. 9-47078
- Cu₃Au, meas. of ordering instability 9-38818
- Cu₃Au-Co, single crystal, overaging mechanism 9-20081
- Cu_{81.5}Si_{18.5}, meas. of ordering instability 9-38818
- Cu_{1-x}Ga_x, liquid alloys, elec. resistivity 9-47073
- Cu₃Ga, interpretation of diffuse contours in electron diff. (French) 9-19377
- CuMn, acceleration of coarsening by temp. changes, study by resistivity meas. 9-47718
- CuMn-like alloys, model calcs. on magnetisation processes in moderate fields below freezing temp. 9-24188
- Cu₃Mn, atomic short-range order, TOF neutron diffraction 9-10831
- Cu₇₅Mn₂₅, spin glass, EPR line breadth, exchange-narrowed 9-15345
- Cu₂MnAl, alloy, energy band calc. by nonrelativistic SAPW method 9-4507
- Cu₂MnAl, plastically deformed, domain struct., X-ray diff. and electron microscope obs. (Russian) 9-20110
- Cu₂Mn_{0.963}Al_{0.037}, Heusler alloy, mag. moment distrib., polarised neutron study 9-47247
- CuNi alloys, electronic theory of surface segregation 9-23819
- Cu_{0.435}Ni_{0.565}, clustering, temp. depend., diffuse neutron scatt. study 9-42013
- Cu₂Ni_{1-x}, paramag., electronic struct., atomic sphere approx. to KKR-CPA 9-19502
- CuPt equiatomic alloy, effects of quenching temp. on ordering, study by elec. resistivity meas. (Japanese) 9-43285
- CuPt, quenched, state of local order 9-47722
- Cu₃Sb, formed by saturation of Cu grains with Sb, electron diffraction exam. of diffusion layer (Russian) 9-33119
- Cu_{0.5}Si_{0.5}, chemical effect on valence electronic states, AES and SXAPS meas. 9-47558
- Cu₅₀Ti₅₀, amorphous and cryst. alloy, corrosion rates and anodic polarisation curves 9-24650
- Cu_{0.57}Ir_{0.43}, amorphous, partial struct. factor, TOF pulsed neutron 9-14684
- Cu₅₀Zr₅₀, amorphous and cryst. alloy, corrosion rates and anodic polarisation curves 9-24650
- Cu₆₀Zr₄₀ glassy metal, photoemission and mag. susceptibility 9-28896
- Fe-Cu, generation of self-consistent Gibbs energy functions 9-11565
- γ -Fe-Cu, lattice and grain boundary diffusion of Cu 9-23765
- Fe-Cu (0.34 wt.%), neutron irradiated, field-ion microscope detection of ultra-fine defects 9-42116
- Fe-Cu (1.77%) alloy, influence of neutron irradiation on electric resist. (Russian) 9-38041
- Fe-Cu-Mn(Ni), analysis and synthesis of phase diagrams 9-11563
- Fe-Cu-Ti, improvement of irradiation-enhanced Cu embrittlement by Ti addition 9-43393
- Gd₂Cu₈Al₁₁, NMR and mag. susceptibility 9-15367
- GdCu₂Si₂/Mo, point contact spectroscopy of magnons 9-38312
- Ge-Cu film, polycryst., struct. props. determ. 9-4494
- Mn-Cu, acoustic shock pulse charact., stress amplitude and temp. depend. 9-19323
- γ -Mn-Cu, antiferromag. defect neutron scatt. study 9-47252
- γ -Mn-Cu, antiferromagnetism, martensitic transformation 9-1673
- γ -Mn-Cu, metastable, structural aspects of decomposition 9-1871
- Mn-Cu alloys, spinodal decomp. at 380°C, neutron diff. anal. (Russian) 9-20023
- MnCu, neutron scatt. near crit. comp., effects of stress and ageing 9-19722
- Nb-Cu, neutron radiation stimulated diffusion, electrical resistivity exam. (Russian) 9-14959
- Nb₃Sn-Cu multifilamentary wires, in situ prep., supercond. and mech. props. 9-38768
- Ni-Cu (30 wt.%), cast cold- and warm-worked, recrystallization 9-29092
- Ni-Cu alloy, magnetoresistance anisotropy, planar Hall effect 9-23947
- Ni-Cu(5%), absolute composition depth profile, surface segregation, field-ion microscope obs. 9-33166
- NiCu, dil., disordered, virtual bound states, reson. model pot. theory 9-23934
- Pd-Ag-Cu (35.25 at.%), determ. of ageing transformations by resist. meas., metallography, TEM and X-ray diff. 9-4967
- Pd-Cu film on BaTiO₃ dielectric ceramic substrate, interaction between film and substrate during sintering 9-33958
- Pd-Cu-Ga, cold work and annealing-induced hardening, X-ray diff. anal. and metallographic exam. (Russian) 9-38844
- Pd-Si-Cu metallic glass tips, appl. as electron field emission source 9-8229
- Pd_{0.775}Si_{0.165}Cu_{0.06}, metallic glass, 0.01-10K, relax of tunnelling systems by conduction electrons, US expts. 9-14889

copper alloys continued

- Pd_{77.5}Si_{16.5}Cu₆ amorphous, indentation recovery, defect struct. produced by deformation 9-43275
- Pr-Cu (49.37 at.%), coexistent phases in homogeneous ordering 9-29052
- Se-Cu, phase diagram determination, using X-ray diff., metallography and DTA techniques (Russian) 9-34004
- Si-Cu alloys, direct synthesis by implantation of Cu⁺ (Japanese) 9-28006
- Sm-Co-Cu-Fe-Ti magnets, comp. and sintering effects on coercivity 9-15326
- SmCo₅Cu_{1.5}, single crystals, mag. props. study and role of anisotropy (French) 9-38356
- SmCo₅Cu, nonuniform comp., domain struct. and mag. reversals process (Russian) 9-1681
- SmCo₅Cu_{0.9}, highly anisotropic ferromag., mag. state after large Barkhausen jump (Russian) 9-4699
- Sn bronze, extruded atomized powders, struct. and props. 9-38763
- Ti-Cu, eutectoid decomposition 9-24491
- Ti-Cu, oxidation high temp., comparative study with Ti (French) 9-20285
- U/(Zr-Cu-Mo alloy) welded joints, mech. charact. determ. 20 to 750°C 9-29113
- V-Al/Cu-Ge composite superconductors, transition temp. and upper crit. field, heat treatment effects 9-38268
- W-Ni-Cu (4, 2 wt.%), radionuclide calorimeter for liquid He range 4.2 to 8K 9-18093
- YbCuAl, susceptibility, sp. ht. and magnetisation 9-28512
- Zn-Cu, dil. alloy, creep ductility 9-38899
- Zr-Cu, dil. martensites, struct. and strength 9-29077
- Zr₆₅Cu₃₅, metallic glass, low temp. resist., supercond. T_c 9-38235

copper compounds

- see also copper alloys
- acetate, lasant for Cu vapour laser 9-31875
- complex, mixed-valence, X-ray K-absorption spectra 9-33863
- copper dichloride dipyrindine, ground state wave function and superexchange interaction 9-42752
- copper dipyrindine dichloride, antiferromag. reson. below 1K 9-28619
- copper formate tetrahydrate, stress effect on antiferroelec. phase transition, dielec. meas. 9-38498
- copper porphyrin, Zeeman expt. on phosphoresc. triplet and quartet states 9-33786
- cuprous halide photochromic glasses, spectral props., shell model (Russian) 9-27354
- cuprous halides, cation or anion depend., ionic cond. 9-46837
- dimethylammonium copper tetra(chlorobromide), mag. susceptibility, 1 to 30K, mag. phase transition 9-4675
- ethylenediammonium copper chloride, struct. and mag. props., vibr. spectra 9-10842
- formate tetrahydrate, dielec. anisotropy and dimer theory 9-38427
- halides, correlation between electronic dielec. constant and ionic separation 9-4758
- iminodiacetate dihydrate, X-ray cryst. struct. and molecular struct. determ. 9-19237
- manganese copper formate dihydrate, conc. depend. of EPR linewidth 9-38376
- phthalocyanide, cryst. struct. sensitivity of band struct. 9-42444
- phthalocyanine, struct. and susceptibility to radiation damage 9-32986
- sphalerite materials, complex, spray pyrolysis 9-43574
- turquoise, crystalline, Nogales Mexico, SEM and TEM study 9-29760
- [(NH₄)_{1-x}K_x]CuCl₂·2H₂O, Raman scatt. spectra 9-15459
- Ag_{0.8}Cu_{0.2}Br, far IR spectra, cond., cation local motion 9-1754
- As-Fe-Cu system glasses, elec. cond. and thermo-EMF 9-42540
- Ba₂Cu(OH)₆, EPR, g-values 9-19770
- BaTiO₃-CuO mixture, exam. of liquid phase sintering, densification 9-33979
- Ba₂Zn_{2-2x}Cu_{2x}Fe₁₂O₂₂, hexagonal ferrites, prep. and mag. characterisation 9-1727
- C fibre reinforced Cu-O-H₃PO₄ microconcrete, effect of C fibre on props. 9-43192
- CdS-CuInSe₂ solar cells, grain boundary and interface recomb. effects 9-39311
- Cd₂Zn_{1-x}S-Cu₂S, heterojunction interface double layer, dislocation field, charge compensation 9-7855
- (Cu,Ag)₂Se, p-type, thermoelectric, vaporisation suppression, using inert and reactive coatings 9-48149
- (Cu,Zn)₂Pb(A₃O₄)₂(OH)₂, baydonite, struct. chem., complex layer struct. 9-46609
- Cu complex, (Cu[H₂O]₆)²⁺ in MgSO₄·7H₂O, EPR and optical spectra anal. 9-38377
- Cu complex, acetylacetonate, lasant for Cu vapour laser 9-31875
- Cu complex, bis-L-tyrosinato copper(II) complex, electronic spectra and dichroism 9-41183
- Cu complex, bis-(2,2'-bipyridyl) thiourea copper II perchlorate, single cryst., ESR 9-38373
- Cu complex, bis(N-benzylsalicylaldiminato) Cu (II) lattice const. and space group 9-37680
- Cu complex, bis(1,5-cyclooctadiene)copper(I) perchlorate, IR and Raman spectra 9-19877
- Cu complex, catena-μ-formato-formatobis(pyridine)Cu(II) monohydrate, X-ray cryst. struct. determ. 9-46610
- Cu complex, Cu (II), co-ordination cpd. with condensation product of salicylaldehyde and salicylaldehyde S-propylthiosemicarbazone X-ray struct. anal. 9-1425
- Cu complex, di-μ-chlorobis[(1,5-cyclooctadiene)copper(I)], IR and Raman spectra 9-19877
- Cu complex, di-μ-thiocyanato bis(di-(2-aminoethyl)amine) dicopper II perchlorate, ESR 9-38374
- Cu complex, N,N'-tetramethylene bis-(2-pyridinaldimine) thiourea copper II perchlorate, single cryst., ESR 9-38373
- Cu complex, substituted Cu(II) acetates, exchange interactions, EPR, struct. 9-42829
- Cu complex, triazolo complexes, finite Heisenberg chain effects, temp. depend. 9-47230
- Cu complex, with Schiff base of diacetylmonoxine and methylhydrazine dithiocarbamate, X-ray cryst. struct. determ. 9-14784
- Cu complexes, paramag., XPS, temp. depend. 9-15582
- Cu/CuCl double pulsed laser, extrema by electron density and output pulse energy 9-10283
- Cu-Ag-Se, computation of component activities from ternary miscibility gap data 9-11591
- Cu-Cl boracite, ferroelec., X-ray study on phase transition 9-33622

copper compounds continued

- Cu-Fe-S-O, sulfide ore, use of phase equilibria in pyrometallurgy 9-11588
 Cu-SiO₂ systems, cavity nucleation, by plastic deform. 9-29127
 Cu²⁺-imidazole complex, electron spin echo, nuclear modulation effect 9-18211
 P-Cu_{1-x}-n-CdS, heterojunction, energy band diagram 9-24070
 CuAlS₂(Se₂)(Te₂), tetragonal distortion 9-32942
 Cu₂B₂O₇Cl, Raman study of ferroelec. phase transition 9-38529
 CuBr, biexciton two-photon absorption 9-47480
 CuBr, emission spectra after two-photon excitation, Raman scatt. 9-47518
 CuBr, exciton bands, oscillator forces, temp. depend. (*Russian*) 9-28284
 β-CuBr, far IR spectra, cond., cation local motion 9-1754
 CuBr, specific heat and lattice dynamics 9-37798
 CuBr, superionic cond., cryst. struct., neutron diff. study 9-42041
 CuBr₂, finite Heisenberg chain effects, temp. depend. 9-47230
 CuBr₂, NQR freqs. temp. depend., paramag.-antiferromag. transition 9-42867
 CuCO, linear, ab initio RHF-MO calcs., rel. to adsorption 9-26883
 CuCl, behaviour under press., possibility of superconductivity 9-38239
 CuCl, bonding, ab initio pseudopot. calcs. 9-6857
 CuCl crystal activated photochromic glasses, absorpt. spectra 9-27353
 CuCl, direct creation of high biexciton density at K=0, two-photon absorpt. and emission spectra 9-33727
 CuCl, emission spectra after two-photon excitation, Raman scatt. 9-47518
 CuCl, exciton bands, oscillator forces, temp. depend. (*Russian*) 9-28284
 CuCl, exciton energy determ., electron beam excited luminesc. 9-38680
 CuCl, excitonic polariton-polariton resonance scattering 9-24306
 CuCl, H⁺ irradi., luminesc., high density excitons in particle tracks 9-47020
 CuCl, high press. phases and anomalous props. 9-7689
 CuCl, lasant for Cu vapour laser 9-31875
 CuCl, lattice dynamics at 4.2K 9-19344
 CuCl, luminesc. and Raman processes under reson. two-photon excitation 9-33796
 CuCl, luminesc. and reson. Raman scatt. of excitonic mols. 9-33814
 CuCl, luminesc. from Bose-condensed state of biexcitons 9-23905
 CuCl, metal vapour lasers excited by pulse trains 9-13955
 CuCl, molten, struct. and transport props. 9-19134
 CuCl, nonlinear light absorpt., picosec. pulse, exciton-biexciton transitions 9-47483
 CuCl, picosecond spectroscopy of secondary radiation from resonantly excited excitonic molecules 9-15461
 CuCl, polariton vel. direct obs. 9-28297
 CuCl, possibility of high temp. superconductivity 9-38238
 CuCl, psec time resolved spectroscopy, excitonic mols. 9-47500
 CuCl, Raman and luminesc. processes under reson. two-photon excitation of excitonic mol. 9-8143
 CuCl, reson. Raman scatt. and luminesc. of biexcitons 9-38618
 CuCl third-order elastic and piezoelec. constants 9-46739
 CuCl, time-resolved study of induced absorption due to exciton-biexciton transitions 9-38658
 CuCl, two-photon excitation of first vibr. state of biexciton, giant oscillator strength calc. 9-7789
 CuCl, two-photon reson. Raman scatt. and luminesc. of excitonic mols. 9-28819
 CuCl, two-photon reson. scatt. in excitonic mol., population instability 9-28826
 CuCl, UV spectra, Γ₁ biexciton level, appl. of nonlinear spectroscopic technique 9-8156
 CuCl₂, anhydrous, single cryst., mag. behaviour in low temp. ordered phase 9-7974
 CuCl₂, anhydrous paramagnetic phase, mag. susceptibility depend. on temp. 9-7965
 CuCl₂, finite Heisenberg chain effects, temp. depend. 9-47230
 CuCl₂-brass, chemically deposited photosensitive cells, photovoltaic characts. 9-39303
 CuCl(Br)(I), van der Waal dipole-dipole and dipole-quadrupole energies, Born and Slater-Kirkwood models 9-27947
 CuCl₂(Br₂)(I₂), prep. using chem. transport via gas complexes (*German*) 9-15599
 CuCl₂·2N(C₂D₅), one-dimens. antiferromag., mag. excitation line-shape, field depend., neutron study 9-38314
 CuCr₂O₄ and CuCrO₄, IR spectrometry and EPR study (*French*) 9-47452
 CuCr₂S₄(Se₄)(Te₄), specific heats 9-11315
 Cu_{0.67}Cr_{0.78}Se_{2.67}Br_{1.34}, polycrystalline mag. semicond., mag. and elec. props. 9-7846
 CuF, from gas phase reaction, photon yields, chemi- and photo-luminesc., excitation spectra 9-5157
 CuF₂·2H₂O powder, EPR and Cotton-Mouton Voigt effect in Q-band (*French*) 9-8045
 CuF₂·2H₂O, X-band ESR powder spectrum and related magneto-microwave effects 9-24214
 Cu_{1-x}Fe_{2+x}O₄, elec. resist., Seebeck coeffs., 20 to 900°C, cation distrib. 9-4575
 CuFeS₂, exam. of dissolution kinetics, for dissolution in FeCl₃-HCl and Fe₂(SO₄)₃-H₂SO₄ solns. 9-11790
 CuGaS₂, exciton energy determ., electron beam excited luminesc. 9-38680
 CuGaS₂, lattice vibr. modes, Fourier transform spectroscopy 9-33701
 CuGaS₂, single crystals, and thin films, absorpt. edge temp. depend., gap energy changes 9-42991
 CuGaS₂, tetragonal distortion, crystal field splitting, temp. depend. 9-47060
 CuGaS₂-ZnS heterodiodes, LPE, emission spectra 9-33335
 CuGaS₂-ZnS p-n heterojunction, for LED appl., prep. and characterisation 9-1831
 CuGaS₂(Se₂)(Te₂), tetragonal distortion 9-32942
 CuGaSe₂, photoluminesc. spectra at 76K 9-38655
 CuGaTe₂, exam. of kinematic viscosity of melts, and short range ordering 9-1383
 CuGaTe₂, IR lattice vibr. spectra 9-28765
 Cu₂HgI₄, XPES, lattice instability 9-33904
 Cu films, reactively sputtered, epitaxial growth on rocksalt: substrates 9-4918
 CuI, specific heat and lattice dynamics 9-37798
 CuI, superionic cond., cryst. struct., neutron diff. study 9-42041
 CuI, thermoreflectance spectrum, 4-7 eV region 9-19904

copper compounds continued

- CuInS₂, crystals and thin films, growth, struct., and elec. props. 9-38729
 CuInS₂, minority carriers lifetime, photoelectromag. effect meas. 9-47125
 CuInS₂(Se₂)(Te₂), tetragonal distortion 9-32942
 CuInSe₂, IR lattice vibr. spectra 9-28765
 CuInSe₂ on GaAs, epitaxy grown RHEED exam. of epitaxial overgrowth (*German*) 9-11042
 CuInSe₂-CuInS₂, melts, viscosity, elec. cond., density composition prop. graphs 9-14948
 CuInTe₂, exam. of kinematic viscosity of melts, and short range ordering 9-1383
 CuMn₂O₄, comment on cryst. struct. determ. by neutron diff. 9-23585
 Cu₂Mn₂S₄, spinel, prep. and elec. props., 100 to 650K 9-43127
 Cu₂Mn₂Se₄, spinel, prep. and elec. props., 100 to 650K 9-43127
 Cu₂Mn₂Te₄, spinel, prep. and elec. props., 100-650K 9-43127
 Cu₂Mo₂S₈, Chevrel phase supercond. prep. and supercond. props. 9-28434
 Cu₂Mo₂S₈, evaporated films, superconducting upper crit. fields, crit. currents 9-42714
 Cu₂Mo₂S₈, inhomogeneous superconductor, scaling laws for pinning forces 9-47214
 Cu₂Mo₂S₈, superconducting reactively evaporated film, crit. currents 9-28492
 Cu(NH₄)₂Br₂·2H₂O, Heisenberg ferromagnet, phase transition in mag. field 9-7992
 Cu(NO₃)₂·2¹/₂H₂O, ¹H spin-lattice relax. time, 4.2K, 5-60 kOe 9-15371
 Cu₂Ni₂O₈, protective oxide film on Cu-Ni alloy, AES 9-39035
 CuO, catalytic effect on thermal transitions of Na₂S₂O₈ and K₂S₂O₈ 9-15983
 CuO, Cu₂O, formation of internal oxidation band of Cu-Cr 9-47820
 CuO, reactions with Cu or polyethylene in adhesion 9-39118
 CuO₂, width of reson. Raman scatt. enhancement profiles, phenon-lifetime contrib. 9-19883
 CuO₂/Cu junction solar cell, photovoltaic conversion characts. (*French*) 9-24900
 Cu₂O and CuO powders, contact resistance, temp. and pressure dependence, obs. (*German*) 9-4555
 Cu₂O, creep tests, exam. of a creep machine mech. ability (*French*) 9-20325
 Cu₂O film, reactively sputtered, photovoltaic props. rel. to solar cell applic. 9-7914
 Cu₂O foils, electron microscope exam., Cu precipitates and CuO form. 9-1462
 Cu₂O, polar semicond., effective exciton-exciton interaction 9-42465
 Cu₂O, Schottky barriers, low barrier heights, Auger spectra obs. 9-15224
 Cu₂O-Au(Mg)(Mn)(Yb) Schottky barrier solar cells, surface anal. using AES 9-43759
 (Cu₂O)_{1-x}U_{1-x}M_{4x}O₁₈, M=Mo, W, 0≤x≤0.4, crystallographic identification, paramag. props. (*French*) 9-46633
 Cu₂O(111) growth modes, on (111)Cu surfaces, UHV-RHEED and TEM study 9-19481
 Cu_{0.75}P_{0.25}, chemical effect on valence electronic states, AES and SXAPS meas. 9-47558
 Cu₂PS₄, solid, reson. Raman spectra at low temp. 9-8129
 CuS, covellite substrates, growth of epitaxial cryst. growth, influence of saturation and elec. field 9-42408
 Cu_{0.67}Se_{0.33}, chemical effect on valence electronic states, AES and SXAPS meas. 9-47558
 Cu_{1.94}S, djurleite, cryst. struct., X-ray study 9-42033
 Cu₂S, electromechanical props. (*Russian*) 9-11117
 Cu₂S film, deposited by cylindrical magnetron reactive sputtering for solar cell appl. 9-11258
 Cu₂S film, for CdS/Cu₂S photovoltaic devices, formation and props. 9-11257
 Cu₂S, low chalcocite, cryst. struct., X-ray study 9-42033
 Cu₂S, molten, oxidation, exam. of product phase composition by X-ray anal. (*Russian*) 9-34166
 Cu₂S, XPES, lattice instability 9-33904
 Cu₂S-CdS, solar cell, photocurrent, spectral depend. 9-7853
 Cu₂S-CdS solar photopiles, tunnel conduction mechanism (*French*) 9-29480
 Cu₂S, Cu chem. diffusion, and nonstoichiometry, 400°C, electrochem. determ. 9-28132
 Cu_{2-x}S, digenite related phases, electron microscope study 9-10840
 Cu_{2-x}S on CdS, low temp. growth, AES obs. 9-28924
 Cu₂S, diffusion length determ., resolution limit of EBIC technique 9-21865
 Cu₂S film, deposited on Si and CdS, props. rel. to solar cell applic. 9-15240
 Cu₂S film, reactively sputtered, photovoltaic props. 9-11256
 Cu₂S, photon and electron excitation phenomena 9-7865
 Cu₂S₄(Cu_{2-x}S)₈, high temp. digenite, cryst. struct. refining by X-ray diff. method 9-23587
 CuSO₄·5H₂O dehydration kinetics depend. on water vapour press. 9-15986
 CuSe film, phase transforms. and decomp., electron diff. obs. 9-42418
 Cu_{2-x}Se, electric, thermal and magnetic props. investigation in low temp. phase (*Croatian*) 9-11299
 CuSeO₄·5H₂O, S=1/2 antiferromag. chain, proton relax. near saturation field 9-15370
 Cu₂Te-Ag₂S, kinetic props. of solid solutions 9-7827
 CuTeI, X-ray cryst. struct. determ. (*German*) 9-32957
 CuTeX (X=Cl, Br, I), solid ionic cond., props. 9-14963
 CuWO₄, controlled reduction in H₂O/H₂ mixture 9-24458
 Cu₆[Si₆O₁₈](OH)₆, diopside, cryst. struct. refining by X-ray and neutron diff. methods 9-23586
 Cu₂S-CdS sprayed layer solar photopiles, CdS sprayed layer props. (*French*) 9-24901
 Fe_{1-x}Cu_xCr₂S₄, mag. semicond., mag. props. and elec. cond. (*Japanese*) 9-47111
 K₂CuF₄, spin-wave relaxation, parallel pumping expt. 9-4729
 K₂PbCu(NO₂)₆, US vel. near cooperative Jahn-Teller phase transitions 9-23680
 Li₂Cu₂(Si₂O₇), cryst. struct. and proposal of new values for effective ionic radii of Cu²⁺ 9-4276
 Mg-Cu-Mn-Ni-Fe-O, UHF ferrites, synthesis, physicochem. state, mag. and dielec. parameters 9-11536
 MnS-CuInS₂, phase relations, 400 to 1300°C, X-ray and microscopic exam. 9-1853
 (NH₄)₂CuCl₂·2H₂O, Raman spectra, dynamics, struct., phase transition 9-47434

corona compounds continued

PbO-B₂O₃-SiO₂-Li₂O-ZrO₂-CuO, coloured, glass enamel, chemical durability and microstruct., CuO addition effect 9-29256
 Sr₂Cu(OH)₆, EPR, g-values 9-19770
 ZnS-CuGaS₂ heterodiodes, LPE, emission spectra 9-33335
 ZnS-CuInS₂, phase relations, 400 to 1300°C, X-ray and microscopic exam. 9-1853

corona zinc alloys *see brass*

copying *see reproduction (copying)*

copyright *see industrial property*

Corbino effect

see also Hall effect

Ba-ferrite, corresponding to remanent magnetization 9-38109

Coriolis force

see also rotation

antisymmetric light scattering of molecules with non-degenerate electronic state 9-18192
 benzene, doubly degenerate high-resolution rot.-vibr. Raman bands 9-6941
 cyclopropane, IR band intensities, anal. using Coriolis interaction and CNDO/2 calcs. 9-41172
 formic acid and isotopic species, microwave spectra, Coriolis reson. between vibr. excited states 9-13700
 atom+atom collision, electron spin coupling in rot. frame, X-ray emission 9-36724
 ketene-d₀, -d₂, Coriolis coupling, centrifugal distortion and force consts., mean vibr. amplitudes calcs. 9-36607
 methane-d₄, ν_2 Raman band anal. 9-31536
 molecular structure, isotopic relations for rot. and Coriolis consts. 9-3377
 nuclear rotational motion, particle-rotation coupling 9-17838
 ocean surface intrusions, Coriolis force rel. to fronts and internal waves 9-2262
 rotating radial pipe with liq. film, Coriolis effect, film width and vaporisation 9-18955
 sea straits geostrophic adjustment, theory and laboratory expts. for two-layer system 9-48503
 spherical top mol., T(ν_3) rovibrational bands, level cluster patterns, centrifugal and Coriolis effects 9-18175
 Sun convective zone, Coriolis forces rel. to differential rot. mechanism 9-25556
 transition metal ammine complex, mol. force consts. and vibr. amplitude 9-31727
 wide estuaries geostrophic adjustment, theory and laboratory expts. for two-layer system 9-48503
 XY₃ type molecules, centrifugal distortion constants and inertia defects (*Russian*) 9-800
 XY₄ oxygenated ions, tetrahedral, mol. consts. 9-36555
²⁷Al, inelastic electron scatt., charge distrib., Coriolis band mixing calc., C₂ form factors 9-529
 B₂F₆, mol. force consts. and vibr. amplitude, force field study 9-31729
 B₂H₆, quadratic valence force field, rel. to ethene 9-3382
 CeF₃, mol. force, compliance and Coriolis consts. 9-31726
 EuF₃, mol. force, compliance and Coriolis consts. 9-31726
 GdF₃, mol. force, compliance and Coriolis consts. 9-31726
 GeH₃X, mol. consts. calcs. 9-36606
 HNCS, a-type rot. spectrum in excited bending vibr. states 9-3437
 HoF₃, mol. force, compliance and Coriolis consts. 9-31726
 LaF₃, mol. force, compliance and Coriolis consts. 9-31726
 LuF₃, mol. force, compliance and Coriolis consts. 9-31726
 N₂O₄, mol. force consts. and vibr. amplitude, force field study 9-31730
 NdF₃, mol. force, compliance and Coriolis consts. 9-31726
 PF₃, anharmonic force field from mm wave spectra of vibr. excited states 9-13701
 Ti halide dimers, kinetic consts. method for vibr. analysis 9-26968
 XBr₄, Coriolis coupling const., at. mass effect 9-31728
 XI₄, Coriolis coupling const., at. mass effect 9-31728
 YbF₃, mol. force, compliance and Coriolis consts. 9-31726

cornea *see eye***corona** *see also electric breakdown; flashover; solar corona*

air, positive corona discharge time lag obs. 9-27849
 air, ionized, enhanced light emission from positive corona 9-37568
 air gap corona pulse delay obs. and HV insulation design 9-19117
 air positive point-to-plane corona, continuous and pulse components 9-19119
 analogy with dynamic plasticity 9-41888
 charging devices for electrophotography, characterisation and modelling 9-19110
 computing process for electrons and ions distribution determ., based on physical model 9-4204
 cylindrical electrode under corona discharge, elec. field intensity meas. 9-23473
 DC corotron, two dimens., for electrophotography, numerical modelling 9-19109
 electrostatic precipitator system, under neg. direct and pulsed voltage, characts. 9-19107
 electrostatic spraying, corona discharge effect (*Japanese*) 9-5186
 glass electrets obs., bonded, under corona discharge and electron irradiation conditions (*Russian*) 9-4759
 hot gases electrostatic precipitators, air temp. influences on negative corona integral characts. (*Russian*) 9-41892
 inverse, in electron-ion technology, influence of chlorine and use of conditioning reagents (*Russian*) 9-1355
 negative discharge, surface potential decaying process, for polypyrimidines with azomethine in main chain (*Japanese*) 9-24095
 PET-CdS photoreceptors, air space effects on electrophotographic props. (*Japanese*) 9-44962
 point source current distrib. in external field 9-10727
 polyethylene films, high density, corona-charged, surface pot. decay 9-24254
 polyvinylidene fluoride films, corona-charged, struct. changes, piezo- and pyroelec. props. 9-11389
 pulsed corona meas. in coaxial electrode structures 9-19114
 rarefaction shocks in laser plasma corona 9-19037
 similitude between ionic wind, discharge pattern and corona current 9-32833
 temperature anomalies, wire to cylinder discharge 9-1358
 theta-pinch, striated corona, theory 9-41897
 Trichel corona negative ion transit times 9-19115
 Van de Graaf accelerator, corona stabilisation system 9-18061

corona continued

Van de Graaff accelerator, corona stabiliser, effect of insulating gas comp. 9-13559
 visible ionisation layer radius for positive and negative coronas 9-10728
 SF₆, compressed in space-charge stabilised nonuniform fields, corona threshold computation 9-19118
 ZnO-resin electrophotographic photosensitive layers, dark decay mechanism of corona charge (*Japanese*) 9-24002

coronagraphs

see also solar corona

Lyman alpha coronagraph 9-25486

corpuscular streams *see cosmic rays; solar wind*

correlation methods

see also correlators

air pollutants remote sensing by correl. spectroscopy, instrumental response characts. 9-5623
 air pollution data in urban area, spatial correlation analysis 9-12236
 aircraft noise identification system by correlation technique 9-23131
 associative parallel-search memory, correlation search using coded key words 9-10265
 atmospheric temperature rel. to geographic latit., correl. charts construction by graphical method 9-29905
 binary image correlator in absence of geometric distortion, statistical analysis 9-22907
 computer-evaluated ECG parameter correlation with constitutional variables in infants and children 9-39406
 computerised classical tomography, optimum coding sequences appl. 9-8530
 cross-correlation flow meas. error estimation and reduction 9-3194
 cross-section data adjustment iteration procedure 9-9696
 decimal/residue/decimal optical converters 9-22905
 depolarising diffusers, autocorrelation by holography (*French*) 9-31801
 Earth crust, dielectric const. determ. from rocks elec. parameters correl. at high temps. (*Russian*) 9-8628
 EM wave attenuation and rainfall rates dual-polarisation radar meas. technique, precision 9-25371
 exercise vectorcardiogram, spatial velocity and magnitude ECG correlation 9-43846
 exercise vectorcardiogram changes rel. to left ventricular function at rest 9-43859
 Frank ECG correlates of left ventricular ejection fraction 9-39405
 galaxies, distant, space distribution, evolution effects 9-40260
 galaxies, distrib. in 36 square degree field near North Galactic Pole 9-40261
 galaxy clustering rel. to correlation functions hierarchy 9-30138
 geophysical fields correl. anal., input conditions (*German*) 9-35014
 geophysics, combined anal. of geophysical and geological data for ancient metamorphic forms. study (*Russian*) 9-8630
 geophysics, complex exponentiated data digital correl. (*German*) 9-44279
 high-pressure asymmetric mixture vapour-liquid equilibrium calc. 9-4408
 Jupiter decametric radio emission and solar activity, short-term correl. anal. 9-21222
 left ventricular hypertrophy with bundle branch block, ECG/VCG and echocardiogram correlation 9-44035
 liquid two-dimensional itinerant oscillator model testing by molecular dynamics 9-32868
 LMFBR Na vapour bubble collapse detection by acoustic emission 9-13451
 magnetic anomaly field vertical intensity, autocovariance function analytic derivation for sources statistical distrib. (*German*) 9-34746
 missing values in time series, effect on autocorrelation analysis 9-17197
 nuclear power system and fuel channels stochastic identification and parameter estimation 9-3201
 optical data cross-correlation matrix processing 9-13910
 optical residue arithmetic, correlation approach 9-31809
 perturbation computation with correlated sampling, nuclear reactor neutron transport 9-588
 photographic development, correlation analysis of developing ability and structural data of pyrocatechol derivatives 9-20448
 PWR pressure vessel vibration excitation, noise correlation and modelling 9-13442
 QSOs and Lick galaxy counts, correl. from extragalactic objects catalogues statistical anal. 9-25700
 real-time moving object tracking by optical correlation, using liq. cryst. image transducer 9-32035
 seismic events correlation in time section, algorithm (*Russian*) 9-39962
 seismic events visual correlation quantitative estimates based on min. average risk ratio (*Russian*) 9-44133
 seismology, rapid convolution and correl. (*Russian*) 9-39959
 seismic surface waves correlation method, appl. to tectonic dislocations prospecting in complex media (*Russian*) 9-8605
 speckle wavelength decorrelation for surface roughness meas. 9-30418
 speech synthesis from partial autocorrelation vowel-consonant-vowel concatenation units 9-46135
 stratigraphic correlation by principal components, effects of missing data 9-25350
 thoracic X-ray image comparison automation (*Japanese*) 9-29615
 tissue pulse-echo US absorption estimation model 9-48304
 transparency optical thickness irregularity processing by laser heterodyne correlation 9-14119
 underwater camera data correl. and interpretation, systems approach 9-5688
 US tissue characterisation by backscattered field space-time processing 9-48305
 vectorcardiogram and ECG correlation with angiocardigraphic left ventricular mass 9-44027
 vectorcardiogram and ECG correlation with coronary arteriogram and left ventriculogram 9-44041
 vectorcardiographic P loop correlation with left atrial volume echocardiogram 9-44025
 VLF signals propagation, multi-mode, statistical anal. (*Russian*) 9-5702
 wave propagation in one-dimensional medium with space-time inhomogeneities, spectral-correlation characts. evolution (*Russian*) 9-2634
 OH, submicron airglow bands correl. studies during Spacelab simulation 9-25381

correlation theory

see also correlators; information theory

bilinear system Volterra-kernel estimation 9-26512
 laser cavity resonators, spatial field configuration with nonresonant feedback 9-18453

correlation theory continued

skin-purely ferromagnetic systems, correlation inequalities 9-47219
skin impedance parameter dispersion and correlation 9-29518
tube turbulent convection, effective power dependence of heat transfer coeff. 9-4006

correlators

see also correlation methods; correlation theory; information theory
acoustoelectric memory correlators, fabrication, experimentation and anal. 9-32179
equalizing and coherence measure correlators 9-13911
hologram filter for three dims. object recognition (French) 9-18359
large time-bandwidth acousto-optic signal processors 9-46118
optical, laser damage to photographic emulsions 9-27303
optical, spatially coherent white light 9-3642
optical, using real time chromatic filtering and extended white light source (French) 9-3641
optical image-forming system for T-type correlation antennas 9-27180
storage convolution, correlation using SAW, piezoelectric devices, signal processing appl. (French) 9-32146
velocity measurement, correlator design 9-40544
ZnO monolithic SAW device, separation of storage effects 9-18611

correspondence principle

intrinsic geometry of quantum mech. phase space Hamiltonian systems, correspondence principle 9-83
multiphoton inverse bremsstrahlung, plasma laser absorpt. coeff., correspondence principle method 9-32749

corrosion

see also corrosion protection; corrosion testing; electrochemistry; stress corrosion cracking; surface chemistry
accident of plant (Japanese) 9-29248
alloys, ion implantation in tribology and corrosion science, overview 9-14830
amalgam, dental, corrosion, immersion conditions 9-12037
amalgam, dental, corrosion behaviour, market survey 9-12038
brass plate corrosion by HNO₃ vap., holographic interferometry 9-3658
CANDU-PHW reactors, primary and secondary water chemistry, review 9-22382
chemically stabilised, sensitisation and corrosion resist., heat treatment depend., precipitation steel, stainless, Cr-Ni 9-38827
CIRENE reactor power channel, fuel string dynamics and pressure tube fretting corrosion 9-30950
condenser tube corrosion resistance performance review 9-39046
crown glass, corrosion by organic acid solns., exam. of corrosion depth by interferometry (Japanese) 9-20237
economic evaluation of loss (Japanese) 9-39005
elastomer compound O-rings for service in hot water, evaluation 9-29257
engineering, eval. and performance (Japanese) 9-20231
evaluation and performance in corrosion engineering, I (Japanese) 9-8378
geothermal energy utilisation, fouling problem overcoming 9-43740
grain boundary grooving under influence of evaporation or corrosion 9-28179
Hastelloy-Z, carbonisation and carburisation in high press. He environment (Japanese) 9-26516
heat exchanger testing, liquid-fluidised bed, for geothermal power plant appl. 9-48090
holographic interferometry 9-3658
Incoloy 800, corrosion and carburization in liquid Na up to 973K 9-47841
Incoloy 800, high temp. gaseous corrosion in sulphidising environments 9-47838
Incoloy 800, mechanical props., heat treatment and appl., conf., Petten, Netherlands (March 1978) 9-43296
Incoloy 800, mechanisms of corrosion in He 9-47843
Incoloy 800, pretreatment potential effect on pit generation (Japanese) 9-43474
Incoloy 800, review on high temp. gaseous corrosion in carburising and oxidising environments 9-47837
Incoloy 800, thin wall tubing, creep-rupture testing in steam under constant and cyclic load 9-47774
LMFBR evaporator tubes, corrosion and heat transfer 9-1088
LMFBR mixed oxide fuel pins, proposed mechanism for internal cladding corrosion 9-8384
load-bearing structures, behaviour prediction of materials degradation 9-34133
metal pipelines for natural fresh water supply, fundamental criteria (Russian) 9-1921
metal surface, newly generated, occurrence of salt films during repassivation 9-15860
metal-to-metal bonds, stress analysis in hostile environments 9-20338
metallic glasses, review (German) 9-41962
metallic glasses manufacture, struct. and stability (Norwegian) 9-14687
metals and alloys, finishing, use of ion implantation techniques, effect on wear and corrosion props. 9-34204
Nb-O₂ effect of O₂ on penetration of Li at 400°C 9-11719
noble metal alloy, dil., solute segregation and subsequent film growth in corrosive environment, model 9-24649
nuclear power stations with RBMK reactors, structural materials corrosion monitoring 9-9756
photographic development rate, effect of developer ion charge 9-24753
PTFE, anisotropic electrochemical attack 9-39004
PWR boiler tubes, corrosion risk reduction methods 9-39045
PWR coolant system corrosion product composition and significance 9-9689
PWR crud descriptive model 9-9691
PWR steam generator tubing, corrosion problems 9-24683
rate calc. from low polarization data, IR-drop effect 9-47791
RBMK reactors, startup and shutdown, H₂O₂ and Fe compounds behaviour investigation 9-9822
refractory metals, oxidation, high-temp., mechanism, review (Polish) 9-34184
review, (1978) (Japanese) 9-34174
stainless steel cladding, effect of stoichiometry on attack in UO₂-PuO₂ fuel 9-26523
steam generating equipment, liquid/vapour flow visualisation and localised fast mass, instrumentation 9-46404
steel, 12 MKh, strength, ductility rel. to H₂ corrosion at 1000 kg/cm² press., 450°C (Russian) 9-15723
steel, aluminized, atmospheric corrosion kinetics 9-47808
steel, austenitic, stainless, intercrystalline corrosion in low and high oxidizing environment (Russian) 9-43477

corrosion continued

steel, austenitic and martensitic, corrosion under boiled conditions, Mossbauer spectroscopy study 9-47800
steel, austenitic stainless, 317L, potentiostatic tests, use of free-corrosion potential time transients to distinguish between pitting and crevice corrosion 9-39058
steel, austenitic stainless, Ni free, corrosion obs. 9-24652
steel, austenitic stainless in liq. Na, mechanical props., review 9-20150
steel, C, brazed joints, corrosion mechanical strength 9-43491
steel, C, corrosion and self protection in hot saline soln. 9-1925
steel, C, corrosion by freshwater (Russian) 9-1921
steel, C, potentiodynamic behaviour, in conc. NaOH, cyclic voltammetric obs. 9-16006
steel, C, rotating disc electrode in 3 wt.% NaCl solution, corrosion rate meas. (French) 9-43470
steel, C, rust prevention control by changing sulphide type 9-47813
steel, corrosion resistance rel. to electroerosion treatment conditions (Russian) 9-15848
steel, corrosion resistant, review of heat treatment, mech. and corrosion resist. characs. (Korean) 9-24653
steel, Cr, pitting corrosion, temp. depend. (Czech) 9-39039
steel, electric, EO-100 and E-11, surface cleansing with ML-51 combined with monoethanolamine, corrosive action study 9-39052
steel, low alloy 9-43487
steel, metallurgical stability and corrosion in He atmos., HTR appl. 9-36329
steel, mild, AC effects 9-15864
steel, mild, corrosion by Fe³⁺, inhibition by potassium oxalate 9-39019
steel, mild, oxidation of contaminated crevices exposed to CO₂ 9-20243
steel, pressure vessel type, H₂ effect on corrosion, fatigue strength and embrittlement (French) 9-47770
steel, stainless, 08Kh18N10T, long-term strength in He atm. containing impurities 9-24662
steel, stainless, 316L, corrosion, comparison of powder metallurgy and conventionally produced specimens 9-15863
steel, stainless, boiling water reactor, corrosion and oxidation potentials monitoring 9-20252
steel, stainless, carbonisation and carburisation in high press. He environment (Japanese) 9-26516
steel, stainless, cavitation erosion in chemically aggressive liquids, acetic acid effects (German) 9-39050
steel, stainless, corrosion, localised, in acidic Cl⁻ solns., exam. of galvanic reactions 9-20250
steel, stainless, corrosion, performance for condenser tube 9-39046
steel, stainless, interaction with (U-Pu)O₂ fuel, electron microprobe anal. 9-26524
steel, stainless, knife line attack phenomenon, carbide precipitation during post heat treatment 9-20288
steel, stainless and C, radioactive contamination under applied potential in high temp. water 9-24646
steel, stainless and plain C, brazed joints used in thermal power plants, corrosion resistance 9-43492
steel, stainless ferritic (Japanese) 9-34194
steel, stainless knife line attack phenomena, addition of rare earth metals 9-20289
steel, structural H₂, embrittlement and H₂S cracking resist., effect of alloying elements and struct. 9-38953
steel, structural martensitic, corrosion resist. under stress effect of strain ageing with hydroextrusion (Russian) 9-38853
steel reinforced concrete, steel corrosion (Japanese) 9-39038
subscale form., limiting cases 9-20239
surface, mech. and corrosion props. improvement using US energy (Rumanian) 9-15821
surgical implant materials, corrosion props. 9-39605
Triballoy 700, hard surfacing in Na, friction, wear and corrosion 9-24628
Westinghouse steam generator experience with all volatile treatment 9-9853
Zircaloy, claddings for irradiated UO₂ fuel, stability during long-term storage 9-26588
Zircaloy corrosion in water reactors, comparison of uniform and nodular forms 9-47817
Ag, corrosion in marine atm., potentiometric technique, appls. 9-24693
Ag on Cu, corrosion by thermal degradation products of chloroprene and silicone rubber 9-47801
Ag-As-Se system glasses, soln. rate 9-43456
Ag-Pd-Ni, corrosion in marine atm., potentiometric technique, appls. 9-24693
Ag-Sn-Au, dental amalgams, effect of small additions of Au, struct. and corrosion study 9-20718
Al and alloys, critical pitting potential meas., review 9-43501
Al, anodized, inorganic glass coating, solution deposited, environmental protection 9-34205
Al, chemical polishing, electrochem. props. of soln. 9-29282
Al, corrosion during 10 years at coastal site at Alicante 9-20244
Al, galvanic corrosion, anal. for coplanar electrodes with one electrode infinitely large 9-8398
Al pitting corrosion in Cl solns., electrochemical exam. 9-20248
Al, polishing, electrolytic and chemical, SEM exam. of gassing defects 9-34206
Al, strained, localised corrosion on slip steps 9-20265
Al-Cu-Mn-Mg-Fe-Si (4.48, 0.66, 1.55, 0.43, 0.23 wt.%), alloy D16, relationship between intercrystallite corrosion depth, and elec. cond. 9-20220
AlO₂, corrosion resistance of phosphate bonded castable, and dense fired types in steam CO at 199°C 9-20222
Au on Cu, corrosion by thermal degradation products of chloroprene and silicone rubber 9-47801
B fibre reinforced Al composites, corrosion, electrochem. behaviour 9-20225
BaTi₄O₉, effect of chemical treatment on loss quality, at microwave wavelengths 9-34159
Ba₂Ti₉O₂₀, effect of chemical treatment on loss quality, at microwave wavelengths 9-34159
CaAl₂O₄ cement bond phases, corrosion in steam-CO at 199°C 9-29234
Co-Cr orthopedic implants, surface oxide layer investigations using ESCA technique 9-25157
Co-Cr-Ni-Ta-Al-Y (25, 10, 5, 3, 0.5 wt.%), exam. of hot corrosion 9-20251
Co-Fe-B and Co-Fe-Cr-P-B sputtered amorphous films, mag. props. and corrosion resist. 9-28567

corrosion continued

Co-Ni-Cr-Mo, hip joint anchorage stem, superior fatigue strength, high corrosion resist. 9-29671
 $\text{Cr}_2\text{O}_3\text{-Al}_2\text{O}_3\text{-ZrSiO}_4$ system, electrosmelted refractories, phase comp., corrosion and glass resist. Cr^{3+} conc. depend. 9-33982
 Cu corrosion, by COS, kinetic and morphological study (*French*) 9-43488
 Cu, corrosion inhibitive films formed by corrosion determination of thickness by X-ray photoelectron spectra 9-15845
 Cu electrode, photopotentials, rel. to corrosion 9-24648
 Cu, photo-assisted corrosion in anaerobic acidic medium 9-43466
 Cu-Ni, corrosion, performance for condenser tube 9-39046
 Cu-Ni alloys 706 and 715, corrosion in flowing seawater, O_2 effect 9-43460
 Cu-Ni(Al) alloy electrode, photopotentials, rel. to corrosion 9-24648
 $\text{Cu}_{50}\text{Ti}_{50}$, amorphous and cryst. alloy, corrosion rates and anodic polarisation curves 9-24650
 $\text{Cu}_{50}\text{Zr}_{50}$, amorphous and cryst. alloy, corrosion rates and anodic polarisation curves 9-24650
 Fe alloy containers for liquid Li, corrosion resistance properties 9-47815
 Fe, Armco, coated and uncoated, laser interferometric obs. of corrosion 9-47810
 Fe, cast, anodic protection under boiling H_2SO_4 in industrial conditions 9-20245
 Fe, corrosion, oxidation, ion-, electron-beam techniques appl. 9-43700
 Fe corrosion in acids, inhibition by thiurea and its derivatives 9-20262
 Fe, corrosion in H_2SO_4 soln., inhibiting effect of Mn, Cd, and Zn ions, H_2 evolution 9-47803
 Fe, corrosion in hot conc. caustic soda soln. (*Japanese*) 9-43473
 Fe, corrosion in O_2 free water, catalytic effect of certain metals 9-47804
 Fe corrosion products, Raman spectroscopic detect. 9-16063
 Fe, effect of Pb ion implantation 9-39015
 Fe, surface films formed in inhibitive solns., optical props., protective quality 9-20260
 Fe-C, Fe-Si-B, and Fe-Cr-P-C sputtered amorphous films, mag. props. and corrosion resist. 9-28567
 Fe-Cr (28 wt.%), intergranular corrosion and anodic polarization at grain boundary groove (*Japanese*) 9-15869
 Fe-Cr alloys, corrosion, oxidation, combined ion-, electron-beam techniques appl. 9-43700
 Fe-Cr-Ni, thermodynamic prediction in coal gasifier environment 9-43206
 Fe-Cr(Ni) surface alloys, corrosion resistant, formation by ion implantation 9-28009
 Fe-Mo (0 to 6 wt.%), alloys, in chloride solns., role of Mo as localised corrosion inhibitor 9-20255
 Fe-Ni-Cr, compatibility with Li_2O pellets, mass spectrometric study of Li_2FeO_4 evaporation 9-8385
 Fe-Ni-Cr-S, phase relations rel. to sulphidation of austenitic stainless steel 9-38800
 Fe-Zn alloys, electrochem. corrosion of ξ , δ , δ_1 phases (*French*) 9-20274
 $\alpha\text{-Fe}_2\text{O}_3$, surface struct., adsorptive interactions rel. to rusting process, IR spectra 9-34363
 $\alpha\text{-FeOOH}$, surface struct., adsorptive interactions rel. to rusting process, IR spectra 9-34363
 glass, PbO cryst., chem., electrochem. corrosion (*French*) 9-20232
 $\text{ZnO-ZnO-P}_2\text{O}_5$, exam. of chemical durability, glass transformation temp. 9-20221
 $\text{Li}_2\text{O-ZnO-P}_2\text{O}_5$, exam. of chemical durability, glass transformation temp. 9-20221
 MgIn, atmospheric corrosion, SEM, electron diffraction and electron probe obs. 9-24681
 MgO single crystal, corrosion by BOF slag 9-24635
 Mo alloy, metallurgical stability and corrosion in He atmos., HTR appl. 9-36329
 Na-cooled fast reactors, material corrosion problems 9-36328
 $\text{Na}_2\text{O-B}_2\text{O}_3\text{-SiO}_2$ glass, phase separated, HCl leaching rate and microstruct. 9-29242
 $\text{Na}_2\text{O-K}_2\text{O-CaO-SiO}_2$ glasses, chemical durability, mixed alkali effect 9-8377
 $\text{Na}_2\text{O-ZnO-P}_2\text{O}_5$, exam. of chemical durability, glass transformation temp. 9-20221
 Ni alloys, metallurgical stability and corrosion in impure He atmospheres, HTR appl. 9-36329
 Ni, corrosion in SO_2 , high temp. 9-20281
 Ni in 0.1 N HClO_4 , Cl^- effect 9-39020
 Ni, preoxidised, reaction with SO_2 at high temp. 9-39047
 Ni, simultaneous sulfidation-oxidation at 603°C in Ar- SO_2 atmospheres 9-8389
 Ni-Ag, corrosion in marine atm., potentiometric technique, appls. 9-24693
 Ni-Si, intergranular segregation of Si, electron energy loss spectrometers, X-ray anal. (*French*) 9-8388
 $\text{PbO-B}_2\text{O}_3\text{-SiO}_2$, glass enamel, heat treated, exam. of microstructure and chemical durability 9-29254
 $\text{PbO-B}_2\text{O}_3\text{-SiO}_2\text{-Li}_2\text{O-ZrO}_2\text{-CdO(CoO)(CuO)}$, glass enamel, chemical durability, microstruct., CuO, CdO and CoO addition effects 9-29256
 $\text{PbO-B}_2\text{O}_3\text{-SiO}_2\text{-Li}_2\text{O-MgO(CaO)(ZnO)(Al}_2\text{O}_3\text{)(TiO}_2\text{)(ZrO}_2\text{)}$, glass enamel, heat treated, chemical durability, MgO, CaO, ZnO, Al_2O_3 , TiO_2 , ZrO_2 addition effects 9-29255
 PbO-SiO_2 glass, modifier release in acid soln. 9-43450
 Pt, boiling water reactor, corrosion and oxidation potentials monitoring 9-20252
 RuO_3 , catalyst at anode of solid polymer electrolyte cell, corrosion 9-20376
 SiC , corrosion resist. in residual fuel oil fired environment 9-39010
 Si_3N_4 , corrosion resist. in residual fuel oil fired environment 9-39010
 Si_3N_4 , reaction bonded, exam. of Na_2SO_4 induced heat corrosion 9-20224
 Si_3N_4 , reaction-bonded, added oxides effect on strength after oxidation 9-39012
 Si_3N_4 , reaction-bonded, Na ion assisted oxidation, 800 to 1300°C 9-39011
 Si_3N_4 synthesis and props. of shapes 9-47650
 $\text{SiO}_2\text{-B}_2\text{O}_3\text{-Na}_2\text{O-K}_2\text{O}$ system glass, phase separated, loss of oxides during acid leaching, atomic absorpt. anal. 9-11716
 $\text{SiO}_2\text{-CaO-Na}_2\text{O-M}_m\text{O}$ systems, $\text{M}=\text{Zr, Sn, Ti, Al, La, Ta, P, Mn, Fe, Pb, Cr}$, water, alkali, acid resist., chem. durability 9-34162
 T 9-8885
 Ta-Pt, electrospark alloying for obtaining stable effective electrodes for electrochemical processing (*Russian*) 9-39157

corrosion continued

Ti and Ti alloys, mechanical, thermal and elec. props., data sheet 9-43317
 Ti-Pd, dil., ion implanted, corrosion rate and electrochemical props. 9-43467
 Ti-Pt, electrospark alloying for obtaining stable effective electrodes for electrochemical processing (*Russian*) 9-39157
 V-Mo alloys, corrosion in high purity liquid Na containing ≈ 1 ppm O, at 700°C for 500 h 9-8383
 W, reaction with SO_2 , 1600-2100K, kinetics 9-20266
 Zn, chromated, electroplate on steel, corrosion, effect of chromate content 9-20286
 ZrSi/ZrSi₂ coating on Ar, exam. of oxidation behaviour by O_2 , H_2O (*French*) 9-20284

corrosion control see *corrosion protection*
corrosion fatigue see *stress corrosion cracking*
corrosion fatigue testing see *corrosion testing*
corrosion prevention see *corrosion protection*
corrosion protection
 see also *anodisation; corrosion; corrosion protective coatings; packaging; pH control*
 cathodic protection, of pipelines, using photoelectric solar plant 9-39286
 chlor-alkali and related industries (*Japanese*) 9-34173
 condenser tube corrosion resistance performance review 9-39046
 control in chemical plant engng. (*Japanese*) 9-34172
 corrosion resistance for long-term implants (*German*) 9-8565
 disaster prevention (*Japanese*) 9-39006
 electrode, disc type, current distrib., analogue model investig. 9-34321
 metal pipelines for natural fresh water supply, fundamental criteria (*Russian*) 9-1921
 polyethylene terephthalate sheeting, storage in aqueous media rel. to props. (*German*) 9-29250
 review, (1978) (*Japanese*) 9-34174
 sheet metal, deep-drawn, for implant device encapsulation, mech. and metallographic props. (*German*) 9-8564
 steel, galvanised, prepassivation, chem. nature of film and corrosion resist. (*French*) 9-43480
 steel, martensitic, corrosion resistance and mechanical performance in medical instruments 9-39537
 Zion Generating Station steam generator operating experience 9-9851
 Fe-Mo (0 to 6 wt.%), alloys, in chloride solns., role of Mo as localised corrosion inhibitor 9-20255

corrosion protective coatings
 acrylic thermosetting powders, parameters 9-20003
 electron beam deposition, principles and technology 9-24439
 electroplated coatings thickness test standards 9-8405
 inorganic glass coatings, solution deposited, for anodized Al 9-34205
 oxide films, corrosion resist. determ. method 9-24689
 oxide layer stress accumulation and perturbation of parabolic kinetics 9-5076
 plastic powder coating, technique and appl. 9-38786
 polyester thermosetting powders, parameters 9-20003
 polystyrene, fatigue props., effect of environment and surface coatings 9-34355
 polyurethane thermosetting powders, parameters 9-20003
 steel, aluminized, atmospheric corrosion kinetics 9-47808
 steel, C, corrosion and self protection in hot saline soln. 9-1925
 on steel, economic considerations (*German*) 9-39054
 steel, medium C, 45, fatigue strength increase by plasma steel coatings, fretting corrosive cond. 9-15875
 steel, mild, UV cured coating, protective and elec. props. 9-43489
 steel, Ni-Cr on perlitic steel, viscous-failure characts. from dynamic failure energy 9-43391
 steel, sintered, oxidation in superheated steam, corrosion protection 9-39049
 steel, stainless, austenitic, surface films grown in Cl^- solns., ellipsometric investig. 9-20261
 thermosetting powders, parameters 9-20003
 Al, corrosion-protective chromate coatings, characterisation 9-47798
 Al hermetic jacketing on SiO_2 fibres, reductions in static fatigue 9-43448
 Al, high rate electron beam deposition of strip steel 9-24440
 Al-Zn-Hg alloy, cathodic protection characts., surface free energy, lattice struct. 9-29281
 BP coatings, on Mo by CVD and their composition and microhardness 9-28942
 Co coated Ti, produced by electrospark alloying, corrosion behaviour in Cl saturated NaCl solns. (*Russian*) 9-39026
 Co-Cr-(Al-Y) coatings, hot corrosion resist., ductile-brittle transition 9-24674
 CoB and Co_2B , electrochem. behaviour in H_2SO_4 9-39030
 Cr-Si, corrosion and failure mechanisms of coatings for gas turbine applications 9-29284
 $\text{Cr}_3\text{C}_2\text{-Cr}_{23}\text{C}_6$, plasma sprayed coatings for gas-cooled reactor appl. 9-24676
 Cu, corrosion inhibitive films formed by corrosion determination of thickness by X-ray photoelectron spectra 9-15845
 $\text{Cu}_x\text{Ni}_{1-x}$, protective oxide film on Cu-Ni alloy, AES 9-39035
 Fe, Armco, coated and uncoated, laser interferometric obs. of corrosion 9-47810
 Fe coated Ti, produced by electrospark alloying, corrosion behaviour in Cl saturated NaCl solns. (*Russian*) 9-39026
 Fe, surface films formed in inhibitive solns., optical props., protective quality 9-20260
 Fe-Cr based coatings, hot corrosion resist. 9-24674
 LiAlO_2 , on 316 stainless steel, molten carbonate fuel cell gas seal protection 9-39293
 Mo alloy TZM bonding to Fe by vacuum rolling, corrosion protection appl. 9-29283
 Mo, oxidation resistant coating of Nichrome, electrophoretic deposition (*Japanese*) 9-20270
 Mo-Si coating on Nb and Nb alloys, protection against high temp. oxidation (*Russian*) 9-39029
 Ni based superalloys, aluminide and MCrAlY ($\text{M}=\text{Ni, Co, Fe}$) coating characterization by phase diagrams 9-8276
 Ni coated Ti, produced by electrospark alloying, corrosion behaviour in Cl saturated NaCl solns. (*Russian*) 9-39026
 Ni-Cr based coatings, hot corrosion resist. 9-24674
 Ni-Cr-Al coatings, corrosion and thermal shock resist. in diesel engines 9-24675

corrosion protective coatings continued

- Ni-Cr-Si, corrosion and failure mechanisms of coatings for gas turbine applications 9-29284
- Ni-Cr-W-C(-Si), struct. and props. of corrosion and wear resistant alloys 9-24627
- Ni-Fe-Cr soft magnetic film plating bath 9-43465
- Ni-SiC(WC), dispersion hardened coating, chemically deposited using electroless baths, exam. of protection props. 9-34208
- Pb coated Ti, produced by electrospray alloying, corrosion behaviour in Cl⁻ saturated NaCl solns. (*Russian*) 9-39026
- PbO-ZnO-B₂O₃-TiO₂ glass, circuit corrosion protection on alumina substrates 9-29236
- Ti alloy, mechanical props. at high temp., effect of Pt ion plating 9-29156
- Ti bonding to Fe by vacuum rolling, corrosion protection appl. 9-29283
- Ti with metallic coatings produced by electrospray alloying, corrosion behaviour in Cl⁻ saturated NaCl solns. (*Russian*) 9-39026
- Ti+Al on steel 45, failure during high temp. creep in NH₃ 9-11731
- W coated Ti, produced by electrospray alloying, corrosion behaviour in Cl⁻ saturated NaCl solns. (*Russian*) 9-39026
- W, contact interaction between oxide film and graphite, interference effect (*Russian*) 9-11721
- Zn, chromated, electroplate on steel, corrosion, effect of chromate content 9-20286
- ZrO₂, stabilized by Y₂O₃, corrosion and thermal shock resist. in diesel engines 9-24675
- ZrSi₂/ZrSi₃ coating on Ar, exam. of oxidation behaviour by O₂, H₂O (*French*) 9-20284

corrosion testing

- bending fatigue testing machine, multispecimen 9-39060
- brass, dezincification testing in laboratory 9-34226
- metal corrosion rate in soln., appl. of coulometric method for rapid evaluation 9-20310
- metal corrosion rate in soln., new rapid electrochem. eval. method 9-1931
- metals, corrosion in marine atm., potentiometric technique, appls. 9-24693
- monitoring by magnetic susceptibility variation meas. 9-29292
- monitoring survey 9-24684
- oxide films, corrosion resist. determ. method 9-24689
- polymer bound glass article, rapid kinematic corrosion test, method and apparatus 9-39063
- polymer test apparatus for chem. resist. and penetrability in corrosive medium under hydrostatic pressure 9-39065
- potentiostatic tests, use of free-corrosion potential time transients to distinguish between pitting and crevice corrosion 9-39058
- seawater deaeration procedure for conducting electrochemical expt. 9-29366
- steel stainless, intergranular corrosion, effect on acoustic props. for US inspection 9-11745
- Al alloys, stress corrosion cracking testing, constant strain rate test method evaluation 9-20296
- He corrosion test facility at Springfield's nucl. power development lab. 9-29327
- Zn/ZnSO₄/Zn system, laser interferometric study of corrosion of coated and uncoated metals, technique standardisation 9-35815

corundum

- see also ruby; sapphire*
- abrasive, evaluation of brittleness, contact endurance by cyclic microhardness 9-15890
- baddeleyite-corundum refractories, fused, elec. resist., 1300-2300°C 9-28345
- ceramic, effects of Na₂O, CaO additions on sintering struct., props. 9-15630
- electrocorundum, subjected to thermal shock, study of substruct. and surface morphology 9-43292
- electronic struct. determ. by X-ray spectroscopy 9-8210
- grinding, effect of grinding wheel material, particle size, temp. (*German*) 9-43173
- packing errors in structure, X-ray diffr. obs., charact. features 9-46655
- particle aerosol, nonlinear propag. of laser radiation 9-23033
- powder medium effect on microstruct., comp., strength and dielec props. during high temp treatment 9-33984
- premetallizing with Mo-Mn-SiO₂ 9-47792
- refractory lining, wear resistance in combustion gas flow (*Russian*) 9-8370
- three beam diffraction, divergent beam photographs 9-23483
- Al₂O₃-Cr₂O₃, standard reference material for EPR 9-12757
- Al₂O₃-Ti₂O₃, corundum, point defect diffusion and interaction with impurity, Ti³⁺ to Ti⁴⁺ reaction 9-10985
- SiO₂-Al₂O₃, metastable phase equilib. diagram without mullite 9-4398

cosmic dust

- see also meteoroids*
- absorption of trapped line photons 9-25460
- VY Canis Majoris, apparent orbit, rotating hole dust cloud hypothesis 9-40191
- Carina I and II H II regions, dust far IR emission 9-25657
- η Carinae, dust condensation 9-17066
- η Carinae, high angular resolution obs. (35-175 μ) 9-8925
- α Ceti circumstellar dust, 11 micron radiation vars. 9-5828
- charged dust grains accretion, role of induced charges 9-8966
- circumstellar dust envelopes, calc. of eclipse light curves and fringe visibilities 9-35234
- circumstellar grains, evaporation and growth 9-35240
- in clusters of galaxies, IR and radio radiation, upper limits (*Russian*) 9-21449
- colloidal plasmas in space: some aspects of condensation and growth of solids 9-41795
- Comet Ikeya-Seki (1965 VIII), polarization reversal, grain segregation due to radiation press. 9-8881
- Comet West (1976 VI), striated tail study 9-35194
- cometary nuclei origin in presolar nebula, dust gravit. instability 9-2523
- comets, dust release and mantle development 9-44412
- differential photoelectric charging of nonconducting surfaces in space 9-25439
- diffusion and sedimentation of dust in molecular clouds 9-17062
- distribution of dust in giant extragalactic H II regions 9-35320
- expanding spherical nebulae with dust, H I Lyman α formation 9-8975
- formation and composition, evidence from interstellar Fe, Mn and Mg depletion obs. 9-2563

cosmic dust continued

- galactic central region and anomalous IR source 9-44588
- galaxies, extinction in IR-emitting nuclei 9-44599
- gas-to-dust ratio and galactic reddening determ. 9-5875
- Gould's belt, anomalous extinction, grain growth 9-44603
- grains distrib. in intercloud medium, from K-type giant stars colour excesses 9-40251
- grains in H II regions (*Italian*) 9-48897
- HD 193793, Wolf-Rayet star, IR obs., cooling of circumstellar dust shell 9-48823
- HR 5999, circumstellar dust around variable shell star 9-8926
- ice, 45 μ m signature possible identification in Orion 9-17068
- intercluster dust tests and CGCG selection effects 9-9012
- intergalactic suprathermal grains, prod. by scatt. on mag. field 9-48911
- interplanetary dust, two independent populations suggested 9-21227
- interplanetary dust between 1 and 5 AU, conflicting Pioneer 10 and 11 data 9-44410
- interplanetary dust concentration toward Venus orbital plane, zodiacal light obs. 9-21228
- interplanetary submicron dust, cometary origin 9-30008
- interplanetary submicron grain orbits, gravit. attraction, radiation press. and electrodynamics 9-8879
- interstellar, composition, origins (*French*) 9-30116
- interstellar, turbulence effect on coagulation 9-35356
- interstellar 10 and 20 μ m absorpt. bands, comparison with Nogoya meteorite IR spectrum. 9-48741
- interstellar clouds, dust grains effects on H to H₂ transition region 9-25672
- interstellar clouds above galactic plane, light scatt. detect. possibility 9-30124
- interstellar dust, pre-solar, in Allende meteorite, evidence from pre-4550 Myr inclusions 9-35212
- interstellar dust accretion by Sun, influence on neutrino prod. 9-12441
- interstellar dust diffuse IR emission, rel. to extended low-density H II region and star form. 9-17047
- interstellar extinction curve, rel. to plasma reson. in Fe granular deposits 9-21387
- interstellar grain size distrib. 9-21388
- interstellar grain size versus colour excess ratios 9-17040
- interstellar grain synthesis and Be and B abundances in meteorites 9-16894
- interstellar grains, H₂ form. on surfaces 9-21367
- interstellar grains, ice mantle and silicate core, emission props. (*Italian*) 9-48898
- interstellar grains, luminesc. emission 9-8967
- interstellar grains, polarisation reversal by small particles over strong resons. 9-2564
- interstellar grains, spin-related magnetism 9-5883
- interstellar grains, surface reactions rel. to mol. form. in dark clouds 9-44593
- interstellar grains with water ice mantles, max. linear polarisation wavelength 9-5882
- interstellar oxide grains, mol. prod. 9-25690
- IR emission by dust grains near variable primary sources 9-44358
- IR emission from dust in stellar aggregates (*Italian*) 9-48869
- LMC, interstellar extinction meas., UV sky-survey telescope obs. 9-35384
- M82 nucleus, Brackett-line obs. rel. to visual extinction 9-25704
- Mars, aeolian environment, differential redistrib. rates 9-44399
- Mars, scattering by nonspherical particles and optical props. of dust 9-25535
- metal abundances, three-level models of chemical evolution 9-48873
- Mira variable stars, grain opacity rel. to supersonic mass flow 9-35270
- NGC 5102, lenticular galaxy, dust and young stars obs. 9-44609
- ρ Ophiuchi dark cloud, high ang. resolution obs. of far IR source 9-40235
- organic grains in interstellar medium, existence questioned 9-21397
- oxide grains, role in formaldehyde prod. in diffuse interstellar clouds 9-40246
- α Persei star cluster, dust props. from polarisation wavelength depend. meas. 9-48865
- planetary nebulae, dust absorpt. effect on C IV 1550 Å lines fluxes 9-17051
- planetary nebulae, Fe condensation and nebula form. models 9-40238
- planetary nebulae, grain temps. rel. to 10 micron props. 9-48879
- planetary surface, dust covered, polarimetric model 9-25528
- possible cold source of life 9-21203
- presolar grains in Murchison meteorite, evidence from inert gases 9-21243
- primary cosmic rays origin, intergalactic suprathermal grains, accel. mechanisms 9-25412
- QSOs, high redshift, dust in emission-line regions 9-21458
- radiative transfer in spherical dust shells, generalised two-stream Eddington approx. 9-35120
- radio galaxies with dust lanes 9-44604
- reflection nebula, inhomogeneous, scatt. function for grains of silicates and ice 9-21405
- refractory grain destruction in low-velocity shocks 9-17041
- scattering from a cylindrical dust cloud in an isotropic radiation field 9-30107
- Seyfert galaxies, dust thermal IR emission obs. 9-17083
- shell around α Orionis, scattered polarized light 9-12473
- silicates, emission and extinction in 4-14 μ range 9-44581
- spiral galaxies, light absorpt. by interstellar dust 9-35393
- superficial radial vel. meas., expanding dust cloud effects on maser source 9-5816
- volatile dust effects in H II regions (*Italian*) 9-21394
- NQ Vulpeculae (Nova 1976), CO emission during η Carinae stage rel. to grain form. 9-25609
- NQ Vulpeculae (Nova 1976), IR photometry, dust form. in exploded shell 9-48832
- W51A, H II region, dust thermal emission obs. at 3.9 mm 9-35333
- X-rays scattering rel. to cosmic X-ray bursts tails, refutation 9-12546
- young stellar objects, circumstellar dust shells rel. to polarisation 9-8911
- II Zw 40, dwarf galaxy, radio obs. rel. to gas/dust ratio 9-8992
- SiO mass loss and grain formation in expanding envelopes around evolved stars 9-48782

cosmic radiation *see cosmic rays*

cosmic radiations, radiofrequency *see radiofrequency cosmic radiation*

cosmic radio waves *see radiofrequency cosmic radiation*

cosmic ray absorption

ultraheavy cosmic ray charge determ. in emulsion, Mott cross section effects 9-18084

cosmic ray alpha-particles and helium nuclei

α in solar wind, heating and acceleration 9-12376

interplanetary corotating nucleon fluxes separation from solar flare fluxes by radial gradients and nuclear comp. 9-25413

sea-level flux determination for heavy cosmic-ray particles 9-29956

solar flare energetic particle events from same active region, p/α enhancement 9-40151

^4He anomalous component, solar latit. and radial depend. 9-35080

cosmic ray apparatus

see also particle detectors

air shower arrays, response to air showers 9-739

atmospheric electrons, MeV range registration instrument 9-5645

EAS detectors, pulse profiles studies 9-25421

emulsion chamber for cosmic gamma-ray detection 9-29959

emulsion chamber for high energy gamma-ray spectra 9-29958

flexible geometry hodoscope using proportional chamber cathode read-out 9-3297

gamma-ray spectrometer with various shaped scintillators, for gamma-ray spatial pattern anal. 9-16831

global network of cosmic-ray stations, appl. as spectrographic instrument set 9-12404

hodoscope read-out, fast sparse-data-scan system using CAMAC compatible elements 9-45609

Lexan and nuclear emulsion data, reassessment of 1975 magnetic monopole candidate results 9-3333

MISO low energy γ -ray telescope 9-25472

muon telescopes, coupling functions at sea level and underground 9-16784

MWPC, for cosmic drift X-ray imaging 9-41063

neutrinos, high energy, emission from point sources and detect. techniques 9-2484

nuclear emulsion type BA-2, pulsed electric field effect on cosmic ray detection 9-26829

photodensitometry of tracks of highly ionizing particles in the cosmic rays 9-22551

two-dimensional buffer store based on a multichannel amplitude analyzer for neutrino detect. 9-26838

Al chamber, air-filled, 900 l, for sea level ionisation meas. 9-35081

cosmic ray composition

see also cosmic ray alpha-particles and helium nuclei; cosmic ray deuterons; cosmic ray electrons; cosmic ray mesons; cosmic ray muons; cosmic ray neutrinos; cosmic ray nuclei; cosmic ray photons
charged cosmic ray particles, fiftieth anniversary of discovery, review 9-2448

charged hadrons, negative/positive ratio, 3220 m above sea level (*Chinese*) 9-12369

elements in $26 \leq Z \leq 30$ interval, relative abundances 9-40044

interplanetary corotating nucleon fluxes separation from solar flare fluxes by radial gradients and nuclear comp. 9-25413

long lived heavy particles with fractional charge, evidence in cosmic ray events 9-2447

particle masses, determ. from Cherenkov radiation from large air showers 9-25420

primary, air shower cores, energetic hadron, $>10^{13}$ eV, arrival time distrib. 9-44321

satellite and balloon research projects, problems 9-8785

solar energetic particles in corotating events, comp. 9-25414

solar particles, Z-rich event characts., (1972 to 1976) 9-5717

tachyon monopole, search 9-16770

Be isotopes meas., 200-1500 MeV/nucleon 9-12366

^{10}Be abundance, implications for origin 9-44314

Li to Fe nuclei for 2-150 GeV/nucleon, abundances and spectra 9-21116

cosmic ray deuterons

production mechanisms 9-29955

sea-level flux determination for heavy cosmic-ray particles 9-29956

cosmic ray effects and interactions

see also high-energy cosmic ray interactions

astronaut dosages, Apollo 7 to 14 and Soyuz 3 to 9 missions, TL meas. (*Hungarian*) 9-29639

D-region, ionisation effects from cosmic X-ray sources 9-35048

EAS and radiowaves produced from secondary electrons in geoelectric field, 10 kHz-10 MHz 9-21118

EM cascade, particle-induced, in water, thermoacoustic effect, neutrino detection appl. 9-29960

heavy stable particles, cosmic ray produced, search in heavy water 9-40048

interstellar clouds, cosmic ray ionization 9-17063

interstellar material interaction, contrib. to galactic gamma-ray flux 9-25763

Kirin meteorite, cosmogenic radionuclides study (*Chinese*) 9-21237

meson decay, effect on stratospheric cosmic rays height-intensity distrib. 9-12364

nuclear and space radiation effects, conf., Albuquerque, USA (Jul. 78) 9-19276

particle identification from tracketch rates in minerals 9-16788

seawater and atm. surface layer gamma radiation field rel. to cosmic ray neutrons (*Russian*) 9-39746

solar CNO particles, rel. to carbonaceous chondrite fission Kr and Xe origin 9-35199

ultraheavy cosmic ray charge determ. in emulsion, Mott cross section effects 9-18084

NN semi-inclusive reactions, secondary pion production, 1000 GeV, scaling phenomena 9-22157

^{14}C , production rel. to cosmic rays and solar activity cyclic vars. 9-16776

Ca isotope enrichment in magnetic spherules in marine sediments 9-44423

Fe meteorites, cosmic ray produced nuclides, $^{41}\text{K}/^{40}\text{K}$ - $^4\text{He}/^{21}\text{Ne}$ exposure ages and age distrib. 9-30015

Li, Be, B, cosmic-ray nucleosynthesis and extragalactic matter local infall rate 9-17084

^{55}Mn produced in meteorites, neutron activation anal. 9-30018

cosmic ray electrons

Cassiopeia A, relativistic electrons streaming at speeds above Alfven vel. 9-40068

clusters of galaxies, intracluster relativistic electrons hard X-ray spectra and gas heating 9-25735

Coma galaxy cluster, relativistic electrons streaming at speeds above Alfven vel. 9-40068

Crab Nebula, nonlinear plasma effects rel. to wisp struct. 9-25682

EAS, correlations between muon and electron component characteristics 9-44324

EAS and radiowaves produced from secondary electrons in geoelectric field, 10 kHz-10 MHz 9-21118

electron and γ interaction ranges, Monte Carlo calc. (*Russian*) 9-12370

electron-photon cascade in air, simulation of energy and lateral characteristics 9-44323

electron-photon cascades, Monte Carlo simulation of cascade development 9-44322

EM cascades in air, 10-100 GeV, longit. development 9-21120

energy spectra between 9-300 GeV 9-29954

galactic discrete sources 9-35078

galactic electron spectrum below 1000 MeV 9-5718

galactic positrons, annihilation and gamma radiation spectrum 9-44309

interstellar electron spectrum in local interstellar medium, determ. from bremsstrahlung gamma radiation 9-25417

Jupiter, electron propag. out of solar equatorial plane, Pioneer 11 obs. 9-40123

Pamir and Fuji electron-nuclear cascades, high energy γ -families 9-25423

short-period fluctuations, in upper atm., correl. with solar diameter vars. 9-21115

ultrahigh energy electrons traversing cosmic blackbody photon gas, effective penetration distance 9-5742

Voyager Cosmic Ray Experiment, telescopes, electron energy meas., pulse height analysers 9-48643

cosmic ray energy spectra

antiproton spectrum, at top of atm., scaling law 9-12365

clusters of galaxies, intracluster relativistic electrons spectra and hard X-ray emission 9-25735

Compton scattering at nonzero particle fluxes, radiation and relativistic electrons spectra 9-8825

density spectrum of cosmic-ray air showers at very high densities 9-16783

diurnal anisotropy of intensity, solar flare location effect 9-44318

EAS, muon density meas., $E > 10^{15}$ eV using scintillators and spark chambers (*Italian*) 9-21119

electron-photon cascade in air, simulation of energy and lateral characteristics 9-44323

electrons, discrete galactic sources 9-35078

electrons, spectra between 9-300 GeV 9-29954

for interaction in graphite 9-29959

Forbush decreases and solar anisotropy, 11-year vars. 9-44317

galactic cosmic rays, accel. mechanism and transport, model 9-35077

galactic electron spectrum below 1000 MeV 9-5718

galactic positron annihilation radiation, spectrum 9-44309

gamma-ray spectra, high energy, near top of atmos. detection+meas. by emulsion chamber 9-29958

heavy nuclei, charge and energy spectra 9-25418

interstellar electron spectrum in local interstellar medium, determ. from bremsstrahlung gamma radiation 9-25417

meteorological, geomag. and interplanetary vars., separation via spectrographic instrument set 9-12404

muon energy at sea-level, Cocconi-Koester-Perkins model 9-48634

muon spectra at sea-level, solar modulation at geomag. equator 9-16775

muons, at different altitudes, Bose-type model calcs. 9-44326

neutrinos, high-energy prod. spectra and diffuse fluxes 9-44327

nuclei recurrent fluxes, 1-8 MeV/nucleon energies, Prognoz-4 meas. 9-21112

primary cosmic ray nucleon spectrum from sea level μ -spectrum using scaling model 9-29957

primary nucleon spectra from atmospheric γ -ray and muon data 9-44320

review of energy spectrum and anisotropy of the cosmic radiation (*Hungarian*) 9-44319

sea-level muon spectra, calc. from ISR kaon-pion ratio 9-8784

solar charged particles generated in 1972, August 7 flare accel. and injection spectrum 9-12360

solar particles, Z-rich event characts., (1972 to 1976) 9-5717

two-component spectrum, evidence from cosmic ray nucleosynthesis 9-17084

K/π ratio from diffusion model and sea level μ spectrum shape 9-35083

Ge detectors in space, computer spectral anal. of cosmic ray proton induced radioactivity 9-12413

Li to Fe nuclei for 2-150 GeV/nucleon, abundances and spectra 9-21116

cosmic ray geophysical effects *see geophysical aspects of cosmic rays*

cosmic ray jets *see cosmic ray showers and bursts*

cosmic ray mesons

charged hadrons, negative/positive ratio, 3220 m above sea level (*Chinese*) 9-12369

decay effect on height-intensity distrib. of stratospheric cosmic rays 9-12364

K/π ratio from diffusion model and sea level μ spectrum shape 9-35083

cosmic ray muons

coupling functions for muon telescopes at sea level and underground 9-16784

EAS, correlations between muon and electron component characteristics 9-44324

EAS, muon density meas., $E > 10^{15}$ eV using scintillators and spark chambers (*Italian*) 9-21119

energy spectrum at sea level, 1-10 TeV, with emulsion chamber 9-25424

flux deep underground, intensity vs. depth, neutrino induced component 9-16786

inelastic scatt. with NaCl nuclei, above 300 GeV (*Russian*) 9-22106

integral μ momentum spectrum, absolute intensity meas. 0.4 to 3.0 GeV/c 9-5720

lateral density distrib. of muons in air showers at different heights 9-40045

primary cosmic ray nucleon spectrum from sea level μ -spectrum using scaling model 9-29957

scaling and charge ratio 9-12371

sea-level energy spectra from primary nucleon spectra, Cocconi-Koester-Perkins model 9-48634

cosmic ray muons continued

sea-level muon spectra, calc. from ISR kaon-pion ratio 9-8784
 solar modulated low-energy sea-level spectra, at geomag. equator 9-16775
 spectra, at different altitudes, Bose-type model calcs. 9-44326
 vertical integrated momentum spectra, 3220 m above sea level (*Chinese*) 9-12372
 K- π ratio from diffusion model and sea level μ spectrum shape 9-35083

cosmic ray neutrinos

EM cascade, particle-induced, in water, thermoacoustic effect, neutrino detection appl. 9-29960
 high energy neutrino astronomy, possible point sources 9-2484
 high energy neutrinos, emission by binary pulsars 9-2550
 high-energy background D production model limitations 9-44328
 high-energy neutrinos, diffuse fluxes prediction 9-44327
 light element production by neutrinos emitted by collapsing stellar cores 9-21173
 oscillations, evidence from Brookhaven solar neutrino expt. 9-16787
 radiative lifetimes, limits from supernovae 9-16785
 solar neutrino experiments 9-8902
 solar neutrino problem, prod. of ϕ meson from neutrinoless fusion process 9-8898
 two-dimensional buffer store based on a multichannel amplitude analyzer for neutrino detect. 9-26838
 $\bar{\nu}_e \rightarrow W^-$, intermediate boson prod. by prompt high energy atm. neutrinos 9-3014
 ^{37}Ar production rate in tests for solar neutrinos, cosmic ray neutrinos contrib. 9-16837

cosmic ray neutrons

nucleon cascade in atmosphere 9-12363
 primary cosmic ray nucleon spectrum from sea level μ -spectrum using scaling model 9-29957
 seawater and atm. surface layer gamma radiation field rel. to cosmic ray neutrons (*Russian*) 9-39746

cosmic ray nuclei

see also cosmic ray alpha-particles and helium nuclei; cosmic ray neutrons; cosmic ray protons
 charge spectrum of high energy nuclei (*Korean*) 9-48633
 heavy nuclei, charge and energy spectra 9-25418
 interplanetary recurrent fluxes, 1-8 MeV/nucleon energies, Prognoz-4 meas. 9-21112
 magnetic monopole candidate, reassessment of 1975 Lexan and emulsion meas. 9-3333
 solar CNO particles, rel. to carbonaceous chondrite fission Kr and Xe origin 9-35199
 Voyager Cosmic Ray Experiment, telescopes, electron energy meas., pulse height analysers 9-48643
 ^3H , sea level flux determination 9-29956

cosmic ray-nucleus reactions

for inelastic cosmic ray-nucleus scattering, see "cosmic ray-nucleus scattering"
 gamma-ray spectra, high energy, near top of atmos. detection+meas. by emulsion chamber 9-29958
 graphite in emulsion chamber, high-energy cosmic gamma-ray prod. spectra 9-29959
 hadron+nucleus cross-section, energy depend., multiplicity, scaling violation model (*Russian*) 9-22350
 high energy interactions of nuclei, review 9-22326
 multiplicity distrib. of particles (*Russian*) 9-5719
 Pamir and Fuji electron-nuclear cascades, high energy γ -families 9-25423
 ^{37}Ar production rate due to cosmic ray neutrinos, contrib. to solar neutrinos tests 9-16837
 ^{41}Ca production in Earth surface layers, possible use for radioactive dating 9-21063

cosmic ray-nucleus scattering

μ -NaCl scatt., above 300 GeV (*Russian*) 9-22106

cosmic ray origin

see also cosmology; element origin
 acceleration, implications of particle streaming at speeds above Alfven vel. 9-40068
 anisotropy, implications for cosmic ray origin and local anisotropy 9-44313
 electrons, discrete galactic sources 9-35078
 galactic gamma rays, discrete source component 9-35436
 gamma rays, medium energy, from galactic centre region, emission mechanisms 9-9030
 high energy cosmic rays, identification with intergalactic suprathermal dust grains 9-48911
 historical aspects and proof of cosmic ray and radio halos in 'Galaxy' 9-44314
 neutrinos, emission by binary pulsars 9-2550
 neutrinos, high-energy prod. spectra and diffuse fluxes 9-44327
 primary cosmic rays, intergalactic suprathermal grains, accel. mechanisms 9-25412
 protons in upstream region of Earth's bow shock 9-48622
 solar energetic storm particles, accel. rel. to interplanetary shock wave parameters 9-35079
 supernova remnants, cosmic rays escape and adiabatic energy losses 9-16771
 supernova shock-accelerated cosmic rays, early radiation spectrum, cooling and escape 9-48626
 two source model, evidence from cosmic ray nucleosynthesis 9-17084

cosmic ray photons

see also cosmic ray X-rays; solar cosmic ray photons
 electron and γ interaction ranges, Monte Carlo calc. (*Russian*) 9-12370
 electron-photon cascade in air, simulation of energy and lateral characteristics 9-44323
 electron-photon cascades, Monte Carlo simulation of cascade development 9-44322
 EM cascades in air, 10-100 GeV, longit. development 9-21120
 galactic gamma rays, discrete source component 9-35436
 galactic positron annihilation radiation, spectrum 9-44309
 gamma ray astronomy (*Korean*) 9-12368
 gamma rays, medium energy, from galactic centre region, obs. 9-9030
 gamma-ray astronomy, present status 9-25763
 gamma-ray astronomy and cosmic ray origin 9-29951
 gamma-ray burst source, position from Helios 2-Vela-Ariel 5 obs. 9-48956
 gamma-ray bursts, intensity distrib., galactic origin (*Russian*) 9-16772

cosmic ray photons continued

gamma-ray prod. spectra for high energy reactions in graphite 9-29959
 gamma-ray spectra, high energy, near top of atmos. detection+meas. by emulsion chamber 9-29958
 gamma-rays, galactic disc bremsstrahlung emissivity and local interstellar electron spectrum 9-25417
 gamma-rays, short-period fluctuations, in upper atm., correl. with solar diameter vars. 9-21115
 gamma-rays, spatial pattern anal. via spectrometer with various shaped scintillators 9-16831
 ultrahigh energy photons traversing cosmic blackbody photon gas, effective penetration distance 9-5742

cosmic ray propagation

anisotropic inhomogeneous diffusion around Sun 9-21113
 Cassiopeia A, relativistic electrons streaming at speeds above Alfven vel. 9-40068
 Coma galaxy cluster, relativistic electrons streaming at speeds above Alfven vel. 9-40068
 deuterons and antiprotons production mechanisms 9-29955
 diffusion, mean and local coeffs., connection 9-21110
 diffusion and turbulent galactic mag. field 9-48627
 diffusion in random magnetic field, weak particle-field interaction theory validity 9-21109
 discrete galactic sources, statistical theory of propag. 9-44312
 energy changes in solar system 9-48628
 galactic cosmic rays, accel. mechanism and transport, model 9-35077
 galactic cosmic rays, interplanetary propag., and solar mag. cycle depend. semiannual var. 9-16777
 ground level enhancements, comparison of 1977 Nov. 22 and 1969 Feb. 25 events 9-40042
 interplanetary, accel. to relativistic energies 9-21111
 interplanetary, charged particles transport in fluctuating mag. fields, Fokker-Planck eqn. soln. 9-27752
 interplanetary corotating nucleon fluxes separation from solar flare fluxes by radial gradients and nuclear comp. 9-25413
 interplanetary diffusion coefficients, calcs. from diurnal intensity var. 9-29952
 interplanetary propagation, cosmic ray intensity diurnal vars. anal. 9-29953
 interplanetary propagation, transient diurnal var. spectrum anal. rel. to scintillation model 9-25416
 interplanetary region, transport eqn. 9-44315
 interplanetary variations, determ. via spectrographic instrument set 9-12404
 interstellar molecular clouds, cosmic ray penetration 9-8979
 Jupiter, electron propag. out of solar equatorial plane, Pioneer 11 obs. 9-40123
 local interstellar medium and cosmic ray anisotropy 9-44313
 particle acceleration by moving magnetic mirrors, efficiency 9-44310
 particle acceleration in collisionless shocks, regulated injection and high efficiency 9-44311
 recurrent proton streams, 1.3 to 2.3 MeV protons radial diffusion coeff. 9-16774
 solar charged particles generated in 1972, August 7 flare, interplanetary propag. 9-12360
 solar energetic storm particles, accel. rel. to interplanetary shock wave parameters 9-35079
 solar magnetic dipole orientation effects 9-44316
 supernova remnants, cosmic rays escape and adiabatic energy losses 9-16771
 supernova shock-accelerated cosmic rays, early radiation spectrum, cooling and escape 9-48626

cosmic ray protons

acceleration by zero-point background radiation, stochastic electrodynamics theory 9-21117
 antiproton component at 3220 m altitude (*Chinese*) 9-25419
 antiproton spectrum, at top of atm., scaling law 9-12365
 antiprotons, production mechanisms 9-29955
 interplanetary corotating nucleon fluxes separation from solar flare fluxes by radial gradients and nuclear comp. 9-25413
 interplanetary flux rises, 1973 Aug-Sept., correl. with solar wind vars. 9-21123
 nucleon cascade in atmosphere 9-12363
 origin of 30-100 keV protons in upstream region of Earth's bow shock 9-48622
 primary cosmic ray nucleon spectrum from sea level μ -spectrum using scaling model 9-29957
 recurrent proton streams, 1.3 to 2.3 MeV protons radial diffusion coeff. 9-16774
 solar charged particles generated in 1972, August 7 flare, accel. 9-12360
 solar energetic storm particle events, correl. with interplanetary shock wave parameters 9-35079
 solar flare energetic particle events from same active region, p/ α enhancement 9-40151
 solar flare protons, identification from accompanying EM emission 9-12443
 solar protons in magnetosphere (1971 September 1-16) 9-2446
 theoretical proton spectra at atm. depths $40 \text{ g cm}^{-2} \leq h \leq 350 \text{ g cm}^{-2}$ (*German*) 9-12367
 Ge detectors in space, computer spectral anal. of cosmic ray proton induced radioactivity 9-12413

cosmic ray showers and bursts

see also cosmic ray electrons; cosmic ray X-rays
 γ -ray families and high energy reaction asymptotic props. 9-16779
 air shower arrays, response to air showers 9-739
 air shower cores, energetic hadron, $>10^{13}$ eV, arrival time distrib. 9-44321
 atmosphere prompt neutrinos, W-bosons prod. 9-3014
 clean atmospheric jet, 878 TeV, cascade degradation absence 9-35084
 density spectrum of cosmic-ray air showers at very high densities 9-16783
 EAS, 10^{15} - 10^{18} eV, experimental data, implications for particle accelerators, review 9-8786
 EAS, correlations between muon and electron component characteristics 9-44324
 EAS, detectors pulse profiles studies 9-25421
 EAS, muon density meas., $E > 10^{15}$ eV using scintillators and spark chambers (*Italian*) 9-21119
 EAS, search for tachyons 9-16780
 electron and γ interaction ranges, Monte Carlo calc. (*Russian*) 9-12370

cosmic ray showers and bursts continued

electron-photon cascade in air, simulation of energy and lateral characteristics 9-44323
 electron-photon cascades, Monte Carlo simulation of cascade development 9-44322
 electrons in large air showers observed at 5200 m above sea level 9-16781
 EM cascade, particle-induced, in water, thermoacoustic effect, neutrino detection appl. 9-29960
 EM cascades in air, caused by 10-100 GeV electrons and photons 9-21120
 gamma rays in 10^{11} - 10^{14} eV range using atmospheric Cherenkov technique 9-25422
 gamma-ray bundles, high transverse momentum estimated from RE distributions. 9-40046
 gamma-ray prod. spectra for high energy reactions in graphite 9-29959
 gamma-ray spectra, high energy, near top of atmos. detection+meas. by emulsion chamber 9-29958
 highest-energy cosmic rays, detected by EAS obs. 9-2450
 large air showers, Cherenkov radiation image reconstruction 9-25420
 lateral density distrib. of muons in air showers at different heights 9-40045
 muons in large air showers observed at 5200 m above sea level 9-16782
 pionisation region gauge invariance violation for hadrons, K and γ in EAS (Russian) 9-40676
 radiowaves produced from secondary electrons in geoelectric field, 10 kHz-10 MHz 9-21118
 shower front curvature, determ. by fast timing data of cosmic ray air shower arrays 9-2449
 theoretical proton spectra at atm. depths $40 \text{ g cm}^{-2} \leq h \leq 350 \text{ g cm}^{-2}$ (German) 9-12367

cosmic ray solar modulation

11 year modulation cycle rel. to sunspots and solar general mag. field 9-21114
 cyclic variations in cosmic rays and solar activity, detect. from radiocarbon meas. 9-16776
 galactic cosmic-ray flux, origin of solar mag. cycle depend. semiannual var. 9-16777
 ground level enhancements, comparison of 1977 Nov. 22 and 1969 Feb. 25 events 9-40042
 muon spectra at sea-level, solar modulation at geomag. equator 9-16775
 recurrent proton streams, 1.3 to 2.3 MeV protons radial diffusion coeff. 9-16774
 solar surface oscillations, cosmic ray flux modulation 9-8777
 transient diurnal variation, spectrum anal. and correl. with interplanetary mag. field fluctuations 9-25416
 transient variation origin, rel. to flares with type IV radioemission 9-40043
 ^4He anomalous component, solar latit. and radial depend. 9-35080

cosmic ray variations

see also geomagnetism
 11 year modulation cycle rel. to sunspots and solar general mag. field 9-21114
 1977, September, cosmic ray storm obs. in wide rigidity range 9-48632
 anisotropy of 50-1000 GV radiation and IMF sector structure 9-48639
 cyclic variations in cosmic rays and solar activity, detect. from radiocarbon meas. 9-16776
 daily intensity variation, depend. on mag. storms, sunspot no., and solar flux 9-35082
 diurnal anisotropy of intensity, solar flare location effect 9-44318
 diurnal variation, power spectrum anal. 9-25416
 diurnal variation of cosmic ray intensity, interplanetary diffusion coeffs. calcs. 9-29952
 diurnal variation of cosmic ray intensity, two approaches to study 9-29953
 electrons and γ -rays, short-period fluctuations, in upper atm., correl. with solar diameter vars. 9-21115
 flux in atmosphere, primary and splash albedo components, polar orbiting satellite meas. 9-25415
 Forbush decrease of February 1978, Australian neutron monitor recordings 9-48630
 Forbush decreases and solar anisotropy, 11-year vars. 9-44317
 galactic cosmic-ray flux, origin of solar mag. cycle depend. semiannual var. 9-16777
 ground level enhancements, comparison of 1977 Nov. 22 and 1969 Feb. 25 events 9-40042
 inner solar system, past cosmic ray intensity from ^{26}Al in Fe meteorites 9-44422
 interplanetary, rel. to Dhajala chondrite cosmogenic radioisotopes 9-35207
 interplanetary proton flux rises, 1973 Aug.-Sept., correl. with solar wind vars. 9-21123
 limits from ^{10}Be var. in marine sediments 9-29748
 meteorological, geomag. and interplanetary vars., separation via spectrographic instrument set 9-12404
 north-south asymmetry, interplanetary mag. field sector polarity determ. 9-30009
 semidiurnal anisotropy, latitude dependence 9-48631
 transient variation origin, rel. to flares with type IV radioemission 9-40043

cosmic ray X-rays

bursts tails, interpretation 9-12546
 diffuse background, contrib. of intermediate-luminosity X-ray galaxies 9-2578
 diffuse soft X-rays from H I deficient region in Hercules, O VII emission line obs. 9-25759
 diffuse X-ray background, normal galaxies contrib. 9-17141
 diffuse X-rays component, separation method using growth curves 9-25512

cosmic rays

see also cosmic ray absorption; cosmic ray apparatus; cosmic ray composition; cosmic ray effects and interactions; cosmic ray energy spectra; cosmic ray origin; cosmic ray propagation; cosmic ray showers and bursts; cosmic ray solar modulation; cosmic ray variations; galactic cosmic rays; geophysical aspects of cosmic rays; high-energy cosmic ray interactions; primary cosmic rays; radiofrequency cosmic radiation; solar cosmic ray particles; solar radiation
 energy spectra and anisotropy (Hungarian) 9-44319
 HZE particle radiation studies, Kosmos 782 biosatellite 9-16778

cosmic X-rays see cosmic ray X-rays

cosmogony see cosmology

cosmology

see also black holes; element origin; general relativity; red shift
 abundance of stable particles prod. in early Universe 9-44653
 adiabatic density perturbations, evolution in radiation era 9-25769
 anisotropic and homogeneous cosmological models in renormalised theory of gravitation 9-2703
 anisotropic Bianchi II cosmological models with matter and electromagnetic fields 9-48976
 anisotropic incoherent fluid cosmological model in general relativity 9-40303
 anthropic principle, rel. to physical world struct. 9-48973
 aspherical gravitational collapse, matter associated perturbations, linear Einstein field and conservation eqns. 9-5843
 axions and Higgs particles, astrophysical mass bounds 9-5745
 background radiation (Italian) 9-48966
 background radiation spectrum, cosmological significance of obs. (Italian) 9-48972
 baryon asymmetry in Universe, thermodynamic equilib. departure (Russian) 9-48975
 baryon number generation in grand unified theories 9-26279
 baryon number of the Universe 9-30163
 baryon production, expanding Universe, baryon to entropy ratio, number nonconservation 9-44652
 Bianchi model Lie groups, automorphisms 9-30313
 Bianchi type-V universes, neutrino viscosity 9-9042
 big bang, photon condensation and longit. background radiation in Universe 9-40307
 big bang nucleosynthesis, cosmology and neutrino physics constraints 9-30154
 big bang nucleosynthesis, lifetime and mass constraints of heavy lepton neutrinos 9-40308
 black holes, gravitation, charges, cosmology and coherence, elementary particles and Dirac large numbers 9-2477
 charged homogeneous cosmologies, theory 9-25767
 charged universe, cosmology 9-25766
 chronometric cosmology, appl. to radio sources apparent superrelativistic vels. 9-25768
 chronometric redshift theory and QSO superluminal vels. 9-9023
 classical spontaneous breakdown of symmetry and induction of inertia 9-40417
 closure hypothesis in cosmic turbulence theory 9-35438
 clusters of galaxies, space distrib. compared with radio sources (Chinese) 9-17111
 clusters of galaxies, X-ray sources evolution 9-17133
 coloured cosmological black holes, soln. of Einstein-Yang-Mills system 9-12492
 cosmic microwave background, Sunyaev-Zel'dovich effect in millimetric region 9-25765
 cosmology and geophysics, book 9-12552
 dark sky paradox and origin of universe 9-25770
 deceleration parameter determ. using X-ray and microwave obs. of galaxy clusters 9-21476
 distance determination, new method, appl. to weighing of Universe 9-9003
 distance scale, spiral galaxies distances from tertiary indicators 9-30120
 Earth as part of the Universe 9-5438
 Einstein's cosmological constant, lunar ranging data anal. by Seelinger's theory 9-6040
 Einstein's field equations, inhomogeneous soln., for $p=\mu$ eqn. of state 9-12666
 Einstein's theory of gravitation, for homogeneous cosmological models 9-12547
 Einstein's universe, radiating charged particle 9-17302
 Einstein eqns. with stiff eqn. of state, exact soln. 9-2677
 Einstein-de Sitter model for Universe at any epoch 9-17147
 Einstein-Godel universe 9-2583
 electric charge polarisation of cosmic systems, appl. to stars and universe 9-48771
 element formation, inhomogeneity in D prod. 9-21471
 empty space Einstein eqn. solns., Mach's principle in spatially homogeneous spacetimes 9-17295
 equivalence principle according to Mach 9-44823
 expanding Universe, density perturbations, correlation function evolution 9-44646
 expanding universe, galaxy correls. time evolution, gravit. instability, model 9-17145
 expanding universe model with continuous mass creation 9-44647
 extragalactic background light, upper limit 9-17142
 extragalactic distance scale, tertiary distance indicators 9-25708
 extragalactic distance scale using H II region fluxes and parent galaxy diameters 9-44576
 extragalactic distance scale using H II region isophotal diameters 9-44575
 field galaxies space distrib., redshifts and photometry of complete sample 9-21418
 Friedmann cosmological model, explicit canonical quantisation 9-21644
 Friedmann cosmology in modern context (French) 9-2581
 Friedmann model with eqn. of state of non-ideal hadron gas, evolution (Russian) 9-44649
 Friedmann universe long wavelength perturbs. rel. to microwave background anisotropy 9-21478
 fundamental physical constants and their development in time (Hungarian) 9-25922
 galaxies, distant, space distribution, evolution effects 9-40260
 galaxies, distrib. in 36 square degree field near North Galactic Pole 9-40261
 galaxies, two-component, chemical evolution, analytical approach 9-25711
 galaxies formation and evolution, review 9-17100
 galaxy clustering depend. on cosmological density parameter 9-48971
 galaxy clustering models, discrimination of statistical measures 9-35404
 galaxy formation and gravit. clustering, efficiency 9-48903
 galaxy formation and vacuum quantum fluctuation of the gravitational field 9-30156
 general relativity, anisotropic MHD model 9-35437
 geometrized theories of gravitation 9-21636
 globally hyperbolic spacetimes, conformal deform., Ricci curvature and energy condition 9-9159

cosmology continued

- gravitational constant rel. to cosmological parameters 9-48974
- gravitational constant variation, determ. from visual binary stars obs. (Russian) 9-44537
- gravitational constant variation, Dirac's Large Numbers Hypothesis 9-16819
- gravitational field stochastic fluctuations 9-44837
- gravitational gauge field theory, renormalisable 9-44839
- gravitational indistinguishability of neutrino field and stokesian fluids 9-30159
- gravitational theories generated by groups of transformation and Dirac's large number hypothesis 9-12677
- gravitational wave noise, from spontaneous prod. of gravitons, energy density distrib. (Russian) 9-12551
- history, fire and evolutionary cosmology in Wright and Kant 9-5764
- homogeneous collapsing star, orthogonal vector and tensor harmonics, matter and field asymmetries 9-5841
- Hubble constant determ. using galaxy diameter luminosity relation (French) 9-30128
- Hubble constant determination, Type I supernovae appl. 9-40304
- Hubble diagram for E and S0 galaxies in the local region 9-35359
- Hubble law, laboratory exercise for students 9-35500
- Hubble Modulus, numerical simulation test of cluster effect 9-2569
- Hubble sequence, ang. momenta and time scales of galaxies early evolution 9-8997
- ideal liquid, generalised Lagrangian energy density, nonsingular cosmological space-time model (Russian) 9-9040
- inhomogeneous self-similar model, observable relations 9-44645
- invariance group instability, spacetime, group contractions and models of Universe 9-9041
- isotropic closed universe, quantised scalar field formulae 9-12550
- Kasner spacetime, conformal energy-momentum tensor trace anomaly calc. 9-21603
- large numbers, cosmic coincidences rel. to gravit. const. 9-48969
- large numbers hypothesis and the Einstein theory of gravitation 9-21477
- Large Numbers Hypothesis implications for Earth rotation 9-12063
- large-scale structure in universe, formation and development 9-12526
- Lemaître cosmology in modern context (French) 9-2581
- light element abundances, galactic evolution and universal baryon density 9-40302
- light element synthesis in big bang Universe 9-9044
- locally rotationally symmetric cosmological model containing a nonrotationally symmetric electromagnetic field 9-30161
- Mach's principle, the cosmological constant, and the scale-covariant theory of gravity 9-25774
- mach principle and the quantal response of the Universe 9-12549
- Machian effects in compact rapidly spinning shells 9-2684
- Machian framework, purely geometrical, for describing gravity and inertia 9-44651
- massless scalar field in a de Sitter universe and its thermal flux 9-127
- massless scalar particle creation, classical and quantum gravit. collapse (Russian) 9-9039
- matter-antimatter asymmetry of Universe, review of speculations and data (French) 9-35439
- maximum information universe 9-30157
- Maxwell equations, in Minkowski space-time and Poincaré group 9-30301
- MHD kinks in nonresistive plasma, astrophys. appl. 9-27763
- microwave background radiation, search for linear polarisation 9-21470
- model hierarchical Universe based on trema sets, correlations and texture (French) 9-48970
- multiply-connected space-time, black holes and tachyons 9-30315
- Newtonian, global particular solution to initial value problem of stellar dynamics 9-35314
- Newtonian cosmology, extension to whole of space (Italian) 9-21475
- Newtonian cosmology, universe energy conjecture (Italian) 9-21474
- Newtonian cosmology and universal gravitation constant (Italian) 9-21473
- Newtonian mechanics and expansion of the universe (Italian) 9-21472
- Newtonian non rotating cosmological model (Spanish) 9-48978
- Newtonian universes with shear, singular states 9-2582
- non-linear high-frequency waves in relativistic cosmology 9-48968
- nonempty space, relativity of finiteness and infinity 9-9045
- nonlinear primordial fluctuations, theory 9-25773
- nonsingular gravitational collapse, Yang-Mills cosmos 9-21621
- particle creation classical analogue, WKB approx. 9-30160
- particle emission in the de Sitter universe for massless fields with spin 9-40434
- perfect fluid cosmology with geodesic world lines 9-25775
- perfect fluids expanding with both vorticity and shear, cosmological appl. 9-48669
- perturbed spherically symmetric collapsing star, initial value problem in quasi-Newtonian background 9-5842
- photon decay in curved space-time, Hubble red shift and solar limb effect explanation 9-35606
- primordial black holes, self-similar growth for general sound speed case 9-5856
- primordial black holes and big bang nucleosynthesis (Russian) 9-17151
- primordial black holes evaporation, cosmological implications 9-21325
- primordial black holes formation, hydrodynamics 9-21324
- primordial inhomogeneities in expanding Universe, galaxy density and vel. distrib. in rich clusters 9-44644
- primordial matter cooling by H_2 , rel. to star form. 9-35440
- protogalactic hot gas cooling by H_2^+ vibr. excitation (Russian) 9-17149
- QSOs and Lick galaxy counts, correl. from extragalactic objects catalogues statistical anal. 9-25700
- QSOs number density excess and initially inhomogeneous cosmologies 9-2576
- qualitative isotropic cosmology involving a cosmological constant with allowance for dissipation (Russian) 9-5927
- quantum gravity and path integrals, supersymmetric theory, virtual Planck-mass black holes 9-2706
- quantum theory, a general framework 9-9043
- quantum Universe, non-singular model 9-30158
- quasar Hubble diagrams, nonparametric statistics 9-40289
- quasars, space density evolution 9-9027
- quasars from B2 catalogue, 1415 MHz structs. and redshift-angular size plot 9-35422
- radiation accretion by primordial black holes in the early Universe 9-44519

cosmology continued

- radio sources, extragalactic, space distrib. compared with clusters of galaxies (Chinese) 9-17111
 - radioastronomy, pioneering work by Jansky, and Penzias and Wilson 9-44655
 - Reissner-Nordstrom-de Sitter metric, the third law, and cosmic censorship 9-35609
 - relativistic EM fluid flow geometry 9-4091
 - relativistic EM fluid flow with geometrical symmetry 9-4092
 - relativistic non-ideal hadron gas universe, gravit. collapse (Russian) 9-44650
 - relic 't Hooft Polyakov mag. monopoles in the Universe 9-9317
 - Robertson-Walker spacetime, energy-momentum tensor and particle state definition 9-25934
 - Robertson-Walker type solutions in unitary theory (French) 9-17287
 - rotating sphere, internal gravit. field in weak-field approx., appl. to astrophysical objects (Russian) 9-25939
 - rotating universe, stability 9-17146
 - rotating universe with violation of causality 9-44828
 - Sakharov's theory of gravitation 9-25950
 - scale invariance, metrical connection and the motions of astronomical bodies 9-44648
 - singularities in general relativity theory 9-35591
 - solar neutrino problem, implications for cosmological hypotheses 9-16918
 - solar system formation, role of supernova, isotopes found in primitive meteorites 9-44380
 - spatially homogeneous cosmology, dynamical degrees of freedom 9-30155
 - spatially homothetic cosmological models 9-25771
 - spontaneous breaking of gauge symmetry in a nonstationary isotropic metric 9-21643
 - stability of expanding Universe 9-17148
 - stable heavy neutrinos, dynamical interactions and astrophys. effects 9-5743
 - statistical mechanics, relativistic formulation, appl. of bootstrap theory to thermodynamics and cosmology 9-40452
 - statistical mechanics of complex systems, linkages from fundamental particles to cosmology 9-25964
 - statistical mechanics of gravitating systems 9-35311
 - statistical virial theorem appl. 9-5926
 - strong and gravitational interaction unified theory, hierarchy of universes, large numbers explanation 9-17654
 - super-dense matter, phase transitions in gauge theories and cosmology, review 9-44654
 - superdense cosmogony and magnetic field origin (Russian) 9-8985
 - superfluid as a source of all interactions 9-21620
 - superluminally expanding radiosources and radio-quiet QSOs 9-30142
 - tachyons interaction with gravity, rel. to cosmology and black holes 9-25839
 - tachyons nature and role in cosmological evolution (Russian) 9-17150
 - telescopic principles in the theory of gravitation (German) 9-40416
 - test particle mass in gravitational field, rel. to Mach's principle 9-12670
 - thermal radiation, parity violating currents 9-17633
 - time asymmetry, in Riemann gravit. theory (German) 9-35610
 - transfer coefficients, behaviour at relativistic temps., dissipative effects (Russian) 9-6062
 - unified fields in pentadimensional theory 9-44832
 - unified theory of strong and gravitational interactions 9-17662
 - uniform electrovacuum space time, observer dependent effects, Bertotti-Robinson line element 9-122
 - Universe age effects on stellar evolution with variable gravitational constant 9-30052
 - Universe creation as quantum phenomenon, fireball model 9-9038
 - Universe origin and evolution 9-40306
 - universe with variable G and c, initial conditions 9-48977
 - variable rest masses, black hole solutions and neutron star models 9-30162
 - very early Universe, baryon asymmetry 9-40309
 - white holes, optical appearance 9-21323
 - X-ray source counts 9-40305
 - Yang's gravitation theory, homogeneous cosmological models 9-17304
 - zero mass surfaces, rel. to cosmological singularities 9-25772
 - D and density of matter in open, expanding Universe 9-12548
 - H recombination, kinetics in presence of low mass primordial black holes (Russian) 9-17152
- cosmotrons
- No entries
- Costa Ribeiro effect see dielectric phenomena; phase transformations
- Cotton-Mouton effect see birefringence; magneto-optical effects
- Cottrell atmospheres
- Ag, deformed at room temp., glide on {001} planes, TEM obs. 9-19257
 - Cu, deformed at room temp., glide on {001} planes, TEM obs. 9-19257
 - Fe, damping during and after deformation 9-43344
 - Ni, deformed at room temp., glide on {001} planes, TEM obs. 9-19257
- Cottrell locking see Cottrell atmospheres
- Couette flow
- see also jets
 - accelerating shear flow, internal gravity waves 9-32628
 - blood droplet deformation in Couette flow suspension, expt. (German) 9-16227
 - chaotic circular Couette flow, reemergent order 9-27651
 - circular Couette flow, centrifugal instabilities in cylindrical annulus 9-18956
 - electrically conducting fluid, with time-depend. suction, between parallel walls 9-37279
 - hydrodynamic stability of cylindrical flow 9-46288
 - hydrodynamic stability rel. to finite amplitude perturb. (Russian) 9-37291
 - linearised plane Couette flow, rarefied gas with infinite range molecular interactions, asymptotic anal. 9-23340
 - liquid in rot. system, Hall effects on MHD Couette flow and heat transfer 9-41681
 - macromolecular dilute aqueous solns., flow in various geometries 9-41757
 - magnetic fluid, motion in external mag. field, Couette and Poiseuille flow 9-14491
 - MHD Couette flow, with variable wall temp., heat transfer 9-27640
 - MHD Couette flow stability in presence of mag. field 9-23373
 - nematic liquid crystal, cylindrical Couette flow, stability 9-32526
 - non-Newtonian flow with moving boundaries 9-23343
 - non-Newtonian incompressible fluids, with uniform suction at stationary plate 9-32637

Couette flow continued
 nonlinear stability of motion of viscous liquid between concentric rotating cylinders 9-14409
 nonlinearly viscoplastic fluid, Couette flow 9-18918
 polymer solution, dil., rotating Couette flow, elongational viscosity and stability 9-27669
 power law fluid Couette flow, entrance region heat transfer 9-32587
 secondary flows and stability study of rotating spherical layers at arbitrary Rossby numbers 9-18899
 Taylor vortex flow, finite difference transient implicit method, stability 9-14404
 turbulence creation, review (*Hungarian*) 9-23312
 two layer flow stability (*Russian*) 9-14380
 wall conductance effects on convective horizontal channel flow 9-23374

Counter accessories

see also counting circuits

No entries

Counters

see also Cherenkov counters; counting tubes; fission counters; Geiger counters; proportional counters; scintillation counters; semiconductor counters; spark counters

alpha-particle corona-streamer counter, performance characts. 9-9962
 cell counter, electronic, model 927-TC for cell culture laboratories 9-39616

dead time correction by the pulser method for single channel nuclear counting systems 9-13611
 frequency, selection principles 9-12775
 gas discharge flow counter for high-temp. gas radiochromatography 9-24859

high-vacuum gas-discharge electron counter 9-18086
 paralyzable event counters, method for partial recovery of lost events 9-18094

total energy coincidence meas. of complementary particles, charged particle anal. of light elements 9-5201

counters (circuits) see counting circuits

Counting circuits

see also coincidence circuits; pulse height analysers; scaling circuits
 automatic nuclear emulsion scanner with moving microscope 9-13595
 Bellcord—a multilevel fast preprocessor for 1024 ECL channels 9-45577
 constant fraction differential discriminator for use in fast timing coincidence systems 9-45580

constant-display frequency meter 9-21718
 count-doubling time monitor, new reactor safety circuit for low-power-level operation 9-41004

digital drift chamber digitizer system 9-45602
 digital leaky integrator 9-22560
 digitisers, nonlinear clock 9-18091
 dissector one-electron current pulse timing, delayed self-coincidence method 9-26846

drift chamber electronics for time and pulse height meas. 9-3326
 fast event recorder utilizing a CCD analog shift register 9-45578
 femtoamp current preamp for microprocessor controlled isotope calibrator 9-45586

high rate 4π β - γ coincidence counting system 9-45588
 high speed trigger system for total deposited energy measurement in a liquid argon calorimeter 9-45576

logarithmic converter stabilized by a baseline restorer employing gain switching 9-45582

modular 125 ps resolution time interval digitizer for 10 MHz stop burst rates and 33 ms range 9-45591

multitrack pulse height electronics 9-3325
 MWPC, drift time meas. electronics 9-3327
 MWPC, fast analogue logic 9-13605
 MWPC, multi-delay line cathode readout 9-45573

MWPC compact chambers and electronics for crystal ball detector 9-45534

precision gated current integrator and live time meter system 9-9973
 programmable line using microstrip transmission line and temp. compensated ECL gates 9-26845

proportional drift tube for large calorimeter ν detector 9-13592
 pulse shape discriminator for n, γ separation, appl. to TOF spectroscopy 9-6786

pulse-train counter and recorder, automatic, with preset program 9-3319
 PWC electronics system for high rate situations 9-26844

secondary beam profile monitor based on MWPC 9-6783
 temperature controlled hybrid substrate for use as a building block in precision instrumentation design 9-45583

time to digital converter, wide-range 9-18090

track correlator as fast trigger in π - μ Coulomb bound states detection 9-45574
 wide-band measuring system for studying charge-coupled device characteristics 9-45585

CdTe photovoltaic mode γ - and X-radiation dosimeters 9-13594

Counting tubes

see also dekatrons

No entries

Coupled circuits

magnetic field stabilisation using directly coupled IC op. amps, for EPR spectrometer (*Czech*) 9-26095

coupled networks see coupled circuits

coupled superconductor devices see superconducting junction devices

couplers (electric connectors) see electric connectors

coupling (process) see joining processes

coupling circuits see coupled circuits

CP invariance

baryon hadronic decay, $3/2^+$ decuplet isobars in $SU(3)$ symmetry, dynamical assumption 9-26333

baryon number of the Universe 9-30163
 Cabibbo angle and CP violation in a gauge model with discrete symmetry 9-45028

Cabibbo angle in six quark $SU(2)_L \times SU(2)_R \times U(1)$ gauge model 9-17683

chiral asymmetry in vectorlike weak $SU(3)$, CP violation, one loop correction 9-287
 dynamical symmetry breakdown at the two-dressed-loop level and beyond 9-294
 gauge theories of weak, EM, and strong interactions, book contrib. 9-30694

hierarchy of quark masses, Cabibbo angles and CP violation 9-22030

CP invariance continued

neutrino reactions at high energy, weak interaction props. and hadron struct. investigation, book contrib. 9-30727

quaternion model, quark mass matrix, CP violation and Cabibbo angle (*Russian*) 9-40751

$SU(2)_L \times SU(2)_R \times U(1)$, CP invariance, global chiral $U(1)$ symmetry, axion-quark coupling 9-22009

$SU(2) \times U(1) \times SU(2)$ gauge model, CP violation and off-diagonal neutral currents 9-13008

$SU(2) \times U(1)$ gauge models, CP violation origin, Yukawa interaction 9-40712

$SU(2) \times U(1)$ gauge theory, μ -e mass ratio and CP violation as quantum effect 9-30691

$SU(2) \otimes U(1)$ gauge model, strange baryon weak radiative decays and CP violation 9-6260

vacuum neutrino oscillations between ν_e, ν_μ, ν_τ , CP violation 9-291

very early Universe, baryon asymmetry 9-40309
 violation in weak interaction, renormalization of QCD vacuum parameter θ 9-40683

weak mass mixing and CP violation with heavy quarks, V-A model anal., possible meas. in e^+e^- expts. 9-30695

Weinberg's model of CP violation in gauge theories, valence quark hypothesis 9-12940

CPA calculations

adsorption, coherent potential approximation 9-33193
 alloy, disordered muffin tin type, coherent pot. approx. appl. 9-15062

alloy, substitutional, analytic approximation for Herglotz property 9-37946

alloys, disordered, charge density function calculation method 9-42433
 alloys, random binary, single-particle Hamiltonian and self-consistency 9-37953

alloys, self-consistent cluster theories for diagonal and off-diagonal disorder 9-37950

amorphous semiconductor, tetrahedrally bonded, effects of quantitative disorder on electronic struct. 9-47003

Anderson transition in systems with purely off-diagonal disorder 9-19518
 disordered alloys, influence of strong hybridization on elec. cond. 9-11097

ferromagnetic instability in two-band Hubbard model 9-1653
 ferromagnetic partially ordered alloy, spin wave stiffness const. 9-24150

homomorphic cluster CPA, rigorous proof for analyticity 9-19504
 liquid-like random Kronig-Penney model, electronic density of states, CPA calc. 9-1567

magnetic alloy, highly concentrated Kondo effect 9-24134
 mixed valence state, electronic structure 9-11092

random alloys, CPA calcs. cluster extensions, appraisal of applicability 9-15063

random chain of oscillators, CCPA calcs. of spectral density 9-37792
 semiconductor, impurity band props. 9-23888

semiconductor alloys, ternary, energy band calc., compositional disorder effect determ. 9-42442

substitutionally disordered systems, analytic extension of CPA to clusters 9-19503

surface excitons in mixed molecular crystals, theory 9-47135
 ternary alloys, disordered, elec. cond. and density of states, CPA calc. (*Russian*) 9-47072

ternary alloys, vibr. freq. distrib. spectra, small cluster statistical theory 9-24317

Ce-Sn, liq., elec. resistivity negative temp. coeff., CPA calcs. 9-42515
 Cu-Ni, disordered muffin tin type, coherent pot. approx. appl. 9-15062

Cu-Ni, paramag., electronic struct., atomic sphere approx. to KKR-CPA 9-19502

Fe-Ni alloys, electronic struct. by XPS obs., Elk's CPA results comparison 9-33226

HCN, valence shell correl. energies, pair correls., unlinked cluster effects, CPA calc. 9-13648

HNC, valence shell correl. energies, pair correls., unlinked cluster effects, CPA calc. 9-13648

Pd-Ni-P, amorphous, elec. resistivity negative temp. coeff., CAP calcs. 9-42515

PdH, CPA calculations of density of states 9-23882
 Rb-K, lattice vibrs. in CPA, comparison to neutron scatt. meas. 9-42165

(SNH)_x density of states, CPA calcs., effect of H impurities 9-42431

CPT invariance

baryon number generation, examples unitary and CPT invariance 9-35960

covariant representation of microscopic charge and current densities in terms of polarisation and magnetisation fields 9-71

nonlocal Wightman fields, PCT and spin statistics 9-35915

Crack detection

see also cracks

acoustic emission transients meas. rel. to crack propag., appl. to low alloy steel 9-8407

acoustic spectral flaw detector 9-39089

acoustic spectral flaw detector 9-34248

artillery projectile inspection by noncontact EM transducers 9-47872

automated rail flaw detection, US wheel probe variation problems 9-47862

bone acoustic emission diagnosis, soft tissue effects 9-48362

bovine femur crack detection by acoustic emission 9-48312

BUS-2 scan control unit for automatic interference reduction 9-5126

ceramic surface flaw detection by SAW scatt. 9-47866

CRISP-E penetrant system 9-15917

cylindrical and conical components, thermal flaw detector 9-5127

defect thickness determ., radiographic visual comparative method 9-11737

double layer article, detection of defective layer by electron flaw detection 9-47859

drill pipe with welded end couplings, US inspection 9-5124

eddy current technique 9-43500

elastic body, framework model appl. 9-41607

electrically cond. materials, pulsed elec. meas. method (*French*) 9-29324

electromagnetic flaw detector, differential eddy current transducer asymmetry effect on sensitivity 9-39092

elongated defects representation on magnetic tape 9-39094

emulsion containing water from crack detection processes using penetrating agents, purification (*German*) 9-5517

fatigue crack depth meas. in threaded part of drill pipe by US inspection 9-1930

crack detection continued

- fission reactor component reliability, non-destructive testing and flaw evaluation (*French*) 9-24711
- fission reactor pressure vessel walls, ultrasonic inspection reliability 9-24713
- flaw detection, combined techniques classification choice of optimal NDT system 9-11752
- flaw detection probability estimation from inspection data 9-24712
- flaw detection systems based on semicond. detectors and scintillation crystals for hard bremsstrahlung 9-11748
- flaw image produced with high energy scattered radiation, scattered radiation effects 9-34239
- flaw size determ. accuracy by US focusing probes and holography 9-29296
- gamma-ray and betatron integrated flaw detector, exam. of design 9-5103
- gamma-ray and betatron integrated flaw detector, exam. of design 9-15938
- gamma-ray flaw detection, use of Kalman filter 9-5121
- grating acoustic scanner for material defects 9-47878
- growth and coordinate determ. by acoustic emission 9-5119
- holographic fringe multiplication appl. 9-41357
- magnetic flow detector, general purpose, portable 9-5107
- magnetic flux leakage, model 9-43499
- metal ellipsoidal flaw characterisation 9-47865
- metal surface, microwave ferromag. resonance probe for eddy current detection 9-34254
- multichannel flaw detector, optimal parameters 9-34247
- multifrequency US flaw detectors, parameters 9-5118
- noise suppression circuit for automatic flaw indicator 9-5111
- non-metallic materials, flaw detection by tomodesensitometry (*French*) 9-20295
- one-sided thermal monitoring, effect of flaw parameters on sensitivity and speed 9-5122
- optimal relation between geometric charact. of flaw and radiator optical focus 9-34246
- pipe, thick walled, increasing efficiency of automated ultrasonic inspection of segregate defects 9-11755
- portable depth gauge 9-34251
- radiometric flaw-detector, performance evaluation and parameter choice for smoothing filter 9-15945
- stainless steel, pipe, small-diameter ribbed-bore, Lamb-wave ultrasonic inspection for defect detection 9-15944
- steel, potential-drop meas. system 9-34225
- steel, stainless 1Kh18N9T, flaw detection by X-ray television system 9-5120
- steel, tape, US inspection for segregate type defects 9-15943
- steel plates, US testing, dynamic evaluation of flaw size 9-15949
- surface cracks, SAW excitation, length and depth resonances 9-8403
- surface layer structure determ. using Barkhausen noise probe (*German*) 9-24710
- US, crack dimensions, studies survey 9-11744
- US basic instrument crack and flaw detection, basic instrument 9-5108
- US diffraction sizing 9-29291
- US flaw detector UDM-3, measurement errors 9-8409
- US holography for defect size meas. at inservice inspections of nuclear components 9-45372
- US imaging cell for direct visualisation of defects in solids 9-20324
- US spectral method for determ. of nature of defects 9-5115
- Fe, cast, parts inspection of unmachined surfaces using fluorescent penetrant method 9-11754
- Ge, microflaw vol. conc. determ., etching method 9-24688
- Mo film, constrained, 20 MHz thermoelastic wave generation 9-47880
- Si textured solar cell, hairline crack detect. using focused laser scanner 9-48123

crack-edge stress field analysis

- see also penny-shaped cracks
- a mixed boundary value problem in elasticity 9-23274
- anisotropic medium under polynomial form applied stress, elliptical crack elastic field 9-46263
- bar, circular, in tension, strain energy release rate for edge crack 9-18815
- branched cracks in 2-D, numerical soln. 9-46269
- BWR piping cracks, relation between crack and stress 9-40995
- ceramic, stress intensity factor estimates for a peripherally cracked spherical void and a hemispherical surface pit 9-29196
- compression wave diffraction by penny-shaped crack in presence of mag. field 9-47318
- coplanar Griffith cracks in infinite elastic medium, dynamic stress conc. 9-46270
- crack growth, anal., crack tip deform. modelling 9-41626
- crack loaded in anti-plane shear under creep 9-27598
- crack tip finite element anal. 9-41624
- crack tip plasticity in dynamic fracture mech. 9-41627
- cruciform crack, unsymmetric, soln. in infinite plane isotropic elastic medium 9-14342
- damage model, crack growth and instability 9-41614
- elastic crack behaviour model from thermodynamic considerations (*French*) 9-10534
- elastic strip bonded to rigid support 9-23277
- elastic-plastic solids, crack tip deformation and fracture 9-27591
- elastodynamic stress intensity factors, ray theory approach 9-7339
- elastoplastic body, depend. of crack opening and plastic zone size on type of stress state 9-14348
- energy release rates calc., inverse flexibility method 9-41617
- epoxy resin, sheet, stress intensity distrib. through plate thickness along crack front 9-43390
- face cracked plate, subjected to rotationally constrained end displacements, mode I anal. 9-23280
- fibre reinforced elastic materials, crack tip anal. 9-27594
- finite element anal. using isoparametric elements 9-3973
- fission reactor fatigue loading, growth of underclad flaws 9-22429
- fission reactor pipework integrity assessment 9-22431
- fracture, energy scaling, size effects and ductile-brittle transitions 9-43394
- fracture criterion of Sih, formal extension, elastic stress field near crack (*German*) 9-1139
- fracture mech., conf., Washington, USA (Sept. 78) 9-43422
- frozen stress fields, study of crack-tip nonlinearities 9-37239

crack-edge stress field analysis continued

- graphite reinforced epoxy laminate plates with cracks, strain and failure anal. 9-29170
- Griffith crack at interface of bonded wedges, Mellin transform technique 9-40369
- Griffith crack in nonhomogeneous medium under shear, asymmetric problem 9-18813
- Griffith cracks in infinite elastic strip, stress distrib. 9-40370
- highly deformed zone and cyclic strain history near fatigue crack tip (*Japanese*) 9-34145
- infinite body, stress and displacement from arbitrary load on circular crack 9-32381
- interface crack in a shear field 9-18828
- interface flaw extension with friction, basic mathematical anal. 9-18810
- isotropic elastic half spaces with circular crack, stress at interfaces (*Russian*) 9-27582
- laminated composite media, crack tip propagation, model by two-dimensional mixture theory 9-10528
- mixed-mode stress intensity factors, photoelastic determ. method 9-1884
- modified Dugdale model appl. to parabolic stress distrib. 9-41615
- moving crack tip energy flux density vector (*Russian*) 9-10532
- nozzle corners, cracked, determination of flaw shapes, stress intensity distributions, using frozen photoelastic stress method 9-43547
- numerical solutions of three dimensional dynamic crack problems and simulation of dynamic fracture phenomena by a 'non-standard' finite difference method 9-41613
- penny-shaped crack, elastodynamic response in cylinder of finite radius 9-37240
- periodic elastic inclusion-rectilinear crack system in isotropic medium 9-41619
- plastic crack in bending, tension, anal. 9-41623
- plate, circ., thin, elastic, containing Griffith crack, in infinite elastic medium, stress distrib. 9-32374
- plate, out of plane bending, steady state crack propagation, rotatory inertial effects 9-7340
- plate with transverse compression zone, crack arrest phenomena 9-4369
- PMMA bar, notched and perforated, fracture produced by longitudinal impact 9-43388
- point loaded circular disc with two diametrical cracks 9-27589
- polycarbonate of bisphenol A, notched and perforated, fracture produced by longitudinal impact 9-43388
- polynomial solutions for an ellipse on an anisotropic elastic half-space 9-10480
- quadrature rule for conforming quadratic crack tip elements 9-27587
- reactor pressure vessels, 3D finite element anal. of surface cracks 9-10535
- reactor vessel nozzle cracks, stress intensity factors 9-15796
- rectangular orthotropic region, plane shear, stress free edge effects 9-18830
- rectilinear crack, isolated, growing at const. rate under antiplane deform. conditions, dynamics 9-7338
- rigid indentation and plane crack extension 9-18835
- rotating circular elastic disc, diametral edge cracks, stress anal. 9-32386
- semi-elliptical fault fatigue propagation, three-dimensional anal. (*French*) 9-23283
- semi-infinite plate, crack from triangular notch 9-41570
- shallow shells, arbitrarily oriented cracks, stress intensity factor 9-7341
- skew crack propagation, induced dynamic stresses, numerical soln. 9-1137
- soft ferromagnetic elastic solid, magnetoelastic interaction with penny shaped crack in const. mag. field 9-18829
- steel, C 0.75%, crack, with straight front perp. to wire under tension, strain energy release rate (*French*) 9-1136
- steel, fracture toughness determination, from crack propagation measurements (*German*) 9-43421
- steel, low C, low cycle fatigue, cumulative damage, absorbed plastic energy anal. 9-38932
- steel, SAE 4340, depend. of fracture roughness on crack velocity 9-47772
- stiffened panels with rectangular cut outs, stresses and deform. (*Japanese*) 9-3977
- strain velocity effects on critical crack opening displacement 9-18818
- stress intensity factor, simplified three parameter method 9-1138
- stress intensity factor for a flat elliptical crack in an elastic solid under uniform tension 9-27525
- stress intensity factor for stress singular problems, energy convergence and eval. by mixed finite element method 9-23276
- stress intensity factors determ. from isochromatic fringe loops, three-parameter method 9-18843
- stress intensity factors estimation, tensometric methods 9-32424
- stress intensity factors for circumferential crack from notch in round tensile bar 9-41618
- stress intensity factors for internal multiple cracks in thick-walled cylinders stressed by internal pressure using load relief factors 9-46261
- stress intensity factors for self similar cracks derived from path independ. integrals 9-23213
- stretched finite elastic strip, central crack dynamic response 9-18826
- strip with semi-elliptic notches or cracks, stress anal. by rational mapping function 9-14257
- thermoelastic problem for a half-plane with an internal line crack 9-32259
- thick walled cylinder, internal or edge crack, stress intensity factors 9-18827
- wedge shaped crack or inclusion, stress singularity at corner 9-46268
- Cu high purity, low cycle fatigue, cumulative damage, absorbed plastic energy anal. 9-38932

crack inspection see crack detection**crack-tip stress field analysis** see crack-edge stress field analysis**cracking** see fracture**cracks**

- see also crack detection; crack-edge stress field analysis; crazing; fatigue cracks; penny-shaped cracks; stress corrosion cracking; thermal stress cracking
- β -eucryptite, glass-ceramics, internal stresses 9-15770
- β -spodumene, glass-ceramics, internal stresses 9-15770
- alkali halides, cryst., optical emission following pulsed 10.6 μ irradiation 9-28847
- arrest, concepts, appl., review 9-41621
- asbestos cement, resistance to crack growth 9-29185

cracks continued
 bounded elastic body containing a crack, mode I deform., integral eqn. soln. 9-3976
 brittle materials, crack interaction effects on critical stress for fracture propag. 9-25234
 brittle materials under complex loading systems, design parameters 9-38917
 ceramic, stress intensity factor estimates for a peripherally cracked spherical void and a hemispherical surface pit 9-29196
 ceramics, crack propagation, microstructural aspects 9-15771
 combined mode cracks, energy fracture criteria, complex variable method 9-27596
 compliance, review and extension of information for common crack growth specimens 9-3974
 composite elastic media, crack retardation at boundary (*Russian*) 9-23275
 compressed crack development at circular inclusion boundary with elastic medium (*Russian*) 9-46265
 continuous growth or quantized growth steps 9-32377
 cracked elastic surface layer bonded to half-space, fracture anal. 9-27586
 curvilinear crack along the interface of two plane isotropic elastic media 9-37246
 curvilinear crack theory (*Russian*) 9-46266
 cylinder, hollow with external annular crack, bending, stress intensity coeff. (*Russian*) 9-27537
 cylindrical specimen with external crack reaching surface of annular stress concentrator, tension and bending 9-14349
 damage model, crack growth and instability 9-41614
 damage rupture, phenomenological approach to plasticity, creep and fatigue (*French*) 9-37245
 deformable body with central vertical crack, destruction in homogeneous force field (*Russian*) 9-27554
 differential geometry of fracture 9-27581
 diffusive growth in plastically deforming solid 9-20182
 double cantilever beam, fracture behaviour, quasistatic energy anal. 9-18817
 elastic bimaterial problems and cracks, integral equations 9-44741
 elastic fracture mechanics problem, two-dimensional, Green's function method 9-23272
 elastic medium, opening of two coplanar Griffith cracks 9-32379
 elastic surface wave guidance by stress free crack 9-46250
 elastic wave scattering, crack characts. using quasistatic approx. 9-37241
 elastoplastic solutions, theory of cracks, special characts. (*Russian*) 9-32375
 energy release rates calc., inverse flexibility method 9-41617
 epoxy resin, crack propagation, photoelasticity investig. 9-8341
 ferroconcrete, cracked, strain meas. (*German*) 9-34275
 filament-wound pipe, microscopy of failure mechanisms 9-24604
 fine relaxation crack form. along compressive max. shear crack 9-23281
 finite plate with circular hole, summary of SIF design graphs for cracks 9-23278
 fission reactor pressure vessel safety and reliability evaluation, two-criteria approach 9-18016
 flat elliptical crack, behaviour in an anisotropic elastic body 9-7336
 flawed elastoplastic structure, method of lines applied to crack problem 9-46259
 fracture, statistics in brittle materials with surface shear-sensitive cracks 9-41616
 fracture initiation, crack opening displacement and crack tip plastic strain energy 9-18819
 fracture mechanics, plasticity, finite element anal., review 9-41612
 fracture parameter estimation by long wavelength scatt. 9-24709
 fracture under combined loads by maximum-energy-release-rate criterion 9-32384
 glass fibre reinforced epoxy-aniline, laminate, work required to rupture along interfaces 9-43413
 glass fibre reinforced polyester, behaviour under bending load (*Japanese*) 9-38904
 graphite reinforced epoxy laminates, cracked, deformation and failure in biaxial stress fields 9-47763
 graphite/epoxy laminates, T300/5208, effect of curing stresses on first ply failure 9-43329
 Griffith crack quasi-static growth, irreversible thermodynamics 9-18812
 Griffith cracks, stresses due to rigid inclusions 9-32373
 Griffiths cracks in a piezoelectric medium, critical load calcs. (*Russian*) 9-46264
 growth, elastoplastic finite element anal. 9-46260
 growth characts., anal. modelling 9-41622
 growth monitoring using finite element analysis, calibration of electric potential technique 9-32380
 half-space with crack, local loss of stability (*Russian*) 9-18821
 heat generation at the tip of a moving crack 9-27590
 heat transfer and flow through hydraulically induced fractures in hot dry rock 9-34424
 high temp. relief cavitation, SEM, STEM, TEM, SIMS and EDX anal. 9-5039
 Homalite, specimen geometry effect on crack propag. and arrest 9-34148
 hydrostatically compressed crystals, crack nucleation mechanism 9-10893
 Incoloy 800, creep crack growth, age hardening effect 9-43436
 inequality conditions, consequences in crack and friction contact problems 9-37242
 infinite isotropic elastic medium, crack and misfitting inclusion interaction 9-37244
 inhomogeneous elastic material, antiplane crack problems 9-14343
 intensity factor for mode I loaded cracks, exam. using shadow spot method (*German*) 9-41642
 laminates, failure mechanics, damage development 9-43427
 linear viscoelastic solid, crack propag. 9-23225
 LMFBR fuel pin transient behaviour, effect of shutdown cracks in TREAT tested pins 9-31001
 loaded in anti-plane shear under creep 9-27598
 maximum-energy-release-rate criterion applied to a tension-compression specimen with crack 9-23212
 metal, hydrogen crack development 9-20189
 microcrack formation, dislocation mech. 9-23674
 micropolar elasticity, uniqueness for anti-plane crack problems 9-30235
 minerals, cracks rel. to effective seismic vels. var. with press. 9-44179
 movement, isothermal conditions, heat liberation, finite element method (*Russian*) 9-27583
 non-randomly cracked body, elastic moduli 9-23209

cracks continued
 nonlocal thin elastic plates, impact by cylindrical projectile, shearing stress anal. 9-10467
 nuclear fuel, quantitative metallographic anal., computer program, QMA 9-15951
 nuclear reactor materials, crack propag., fracture, and ductile-brittle transition (*Spanish*) 9-36316
 orthotropic medium in presence of symmetrical body forces, stress intensity factor 9-7337
 perforated plate with cracks, stress intensity factor 9-14263
 pipeline girth weld, determ. of acceptable defect level 9-34143
 plane compressional wave attenuation by random distrib. of thin circular cracks 9-27561
 plane elasticity, cracks, Cauchy type integrals and integral eqns. with logarithmic singularities 9-30252
 plane elasticity theory, use of automorphic functions (*Russian*) 9-35563
 plane finite elastostatics, discontinuous deformation gradients, ellipticity failure and cracks 9-32264
 plate with transverse compression zone, arrest phenomena 9-4369
 polyethylene, high-density, submicroscopic cracks form. and residual strength, hydrostatic press. influence 9-20185
 polymer, fracture kinetics, book 9-29222
 polymer, ultimate lifetime at high loads 9-20184
 polymeric foam, cell cracking 9-11701
 polypropylene, fracture exam. using microscopic obs. (*German, English*) 9-20186
 polyurethane, rate dependent criterion of crack growth 9-32376
 pressure vessel reliability, sensitivity to material and other factors 9-18018
 propagation in nonproportionally scaled elastic structures 9-18807
 PVC, slightly plasticised, fracture toughness tests, impact tests 9-5037
 Pyrex, stress intensity factors of surface cracks and fracture stress, acoustic meas. 9-47845
 rate dependent criterion of growth 9-32376
 reactor fuel cladding failure under reactivity initiated accident conditions (*Japanese*) 9-30955
 rock, crack propag. in diametrically-compressed discs 9-48463
 rock, dry, quantitative model of dilatancy and appl. to Westerly granite 9-16445
 rock compressibility, nonelliptical crack effects 9-2227
 rocks, crystalline, from 5.3 km depth in Michigan Basin, microcracks obs. 9-39705
 rocks, hot, dry, hydraulically fractured linearly expanding cracks, eqns. (*Japanese*) 9-34809
 rod, theory of resistance to failure of technical materials, macrocrack instability criteria 9-10536
 rubber abrasion pattern analysis and obs. 9-38988
 running crack, three-dimens. problem, elasticity dynamic eqns. 9-18811
 shear crack propagation under cohesive-type tractions 9-3972
 silicate glasses, fused, cone cracks around Vickers indentations 9-29189
 size distrib. function under dynamic loading conditions (*Russian*) 9-46262
 stable growth in antiplane shear, finite element investigation 9-3975
 steel, austenitic, 30KhGSA, heat treatment, preliminary, cold deform., elec. heating rel. to mech. props. 9-24554
 steel, C, crack propag. and sealing, effect of thermal working (*Russian*) 9-34078
 steel, cast, high speed, solidification, (Fe,Mn)₂C form., struct. 9-24514
 steel, cold crack formation following laser welding (*Russian*) 9-38938
 steel, Cr-Mo-V (1, 1.25, 0.25 wt.%), creep crack growth (*Japanese*) 9-43399
 steel, Cr-Ni-Al, intergranular crack investigation by etching (*Chinese*) 9-43457
 steel, Cr-Ni-Mo, 'light spots', fractographic anal. 9-29204
 steel, heat resist., crack growth resist. on long-term loading 9-29178
 steel, high-speed, cast, mech. props. at high temps. 9-20135
 steel, low C, type 08Yu, influence of nonmetallic inclusions on microfailures, during strain (*Russian*) 9-34128
 steel, low-alloy, fracture resist. assessment from stable crack length (*Russian*) 9-15765
 steel, medium C, internal cracks in continuous casting billet and rolling products (*Chinese*) 9-43375
 steel, Mn-Cr-V, crack propag. resist. at hardness indentation, and fracture toughness (*German*) 9-29220
 steel, MnMoNi(Cr), pressure vessel, stress relief cracking 9-43404
 steel, rail, fracture rough exam. of wear in rollers, subject to creep 9-15808
 steel, SAE 4340, depend. of fracture roughness on crack velocity 9-47772
 steel, stainless, 316, intergranular crack growth by diffusion 9-24608
 steel, stainless, creep crack growth rate, correlation of tension and bending type specimens (*Japanese*) 9-38944
 steel, stainless, diffusive crack growth under plastic deform. 9-20182
 steel, stainless 304, crack propagation under intermittent overloading at elevated temperatures (*Japanese*) 9-38947
 steel, stainless wire reinforced Al-Zn-Mg system, resistance to crack propagation 9-43409
 steel, structural, St37-2, crack tip displacement and flow curves (*German*) 9-47747
 steel, structural 15Kh2NMFA, use of linear and nonlinear fracture mech. for crack propagation resist. determ. 9-5056
 steel, tool, maraging, based on Ni2M10, exam. of hardening, crack resistance and wear (*Russian*) 9-34047
 steel low alloy, 30KhGSA, sheet, regression anal. of critical stages of fracture process 9-15786
 steel parts, martensite form., hardening cracks, acoustic emission investig. possibility 9-29177
 steels, low alloy, grain boundary anal., H₂ embrittlement, scanning AES 9-43256
 stress intensity factor measurement, dynamic fracture toughness determination from isopachics of a running crack [holographic interferometry] 9-34257
 stress intensity factors for circumferential crack from notch in round tensile bar 9-41618
 surface, oxide wedging 9-5046
 symmetrical Lamb wave scatt. at pair of thin slots 9-47868
 tensile cracks and shear faults, elastic wave radiation 9-16411
 tensile impact tests with rupture diagram recording on pendulum machines, testing procedure 9-29313
 tetramethyl-p-silphenylenesiloxane-dimethylsiloxane block copolymer films, deformation 9-15739

cracks continued

- TGS, deuterated, undoped and alanine-doped, growth by rotating disc method and elec. props. 9-47611
viscoelastic solid, crack growth law using energy and COD fracture criteria 9-32378
Westerly granite, vel. anisotropy, dilatancy effect 9-2226
yield stress, crack opening displacement and stress intensity factor relationship, appl. of modified Dugdale model 9-41615
Al sheet alloy D16AT, regression anal. of critical stages of fracture process 9-15786
Al₂O₃, fracture stress rel. to flaw and fracture mirror sizes 9-11689
Al₂O₃-ZrO₂ composite, fracture toughness increase by microcracking in energy dissipative zone near crack tip 9-20156
Al₇Ti₆S, grain size pseudobrookite oxide, microcracking relations 9-29194
Co-Mo alloy electrodeposits, codeposited impurities rel. to H₂ permeation, props. 9-19493
Fe, Armco, sleeve, deformed by cold drawing, exam. of surface and texture (Russian) 9-34057
Fe, Armco, transform. of observed crack traces on section to true crack density for fracture calcs. 9-10533
Fe, cast, grey, martensitic, lamellar, internal notch effect on abrasive wear (German) 9-29231
Fe, H₂ adsorption at dislocations and cracks 9-20146
Fe, metallised pellet, factors influencing crushing strength after H₂ reduction 9-11531
Fe-Ni-C, martensitic delayed fracture (Slovak) 9-43401
Fe₂TiO₅, grain size pseudobrookite oxide, microcracking relations 9-29194
HfO₂, monoclinic, microcracking, elasticity, internal friction, thermal expansion meas. 9-29195
MgO, anisotropy of grinding damage, chem. polishing and etching 9-47793
MgTi₂O₇, grain size pseudobrookite oxide, microcracking relations 9-29194
Mo, dislocation structure, temp. depend., at crack tip, of fractured single cryst. 9-29210
Mo, microcrack formation, structural singularities, TEM obs. (Russian) 9-1905
NaCl, single crystal, surface markings, left by unsteady cleavage crack propag. 9-46746
Nb₃Sn composite wires, supercond., degradation mech. under tensile strain at 4.2K 9-38284
Ni wire reinforced epoxy resin, crack propagation 9-29188
Ni-Mo alloy electrodeposits, codeposited impurities rel. to H₂ permeation, props. 9-19493
Si, mechanically damaged surfaces, EPR meas., role of microcracks 9-42836
Si₃N₄, hot pressed, crack healing (German) 9-24599
TiC hard coating on Co, effect of martensitic transform. in substrate causing cracks 9-29060
WC-TiC-TaC-Co cemented carbides, transverse-rupture strength at 600 to 1000°C obs. (Japanese) 9-43374
ZnSe, growth centres, crystallographic parameters and etching patterns study (French) 9-41998
Zr-Nb, (2.5 wt.%), cold-worked pressure tubing for CANDU reactors, slit burst testing 9-26532
Zr-Nb (2.5 wt.%), fractographic aspects of H₂ induced delayed cracking 9-47767
Zr-Nb (2.5 wt.%), meas. of crack growth at elevated temp. by holographic interferometry 9-38933
ZrC, fracture by laser beams, macrocrack propag. 9-15789

cranking model, nuclear *see nuclear cranking model***crazing**

- see also stress corrosion cracking*
bisphenol-A-diglycidyl ether epoxies, struct., fracture and mech. response, cure and crystallisation conditions effects 9-15779
chinaware, semivitreous, eval. of crazing resistance by stress meas., after autoclaving (Japanese) 9-20235
chinaware, vitreous, elimination of crazing by repeating glost firing (Japanese) 9-20236
craze density measurement by quantitative TEM 9-24701
PMMA, creep meas. in N₂ atmos., craze parameters 9-15734
PMMA, glassy, in methanol, growth kinetics of solvent crazes, hydrodynamics 9-15836
polyarylate, solvent crazing (Japanese) 9-29246
polycarbonate, craze roles in fatigue 9-29183
polycarbonate, crazes, statistical aspects optical microscopic obs. (Japanese) 9-29247
polycarbonate, exposed to ethanol, craze nucleation and growth 9-24639
polycarbonate, solvent crazing (Japanese) 9-29246
polychlorotrifluoroethylene, creep meas. in N₂ atmos., craze parameters 9-15734
polymer, crazing limit in creep and stress relax. 9-34177
polymer, fracture kinetics, book 9-29222
polymers, glassy, glass bead filled, crazing characts., slope-discontinuity method 9-11712
polypropylene, fracture toughness eval. with surface crack specimens 9-15777
polystyrene, coarse shear bands and fracture, SEM study, craze fracture surfaces 9-29191
polystyrene, craze density meas. by quantitative TEM 9-24701
polystyrene, fracture toughness eval. with surface crack specimens 9-15777
polystyrene, glassy, in methanol, growth kinetics of solvent crazes, hydrodynamics 9-15836
polystyrene, mol. conform., craze fracture 9-15835
polystyrene, rubber-modified, fracture mechanics anal. of effect of rubber content, craze formation 9-29190
polystyrene fracture surfaces prod. by monotonic and cyclic loading 9-47768
polysulphone, solvent crazing (Japanese) 9-29246
PVC, crazes, statistical aspects optical microscopic obs. (Japanese) 9-29247
PVC, effects of mol. wt. and plasticiser on fatigue cracking 9-5044
PVC, slightly plasticised, fracture toughness tests, impact tests 9-5037
crazing, resistance, particle size effect (Japanese) 9-39014
tetraglycidyl 4,4' diaminodiphenyl methane epoxy, diaminodiphenyl sulphone cured, struct., deform. mode, failure 9-29141

creation hypothesis, continuous *see cosmology***creation of electron pairs** *see electron pair production***creep**

- see also creep fracture; creep testing; diffusion creep; elastic aftereffect; irradiation induced creep; recovery-creep; stress relaxation*
alloy, structural, time-depend. fatigue, nuclear reactor materials 9-1909
alloys, industrial, stacking fault energy rel. to mech. props. (French) 9-43339
alloys, intergranular precipitate effect on diffusion growth of creep voids 9-34041
anisotropic reinforced resin laminate, cyclically reversing load, strain behaviour determ., approx. method (German) 9-5096
beam, nonlinear viscoelastic, torsion creep 9-18745
brass, adsorpt. of H₂, effect on mech. strength, creep, fatigue, embrittlement (Russian) 9-29267
brass, creep of β and β' phases, influence of order (French) 9-38921
celluloid, nonlinear viscoelastic deform. under superimposed hydrostatic pressure 9-34116
cellulose film, meas. of shear modulus and damping in a torsion pendulum 9-4989
ceramic and glass ceramic, AE meas. under maintained load (German) 9-43315
ceramics, synthetic raw materials, sintered and fused, use in refractories industry, slugging, creep, thermal thick resistance (German) 9-4937
concrete, creep, long term prediction and shrinkage from short term tests 9-20122
concrete reactor vessels, behaviour of perforated slabs under temp. and external load 9-30917
Cr-Mo (2.25, 1 wt.%), annealed, tertiary creep behaviour 9-43326
crack growth at high-temp., fracture mech. appl., review 9-41628
creep buckling, effects of small deflexion approximations on predicted behaviour 9-7309
crystalline rocks, transient creep and semibrittle behaviour 9-16460
cyclic plasticity, creep recovery unified approach to interaction prediction 9-8329
cylinder, thick walled, thermal stress calc. taking nonlinear creep into account 9-46184
damage parameter in continual fracture mechanics review (Polish) 9-32382
damage rupture, phenomenological approach to plasticity, creep and fatigue (French) 9-37245
diffusion controlled dislocation creep 9-46745
diffusion controlled dislocation creep 9-46744
dislocation structure and stress/strain velocities, thermodynamics theory (Russian) 9-43319
Duralumin, adsorpt. of H₂, effect on mech. strength, creep, fatigue, embrittlement (Russian) 9-29267
Duralumin, lifetime after preliminary plastic deform., kinetic theory of strength 9-43395
elastic-plastic-creep-large strain analysis at elevated temperature by the finite element method 9-37185
engineering materials relation between deform., rupture, power-law creep 9-5020
epoxy resin parabolic shells, exam. of viscoelastic creep 9-43307
expansion bellows, flexibility of axially loaded toroidal bellows in creep 9-32299
fibre reinforced composites, thermal cycling, elastoplastic strain calc. under action of external stresses (Russian) 9-38896
glass fibre reinforced plastics mechanical properties measurement, use of electrical resistance strain gauges, effects on props. 9-43541
grain boundary cavities, star-shaped unstable growth 9-46679
graphites, reactor, strength and deformation under conditions of cyclic variation in load and temp. 9-43355
heat evolution during cyclic deformation of a hereditary medium (Russian) 9-46227
heteroelastic beam, progressive creep under loading (French) 9-7290
high temp. relief cavitation, SEM, STEM, TEM, SIMS and EDX anal. 9-5039
hybrid, identification 9-10506
hyperbolic sine creep, flow potential function 9-32304
Incoloy 800, carburisation, oxidation and creep, review 9-47837
Incoloy 800, cast, microstruct. evolution during creep, TEM obs. 9-43366
Incoloy 800, creep rupture, creep strength and tensile data, 500 to 800°C 9-43371
Incoloy 800, creep rupture props. at 525°C 9-43437
Incoloy 800, exam. of mech. and microstructural props. 9-5022
Incoloy 800, mech. props. above 600°C 9-43370
Incoloy 800, mechanical props., heat treatment and appl., conf., Petten, Netherlands (March 1978) 9-43296
Incoloy 800, microstruct. effect on mech. props. 9-43367
Incoloy 800, review of mech. props. up to 600°C 9-43368
Incoloy 800, use up to 550°C, creep ductility 9-43369
incubation period following stress reduction during creep 9-7603
inorganic solid, stress depend. of activation volumes in creep and stress relaxation 9-19312
lamellar composites, development of microplastic strain (Russian) 9-34102
loaded column, creep and ageing optimisation problems stress-strain state (Russian) 9-46226
lubricated elastomers in contact with regularly spaced sliders, frictional dynamics 9-20213
mechanical stability in creep conditions (Russian) 9-18758
metal, FCC, creep rate, stress depend. (Russian) 9-1896
metal, FCC and BCC, high temp. creep, influence of dislocation splitting width (Russian) 9-5004
metal structures, creep, stress and stability anal. rules and methods 9-32302
metals, creep anal. using boundary integral eqn. method 9-46231
metals, exam. of multiaxial creep charact. 9-43364
metals, strain hardening, creep, stress relaxation correlation with high temp. processes (Russian) 9-34053
microstructural phenomena, physical chemistry 9-11550
multiaxial creep-fatigue damage, determ. of strain range 9-7650
multibar structure strength from heteroplasticity concept (French) 9-18742
multilayer winding around hollow cylinder, creep and ageing optimisation problems stress-strain state (Russian) 9-46226
Nimonic 105, temp. and stress depend. of microstruct., small angle neutron scatt. study 9-15726
nonlinear monotonic functions with selectable intervals 9-46230

creep continued
 nuclear piping, impact loading (*Japanese*) 9-43373
 paper, meas. of shear modulus and damping in a torsion pendulum 9-4989
 paraffin oil, aq. emulsion, polyelectrolyte stabilised, mech. props. 9-39223
 plasticity and creep, theory, microhomogeneity in plastic strain 9-14281
 plate, round, viscoelastic, deformation and creep (*Russian*) 9-32291
 PMMA, activation parameters of creep 9-38925
 PMMA, creep meas. in N₂ atmos., craze parameters 9-15734
 polycarbonate, delayed yielding under const. load 9-38906
 polycarbonate film, struct. and mech. props. 9-19160
 polychlorotrifluoroethylene, creep meas. in N₂ atmos., craze parameters 9-15734
 polycrystalline metallic solid soln., creep and diffusion of vacancies (*Czech*) 9-43340
 polyethylene, creep in plane stressed state under programmed loads 9-11680
 polyethylene, high density, crystalline, creep under plane stress state with const. loading 9-1903
 polyethylene, low density, meas. of shear modulus and damping in a torsion pendulum 9-4989
 polyethylene, low density, nonlinear variable temp. creep 9-38908
 polyethylene, mech. retardation time spectrum, thermostimulated creep 9-5014
 polymer, crazing limit in creep and stress relax. 9-34177
 polymer networks, creep during scission reactions 9-15738
 polymeric material, temperature shear function and temp.-time analogy in linear thermoviscoelasticity region 9-18747
 polymeric solids, mech. retardation time spectrum, thermostimulated creep 9-5014
 polyolefins, amorphous, compensation temp., thermostimulated creep 9-14919
 polypropylene, oriented, stress relax. process characts., 20-100°C 9-20097
 polypropylene, oriented, thermooxidative degradation kinetics, durability, influence of mech. initiated processes (*Russian*) 9-24591
 polyvinyl butyral, activation parameters of creep 9-38925
 Portland cement paste, hardened, creep under cyclic temp. 9-8320
 post buckling characteristics, influence on creep buckling 9-7308
 pressure vessels, secondary creep problem, lower bound approx. soln. sequence 9-14284
 PVC, antiplasticised, linear-nonlinear viscoelasticity transition 9-5015
 PVC, crosslinked, mech. and thermal props. with plasticisers (*Japanese*) 9-15741
 PVC, mech. behaviour in nonlinear viscoelasticity range 9-4996
 reactor fuel pin claddings, fission gas driven creep calcs. 9-26531
 refractory, flexural creep 9-29155
 rheological analysis of stress change experiments during high temperature creep 9-37193
 rock creep, stable sliding, and premonitory slip 9-16410
 rocks, olivine-rich, activation vol. for creep, rel. to Earth upper mantle 9-44184
 rubber hydrochloride, meas. of shear modulus and damping in a torsion pendulum 9-4989
 shells, compressed viscoelastic orthotropic, stability 9-7305
 sign-reversing loading (*Russian*) 9-23224
 steady-state creep determ. eqns., microscopic stability restrictions (*Russian*) 9-10493
 steel, austenitic, intermittent loading effect on creep (*Japanese*) 9-29147
 steel, austenitic, measured internal stress and anelasticity in creep (*Czech*) 9-38909
 steel, austenitic, Ni-Cr, precipitation strengthened, anelasticity, plastic creep limit, 823K 9-1899
 steel, austenitic stainless, creep deform. effect on struct. of twin boundaries 9-8332
 steel, austenitic stainless, deformation induced cavitation, exam. 9-43363
 steel, austenitic stainless, grain boundary segregation studies, intergranular fracturing technique for stress corrosion cracking investigation 9-39057
 steel, austenitic stainless, type 800, tensile creep props. rel. to intergranular microstruct. at 800°C, TEM study 9-38885
 steel, austenitic stainless, V alloyed, creep inhibition at grain boundaries, dislocation struct., TEM study 9-43346
 steel, austenitic stainless in liq. Na, mechanical props., review 9-20150
 steel, Cr-Mo, annealed, creep and rupture, heat treatment effects 9-24548
 steel, Cr-Mo, annealed, interaction solid soln. hardening, precipitation effects on creep 9-4974
 steel, Cr-Mo-V, creep deform. under const. and cyclic temp. 9-38914
 steel, Cr-Mo-V, rupture ductility rel. to cavitation, density and SEM obs. 9-34142
 steel, Cr-V (1.5, 0.5 wt.%), ferritic, effect of temp. and microstruct. on creep damage 9-5023
 steel, cyclic creep and mean stress influence on fatigue life (*Czech*) 9-43403
 steel, medium C, 45, Ti+Al coated, failure during high temp. creep in NH₃ 9-11731
 steel, pearlitic, Cr-Mo, Cr-Mo-V and Mo-V, heat resist., Mo content rel. to mech. props. 9-20134
 steel, rail, fracture rough exam. of wear in rollers, subject to creep 9-15808
 steel, spring, 60C2A, tempered under stress, influence of tempering conditions on mech. props. (*Russian*) 9-47724
 steel, stainless, 304, thermal fatigue and strength estimation, creep fatigue interaction 9-11708
 steel, stainless, 316, creep and rupture, 525 to 900°C, creep rate 9-11678
 steel, stainless, 316, creep and rupture, 525 to 900°C, rupture and ductility 9-8327
 steel, stainless, 316, creep and rupture, 525 to 900°C 9-8328
 steel, stainless, 316, intergranular crack growth by diffusion 9-24608
 steel, stainless, Cr-Ni-Nb stabilised, Te vapour effect on creep and tensile props. 9-24583
 steel, stainless, SUS 316, creep-fatigue interaction at 600°C 9-34123
 steel, stainless, Ti stabilised, creep props. rel. to B conc. (*French*) 9-20132
 steel, stainless, type 304, creep surface determ. from multiple integral representation 9-47761
 steel 15Kh1M1F, microstruct. changes rel. to creep and fracture (*Russian*) 9-24572
 steel austenitic stainless, fatigue, low cycle, temp. and strain rate effects (*Japanese*) 9-29198
 steel bar with inhomogeneous props. of lagging creep, deform. 9-15731

creep continued
 steel high strength, Cd plated, effect of composition and thermal treatment, on hydrogen embrittlement susceptibility (*Russian*) 9-15769
 steels, martensitic-ferritic, austenitic, microdefect accumulation during creep, effects of heat treatment, hardening 9-24550
 surface science in metallurgy, review 9-42388
 Teflon, viscoelastic behaviour prediction of low temp., creep curves exam. 9-20141
 tension creep, finite element anal. of void growth 9-18739
 thin walled tube, limiting deform. in creep deform. 9-41593
 transition in transversely isotropic shells under uniform pressure 9-14277
 Udimet 520, γ' distribution in slip plane, dislocation loop form. during creep (*Japanese*) 9-42075
 viscoelastic deformation, apparent activation energy, creep T-jump expt. 9-37264
 viscoelastic solid, crack growth law using energy and COD fracture criteria 9-32378
 β -Zircalloy, creep charact. 9-8317
 Zircaloy 4, creep anal. and appl. in prediction of residual stress relaxation 9-43325
 Zircaloy-4 cladding, steady-state creep, 940 to 1873K 9-15759
 Al alloy 2618, creep and recovery under combined stress, viscoelastic model representation 9-34117
 Al, creep and rupture, 77 to 273K (*Russian*) 9-43386
 Al, creep strength and rupture under combined stresses 9-20133
 Al, microcrack singularities in low stress range at elevated temp. (*Russian*) 9-29172
 Al, polycryst. in annealed and creep conds., dislocation interactions with grain boundaries 9-42067
 Al, singularities of effect of pressure on stages of creep (*Russian*) 9-29134
 Al-Ag (up to 4 wt.%), 570-630°C, influence of Ag addition (*Russian*) 9-5003
 Al-CuAl, lamellar composite, creep, microstruct. obs. 9-8331
 Al-Mg (2 wt.%), high temp. creep, effect of cold working on mechanism 9-43351
 Al-Mg (2 wt.%), exam. of Harper-Dorn creep 9-5026
 Al-Mg (2.2 at.%), creep at 573K 9-20145
 Al-Mg (5.5 at.%), stress change expt. on creep 9-24584
 AlCu, electron microscope spot prep. of deform. bands 9-15922
 AlGe (4 wt.%), struct. peculiarities of superplastic behaviour due to porosity 9-34111
 CaO-MgO, doloma, composition effect on creep, impurity effects 9-43318
 Cd, creep mechanism at low temps. (*Russian*) 9-11659
 (Co_{0.9}Ni_{0.1})O, single crystals., morphology change during compressive creep testing 9-29144
 Cu, polycrystalline, friction stress meas. during high temp. creep 9-1898
 Cu₂O, creep tests, exam. of a creep machine mech. ability (*French*) 9-20325
 α -Fe, creep and fracture between 77 and 673K 9-7649
 Fe, deformation, influence of crystallographic lattice type (*Russian*) 9-34106
 Fe, deformation twin form. during high temp. creep (*Russian*) 9-24573
 Fe-Mo (1.8 at.%), high temp. creep mech., use of stress exponent 9-5025
 Fe-Mo (4.1 wt.%), substructs. developed during steady state creep at 1100-1200K, TEM obs. (*Japanese*) 9-38900
 Fe₂Ni₃P₄B₂(S₂), coiled ribbons, stress relaxation 9-29120
 MgAl₂O₄, dislocations, sessile disloc. 9-46663
 MgO, single crystals., work hardening and creep 9-43262
 MgO, ultrafine grained Fe doped, high temp. creep 9-15727
 MgO.3.5Al₂O₃, precipitation during creep experiments 9-47694
 Mo single crystal, effect of prior ultrasonic working on hardness, crystal orientation and creep resistance (*Russian*) 9-34056
 Mo, US working effect on single cryst. during deform., strengthening effect, plasticity resource (*Russian*) 9-34107
 Mo-W-Mo (4.74, 2.17 wt.%), creep resistance in ultrahigh vacuum 9-5027
 Nb-Zr-C alloy, long term loading at high temps. effect on struct. and morphology of carbide phase 9-15754
 NbC_{0.98}, single crystals., creep, 1800-2700°C (*Russian*) 9-5005
 Ni, creep, effect of AC mag. field, 1.5-4.2K (*Russian*) 9-11657
 Ni, creep, single crystals, 1.5-50K, orientation effects (*Russian*) 9-15757
 Ni, simultaneous obs. of Barkhausen and magnetoplastic effect 9-28583
 Ni-Al (1.18 wt.%), substruct. hardening effect, depend. on mechanism controlling creep rate, 700°C 9-20144
 Ni-Cr (2 wt.%), role of hydrostatic pressure on sintering of creep cavities 9-28980
 Ni-Cr complex alloy with good creep resistance, friction stress/flow stress relation 9-8337
 Ni-Cr-Co alloys, relax. resist. exam. by bending and tension 9-24564
 Ni-Fe metallic glass, METGLAS 2826, creep props. 9-15746
 Ni₃Al based alloys, mean square atomic displacements, rel. to steady creep rate 9-28053
 NiO single crystals., creep along (100), stresses 50 MPa-120 MPa, 950-1200°C (*French*) 9-20121
 Se amorphous films, structural relax., viscosity, creep, heat capacitors, and IR spectra meas. 9-42424
 Si-Al-O-N, compression creep, comparison with SiC and Si₃N₄ 9-15728
 SiC, compression creep, comparison with Si₃N₄ and sialon 9-15728
 Si₃N₄, pyrolytically-deposited, engng. significance 9-38746
 Si₃N₄, reaction bonded, effect of Si powder grain size on microstructure, and mech. props. (*German*) 9-4998
 Si₃N₄, reaction bonded and hot pressed, compression creep, comparison with sialon and SiC 9-15728
 Si₃N₄, reaction-bonded, internal oxidation processes role in high-temp. mech. props. 9-38915
 Si₃N₄, reaction-bonded and hot pressed, deform. and fracture during creep 9-38916
 Ti alloy, mechanical props. at high temp., effect of Pt ion plating 9-29156
 Ti, surface and grain boundary free energy, zero-creep determ. 9-4313
 Ti-Al-Sn-Zr-Mo-Si-O-H, Si, O, H effects on fatigue, fracture and creep charact. 9-11697
 Ti-Al-V (6.4 wt.%), surface and grain boundary free energy, zero-creep determ. 9-4313
 UO₂, superplastic creep 9-15730
 US-UC-UC₂ system, potential nuclear fuels, phase solid soln. studies, prep. and props. exam. 9-40996
 V, polycryst., creep behaviour, 790-880°C 9-24578

creep continued

- W, US working effect on single cryst. during deform., strengthening effect, plasticity resource (*Russian*) 9-34107
 Zn, microrupture singularities in low stress range at elevated temp. (*Russian*) 9-29172
 Zn, singularities of effect of pressure on stages of creep (*Russian*) 9-29134
 Zn-Al(Cu), dil. alloy, creep ductility 9-38899
 Zr-Sn-Mo (4.5, 1 wt.%) and (4.5, 2 wt.%), creep behaviour at room temp. (*Czech*) 9-24590
 ZrC-TaC solid solns., high-temp. creep 9-11661

creep fracture

- alloys, intergranular precipitate effect on diffusion growth of creep voids 9-34041
 Cr-Mo (2.25, 1 wt.%), annealed, tertiary creep behaviour 9-43326
 crack loaded in anti-plane shear under creep 9-27598
 cracked bodies, failure prediction in creep range 9-27592
 engineering materials relation between deform., rupture, power-law creep 9-5020
 ice sheet, creep rupture obs. at depth 9-2306
 Incoloy 800, chem. behaviour and mech. performance in HTR He at high temps. 9-47842
 Incoloy 800, creep and fatigue props. in high temp. gas cooled reactor He environment 9-47776
 Incoloy 800, creep crack growth, age hardening effect 9-43436
 Incoloy 800, creep rupture, creep strength and tensile data, 500 to 800°C 9-43371
 Incoloy 800, creep rupture ductility, 500 to 600°C, hardness and metallurgical exam. 9-43435
 Incoloy 800, creep rupture props. at 525°C 9-43437
 Incoloy 800, design codes and lifetime prediction aspects for nuclear and non nuclear appls. 9-47778
 Incoloy 800, effect of liquid Na on creep and rupture props. 9-47775
 Incoloy 800, mechanical props., heat treatment and appl., conf., Petten, Netherlands (March 1978) 9-43296
 Incoloy 800, thin wall tubing, creep-rupture testing in steam under constant and cyclic load 9-47774
 metals, time to rupture and accumulation of damage under load (*Russian*) 9-5029
 Nimonic 105, temp. and stress depend. of microstruct., small angle neutron scatt. study 9-15726
 polycarbonate film, struct. and mech. props. 9-19160
 PVC, rolled, anisotropic, creep fracture (*Japanese*) 9-34132
 reactor piping components, fracture mech. methods, safety anal. 9-11698
 reactor piping components, safety anal., fracture mechanics methods 9-11699
 rupture of specimens with random material props. 9-10491
 steel, austenitic, creep fatigue cycling, electric crack growth 9-29209
 steel, austenitic stainless, weldments, creep fracture, correlation with time-temperature parameters 9-29219
 steel, Cr-Mo, annealed, creep and rupture, heat treatment effects 9-24548
 steel, Cr-Mo, high-temp. props. and constitutive equations 9-34146
 steel, Cr-Mo (1, 0.5 wt.%), heat treated creep failure, role of stress state 9-5047
 steel, Cr-Mo-V (1, 1.25, 0.25 wt.%), creep crack growth (*Japanese*) 9-43399
 steel, Cr-V (1.5, 0.5 wt.%), ferritic, effect of temp. and microstruct. on creep damage 9-5023
 steel, creep-resistant, creep rupture under variable stress and temp. (*German*) 9-24597
 steel, stainless, 316, creep and rupture, 525 to 900°C, creep rate 9-11678
 steel, stainless, 316, creep and rupture, 525 to 900°C, rupture and ductility 9-8327
 steel, stainless, 316, creep and rupture, 525 to 900°C 9-8328
 steel, stainless, creep crack growth rate, correlation of tension and bending type specimens (*Japanese*) 9-38944
 steel, stainless, SUS 316, creep-fatigue interaction at 600°C 9-34123
 steel, stainless, type 316, microstruct. changes in creep ductility, SEM, TEM, optical microscopy and X-ray diff. study 9-38927
 steel, stainless 304, crack propagation under intermittent overloading at elevated temperatures (*Japanese*) 9-38947
 Udimet 700, Ni-Co-Cr-Ti, hold time effects on high temp. fatigue crack growth 9-5036
 Al, creep and rupture, 77 to 273K (*Russian*) 9-43386
 Al, creep and rupture, in torsion, mech. (*Russian*) 9-5030
 Al, creep strength and rupture under combined stresses 9-20133
 Al, microrupture singularities in low stress range at elevated temp. (*Russian*) 9-29172
 Co alloys, binary, and MAR-M322 type, influence of phase transform. on diffusion and mech. props. (*Russian*) 9-5000
 Co(Cr,Ni)-TaC fibrous eutectic, deformed, thermal stability of microstruct. (*Russian*) 9-1895
 α -Fe, creep and fracture between 77 and 673K 9-7649
 Ni-Cr-Fe, high temp. corrosion and creep in carburizing and oxidising atmos. 9-11727
 Si_3N_4 , reaction-bonded and hot pressed, deform. and fracture during creep 9-38916
 strengthened by lattice transformations, mech. props. study (*Japanese*) 9-43332
 Zn, microrupture singularities in low stress range at elevated temp. (*Russian*) 9-29172

creep-recovery *see recovery-creep***creep testing**

- ceramic compression tests, machine for high temp. testing (*French*) 9-20325
 microspecimens in strong mag. fields, device for tensile and creep tests 9-15903
 multicycle creep curves, device for recording at elevated temps. 9-43512
 polymer, long-term durability prediction methods 9-20320
 proton simulation of fusion reactor first wall environment apparatus 9-24707
 rubber, stretching strength, long-term, testing apparatus 9-15907
 space shuttle insulation coating, combined load testing at 1100°C 9-34261
 spring-loaded device, compact, to obtain constant stress in simple tension 9-43503
 strain gauge, load cells, characterisation of creep response 9-35718

crestatrons *see travelling-wave-tubes***crimping**

No entries

critical constants, thermal *see critical points***critical current density (superconductivity)**

- composite wire critical current density rel. to tensile stress at 4.2K, obs. 9-33439
 dipole magnet models of combined type 9-31301
 hard superconductor influence of thermally activated flux creep on AC response 9-33416
 long thin superconductor, resistive domain of small cross section in microwave EM field 9-28446
 SQUID, granular supercond. characterisation 9-28489
 technical superconductor radiation damage obs. 9-33422
 technical superconductors, preparation velocity of normal-conducting zone 9-24096
 type II, irreversible, flux flow in transverse mag. field 9-7949
 type II superconductor, current density distrib. in cylindrical sample 9-38270
 Cu alloy-Nb composite wires, resist-temp. meas., percolation theory 9-28490
 Ge-Sn barriers, Josephson tunnelling 9-28468
 Nb-NbO_x-Pb, miniature tunnel junction, current density, determ. by I_c -curve 9-7939
 Nb-Ti, multifilament superconductor, metallurgical design 9-33434
 Nb-Ti, wire drawn and hydrostatically extruded supercond., crit. current density 9-38275
 Nb-Ti 10 kA conductor development for Tokamak toroidal coil 9-31217
 Nb-Ti filamentary superconductor critical current density rel. to thermal treatment 9-33440
 Nb-Ti multifilamentary supercond., commercial, crit. current density 9-38274
 Nb-Ti-Ta alloys, metallurgical anal. and crit. current densities 9-38286
 Nb-Zr, deformed strip, pinning force, widely varied j_c temp. and mag. field variations (*Russian*) 9-7948
 Nb₃Al multifilamentary cable fabrication and props. 9-33438
 Nb₃(Ge, X), X=Si, Ga, CVD tapes, supercond. props. at high mag. fields 9-38279
 Nb₃Ge CVD supercond. tape critical current anisotropy obs. 9-33372
 Nb₃Ge CVD tapes, supercond. props. at high mag. fields 9-38279
 Nb₃Ge film, prepared by cosputtering, supercond. props. 9-4634
 Nb₃Ge films, correl. between crit. current density and microstruct. 9-38277
 Nb₃Ge films, magnetron sputtered preps. and microstruct. 9-38276
 Nb₃Ge, supercond. film, prep. by chem. transport reaction, critical props. 9-47635
 Nb₃Ge superconducting long tapes, CVD prepared, high current densities at 20 T 9-33436
 Nb₃Ge tape conductors, strain depend. of crit. current density 9-38278
 Nb₃Ge_{1-x}Ga_x(Sn₂) CVD films, supercond. props., 4.2 to 19K 9-42713
 NbSn multifilamentary superconducting composites, micromechanics 9-38878
 Nb₃Sn filamentary composite conductor design 9-30515
 Nb₃Sn, irradiated, critical current density 9-38293
 Nb₃Sn multifilament conductor critical current rel. to mech. strain 9-31215
 Nb₃Sn multifilament superconductors produced by ECN technique, prep. and props. 9-33975
 Nb₃Sn, multifilament superconductor, metallurgical design 9-33434
 Nb₃Sn, multifilamentary, optimization of high field crit. current density 9-38288
 Nb₃Sn multifilamentary composite superconductor, effect of heat treatment on supercond. props. 9-33376
 Nb₃Sn multifilamentary composite wires, supercond. crit. current density, temp. and mag. field depend. 9-33425
 Nb₃Sn multifilamentary superconductor AC hysteresis losses 9-33437
 Nb₃Sn multifilamentary superconducting wires, crit. current density in high mag. field 9-38281
 Nb₃Sn multifilamentary superconducting wires, improved high-field props. 9-47215
 Nb₃Sn, supercond., production of high current carrying strip (*Russian*) 9-33435
 Nb₃Sn superconducting wires, in situ multifilamentary, mech. props. 9-47746
 Nb₃Sn superconductors, Kirkendall voids, effects on mech. and supercond. props. 9-33429
 Nb₃Sn-Cu composite superconductors, in-situ, AC losses 9-38283
 Nb₃Sn-Cu multifilamentary wires, in situ prep., supercond. and mech. props. 9-38768
 Nb₃Sn-Cu superconducting composites, produced by cold extrusion of fine powders 9-38767
 Nb₃(SnIn) wires, prep. by ductile fabrication process and props. 9-38265
 NbTi, monorec and filament conductors, crit. current densities and anisotropy factors, heat treatment effects 9-38285
 NbTi multifilamentary composite wires, supercond. crit. current density, temp. and mag. field depend. 9-33425
 NbTi, processing parameter optimisation for high mag. field appls. 9-38290
 NbTi, solid soln. supercond., crit. current anisotropy 9-38273
 NbZr, thermally activated flux creep, effect on AC response 9-33416
 Pb-Cd, oriented lamellar superconductor-normal composite, supercond. 9-1650
 Pb-In alloys, supercond., AC losses of EM energy, critical current densities 9-33423
 Pb-Tl (20 wt.%) rod, supercond., critical current densities in surface pinning region 9-47216
 V-Hf-Nb(Zr), multifilamentary, superconducting props. improvement 9-38267
 V₃Ga, composite-processed, with improved current carrying capacities in high mag. fields 9-38272
 V₃Ga multifilamentary supercond. wire, fabrication and props., crit. review 9-38271

critical currents

- see also critical current density (superconductivity); flux creep; flux flow; flux pinning*
 Clarke solder-blob junctions, hysteresis studies 9-28478
 digital Josephson technology—present and future 9-28472
 film bridges, supercond. stimulation by microwaves, threshold (*Russian*) 9-33409

critical currents continued

- hysteresis in nonequilibrium superconducting proximity-effect bridges 9-15258
- Josephson array, crit. current and order parameter 9-33410
- microbridge Josephson junction, fabrication using electron beam lithography, crit. current meas. 9-28457
- nonequilibrium superconductivity, theory in coherent longitudinal phonon field 9-47205
- periodic pinning structures, supercond. vortices 9-38269
- standards for practical superconductors, development 9-33442
- superconducting filament formation near edge dislocation (*Russian*) 9-4635
- superconducting short microbridges, dynamic props. 9-47202
- type II superconductor, pinning, deformation of flux line lattice 9-47213
- Al, superconducting film, microwave enhanced critical current, charact. time const. meas. 9-24102
- Cu-Nb(Nb₃Sn) composite wires, powder metallurgy prod., supercond. props. and annealing 9-33428
- Cu₃Mo₈S₈, evaporated films, superconducting upper crit. fields, crit. currents 9-42714
- Cu₃Mo₈S₈, superconducting reactively evaporated film, crit. currents 9-28492
- Nb, bicrystal, resistive crit. current, depend. on transverse mag. field 9-24114
- Nb, superconducting, deformed, oscillation in current-voltage characts. near H_{c2} 9-28491
- Nb-Nb(Nb₃Sn) supercond. point contacts, crit. currents, effect of laser radiation (*Russian*) 9-28484
- Nb₃Ga, critical data, under hydrostatic pressure to 15 kbar 9-47217
- Nb₃Ge sputtered and evaporated, struct.-depend. anisotropy of supercond. crit. currents 9-38292
- Nb₃Ge_{1-x}M_x (M=Ga,Sn), pseudo-binary, scaling laws for supercond. crit. currents 9-24118
- NbN, critical data, under hydrostatic pressure to 15 kbar 9-47217
- NbN diffusion wires, crit. currents and supercond. crit. field under high press. 9-38287
- Nb₃Sn composite wires, supercond., degradation mech. under tensile strain at 4.2K 9-38284
- Nb₃Sn composites, crit. currents and microstruct. 9-38280
- Nb₃Sn conductor, bronze-process fine-filament, development and props. 9-33426
- Nb₃Sn, critical data, under hydrostatic pressure to 15 kbar 9-47217
- Nb₃Sn, low temp. neutron irradi. expts., E_n=14 MeV 9-33424
- Nb₃Sn multifilament conductors, fabrication and props. 9-33427
- Nb₃Sn multifilamentary conductors for large-scale magnets, crit. currents, stability, and stress effects 9-38291
- Nb₃Sn multifilamentary composite superconductor, effect of heat treatment on supercond. props. 9-33376
- Nb₃Sn multifilamentary composite superconductor, reaction treatment, crit. current, transition temp. and bend props. 9-33430
- Nb₃Sn multifilamentary dipole magnets, supercond. props., 4.2 to 15K 9-31275
- Nb₃Sn multifilamentary hollow superconductor and magnet, fabrication and crit. currents 9-38289
- Nb₃Sn multifilamentary superconductor, stress induced normal \rightarrow supercond. transition 9-33377
- Nb₃Sn, supercond., production of high current carrying strip (*Russian*) 9-33435
- Nb₃Sn superconducting multifilamentary wire, stress effects 9-33431
- Nb₃Sn superconducting multifilamentary composites, strain depend. of crit. current and crit. field 9-33432
- Nb₃Sn superconducting multifilamentary conductors, localisation of defects by inductive procedure 9-33433
- Nb₃Sn thin film bridges, AC Josephson effect 9-42702
- Nb₃Sn-Cu superconducting composite with submicrometer filaments, fabrication and props. 9-38282
- Nb₃Sn-Nb₃Sn supercond. point contacts, crit. currents, effect of laser radiation (*Russian*) 9-28484
- Nb₃(SnGa), wire, neutron effect on T_c, I_c and flux pinning 9-38216
- Nb₃(SnIn) tapes, diffusion processed, high field props. 9-38266
- Ti-Nb superconducting alloys and cmpds. with Al₅ struct., H₂ effect on supercond. props 9-28438

critical field, superconducting *see superconducting critical field***critical fluctuations***see also fluctuations in superconductors*

- anthracene-TCNB, 1:1 charge transfer complex, phase transition at 206K, NMR meas. 9-7690
- boiling, nucleate, superheating, heterogeneous nucleation theory calc. 9-46170
- boson systems, critical dynamics and fluctuation-dissipation theorem 9-40467
- chemical system, nonlinear, open, information, critical fluctuations and phase-transition-like phenomena 9-24720
- cyclohexane-methanol, crit. opalescence, elec. field effect 9-28775
- ferroelectric, displacive type, Ginzburg-Lavanyuk parameter 9-8106
- first-order phase transition, nonlinear relaxation, Ginzburg-Landau theory including fluctuations 9-35658
- Lennard-Jones fluid, phase separation by spinodal decomposition, mol. dynamics computer simulation 9-10766
- nonlinear dynamics of first order phase transitions 9-11322
- phase transitions, caused by inhomogeneity of transition parameter (*Russian*) 9-23698
- scaling techniques, near second-order phase transitions 9-35626
- short-term local phase and polymorphic transforms. and changes of inner states in solids 9-14913
- structural transitions, method of self consistent phonon field 9-33065
- ⁴He, critical fluctuations near lambda point, energy-density correl. function 9-12753
- ⁴He, liq., dynamical behaviour to λ -line, light scattering review 9-7717
- K solution, in KBr, conc. fluctuations, neutron small-angle scatt. study in electrolyte-metal transition range 9-14668
- Li-ND₃, near liq.-liq. crit. point, conc. fluctuations, neutron diff. long wavelength thermodynamic limit 9-10948
- NaNO₂, ferroelectric, NMR of ²³Na small particles 9-28629
- PbMg_{1/3}Nb_{2/3}O₃, ferroelec., crit. electron-phonon phenomena and diffuse phase transition in elec. field 9-38497
- critical mixtures**
- acetic acid, in cyclohexane soln., Raman scatt. near crit. stratification, temp. depend. (*Russian*) 9-11420
- alcohol-aliphatic hydrocarbon mixture, critical soln. temp. 9-37844
- critical mixtures continued**
- aqueous mixtures, lower crit. soln. pt. theory 9-4415
- nitrobenzene-n-hexane, crit. mixtures, reorientation spectra, linewidths and intensities 9-28777
- nitroethane-cyclohexane, pretransitional effects above phase transition temp., nonlinear dielectric meas. 9-15390
- nitrotoluene-pentane, pretransitional effects above phase transition temp., nonlinear dielectric meas. 9-15390
- one-fluid approx. transport coeffs., critical region behaviour 9-14951
- 4-n-pentyl-4'-cyanobiphenyl, isotropic, optical and electrical Kerr effect 9-32886
- polymer solution, intermolecular interpenetration and entanglement, crit. concs. 9-27900
- PVC-THF-H₂O, precipitation fractionation, influence of stereoregularity 9-7046
- triethylamine-water, critical mixture, specific heat anomaly 9-42268
- triethylamine-water critical mixtures, US absorpt. 9-28045
- Li-ND₃, near liq.-liq. crit. point, conc. fluctuations, neutron diff. long wavelength thermodynamic limit 9-10948
- (NH₄)₂SO₄-H₂O-ethanol-benzene, tricritical mixture, light scatt. 9-15473
- critical opalescence**
- cyclohexane-methanol, elec. field effect 9-28775
- multiple scattering contribution, dynamical similarity hypothesis 9-8151
- critical path analysis**
- see also project engineering; systems analysis*
- binary alloys, electronic density of states, generalized cluster-Bethe-lattice approach 9-42432
- critical path scheduling** *see critical path analysis*
- critical phenomena**
- see also critical fluctuations; critical mixtures; magnetic transitions; phase equilibrium; phase transformations; renormalisation*
- 1/n expansion to order 1/n², crit. exponent β for d=3 9-35636
- 1/n expansion to order 1/n², crit. exponents γ , ν for d=3 9-35637
- ϕ theory, spontaneous symmetry breakdown in finite systems 9-45011
- alloys with competing interactions, phase diagrams and crit. props. 9-40514
- amorphous ferromagnet, thermal cycling and annealing, critical behaviour 9-42790
- Ashkin-Teller-Potts model, renormalisation group anal. 9-154
- Bell-Lavis 2-D bonded lattice model, critical behaviour 9-17356
- binary ionic highly dissymmetric mixtures, phase separation 9-46425
- biological multiparticle systems, stat.-thermodynamic treatment, phase transitions (*German*) 9-16119
- bond and site percolation, renormalisation group results 9-149
- Brownian motion of interacting and noninteracting particles in periodic potential driven by external field, analogy 9-2726
- classical fluid, crit. dynamics, double scatt. correction 9-42979
- classical n-vector model, spin-dimensionality dependence of critical parameters 9-40479
- classical n-vector models, d-2 and 4-d expansions 9-30387
- coexistence curve of liquid system with global eqn. of state 9-1487
- conductance network, random, simple, triangular, site percolation, crit. conc., comparison with exact value and Yuge's value 9-12746
- Coulombic liq., correlation function critical behaviour Ornstein-Zernike theory 9-1957
- critical indices, conformally invariant bootstrap method 9-12955
- critical principal connections and gauge-invariance 9-6287
- critical scattering theory, book 9-25913
- crossover scaling functions for two-point correlations near tricritical points 9-40510
- decimation transformations in lattice systems of continuous spins 9-25997
- dielectric liquid, isomorphism in crit. phenomena 9-33649
- dilute ferromagnet, Ising model, crit. props. in percolation limit 9-1677
- disordered, two-dimens. Ising models, real space renormalisation group 9-42788
- disordered spin system 9-40516
- Dyson's hierarchical model, critical props. 9-40481
- effective critical exponents in spherical limit 9-12749
- elastic transitions of second order, dynamical renormalisation group method 9-40512
- Feynman-Wilson gas, statistical model for multiparticle physics 9-22071
- first-order transition induced by cubic anisotropy 9-4688
- fluids, crit. pt., scaling and extended scaling eqns. of state implementation, program 9-46780
- Heisenberg model, crit. behaviour, Bose expansion 9-42785
- Ising model, one-dimens., real-space renormalization group 9-15317
- Ising model, two dimensional, second neighbour interaction, Pade approximant, critical behaviour 9-4682
- Ising model in 3-D, critical exponent γ 9-12727
- Ising model in 4-D, critical isotherm 9-44871
- Ising model with nearest and next-nearest neighbour interactions, non-universality 9-44870
- isobutene, droplet nucleation from crit. gas-phase+positive ions 9-39222
- kinetic Ising model, quenched relaxing impurities, critical dynamics 9-40484
- Landau-Ginsburg model, droplets free energy, Jost function 9-40469
- lattice gas of big interacting mols., phase transitions (*Russian*) 9-157
- layered periodic system, crit. temp., 1/n expansion 9-40519
- magnetism, spin-S Heisenberg model mapped onto interacting Bose field 9-47291
- multicritical phase transitions, review 9-30385
- non-equilib. instability, k=0 hard mode transition, appl. of dynamic renormalisation group 9-21686
- non-ideal systm, generalisation of scaling hypothesis 9-19356
- nonlinear relaxation and fluctuation 9-30373
- O(n)-symmetric systems dynamic crit. exponents, renormalized field theory 9-12754
- percolation cluster sizes and perimeters, scaling form 9-2728
- percolation clusters and lattice animals, similarity laws for density profile, Monte Carlo data anal. 9-44881
- percolation theory at the critical dimension 9-152
- percolation threshold of heterogeneous system 9-42889
- perturbation theory, large-order behaviour, critical exponents, Callan-Symanzik eqns. 9-30397
- phase transformations in intermediate spherical model 9-30403
- phase transition in 2-D sine-Gordon system 9-12736
- phase transitions, percolation clusters and lattice animals 9-6057
- phase transitions at tetracritical point, Landau theory (*Russian*) 9-17379

critical phenomena continued

- plane rotor model, static and dynamic crit. behaviour, Monte Carlo simulation 9-38334
 polymer solutions, tricritical effects, small angle neutron scatt. studies 9-41939
 polymer statistics of long chains in solns. or melts 9-31758
 Pomeroy and critical temp. 9-12982
 pomeron and critical temperature 9-3003
 position space renormalizations and the breakdown of hyperscaling 9-40482
 position-space renormalization approach 9-30404
 Potts model, crit. behaviour, renormalisation group calcs. (*Russian*) 9-6059
 Potts s-state model, exact critical surface on triangular and honeycomb lattices 9-148
 probability theory, for critical point behaviour 9-44889
 pure component liquid-vapour transition, two component decorated lattice gas model 9-35650
 quantum X-Y model, crossover scaling near zero temp. 9-28535
 renormalization transformations for quantum spin systems 9-40511
 resistivity of mag. solids 9-42213
 retarded Josephson eqn., critical limit cycles 9-1644
 Riemann-Hugoniot catastrophe and P, ρ, T surfaces of real gases 9-6066
 scaling and multiplicative renormalising in solid state physics, review (*Hungarian*) 9-11289
 scaling properties of models of nonequilibrium phenomena, 't Hooft renorm. group method 9-26015
 second order transformations in ideal and disordered systems (*German*) 9-40508
 self-avoiding walks on the hyper face-centred cubic lattice in four dimensions 9-17355
 smectic A to nematic phase transition, critical dynamics 9-1493
 smectic A-nematic transition, defect model, crit., director fluctuation 9-14916
 space environment applications for critical phenomena and condensation, second order phase transformations 9-46783
 spin systems with long-range interactions 9-40515
 spinodal line in constrained systems 9-40520
 stability of critical behaviour, critical-exponent renormalization and first-order transitions 9-44895
 superfluidity and the two dimensional XY model 9-28498
 transverse Ising model, dipolar interaction, crit. relax. function 9-40487
 triangular lattice bond problem, series expansion study of percolation probability 9-2727
 trifluoromethane, dielectric const. near critical point 9-15394
 two-dimensional systems, crit. percolation behaviour, renormalisation-group approach 9-4396
 universality hypothesis in classical statistical mechanics 9-12712
 Van der Waals fluid near critical pt., transport props. 9-46537
 Z(N) topological excitations in Yang-Mills theories: duality and confinement 9-12938
 zero-temperature phase transition in rigorously solvable model, crit. exponent and scaling law 9-11321
⁴He, transients in critical dynamics 9-40513
 ND₄Cl, ultrasonic exam. near order-disorder transition, elastic const. 9-46799
 Xe, light scattering, in crit. region, scaling interpretation 9-46420

critical points

- see also boiling point; melting point*
 acetonitrile, Rayleigh linewidth, in crit. region 9-24329
 air flows in triple point shock configurations, anal. thermodynamics (*Russian*) 9-32569
 anisotropic spin system, field theoretic approach to bi-critical point 9-40518
 aspirator saturator, performance, dew point data of air (*Japanese*) 9-40580
 bicritical point crossover, asymptotic behaviour of a field theory with quadratic symmetry breaking 9-1488
 binary ordering alloy, theory of surface effects 9-19434
 Brownian motion of interacting and noninteracting particles in periodic potential driven by external field, analogy 9-2726
 trans-decahydronaphthalene-polystyrene system, press. and mol. wt. depend. of polymer solubility 9-23734
 dielectric liquids, critical point and eqn. of state investig. by optothermodynamic method (*Russian*) 9-33068
 diphenyl ether, preparation, purification and use in triple-point cell 9-21750
 equation of state, perturbed-hard-sphere, applicable to sub- and supercritical temps. 9-19350
 ethylene-polyethylene mixtures, phase behaviour under high-press., polymer mean mol. wt. influence 9-24745
 Fermi liquid, normal, mag. ordering at absolute zero 9-38344
 ferromagnet, total spin distrib. in spherical model with long-range pot. 9-30383
 first-order transition induced by cubic anisotropy, tricritical point, location 9-4688
 flexible polymers, in soln., obs. of pair correlation function, temp. and conc. effects small neutron scatt. anal. 9-10780
 Goldstone mode singularities, eqn. of state of isotropic magnet 9-42803
 infinite type, exact sol. in one dims. 9-9199
 Ising ferromagnet crit. props. of site and bond diluted model 9-42766
 Ising like model, tricritical two-dimensional behaviour, finite size effects, model depend. 9-35641
 Ising model, tricritical two dimensional behaviour, ϵ expansion universal quantities 9-35642
 Landau crit. point, mean-field theory, scaling theory and crit. exponents to second order in ϵ^2 9-4395
 Landau critical point, low temp. renormalisation group and 1/N expansion 9-35656
 Lennard-Jones pot. fluid, locating of crit. point 9-37826
 Lennard-Jones system, 2- and 3-dims., crit. point parameters, quantum corrections 9-4227
 Lifshits critical points 9-7796
 Lifshitz point, physical realisation 9-41957
 Lifshitz pts., magnets with competing interactions 9-42214
 light scattering near phase transition points 9-15415
 liquid metals, surface tension and critical props. 9-28176
 liquid-gas critical point in 3.3 dimensions 9-7684
 liquid-gas transitions in the spin-1 asymmetrical Ising model 9-42212

critical points continued

- MBBA, pretransitional effects above phase transition temp., nonlinear dielectric meas. 9-15390
 methanol, Rayleigh linewidth, in crit. region 9-24329
 polymer solns., phase diagrams, pulse-induced critical scatt. 9-1490
 polymethylene in binary n-alkane solvents, lower critical soln. temp. 9-37841
 polymethylene in n-alkanes, lower critical soln. temp. 9-37840
 polystyrene-cyclohexane, polymer solns., coexistence curve 9-28101
 random fields, multicritical points and dimensionality shift 9-40468
 relaxation model near the Lifshitz point 9-17376
 significant liquid structure theory, liquid-vapour transition, reduced eqn. of state for real fluids 9-32869
 spin-spin correlation function near the critical point 9-11319
 squaric acid, structural phase transition, US vel. meas. as function of temp. below and above T_c 9-14927
 symmetry breaking fields, destruction of first order transitions 9-40517
 system with two parameters, Mott and ferromagnetic transitions, phase diagram of the extended Caron Pratt model 9-15083
 triangular lattice, self-avoiding walks 9-40478
 tricriticality and the failure of scaling in the many-component limit 9-6071
 X-Y model, one dims., transverse correl. function at zero temp. 9-40493
 C, solid-liquid-vapour triple point pressure 9-14914
 CH₄, triple point, International Practical Temp. Scale, comparisons 9-40566
 β -CO, single cryst., adiabatic elastic const., at triple pt., Brillouin scatt. obs. 9-47466
 DyAl₂, magnetisation, three-state Potts model 9-42804
 Fe, structural stabilisation, influence of C interstitials on transition temp. between α and γ phases 9-11611
 H₂-Ar, liq.-vapor equilib. 83 to 141K, to 52 MPa 9-42226
 HBr, triple-point temp. and pressure, vapour pressure of liquid to 205K 9-7683
³He-⁴He mixture, ion trapping at tricritical point, depend on temp. and elec. field 9-7729
 Hg, expanded fluid, thermolec. power near crit. point 9-23951
 K solution, in KBr, conc. fluctuations, neutron small-angle scatt. study in electrolyte-metal transition range 9-14668
 KBr:TL, impurity-induced first-order Raman scatt., critical-point and critical-line anal. 9-19884
 KCl:TL, impurity-induced first-order Raman scatt., critical-point and critical-line anal. 9-19884
 KH₂PO₄-type crystals, H bond in ferroelectricity, role of high pressure research, tricritical point 9-15414
 NH₃-ethylene (propylene) mixtures, crit. curves at high-press. 9-23715
 (NH₄)₂SO₄-H₂O-ethanol-benzene, tricritical mixture, light scatt. 9-15473
 NH₄X, (X=Cl, Br, I), tricritical points 9-7695
 Na thermodynamic props. for reactor safety analysis 9-13478
 Na-NH₃, solns., US absorpt. and vel. near crit. point 9-28047
 TiMnCl₃, transition temp., variation with press. 9-7694
critical temperature, superconducting *see superconducting transition temperature*
CRO *see cathode-ray oscilloscopes*
crocidolite *see asbestos*
crops *see farming*
cross-sections (nuclear) *see nuclear reactions and scattering*
crosstalk
 data buses, angle optical fibre, signal distribution systems and crosstalk isolation 9-3802
crowdens
 metal, HCP, long-range interstitial migration rel. to c/a ratio 9-28125
 property analysis using Frenkel-Kontorova model 9-42056
 Au, prop. anal. using Frenkel-Kontorova model 9-42056
CRT *see cathode-ray tubes*
crushing strength *see compressive strength*
cryoelectric stores
see also cryotrons; superconducting devices
 superconducting film, memory device storage of Abrikosov vortices 9-28487
cryogenic pumps *see cryopumping*
cryogenics
see also cryoelectric stores; cryopumping; cryoscopy; cryostats; cryotrons
 Joule-Thomson effect; low-temperature production; low-temperature techniques; magnetic cooling; refrigeration
 Australian National Measurement Laboratory and cryogenics 9-35753
 biological materials, low-temp. SEM, X-ray microanal. 9-39627
 biological specimens, cryosectioning for X-ray microanal. 9-39626
 blood cells, red, human, frozen section prep. for electron probe anal., fracturing or cutting 9-39625
 boiling, critical heat fluxes, effect of cylindrical heater dimensions 9-35756
 calorimetry, review 9-40573
 cryogenic refrigerators for fusion research 9-679
 cryogenically cooled mixer for 80 to 120 GHz, improvements 9-40073
 digital Josephson technology - present and future 9-28472
 elastic body cryogenic gravitational wave antennae, sensitivity 9-12705
 EPR method of appl. strong electric fields at low temp. 9-21792
 ESCAR magnet cooling system 9-30485
 force-cooled superconductor design for large fusion magnets 9-31216
 heat exchanger, low cost, ultra-compact 9-35758
 low permeability meas. at cryogenic temperatures 9-30514
 magnet technology, conference, Bratislava (1977) 9-30499
 magnetic suspension densitometer for cryogenic meas. 9-12805
 measurements at liquid He temperatures (*German*) 9-5760
 microbeam anal., conf., Ann Arbor, MI, USA (June 1978) 9-39258
 microminiature cryogenic refrigerators, design, construction 9-26059
 nucleate boiling crisis in supercond. magnet cooling channels 9-32196
 optics test chamber for cryogenic meas. at high vacuum, upgrading design 9-23098
 progress report 9-208
 radionucleic calorimeter for liquid He range 4.2 to 8K 9-18093
 spectrophotometer UR-10 attachment for investigation of small objects at low temps. 9-21822
 superconductive electronics, conf., Charlottesville, USA (Mar. 1978) 9-28447
 Tokamak power reactor supercond. poloidal magnet system design, experimental 9-31207

cryogenics continued

trace impurities in gasses, IR spectrometric detect., cryogenic method 9-16053
vapour formation and heat transfer in supercond. magnet cooling channels 9-32197
variable-temperature trap, for separation of gas mixtures 9-16026
H₂ target, liquid, microprocessor-based cryogenic refrigerator controller 9-45491

cryopumping

Excalibur CVR 1106 cryosorption pump, He pumping at 4.2K by mol. sieve SA 9-44914
neutron irradi. effects on pumping characts. appl. to fusion reactors 9-44915
thermonuclear fusion appl. (*Russian*) 9-36417
BN, low-Z material, outgassing expts. 9-209
BeO, low-Z material, outgassing expts. 9-209
He closed-loop cryopumps, design, appl. 9-26062
Si₃N₄, low-Z material, outgassing expts. 9-209

cryoscopes *see cryoscopy***cryoscopy**

No entries

cryosorption *see sorption***cryostats**

apparatus for low-temp./high pressure Mossbauer absorber study, modified 9-17591
continuous flow, design and application 9-21759
Dewar system for trapped radical study down to 1.5K 9-17427
dilution refrigerator for low temperature nuclear orientation experiments on line to an isotope separator 9-752
EPR method of appl. strong electric fields at low temp. 9-21792
far IR absorbent solid dispersive reflection meas., using Fourier spectrometer and cryostat 9-30580
Fermilab energy doubler magnets, support design and cryostat system 9-31257
liquid He transfer controller, semiautomatic 9-17428
mini-cryostat for planar solid state detectors 9-22550
multipurpose, for low temp. electron irradi. of semicond. 9-35755
prototype supercond. quadrupole magnet for CERN intersecting storage rings 9-31265
spectroscopy studies, of inorganic and organic molecules, sublimation temp. 300 to 3000K (*Russian*) 9-10094
superconducting magnet, low evaporation cryostat (*Japanese*) 9-44910
superconducting solenoids for polarized beam synchrotron, magnet and cryostat design 9-31252
superconductive electronics, cryocoolers 9-26058
surface tension meas. 9-17426
thin film, internal friction meas. apparatus for 4.2-300K 9-5093
Al-NbTi solenoid magnet for high energy particle detector, conductor and cryostat design 9-31319
He cryostat for low temp. calorimetry 9-40577
He, for adjustable coding of open refrigeration tube 9-35759
He temperature, for use with dispersive Fourier Michelson interferometer 9-2841

cryotrons

Nb-NbO_x-Pb junction, static charact. of tunnelling cryotrons 9-28480

crystal atomic structure

see also crystal atomic structure of alloys; crystal atomic structure of elements; crystal atomic structure of inorganic compounds; crystal atomic structure of organic compounds; electron diffraction crystallography; lattice constants; neutron diffraction crystallography; space groups; superlattices; X-ray crystallography
conference, International Crystallography Congress, Warsaw, Poland (Aug. 78) 9-23481
cumulative distributions, symmetry- and composition-dependent of normalized structure amplitude for use in intensity statistics 9-32847
four-dimensional space, crystallographic groups, book 9-27942
hard-disc system, structures of close-packed thin layer 9-27941
historical review (*Danish*) 9-9071
Karl-Hauptman matrix, joint probability distrib. of struct. factors in space group P1 9-23480
Karle-Hauptman matrix, conditional phase probability distributions of struct. factors 9-19120
kinematical (Universal limit), and freedom from extinction 9-23486
metric tensors, in Hilbert space, geometrical approach to solving cryst. structs. 9-32846
microparacrystals in physics, review (*German*) 9-27933
molecular assembly, two dims. packings of elliptical mol. 9-37640
molecular cryst. struct., principles (*German*) 9-42000
noncentrosymmetric structures, antisymmetric atomic features, Bijvoet ratio 9-32925
polytypic crystal structs., appl. of self-consistent field method to statistical model 9-37639
quantum field theory of crystals and extended objects, review 9-42164
rigid molecules, with large librations, dynamic density and struct. factors 9-7515
structure models, positional errors, their influence in the residual R₂ 9-7563
superposition of similar structures, optimisation transformations 9-27865
tensorial covariants for the 32 crystal point groups 9-19173
Wyckoff site description of cryst. struct., depend. on labelling of axes 9-23557
X-ray Bragg scattering, in the Born-Oppenheimer approximation 9-32850
X-ray high order refinements of H atoms, theoretical approach 9-19121

crystal atomic structure of alloys

brass, nonradial diffuse streaks and complex diffuse scatt. patterns of electrons 9-7527
Fe₂Al₁Si_{1-x}, DO₃ structured, ferromag., lattice parameters 9-42010
martensite steel, cryst. struct. variation during heating, role of Mn and Al (*Russian*) 9-46600
ordered alloys, cryst. struct. and phase transforms. (*Russian*) 9-29047
pyrochlore struct. and its relatives 9-14773
Santa Catharina, Fe-Ni (50 wt.%) superstructure obs. 9-30024
space filling elongated rhombic dodecahedron in alloy structs. 9-32946
steel, Ni, martensite decomposition (*Russian*) 9-1841
transition metal alloy phases, and σ phases, electron factors 9-46602
transition metal-B subgroup element alloy, ordered BCC phases at high temp. 9-32948
AgCd-AgMg(AgZn), quasibinary alloys, phase relations 9-8273

crystal atomic structure of alloys continued

Ag₃Mg, long-period alloy, ordered struct. 9-27949
Al-Cu-Ni, vacancy ordering, electron microscope and electron diffr. obs. 9-27954
Al-Pd, rapidly solidified, new ordered phase, electron microscope obs. 9-11645
Al-Pt (2 at.%), splat cooled, AlPt₂ phase, electron diffr. obs. 9-15657
Ba_{0.67}Pt_{1.33}B₂, cryst. struct. and supercond. props. 9-38231
Ca_{0.67}Pt_{1.33}B₂, cryst. struct. and supercond. props. 9-38231
Co-Ga alloys, phase diagrams and cryst. struct., DTA, X-ray diffr. and microprobe anal. (*French*) 9-47660
Co-Gd-B, rules of compd. form. in related systems 9-34010
(Co_{0.85}Cu_{0.15})₂Ce, cryst. struct. and mag. props., decomp. during ageing (*Russian*) 9-37661
Co₄CuCe, cryst. struct., mag. characts., ageing and decomposition (*Russian*) 9-4272
(Cr_{1-x}Fe_x)_{1+y}Sb, interstitial occupancy, Cr:Fe distrib., X-ray and neutron diffr. study 9-42012
Cr₃Si type phases, A-15, crystallographic interpretation of atomic volumes 9-10833
Cu_{0.435}Ni_{0.565}, clustering, temp. depend., diffuse neutron scatt. study 9-42013
Dy₃Pt₄, isotypic with Pu₃Rh₄, X-ray cryst. struct. refinement anal. 9-4271
Er₃Pt₄, isotypic with Pu₃Rh₄, X-ray cryst. struct. refinement anal. 9-4271
Fe-C martensite, crystal struct. and morphology of ordered phase 9-42011
Fe-Ni-C-Mn (3.56, 3.25, 0.6 wt.%), solid soln., quenched, changes during annealing to crystal structure, mech. props. (*Russian*) 9-34076
Fe-Ni-Ti-Al, martensite, nature of tetragonality 9-32936
Fe-Rh alloy, nonmag. and mag., band theory 9-37973
Fe-Si-Al (5.10 wt.%) struct. anal. by electron microscopy and electron diffr. (*Chinese*) 9-11618
Fe₇₃Al₁₇Si_{10-x}, DO₃ structured, ferromag., lattice parameters 9-42010
FeCo, isothermal annealing effect on lattice const. (*Japanese*) 9-20076
Ga-transition metal alloys, phase diagrams and cryst. struct. (*French*) 9-47659
Gd-Ni-Al, (Gd<33.3 at.%), isothermal section, 800°C, X-ray and microscopical anal. (*Russian*) 9-27950
GdCO₂, lattice parameter determ. 9-14737
Gd₃Co₂Ga, crystal struct., X-ray determ. (*Russian*) 9-27951
Ge₂Al, exam. of structure using electron microscope (*Russian*) 9-14738
HfNi₃, α and β modifications, X-ray cryst. struct. determ. 9-7578
Hf₂Ni₇, X-ray cryst. struct. determ. 9-4270
Hf₃Ni₁₂, single-cryst., X-ray cryst. struct. determ. 9-4269
Ho₂Pt₄, isotypic with Pu₃Rh₄, X-ray cryst. struct. refinement anal. 9-4271
Ir₂Sn₇, cryst. struct. determ. (*German*) 9-27952
Li(Cd_{1-x}Tl_x), intermetallic, X-ray and Knight shift meas. of ²⁰⁵Tl and ¹¹³Cd 9-42851
Lu₃Pt₄, isotypic with Pu₃Rh₄, X-ray cryst. struct. refinement anal. 9-4271
Mg-Ga, metastable cryst. and glassy phases, X-ray struct. anal. and electron microscopy (*German*) 9-46601
Mg-Ga (6 wt.%), precipitation, lattice const., ageing effects (*Chinese*) 9-43279
 β -Mn₆₆Ni₂₀Si₁₄, X-ray crystal struct. refinement 9-14735
Nb-Ge, transition metal atom stabilised superconductivity 9-7924
NbH(D), ordered, TEM obs. of anisotropic lattice distortions 9-7579
Nd-Ga alloy, phase diagram, DTA, X-ray and metallographic obs. 9-24494
Nd₃Co₂Ga, crystal struct., X-ray determ. (*Russian*) 9-27951
Ni-Fe-Mo(Cr), determ. of preferential locations of Mo or Cr on Fe and Ni sublattices, by X-ray intensity study 9-37662
Ni-Ga alloys, phase diagrams and cryst. struct., DTA, X-ray diffr. and microprobe anal. (*French*) 9-47660
Pr₃Co₂Ga, crystal struct., X-ray determ. (*Russian*) 9-27951
 β -PtCd, structural parameters 9-27953
 ζ -Pu-Zr, X-ray powder diffr. cryst. struct. determ. 9-19187
Rh₇Mg₄₄ structure types, alternative description of cryst. struct. 9-7577
Se₃Co, new struct. type related to Fe₃C and Re₃B by periodic unit-cell twinning 9-4268
Sm-Co deposit, arc plasma sprayed, crystal and micro struct. exam. 9-28248
Sm₃Co₂Ga, crystal struct., X-ray determ. (*Russian*) 9-27951
Sr_{0.67}Pt_{1.33}B₂, cryst. struct. and supercond. props. 9-38231
Ta₂H, single cryst., X-ray diffr. study on H ordering 9-14736
Tb₃Co₂Ga, crystal struct., X-ray determ. (*Russian*) 9-27951
Ti-Hf-O system, ω (O) phase form. 9-11553
Ti-Mo (16 at.%), effect of H impurities on lattice spacing, hardness, and plastic strain (*Russian*) 9-11664
Ti(Al_{1-x}B_x)₂ (B=Cr, Mn, Fe, Co), 0<x<0.4, influence of Al on H sorption props. X-ray cryst. struct. determ. 9-28198
TiC, X-ray diffraction study of struct. of ordered phase and phase transform. (*Ukrainian*) 9-37660
TiD₂, α - and β -phases, D-site occupancy, neutron diffr. study 9-42014
Tm₂Pt₄, isotypic with Pu₃Rh₄, X-ray cryst. struct. refinement anal. 9-4271
UGa₂, cryst. struct., mag. and magnetoelastic props. (*Russian*) 9-38364
U₂Ni₃B₆, and related compounds, X-ray diffr. cryst. struct. determ. 9-42009
V₃(Fe,Ge), struct. and supercond. transition temp. (*Russian*) 9-7920
V₂Si, Mossbauer spectra of ⁵¹Fe (*Russian*) 9-24235
Y₂Co₂Ga, crystal struct., X-ray determ. (*Russian*) 9-27951
Y₃Pt₄, isotypic with Pu₃Rh₄, X-ray cryst. struct. refinement anal. 9-4271
Zr-Ir, high temp. modification, X-ray diffr. obs. (*Ukrainian*) 9-32947
Zr-VH, high temp. modification, X-ray diffr. obs. (*Ukrainian*) 9-32947
Zr(RhAl)₂, struct., supercond. props., elec. resist. and mag. susceptibility, 4.2 to 300K (*Russian*) 9-15246

crystal atomic structure of elements

metal, BCC, fine particles formed by gas-evap. technique, cryst. struct. and habit 9-27935
metal, cryst. equilib. and Cauchy deficiency 9-19328
 β -W, coeff. for XXX and RXX irreducible representations 9-14732
Au, inner electron wavefunction, meas. using Bragg scatt. of 412 keV gamma-radiation 9-14734
 β -B, rhombohedral, containing Zr, X-ray obs. of ZrB₋₅₁ 9-23574
B, tetragonal, X-ray diffr. and C doping obs. (*French*) 9-14731

crystal atomic structure of elements continued

- C, high temperature behaviour, over 2600K. polymorphic carbyne forms 9-7575
 α -Ce, high pressure phase 9-23565
 Cu struct. factor $f(220)$, importance of extrapolation to zero extinction 9-19123
 Li linear chain, ab initio calcs., cryst. orbital method 9-37659
 β -Mn, X-ray crystal struct. refinement 9-14735
 Pd, catalyst, Z-contrast, in STEM 9-46530
 Pt, catalyst, Z-contrast, in STEM 9-46530
 Pt clusters, at. struct. 9-19186
 Se, Bijvoet intensity differences, prediction in noncentrosymmetric structs. 9-7574
 Si, testing aspherical atom refinements 9-7516

crystal atomic structure of inorganic compounds

- alkaline earth transition metal ternary and quaternary oxides, ATO_3 , $ATi_{1-x}T_xO_3$, and $AZr_{1-x}T_xO_3$, prep., mag. props. and struct. 9-15277
 alkaline earth uranates, struct., phys. and chem. props., preparation methods, review (Japanese) 9-14764
 alkaline-earth-Os ternary oxide system, solid state prep. and reactions, cryst. struct., mag. and elec. props. 9-24739
 Au_2P_3 , polyphosphides with weak Au-Au interactions, cryst. struct. determ. by X-ray techniques 9-37674
 bytownite, quenched from 1723K, X-ray single cryst. struct. anal. and refinement 9-19193
 α -celonian-leucospherite-tuhualite-milarite series of cpds., struct. types 9-19223
 ethylenediammonium metal chlorides, $(NH_3CH_2CH_2NH_3)MCl_4$, $M = Ni, Pd, Cu, Cd, Mn$, struct. and mag. props., vibr. spectra 9-10842
 fluorite-related phases, Ln_3MO_7 , (Ln =rare earth, Y or Sc), (M =Nb, Sb or Ta) 9-46619
 fluorite-related phases, Ln_3MO_7 , (Ln =rare earth, Y or Sc), (M =Nb, Sb or Ta) 9-46620
 graphite intercalated with $PdCl_2$, $RuCl_3$ and $OsCl_3$, synthesis and cryst. struct. 9-8253
 graphite intercalation compound, RbC_8 , first stage intercalation cpd., X-ray crystallographic obs. (French) 9-32966
 halide compounds, cryst. chem. and structs. of type $A_2B^{3+}B^{3+}X_6$ 9-46639
 I-III-VI₂ semiconductors, nucl. quadrupole coupling consts. and struct. parameters 9-42509
 intercalation compounds, metal guests in chalcogenide hosts, struct., review 9-46627
 intercalation compounds, physical and chemical props. 9-19209
 IV-VI semiconductors, crystal structure and symmetry of electron spectra, doping effects (Russian) 9-7696
 metal-rich compounds, pnictides, chalcides and halides, struct. and bonding, review 9-46626
 $Mg_{1/3}Fe_{16/3}Al_{10/3}Ti_{30/3}O_{30}$, warwickite, cation distrib. from X-ray struct. and Mossbauer spectra anal. 9-1424
 monazites, nuclear waste, synthesis, ideal actinide hosts for geologic disposal, unit cell parameter data 9-22406
 nifontovite, cryst. struct., H bonds 9-19232
 octahedral molecule MX_6 with close-packed arrangement of X-atoms, possible cryst. struct. (German) 9-27940
 optical fibres, material dispersion 9-27377
 oxides, struct. and props. 9-27964
 perovskite family, monoclinic of 1:1 ordered $A_2(B'B'')O_6$ compounds caused by antiparallel displacement of A ions 9-10839
 pyrochlore, pyrochlore struct. and its relatives 9-14773
 pyrochlore related structures, phases of type AM_2X_6 , acentricity and phase transitions, X-ray diff., DSC and NMR study 9-27943
 pyroxenes, high Ca, of the diopside-hedenbergite series, cryst. struct. refinement 9-14783
 quartz, neutron irradiated, X-ray cryst. struct. anal. 9-14853
 rare earth aluminium borates, thermal stability, X-ray struct. anal., refractive indices 9-4297
 rare earth compound, perovskites, preparation, struct. (French) 9-46629
 rare earth garnets- $R_3R'_3Fe_{12}M_{12}O_{48}$, R, R' =rare earths, on Y ions, $Mp=Al^{3+}, Ga^{3+}, Sc^{3+}, In^{3+}$, effect of ion replacements on lattice constant 9-1408
 rare earth molybdates, $R_2Mo_2O_3$, $R=La$ to Tb , synthesis and characterisation 9-1419
 rare earth molybdo-perrenthanes, synthesis and props., cryst. struct., IR spectra (French) 9-32976
 rare earth oxides, R_2MoO_3 , preparation and struct. of R_2MoO_3 9-46624
 rare earth phosphides, $R_2M_2P_7$ ($M=Fe, Co, Ni$), crystal. struct., X-ray diff. obs. 9-1411
 rare earth rhenium silicides, $R_2Re_2Si_5$, RR_2Si , crystal structs. 9-38806
 rare earth titanates, $R_2Ti_2O_7$, synthesis and phys. props. 9-43128
 ruby, cryst. struct. and compression up to 46 kbar 9-37682
 sea ice, radar anisotropy due to horizontal c axes preferred aximuthal orientation 9-34836
 α - SiO_2 , cryst. struct. determ. up to 68×10^8 Pa by X-ray diffractometry 9-37668
 solid soln. form., regions of existence 9-11581
 solid state chemistry problems, appl. of electron microscopy and diff. 9-46527
 spinel structs., thermodynamic anal. of energy of cation octahedral sites 9-10827
 superstructure reflection determ. from pseudostruct. reflections (Chinese) 9-10748
 ternary metal borides, struct. chem. 9-14769
 tetrahedral structures, related to wurtzite type (B4), non-bonded interactions and cryst. chemistry 9-14743
 todorokites, natural, new forms crystals. structs. 9-48469
 transition metal hydride complexes, struct. geometry bonding, neutron diff. studies 9-46641
 transition metal-O systems, exam. of phase diagrams and crystal structure 9-8291
 X-ray cryst. struct. determ. 9-14751
 $[Bi_4O_5(OH)_2](NO_3)_3 \cdot 3H_2O$, cryst. struct. determ. and refinement, X-ray anal. 9-7586
 $[Cr(NH_3)_6][MnCl_4(H_2O)_2]$, X-ray cryst. struct. anal. 9-4285
 Ag_3AsSe_3 , synthesis and X-ray cryst. struct. anal. 9-4284
 $AgCoPO_4$, crystalline struct. (French) 9-1422
 $Ag_2Cr_2O_4$, X-ray cryst. structural anal. (French) 9-4288
 β - Ag_2GaSe_6 , X-ray cryst. struct. determ. (French) 9-4277
 Ag_2HPO_4 , X-ray cryst. struct. determ., Patterson method (French) 9-14755
 AgI, superionic cond., cryst. struct., neutron diff. study 9-42041

crystal atomic structure of inorganic compounds continued

- Ag_2INO_3 , X-ray cryst. struct. determ. and refinement 9-32956
 $Ag_2P_2Se_6$, X-ray cryst. struct. determ. by direct methods (French) 9-14752
 α - Ag_2S , cryst. struct., X-ray scatt. determ. 9-46613
 $Ag_3S_2O_4$, new cryst. data 9-37685
 $Ag_2TeSe_{1-x}S_x$ system, solid solns. of substitution existence, X-ray phase obs. 9-43217
 Al saponite, evidence for inclusion in chlorite-like mineral group, X-ray and chem. anal. 9-12108
 $Al_2Ga_{2(1-x)}O_3 \cdot Cr^{3+}$, luminesc., lifetime, 77 and 4K, struct., energy transfer 9-28798
 $AlH(SO_4)_2 \cdot 4H_2O$, cryst. parameters and X-ray powder diff. data (French) 9-14765
 Al_2O_3 , corundum ceramic, effects of Na_2O , CaO additions on sintering struct., props. 9-15630
 β - $11Al_2O_3 \cdot Ag_2O$, sublattice phase transition, stoichiometric 9-42241
 $Al_2O_3 \cdot Dy_2O_3$, phase diagram at high temps. (Japanese) 9-38810
 β - $Al_2O_3 \cdot H_2O$, protonic cond., struct. investig. 9-19213
 β - $Al_2O_3 \cdot NH_4^+$, protonic cond., struct. investig. 9-19213
 β - $Al_2O_3 \cdot Na_2O \cdot Li_2O$, struct. determ. by powder neutron diff. 9-46623
 alkali earth uranates, struct., phys. and chem. props., preparation methods, review (Japanese) 9-14764
 α - $Am_2(MoO_4)_3$, cryst. struct., lattice parameters 9-14774
 $AmOBr$, cryst. struct. from powder patterns 9-46617
 $AmTe_{1.73(2)}$, X-ray single cryst. struct. determ. and refinement 9-19201
 α - $Am_2(MoO_4)_3$, cryst. struct., lattice parameters 9-14774
 $AsCl_3$, low temp. struct. study (French) 9-32968
 $AuAg_3Te_2$, petzite, X-ray cryst. struct. refinement 9-46634
 Au_2P_{10} , polyphosphides with weak Au-Au interactions, cryst. struct. determ. by X-ray techniques 9-37674
 B_2C , morphology and struct. of vap. grown crystals. 9-7562
 Ba ferrite compounds, microsyntactic intergrowth and cryst. defects, TEM obs. 9-10858
 $Ba_2Bi^{3+}Bi^{3+}O_6$, structure and elec., mag., thermal props. vs. temp. X-ray and neutron powder diff. study 9-19189
 $Ba(ClO_4)_2 \cdot H_2O$, cryst., O-H bond lengths, H-O-H angles, corrections 9-32945
 $Ba_2Ga_2GeO_7$, gehlenite struct., synthesis and physicochem. props. 9-43181
 $Ba(H_2PO_4)_2$, X-ray cryst. struct. determ. 9-7589
 $BaH[AsCr_2O_{10}]$, X-ray cryst. struct. determ. 9-42019
 $BaO \cdot GeO_2 \cdot Na_2O \cdot H_2O$ system, hydrothermal crystn., phase formation laws, interplanar spacings of phases 9-46636
 $BaPb_{1-x}Bi_xO_3$, struct. determ., X-ray and neutron diff. study 9-42039
 $BaS_2O_3 \cdot H_2O$, X-ray powder data 9-14767
 $Ba_0.5Sn_{2.5}Cr_{1.4}O_8$, X-ray cryst. struct. and composition determ., new hollandite phase 9-14750
 $Ba_2V_2O_7$, cryst. struct. determ. and bond strength anal. 9-23576
 $Be_2(BO_3)_2F$, cryst. struct. 9-42026
 $(BeH_2)_n$, polymer, ab initio calcs., cryst. orbital method 9-37659
 BeO_4 tetrahedra, variabilities in interatomic distances and angles 9-46594
 $Be_2[Te^{VI}(O)_4]^{2-}$, singularities of atomic arrays as compared with $Al_2[O^{VI}(O)_4]^{2-}$ spinel type 9-19242
 $Bi_2Cl_2S_3$, X-ray single cryst. struct. determ. 9-19199
 $Bi_6(H_2O)(NO_3)_4(OH)_4[NO_3]_5$, X-ray cryst. struct. determ. and refinement 9-32958
 Bi_2O_3 , powder diff. patterns and struct. 9-27961
 $BiTe$, X-ray powder cryst. struct. determ. and refinement 9-19203
 Bi_2Te_3 , X-ray powder cryst. struct. determ. and refinement 9-19203
 $Bi_2W_2O_9$, layered struct., 1 MV high-resolution electron microscopy obs. 9-27955
 $Bi_2W_2O_9$, struct., dielec. props., melting character and thermal stability 9-23572
 C_4AsF_6 , synthesis of first stage graphite salt, relationship to first stage graphite/ AsF_5 intercalate 9-24738
 $Ca_2Al_2GeO_7$, gehlenite struct., synthesis and physicochem. props. 9-43181
 CaB_2C_2 , cryst. struct. (French) 9-32969
 α - $CaCl_2 \cdot 4H_2O$, redeterm. of cryst. struct., H bonding and Ca coordination (French) 9-37676
 $CaF_2 \cdot YbF_3$ system, phase relationships (German) 9-24501
 $CaF_2 \cdot SiO_2$, dehydration product of fluorapatylite, X-ray powder and cryst. data 9-37686
 $CaLaBO_4$, crystallographic and Pb^{2+} luminesc. data 9-32971
 $Ca_2La_6(SiO_4)_6O_2$, cation ordering, X-ray diff. meas. 9-23577
 $Ca_3Mg(BO_3)_2(CO_3) \cdot 0.36 H_2O$, natural sacchite, cryst. struct. determ. 9-23590
 $CaMn_2O_6$, X-ray diff. data, lattice parameter determ. 9-24508
 $CaMn_2O_6$, X-ray diff. data, lattice parameter determ. 9-24508
 $CaMn(B_2O_3)_2$, synthetic Mn-kurchatovite, cryst. struct. 9-14777
 $Ca_2Mn_7[Si_{10}O_{28}](OH)_2 \cdot 5H_2O$, inesite, cryst. struct., X-ray determ. 9-19227
 $CaNd_{1/2}Nb_{3/2}O_7$, pyrochlore struct., synthesis elec. props. 9-42543
 $Ca_3(PO_4)_2(F_{1-x}(OH)_x)$ apatites, lattice struct. NMR obs. 9-42845
 $CaSb_2O_{10}S_6$, sarabauite, X-ray cryst. struct. determ. and refinement 9-14754
 $Ca_{11}(Si, Al)_8O_{18}Cl$, alinite, cryst. struct. determ. 9-19215
 $CaTeO_4$, powder diff. cryst. struct. determ. 9-42020
 $Ca[ZnSiO_4] \cdot H_2O$, clinohedrite, cryst. struct., comparison with (Mn,Mg)Mg(OH) $_2$ [ZnSiO $_4$], hermannite 9-19228
 $CdAs_2X_4$ ($A=Ga, In$; $X=S, Se$), Fourier IR and Raman spectra, cryst. struct. and symm. (German) 9-24313
 $CdCa_2Cl_6 \cdot 12H_2O$, X-ray cryst. struct. anal. (French) 9-4291
 $CdCl_2 \cdot 4H_2O$, cryst. struct. determ. by X-ray diffractometry (French) 9-37673
 $CdCr_2S_4 \cdot xSe_x(O_x)$ $x=0, 4$, and solid solns., imperfect struct. model from cryst.-chem. investigs. 9-42053
 $Cd_4Na(VO_4)_3$, X-ray single cryst. struct. determ. and refinement, Patterson synthesis 9-19196
 β - $Cd(PO_3)_2$, high temp. form, X-ray cryst. struct. anal. (French) 9-32953
 $CdTeMoO_6$, prep. and cryst. struct., X-ray diff. obs. 9-1414
 $CeCl_3 \cdot 7H_2O$, X-ray cryst. struct. determ. 9-46606
 $CeCrOS_3$, single cryst. X-ray diff. struct. determ. (French) 9-23581
 $Ce_2O_5S_3$ and $Ce_6O_6S_4$, synthesis and cryst. struct. (French) 9-32965
 $Ce_2O_5S_3$, X-ray cryst. struct. determ., using Patterson and Fourier synthesis (French) 9-14753
 CeS_2 , orthorhombic, prepared at 1773K and 5.5 GPa X-ray single cryst. struct. determ. 9-19198

crystal atomic structure of inorganic compounds continued

- ClF_3 , condensed phases, structural study by vibr. spectroscopy and X-ray and neutron diff. 9-1405
 Co complex, monofumaratetetraaquocobalt(II) monohydrate, cryst. struct. and cryst. binding 9-37681
 CoMoP, X-ray cryst. struct. anal. (French) 9-4281
 $\text{Co}(\text{NH}_3)_6(\text{Pb}_2\text{Cl}_4)_2$, cryst. struct., and relationship with the chlorolead struct. moieties in $\text{NH}_4(\text{Pb}_2\text{Cl}_4)$ and PbCl_2 9-32954
 CoO , under controlled atmosphere, exam. of composition and temp. dependence, of lattice parameter (French) 9-19214
 $\text{CoS-MnS}(\text{ZnS})(\text{CdS})$, phase study by X-ray obs., lattice const. 9-1854
 CrB, crystallographic relationship with αMoB , UBC, ThBC 9-42025
 $\text{Cr}(\text{CO})_5(\text{CS})$, cryst. struct. determ., Fourier method (French) 9-4282
 $\text{Cr}_2\text{Fe}_2\text{OOH}$, solid soln., cell dimensions, X-ray powder anal. 9-24740
 Cr_2P_7 , X-ray cryst. struct. redeterm. 9-19192
 CrPS_4 , phys. props. and Li intercalates 9-19788
 Cs-mordenite , dehydrated, positions of cations and molecules 9-1418
 CsAlCl_4 , solid state Raman spectra, 298-80K, vibr., struct. 9-28745
 CsC_8 , intercalation compound, cryst. atomic struct. study (French) 9-42021
 Cs_2Col_3 , cryst. struct. and thermal props. (German) 9-23578
 $\text{CsFeCl}_2\text{D}_2\text{O}$, cryst. and mag. struct., neutron scatt. and NMR expts. 9-7969
 CsH_2PO_4 , paraelectric phase, struct. exam. by neutron diff. 9-37679
 Cs_2HgBr_8 , X-ray cryst. struct. determ. and refinement 9-46637
 $\text{Cs}_2\text{MnF}_7\cdot\text{H}_2\text{O}$, X-ray cryst. struct. anal. 9-4289
 $\text{Cs}_2\text{NaFe}(\text{CN})_6$, structural phase transformations 9-19178
 $\text{Cs}_2\text{NdP}_2\text{O}_{12}$, X-ray cryst. struct. anal. 9-7590
 $\text{Cs}_2\text{PbCu}(\text{NO}_2)_6$, α -modification, Jahn-Teller induced α to β transition, neutron diff. obs. 9-1498
 $\text{CsPr}(\text{PO}_3)_4$, cryst. struct. 9-42022
 Cs_2S_2 , synthesis and cryst. struct. (German) 9-46618
 CsUOF_5 , struct. obs. using neutron diff. and NMR 9-32962
 Cs_2VF_3 ($x=0.25, 0.19$), cryst. struct. examination by electron diff. using TEM 9-23583
 $\text{Cs}_{0.06}\text{WO}_3$, cryst. struct. determ. 9-23569
 $\text{Cs}_2[\text{Pt}(\text{CN})_4]\cdot\text{H}_2\text{O}$, polarised emission, correlation to cryst. struct. 9-19917
 $(\text{Cu}, \text{Zn})_2\text{Pb}(\text{As}_2\text{O}_4)_2(\text{OH})_2$, bayldonite, struct. chem., complex layer struct. 9-46609
 Cu complex, bis(N-benzylsalicylaldiminato) Cu (II) lattice const. and space group 9-37680
 Cu complex, catena- μ -formato-formatobis(pyridine)Cu(II) monohydrate, X-ray cryst. struct. determ. 9-46610
 Cu complex, Cu (II), co-ordination cpd. with condensation product of salicylaldehyde and salicylaldehyde S-propylthiosemicarbazone X-ray struct. anal. 9-1425
 Cu complex, with Schiff base of diacetylmonoxime and methylhydrazine dithiocarbamate, X-ray cryst. struct. determ. 9-14784
 CuBr , superionic cond., cryst. struct., neutron diff. study 9-42041
 CuI , superionic cond., cryst. struct., neutron diff. study 9-42041
 CuMn_2O_4 , comment on cryst. struct. determs. by neutron diff. 9-23585
 $(\text{Cu}_2\text{O})_{1-x}\text{U}_{1-x}\text{M}_4\text{O}_{18}$, $\text{M}=\text{Mo}, \text{W}$, $0\leq x\leq 0.4$, crystallographic identification, paramag. props. (French) 9-46633
 $\text{Cu}_{1.94}\text{S}$, djurite, cryst. struct., X-ray study 9-42033
 Cu_2S , low chalcocite, cryst. struct., X-ray study 9-42033
 Cu_2S , s, digenite related phases, electron microscope study 9-10840
 $\text{Cu}_2\text{S}_3(\text{Cu}_{2-x}\text{S})$, high temp. digenite, cryst. struct. refining by X-ray diff. method 9-23587
 CuTel , X-ray cryst. struct. determ. (German) 9-32957
 $\text{Cu}_6[\text{Si}_6\text{O}_{18}]\cdot 6\text{H}_2\text{O}$, diopside, cryst. struct. refining by X-ray and neutron diff. methods 9-23586
 DyFe_2B_2 , compounds with CeAl_2Ga_2 structure type (Ukrainian) 9-32970
 ErFe_2B_2 , compounds with CeAl_2Ga_2 structure type (Ukrainian) 9-32970
 Eu-Te, chalcogenides, exam. of crystal-chemical characts. 9-1407
 Eu_4As_3 , new synthesis, trigonal anti- Th_3P_4 -type compound, X-ray characterisation 9-37687
 EuB_2O_4 , X-ray single cryst. struct. determ., Patterson synthesis 9-19204
 EuGa_2S_4 , cryst. struct. determ. by direct methods with MULTAN 76 (French) 9-37669
 $\text{Eu}_3\text{Ge}_2\text{S}_9$, X-ray cryst. struct. determ. (French) 9-7587
 $\text{B-Eu}_2\text{O}_3$, cryst. struct. refinement from X-ray scattering data 9-37672
 Eu_2S_4 , single cryst., X-ray cryst. struct. refinement (French) 9-23579
 EuSb_2 , cryst. struct. and antiferromag. props. 9-32973
 F_2SnBr_6 , cryst. struct. determ. at room temp. 9-19202
 Fe complex, cis-dichlorotetrakis (dimethylformamide) iron (III) tetrachloroferrate, cryst. struct. 9-32981
 FeCr_2S_4 , vapour grown, struct. and stoichiometry, X-ray fluoresc. anal. 9-4263
 $\text{FeH}(\text{SO}_4)_2\cdot 4\text{H}_2\text{O}$, cryst. parameters and X-ray powder diff. data (French) 9-14765
 FeOCl , cathodic reduction in organic electrolytes, intercalation complex production 9-1833
 FeP_4 , prep. and props., struct. anal. 9-14775
 FeP_4 , twinned cryst., synthesis and cryst. struct. 9-4278
 Fe_2S_3 , 3C pyrrhotite, cryst. struct. refinement 9-42017
 Fe_{1-x}Se , phase relation 9-14926
 $\text{Fe}_2[\text{PO}_4]_2$, synthetic, cryst. struct. determ. 9-14780
 $\text{GaH}(\text{SO}_4)_2\cdot 4\text{H}_2\text{O}$, cryst. parameters and X-ray powder diff. data (French) 9-14765
 GaSe-SnSe system, phase diagram and lattice const. of solid solns. 9-34014
 $\text{Ga}_2\text{Se}_3\text{-MnSe}$ system, crystallographic study, phase diagram, DTA and X-ray diff. determ. (French) 9-24506
 GdFe_2B_2 , compounds with CeAl_2Ga_2 structure type (Ukrainian) 9-32970
 $\text{Gd}_2\text{Ni}_2\text{As}_2$, crystal. struct., X-ray diff. obs. 9-1411
 $\text{Gd}_2\text{O}_3\cdot\text{Eu}^{3+}$, luminesc., rel. to crystallographic data 9-33793
 Ge-GaSb , metastable continuous solid solutions 9-8284
 $\text{Ge}_2\text{N}_2\text{O}$, time-of-flight neutron diff. study 9-19200
 H_2MoO_3 ($0.3 < x < 2.0$), synthesis and phase characterisation 9-1416
 $(\text{H}_3\text{O}^+)_2(\text{PW}_{12}\text{O}_{40})^{3-}$, struct., X-ray and neutron diff. study 9-42037
 $\text{H}_2\text{O}_4\text{PO}_4\cdot 4\text{H}_2\text{O}$, H^+ ion solid electrolyte, cryst. struct. 9-14759
 HfO_2 , obtained by vapo-condensation, exam. of structure and phase props. (French) 9-19489
 $\text{Hg}_2\text{A}_2\text{X}_4$ ($\text{A}=\text{Ga}, \text{In}$; $\text{X}=\text{S}, \text{Se}$), Fourier IR and Raman spectra, cryst. struct. and symm. (German) 9-24313
 $\text{HgF}(\text{OH})$, X-ray cryst. struct. refinement 9-46611
 HfFe_2B_2 , compounds with CeAl_2Ga_2 structure type (Ukrainian) 9-32970
 HoVO_3 , antiferromag., at. and mag. struct., neutron diff. meas. 9-24142
 InCl , red and yellow, X-ray structural anal. 9-4287

crystal atomic structure of inorganic compounds continued

- $\text{InF}_3\text{-MF}_3$ ($\text{M}=\text{alkalines}, \text{Ti}, \text{NH}_4$), crystallographic study (French) 9-46631
 $\text{In-Ga}_2\text{Te}_{10}$, X-ray cryst. struct. determ. (French) 9-23580
 $\text{InH}(\text{SO}_4)_2\cdot 4\text{H}_2\text{O}$, cryst. parameters and X-ray powder diff. data (French) 9-14765
 $\text{In}_3\text{-Mo}_5\text{Se}_9$, containing isolated Mo_6 and Mo_9 clusters, single cryst. X-ray diff. anal. 9-32952
 InSe-SnSe system, phase diagram and lattice const. of solid solns. 9-34014
 In_2Te_3 , low temp. ordered phase and transition state, TEM obs. 9-28095
 $\text{In}_2\text{Te}_3\text{O}_9$, isolated in $\text{In}_2\text{O}_3\text{-TeO}_2$ system, cryst. struct. anal. (French) 9-32977
 Ir ternary and quaternary oxides, prep., cryst. struct., and mag. props. 9-14771
 $\text{K}_2\text{Ca}(\text{SO}_4)_2\cdot \text{H}_2\text{O}$, single cryst., X-ray cryst. struct. refinement 9-14781
 $\alpha\text{-K}_2\text{CrO}_4$, single crystals, electron density distrib. 9-7584
 $\text{K}_2\text{Cr}_3\text{O}_{10}$, cryst. struct. determ. 9-23592
 $\text{K}_2\text{Cr}_3\text{O}_{10}$, X-ray powder cryst. struct. determ. (French) 9-32960
 $\text{K}_2\text{Cr}_2\text{V}_2\text{O}_{16}$, Hollandite type compound, synthesis, struct. and magnetic props. 9-11543
 KFeS_2 , cryst. struct. by X-ray diff., isolated from colloid 9-43635
 $\text{K}_2\text{HCr}_2\text{AsO}_{10}$, X-ray cryst. struct. determ. (French) 9-14756
 $\text{K}_2\text{HCr}_2\text{PO}_{10}$, cryst. struct. data (French) 9-14756
 $\text{K}_2\text{H}(\text{H}_2\text{P}_2\text{O}_7)_2$, single cryst., X-ray cryst. struct. determ., direct methods (French) 9-14742
 KH_2PO_4 , ferroelec. thin crystals, struct. investig. 9-27962
 KIO_3 , cryst. struct. 9-19234
 $\text{KIO}_3\cdot \text{HIO}_3$, cryst. struct. 9-19230
 $\text{KIO}_3\cdot \text{KNO}_3\cdot 2\text{HIO}_3$, cryst. struct. determ. 9-23591
 $(\text{K}_{0.5}\text{La}_{0.5})_x\text{Ba}_{1-x}\text{TiO}_3$, cryst. struct., dielec. and IR spectral meas. 9-46614
 $\text{KMgCl}_3\cdot \text{nH}_2\text{O}$, IR spectra and struct. features 9-15452
 $\text{K}_{0.54}(\text{Mn}, \text{Fe})\text{F}_3$, room temp., X-ray single cryst. struct. anal. and refinement 9-19195
 KNO_3 , ferroelec. thin crystals, struct. investig. 9-27962
 $\text{K}_2\text{Na}[\text{Co}(\text{NO}_4\text{d}_2)_2]$, single crystal, X-ray deffrs. determ. of electron density distrib. 9-14746
 $\text{K}_2\text{NdLi}_2\text{F}_{10}$, X-ray cryst. struct. determ. and refinement 9-42030
 $\text{K}_2\text{Ni}(\text{MoO}_4)_2$, X-ray cryst. struct. determ. 9-14782
 $\text{K}_2\text{Pt}(\text{CN})_4\text{Br}_{0.3}\times 3\text{H}_2\text{O}$, struct., neutron determ., Peierls distortion 9-46640
 $\text{K}_2\text{Pt}(\text{CN})_4\text{Br}_{0.3}\times 3\text{H}_2\text{O}$, quasi-one-dimens. conductor, Br^- distrib. long-range Coulomb interaction, effect on structure and CDW 9-7591
 $\text{K}_{1.7}\text{Pt}(\text{CN})_4\times 1.5\text{H}_2\text{O}$, struct., neutron determ., Peierls distortion 9-46640
 $\text{K}_1\text{Pt}(\text{C}_2\text{O}_4)_2\times 1.2\text{H}_2\text{O}$, struct., neutron determ. 9-46640
 $\alpha\text{-K}_2\text{SO}_4$, space group and cryst. struct., X-ray powder anal. 9-4275
 K_2SeO_4 , SHG, hexagonal phase centrosymmetry 9-37684
 $\text{K}_2\text{Ta}_6\text{O}_{14}\text{F}_{9.5}$, X-ray cryst. struct. determ. and refinement 9-42029
 $\text{KTAWO}_6\cdot \text{H}_2\text{O}$, pyrochlore struct. and its relatives 9-14773
 K_2VF_3 ($x=0.25, 0.19$), cryst. struct. examination by electron diff. using TEM 9-23583
 $\text{K}_2\text{W}_2\text{O}_3$, twinned crystal, X-ray cryst. struct. determ. 9-7588
 $\text{KZn}_4(\text{PO}_4)_3$, X-ray cryst. struct. determ. (French) 9-19205
 $\text{K}_2[\text{Pd}(\text{SO}_3)_2]\cdot \text{H}_2\text{O}$, X-ray cryst. struct. determ. and refinement, connexion modes 9-46608
 $\text{K}_4[\text{Ru}_2\text{Cl}_{10}]\text{O}$, X-ray cryst. struct. determ. and refinement (French) 9-37670
 $\text{K}_3[\text{RuCl}_6]$, X-ray cryst. struct. determ. and refinement (French) 9-37670
 $\text{K}_2[\text{SO}_3\text{ON}(\text{SO}_3)_2]\cdot 3/2\text{H}_2\text{O}$, struct. determ., X-ray and neutron diff. 9-42038
 LaCrO_3 , single crystal, X-ray diff. struct. determ. (French) 9-23581
 $3\text{La}(\text{IO}_3)_3\cdot \text{HIO}_3\cdot 7\text{H}_2\text{O}$, pyroelec., cryst. struct. 9-1410
 La_3InSe_6 , cryst. struct., four-circle diffractometer data and Fourier synthesis determ. (French) 9-14739
 $\text{La}_2\text{Mg}_3(\text{NO}_3)_{12}\cdot 24\text{D}_2\text{O}$, use of neutron time-of-flight technique for cryst. struct. investigation 9-19126
 LaNbO_4 , ferroelastic, cryst. struct. and twinning struct. 9-27965
 LaNi_2D_6 , cryst. struct., neutron diff. obs. 9-19221
 $\text{La}_2\text{O}_3\text{-Al}_2\text{O}_3$ system, alumina rich phase, X-ray obs. 9-29030
 La_2ReO_4 , X-ray cryst. struct. determ. Patterson and Fourier methods (French) 9-14745
 LaRu_4B_4 , X-ray cryst. struct. determ. 9-32959
 $\text{Li}_2\text{Fe}_2\text{O}_4$, microwave material, mag. props., review 9-33504
 Li_2B_4 , cryst. struct., X-ray and neutron diff., and NMR 9-23571
 LiC_6 , intercalation cpd., synthesis method and reflectivity spectrum 9-15600
 LiCdBO_3 , cryst. struct., X-ray determ. 9-19226
 $\text{Li}_2\text{Cr}_2\text{O}_7\cdot 2\text{H}_2\text{O}$, cryst. struct. 9-32980
 $\text{Li}_2\text{Cu}_2(\text{Si}_2\text{O}_7)_2$, cryst. struct. and proposal of new values for effective ionic radii of Cu^{2+} 9-4276
 LiH , linear chain, ab initio calcs., cryst. orbital method 9-37659
 $(\text{Li}_{0.5}\text{La}_{0.5})_x\text{Ba}_{1-x}\text{TiO}_3$, cryst. struct., dielec. and IR spectral meas. 9-46614
 $\text{LiMn}[\text{BO}_3]$, X-ray cryst. struct. determ. 9-42034
 Li_2N , existence of N^{3-} ion in cryst. struct. 9-7583
 Li_2N , ionic conductor, single crystal, defect struct. anal. data reduction and struct. refinements, 153-678K 9-32988
 Li_2N , superionic conductor, cryst. growth and struct., phys. props., book contrib. 9-42308
 LiNH_4SO_4 , atomic struct. exam. 9-37678
 LiNH_4SO_4 , low temp. antiferroelec. III phase, X-ray cryst. struct. determ. 9-42036
 $\text{Li}(\text{Na}, \text{K})\text{CO}_3$, therm. anal. and X-ray diff. study (French) 9-46630
 $(\text{Li}_2\text{O})_{1-x}\text{U}_{1-x}\text{W}_6\text{O}_{18}$, $0\leq x\leq 0.4$, crystallographic identification, paramag. props. (French) 9-46633
 $\gamma\text{-Li}_2\text{PO}_4$, cryst. struct. of synthetic analog of lithiophosphate 9-37688
 $(\text{LiPO}_3)_x\cdot \text{H}_2\text{O}$, existence of high- and low-temp. cryst. forms, X-ray diff. data 9-19179
 $\text{LiPr}(\text{SO}_4)_2$, X-ray diff. cryst. struct. determ. 9-14786
 LiTaO_3 , quadratic optical susceptibility dispersion 9-18478
 $\text{Li}_{1-x}\text{Ta}_2\text{O}_8\text{-xFe}$ ($x=0, 0.25, 0.5$), structural studies by full profile refinements of Guinier-Hagg X-ray film data 9-23584
 Li_4TeO_6 , cryst. struct. anal. by Patterson and Fourier synthesis (French) 9-4273
 $\text{Li}_2\text{Ti}_2\text{O}_7$, Li^+ ion conductor, X-ray cryst. struct. determ. 9-46604
 Li_2WO_4 , Li sites determ., using method based on bond-strength calcs. 9-7514
 Li_2WO_3 , Vegard relationships, lattice parameter versus composition, X-ray and chem. anal. 9-23582

crystal atomic structure of inorganic compounds continued

- LiZn[BO₃], X-ray cryst. struct. determ. 9-42034
 LuAlO₃, single crystals, prep. and phys. props., X-ray struct. anal. 9-4298
 LuFe₂B₂, compounds with CeAl₂Ga₂ structure type (*Ukrainian*) 9-32970
 MgBr₂·ABr (A = Cs, Rb, K, Na, Ti), thermochemical and struct. investigation (*German*) 9-1423
 MgCl₂·nH₂O, IR spectra and struct. features 9-15452
 MgFeGeO₆·Ca(Mg_{0.5}Fe_{0.5})Ge₂O₆, solid solns., phase equilibria, cryst. optical, X-ray struct. charactrs. 9-11577
 MgKPO₄·6H₂O, struvite analogue, X-ray single cryst. struct. determ. 9-19190
 Mg_{0.95}Pt(C₂O₄)₂·5.3H₂O, struct., neutron determ. 9-46640
 MgVO₃, high-pressure modification, struct. and mag. props. 9-23727
 (Mn,Mg)Mg(OH)₂[ZnSiO₄], hermannite, comparison with Ca[ZnSiO₄]·H₂O, clinohedrite 9-19228
 Mn-B system, microhardness and phase analytical studies 9-24502
 Mn₃(BO₃)₂, synthetic jimbolite, X-ray struct. struct. determ. 9-42035
 Mn₂Cr₃-O₄, cubic and tetragonal structs., neutron diff. obs. 9-19369
 Mn(H₂PO₃)₂·H₂O, X-ray cryst. struct. determ. and refinement, heavy-atom method 9-19194
 Mn(OH)SO₄·2H₂O, cryst. struct. determ. from X-ray data, least squares refinement 9-37675
 Mn₂SiB₂, cell dimensions 9-24502
 α-MoB, crystallographic relationship with CrB, UBC, ThBC 9-42025
 (NH₄)₂BeF₄, ferroelectric, cryst. struct., phase transition, X-ray study 9-28689
 NH₄CdCl₃, X-ray cryst. struct. refinement by blocked least-squares method 9-1404
 (NH₄)₂Fe(CN)₆·1.5H₂O, cryst. struct., and possible ionic transport mechanism 9-14758
 NH₄H₂AsO₄, H positions, paraelectric phase 9-19210
 (NH₄)₂HCr₃AsO₃, X-ray cryst. struct. determ., existence of a new anion (Cr₃AsO₃)₃³⁻ (*French*) 9-4295
 (NH₄)₂HCr₃AsO₃, prep. and cryst. struct. (*French*) 9-1415
 NH₄In(SO₄)₂·4H₂O, cryst. struct. 9-19231
 NH₄MnCl₃, X-ray single crystal analysis, phase transitions, Mossbauer effect 9-19366
 (NH₄)₂Mo₆O₂₆·4H₂O, X-ray cryst. struct., Fourier and Patterson synthesis (*French*) 9-42032
 (NH₄)₂Ni(CrO₄)₂·6H₂O, X-ray single cryst. struct. determ. 9-19207
 (NH₄)₂S₂O₈, X-ray crystal and powder diff. data 9-14766
 (NH₄)₂TcCl₆, X-ray single cryst. struct. determ. 9-19197
 Na₂B₄O₇(OH)₄·8H₂O, borax, neutron diff. cryst. struct. determ. 9-14740
 Na₂CO₃, disordered struct., 400°C neutron and X-ray powder diagrams 9-46625
 Na₂CO₃·2CaCO₃, shortite, cryst. struct. and space group, pyroelec. effect 9-23573
 (Na_{1-x}Cd_x)Cd₂(PO₄)(PO₃)_{1-x}(OH)_{1-x}, cryst. struct. determ. 9-23589
 Na₄Cd₂[Si₂O₇]₁₀, cryst. struct. determ. 9-14778
 NaCl, valence-electron charge density along nearest-neighbour axis 9-27944
 Na₃Cr₂(PO₄)₃, Na₃Fe₂(PO₄)₃, Na₂Ti₂(PO₄)₃ and Na₃V₂(PO₄)₃, synthesis and cryst. struct. (*French*) 9-32964
 Na₂(D₂O)₂·VX₂, X = S, Se, struct., chem. reactions, and hydration/dehydration process 9-46616
 NaF, X-ray intensity, extinction wavelength depend. 9-27956
 NaFeS₂, cryst. struct. by X-ray diff., isolated from colloid 9-43635
 Na_{0.5}Fe_{0.28}Ti_{1.72}O₄, non stoichiometric, X-ray cryst. diff. determ., heavy atom method 9-4293
 NaHAS₂O₈, cryst. struct., and new type of bidimensional infinite anion (As₂O₆)_n²ⁿ⁻ (*French*) 9-14757
 Na₃HMo₅P₂O₂₃(H₂O)₁₁, mol. and cryst. struct., X-ray diff. anal. 9-32951
 Na(H₂O)(I(OH)O₃), pyroelec., cryst. struct. at room temp. 9-10835
 NaHSO₄, cryst. struct. refinement, short asymmetrical H bond, S-OH vs. O-H...O correlation 9-37663
 Na₄LuSi₄O₁₂, cryst. struct. 9-32979
 NaNH₂SeO₄·2H₂O, atomic struct. exam. and phase transition 9-37678
 NaNH₂SeO₄·2H₂O, neutron-diff. investigation 9-46638
 NaNO₂, ferroelec. thin crystals, struct. investig. 9-27962
 Na₂SO₄·10H₂O, Glauber's salt, neutron diff. cryst. struct. determ. 9-14740
 Na₃SbS₄·9D₂O, Schlippe's salt, H bonds and cryst. struct. refinement, by neutron diff. 9-19191
 Na₃SbS₄·9H₂O, Schlippe's salt, H bonds and cryst. struct. refinement, by X-ray diff. 9-19191
 Na(TiO)[SiO₄], revised cryst. struct. 9-32978
 Na₃UO₂F₆, IR and Raman spectra, struct. (*French*) 9-11409
 Na_{3(1+x)}Fe_{2(2-x)}(PO₄)₃, single cryst. preparation and X-ray cryst. struct. determ. 9-42028
 Na₂Zn₃(SiO₄)₂, cryst. struct. anal. 9-19222
 Na₂Zn[Si₃O₈] crystal, phase A, refined cryst. struct. 9-19220
 Na₄Zr₂Ge₂O₁₂, cryst. struct., X-ray diff. 9-19224
 NaZr(Si₂O₇OH), kelydyshite, X-ray structural anal. 9-14779
 Na₂[B₂(O₂)₂(OH)₄]₆·H₂O, X-ray cryst. struct. refinement 9-14749
 Nb₂O₅·WO₃ system, TEM study of intergrowth of ReO₃ and tetragonal-type structs. 9-7580
 NbO_{1.2}, X-ray obs. 9-14770
 4Nb₂O₅·9WO₃, cryst. struct. determ. by 1 MV TEM 9-7581
 NbS₃, cryst. struct., X-ray diff. obs. 9-1412
 NbSe₃, CDW, cryst. struct., X-ray and electron diff. studies 9-14768
 NbCrO₃, single cryst. X-ray diff. struct. determ. (*French*) 9-23581
 NdGa₃(BO₃)₄, crystal structure by X-ray spectral microanalysis 9-46621
 NdNbO₄, ferroelastic, cryst. struct. and twinning struct. 9-27965
 Ni complex, (Ni(C₂H₅NO)₂(NO₃)₂), field induced level crossing and cryst. struct. 9-47070
 Ni complex, bis(N-benzylsalicylaldiminato) Ni (II), lattice const. and space group 9-37680
 Ni-Co-Zn ferrite, exam. of electromag. characteristics 9-1409
 Ni(NO₃)₂·4H₂O, two spin ordered states under mag. field 9-15308
 NiO, under controlled atmosphere, exam. of composition and temp. dependence, of lattice parameter (*French*) 9-19214
 Ni₂SO₄·6H₂O, X-ray diff. study, cryst. struct. determ. 9-4286
 P₂As_{1-x}, periodic structures, charactrs. determ. by means of satellite Bragg reflections 9-46510
 Pb₃, low temp. struct. study (*French*) 9-32968
 Pb₃, X-ray cryst. struct. determ. at 193K (*French*) 9-37667
 PbCl₃, low temp. struct. study (*French*) 9-32968
 Pb₂AsSb, isomertieite, fengluanite (*Chinese*) 9-1417
 Pb₄₆Bi₅₄S₁₂₇, carniziarite, X-ray cryst. struct. determ. 9-23567

crystal atomic structure of inorganic compounds continued

- Pb₂CrO₅, thermal X-ray and dielec. investigations 9-47403
 Pb₂Cr₂(PO₄)₂, synthesis and cryst. struct. 9-19218
 Pb₂GeO₅, antiferroelectric, cryst. struct. 9-19233
 Pb₂GeO₅, single crystal, props., grown by hydrothermal method 9-11504
 Pb₂GeO₅, X-ray cryst. struct. determ. (*German*) 9-46603
 Pb(H₂PO₄)₂·H₂O, thermal stability, 20-1000°C, decomposition prod. struct. 9-11775
 Pb₃Mn₂O₁₅, X-ray cryst. struct. determ. (*French*) 9-14744
 Pb₂OFBr, mimetic twinning, cryst. struct. determ. 9-23568
 Pb₂OFCl, mimetic twinning, cryst. struct. determ. 9-23568
 Pb₂OFI, mimetic twinning, cryst. struct. determ. 9-23568
 Pb₃(PO₄)₂, ferroelastic transformations and struct. as function of temp., neutron diff. study 9-19188
 (Pb_{0.66}Sb_{0.34})₂SnS₉, garnet-like struct., synthetic, cryst. struct., X-ray diff. study 9-19217
 PbZnVO₄OH, cryst. struct. refinement 9-42015
 PbZrS₃, cryst. struct. refinement using neutron diff. powder data 9-4294
 Pd complex, bis(N-allylsalicylaldiminato)-palladium(II) cryst. and mol. struct. 9-32972
 Pr₂Cr₃, cryst. struct., mag. struct. and props., 1.6 to 300K 9-11296
 PrCrO₃, single cryst. X-ray diff. struct. determ. (*French*) 9-23581
 RbAlCl₄, solid state Raman spectra, 298-80K, vibr., struct. 9-28745
 α-Rb₂Al(MoO₄)₄, cryst. struct. 9-19219
 RbH₂PO₄, X-ray cryst. struct. refinement 9-14787
 RbHSO₄, X-ray cryst. struct. anal. 9-4292
 Rb₂MnF₆·H₂O, X-ray cryst. struct. anal. 9-4290
 RbNbTeO₆, pyrochlore struct. and its relatives 9-14773
 Rb₂O-Nb₂O₅(Ta₂O₅), phase equilib. relns. and crystal chemistry, structs. useful as ionic conductors 9-20033
 RbSbS₃, cryst. struct., space groups 9-7592
 Rb_{0.25}VF₆, cryst. struct. examination by electron diff. using TEM 9-23583
 Rb₂ZnBr₄, average struct. determ. from neutron diff. diagrams 9-32955
 Rb₂[MnBr₄], X-ray cryst. struct. determ. 9-32961
 ReO₃, coeff. of linear thermal expansion, 100-500K 9-10972
 ReS₂, prep., struct. 9-38774
 Ru ternary and quaternary oxides, prep., cryst. struct. and mag. props. 9-14771
 SbCl₃ complex, with (1,3,5-triacetylbenzene), single cryst., X-ray cryst. struct. anal. 9-14761
 Sb₂O₃, pyrochlore struct. and its relatives 9-14773
 Sb₂O₃, single crystals, X-ray cryst. struct. full matrix least squares refinement (*German*) 9-37665
 Sb₂(OH)₂(SO₄)₂·2H₂O, X-ray cryst. struct. determ. (*French*) 9-4274
 Sb₂O₃(OH)₂·H₂O, prep. and cryst. struct. (*German*) 9-32975
 Sc(NO₃)₃·4CO(NH₂)₂, cryst. struct. determ. 9-23588
 Sc₂O₃·S, cryst. atomic struct. determ. (*French*) 9-10837
 Sc₂Re₂Si₄, X-ray struct. determ. (*Russian*) 9-27958
 Se₂S₄, mol. chalcogenide, synthesis and struct. 9-33912
 Si₃B₄, formed when Bi₂O₃ is diffused in Si, anal. study 9-19269
 α-Si₃N₄, lattice and atomic position parameters, neutron diff. study 9-42040
 β-Si₃N₄, X-ray cryst. struct. and refinement, struct. rel. to α-Si₃N₄ 9-46605
 β-Si₃N₄-AlN-Al₂O₃-MgO, insolubility of Mg in β-Si₃N₄ 9-10953
 SiP₂O₇, AlV, cryst. struct. refinement, phase with six coordinated Si 9-42018
 SmCrO₃, single cryst. X-ray diff. struct. determ. (*French*) 9-23581
 Sm₂NiGa₂, X-ray struct. determ. (*Russian*) 9-27959
 Sm₂Tb_{1-x}FeO₃ orthoferrites, crystallo-optical props. 9-42027
 Sm_{0.225}Fe^{0.575}Fe^{1.465}Mg_{0.735}BO₃O₂, hulsite, cation distrib., X-ray determ. 9-19225
 SnGa₂Te₁₀, X-ray cryst. struct. determ. (*French*) 9-23580
 Sn(HPO₄)₂·H₂O, struct., vibr. spectra 9-15447
 Sn₂Fe₃, X-ray cryst. struct. study using Patterson function (*French*) 9-4280
 Sn(NCS)F, X-ray cryst. struct. anal. using Patterson functions (*French*) 9-4279
 SnO₂, transparent conductive film, prep. by magnetron sputtering and elec. optical and structural props. (*Japanese*) 9-8247
 SrAg₂I₄·8H₂O, cryst. struct. 9-23575
 Sr₂Ag₂GeO₇, gehlenite struct., synthesis and physicochem. props. 9-43181
 SrCl₂, specific heat anomaly and sublattice disorder, neutron diff. meas. 9-42238
 SrCl₂, valence-electron charge density along nearest-neighbour axis 9-27944
 SrLaBO₄, crystallographic and Pb²⁺ luminesc. data 9-32971
 Sr₃M₂Si₄O₂₆, M = Nb, Ta, IR spectra and cryst. struct. (*French*) 9-11418
 Sr₃Re₂O₉, cryst. struct., mag. and semicond. props. 9-10836
 Sr₂Sb₂O₁₂, prep. and cryst. struct. (*French*) 9-32967
 Sr₂Sn₂S₄, Sr₂Sn₂S₇, prep., cryst. structs. (*French*) 9-34013
 SrTeO₄, powder diff. cryst. struct. determ. 9-42020
 SrTiO₃, low temp. phase, X-ray cryst. struct. anal. at 77K 9-37683
 Ta₂D₁₊₂, atomic displacement of Ta determined by deuterium magnetic resonance 9-37701
 Ta₂H₃, single cryst., X-ray diff. study on H ordering 9-14736
 Ta₂Ti_{1-x}Se₂, cryst. struct. and elec. props. 9-47133
 TbAsO₄, cryst. struct. refinement at 77K and 5K by profile anal. from neutron diff. powder data 9-37677
 TbFe₂B₂, compounds with CeAl₂Ga₂ structure type (*Ukrainian*) 9-32970
 Tb₂(MoO₄)₃, lattice constants determ. in temp. range 296 to 503K 9-14943
 TbCr₃, crystallographic relationship with CrB, α MoB, UBC 9-42025
 Tb₂B₂C₃, crystal struct. 9-14772
 Tb_{0.25}NbO₃, cryst. struct., X-ray diff. obs. (*French*) 9-1413
 Tb_{0.25}NbO₃-xNaNbO₃ solid soln., cryst. struct., perovskite-type phases, X-ray diff. obs. (*French*) 9-1413
 Ti-N system, phase relations, struct. rel. to heat treatment 9-11552
 Ti-S, two novel polypolyte structs. in the system, 16H and 18H (*French*) 9-7582
 TiD₂, α- and β-phases, D-site occupancy, neutron diff. study 9-42014
 Ti(HPO₄)₂·xH₂O, cryst. struct. 9-42023
 Ti(SiO₃)₂·4H₂O, cryst. parameters and X-ray powder diff. data (*French*) 9-14765
 TiN₂O₃, cubic, thermal expansion coeffs., Ti-Ti bond screening 9-10970
 TiO₂, thermal expansion of cubic phase at low temp. X-ray diff. anal. 9-1514
 Ti₆O₁₁, electron-optical imaging, at 1.6 Å point-to-point resolution 9-46531

crystal atomic structure of inorganic compounds continued

- TiO₂H₂O, thermal expansion of cubic phase at low temp. X-ray diffr. anal. 9-1514
- Ti₂O₃N₂H₂m, m=0, 0.31-0.34, thermal expansion, H at. ordering 9-10971
- Ti₃S₂, polytypic struct., Ti ordering, two-dimensional model 9-14776
- TiFe₂ struct. refinement by neutron diffr. 9-27967
- Tl-Se-TlInSe₂, isomorphous pairs, struct. and growth peculiarities 9-1421
- Tl₃AsS₄, crystal growth by Bridgman-Stockbarger method, exam. of props. 9-11506
- TiBO₂, X-ray single cryst. struct. determ. (French) 9-32974
- TiBS, synthesis, struct., optical, spectral props. 9-15631
- TiEr(MoO₄)₂, polymorphic transition characts., temp. regions of stability 9-14785
- Ti₈Ge₂O₁₄, X-ray cryst. struct. determ. and refinement (French) 9-46607
- TiH₂PO₄, X-ray cryst. struct. refinement (French) 9-37666
- TiH₃(SO₄)₂, X-ray cryst. struct. determ., Patterson and Fourier methods (French) 9-14741
- TiH(SO₄)₂·4H₂O, cryst. parameters and X-ray powder diffr. data (French) 9-14765
- TiLu(MoO₄)₂, polymorphic transition characts., temp. regions of stability 9-14785
- Ti₃Mo₂O₁₃, X-ray cryst. struct. determ. (French) 9-14748
- TiNd(PO₃)₄, cryst. struct. determ. 9-19216
- TiTi(MoO₄)₂, polymorphic transition characts., temp. regions of stability 9-14785
- Ti₂VF₆, cryst. struct. examination by electron diffr. using TEM 9-23583
- Ti₃VS₄, cryst. struct., X-ray diffr. obs. (French) 9-14763
- TiV(MoO₄)₂, polymorphic transition characts., temp. regions of stability 9-14785
- TiYb(MoO₄)₂, polymorphic transition characts., temp. regions of stability 9-14785
- TmFe₂B₂, compounds with CeAl₂Ga₂ structure type (Ukrainian) 9-32970
- UBC, crystallographic relationship with with CrB, α-MoB, ThBC 9-42025
- UO₂, single crystals., nucl. neutron diffr. intensity meas. analysis, extinction 9-27957
- UO₂(NH₄)₂·2(NH₃)₂·2H₂O, neutron diffr. cryst. struct. determ. 9-19206
- β-UO₂SO₄, X-ray and neutron powder diffr. cryst. struct. anal. 9-14760
- UO₂SeO₄, α- and β-phases, X-ray and neutron powder diffr. cryst. struct. anal. 9-14760
- V(CO)₆, cryst. and mol. struct., Jahn-Teller distortion, mol. vib. and librational correction 9-32949
- VH(SO₄)₂·4H₂O, cryst. parameters and X-ray powder diffr. data (French) 9-14765
- V₂O, γ-phase, struct., O at. position 9-10834
- V₂Ti_{1-x}Se₂, cryst. struct. and elec. props. 9-47133
- W₂Fe₂C, pyrochlore struct. and its relatives 9-14773
- WV₂O₆, X-ray cryst. struct. refinement at 298 and 383K (French) 9-14747
- YAG single crystals, derivation of cryst. parameters and orientation by X-ray topography (Chinese) 9-46622
- Y_{1.6}Bi_{0.4}Ca_{0.4}Fe_{4.4}In_{0.4}V_{0.2}O₁₂, cation distrib. 9-19211
- YFe₂B₂, compounds with CeAl₂Ga₂ structure type (Ukrainian) 9-32970
- Y₂GeO₆(OH, F)₄, cryst. struct. 9-19229
- Y₂O₃-HfO₂(ZrO₂) systems, solid soln. form. mechanisms 9-11579
- YOF, trigonal, NMR of F¹⁹ to detect paired formations 9-14788
- Y₂WO₆, new structural type, unit cell, space group, fluorescence spectra 9-1420
- Y₂WO₆:Eu, noncontinuum model for energy transfer 9-33800
- Y₂WO₆:Eu³⁺, luminesc., rel. to crystallographic data 9-33793
- YbAlO₃, single crystals., prep. and phys. props., X-ray struct. anal. 9-4298
- Yb₃Fe₂O₁₀, struct. image by a 1 MeV high resolution electron microscope 9-37671
- ZnA₂X₄ (A=Ga,In; X=S,Se), Fourier IR and Raman spectra, cryst. struct. and symm. (German) 9-24313
- Zn₂As₂O₄OH, paradamite, X-ray cryst. struct. determ. H bond strengths 9-42016
- Zn(H₂PO₂)₂, X-ray cryst. struct. determ. and refinement, heavy-atom method 9-19194
- Zn(H₂PO₂)₂·H₂O, X-ray cryst. struct. determ. and refinement, heavy-atom method 9-19194
- ZnI₂, cryst. struct. determ., X-ray anal. (French) 9-7585
- ZnS_{1-x}Te_x, polytype single cryst. grown from melt 9-14762
- ZnSe₂O₄ spinel, X-ray obs. 9-32963
- Zn₂SiO₄, Willemite, single crystals., X-ray evaluation of atomic parameters for study of optical props. 9-4283
- ZrB_{-s1}, X-ray powder profile refinement 9-23574
- ZrH₂, H positions by neutron quasi-elastic scatt. 9-42042
- γ-Zr(HPO₄)₂·2H₂O, form. region and struct. model 9-46615
- ZrI₄, X-ray cryst. struct. refinement, new AB₄ struct. type (German) 9-32950
- ZrO₂, obtained by vapo-condensation, exam. of structure and phase props. (French) 9-19489

crystal atomic structure of organic compounds

- aggregate organic photoconductor, composition prep., struct. and optical props. 9-24006
- p-n-alkoxybenzoic acids, mol. arrangement in cryst., nematic, and smectic C phases 9-32889
- ammonium thiocyanate, testing aspherical atom refinements 9-7516
- benzenes, disubstituted, monosubstituted, effect of bonding electrons on molecular dimensions as determ. by X-rays 9-7595
- benzidine, cryst. struct. and lattice energy 9-37694
- bovine pancreatic trypsin inhibitor, struct. refinement by simultaneous minimisation of energy and R factor 9-7517
- 4-bromophenoxyacetyl-4-ethylbenzene, single crystal, X-ray struct. determ. 9-1426
- calcium di-DL-glycerate dihydrate, Ca binding, X-ray cryst. struct. determ. 9-46642
- calcium phthalate monohydrate, single cryst., X-ray cryst. struct. refinement 9-14790
- carboxylic acids, crystals, empirical interatomic potential functions 9-7567
- cholesteryl acetate, cryst. struct. at 123K 9-46643
- cholesteryl laurate, X-ray cryst. struct. determ. at 298K 9-37692
- copper iminodiacetate dihydrate, X-ray cryst. struct. and molecular struct. determ. 9-19237
- copper phthalocyanine, cryst. struct. sensitivity of band struct. 9-42444

crystal atomic structure of organic compounds continued

- α-copper phthalocyanine, struct. and susceptibility to radiation damage 9-32986
- cortison, phase refinement, random approach to struct. determ. 9-10747
- γ-crystallin, calf-lens protein, single cryst., X-ray diffr. low resolution struct. anal. 9-16130
- cyanine dyes, low dimensional aggregate models from crystal struct. anal. 9-19241
- 1,2-di(N-piperidyl)ethane-bis-N-oxide tetrahydrate, synthesis, cryst. and mol. struct. obs. 9-32985
- dibenzylmercury, cryst. struct. and conformation determ. 9-42045
- 1,5-dichloro anthracene, cryst. struct. calc., use of at.-at. pots. 9-46646
- 2-p-dimethylaminobenzylidene-1,3-indandione, X-ray cryst. struct. determ. 9-14793
- dimethyltin halides complexes with dimethyl sulfoxide and dimethylformamide, cryst. and mol. struct. 9-42047
- N-(4-diphenylamino) phthalimide, X-ray cryst. struct. determ. 9-42048
- 9,10-diphenylanthracene, soln. grown, cryst. struct. by computational and X-ray study 9-37690
- diphenylsulfonol, recrystallized, cell const. refinement precision powder data 9-10841
- DNA double helical fragment intercalator complex, molecular struct. 9-16140
- eukaryotic initiator tRNA, cryst. struct. from electron density map 9-43813
- α-D-glucose, further struct. refinement based on neutron diffr. data 9-42043
- hexabromobenzene, constrained refinement of neutron powder diffr. data 9-27970
- hydrazinium hydrogen oxalate, electron and proton distrib. in the short O-H bond 9-14789
- imidazole, cryst. struct. at 103K by neutron diffr. 9-37691
- intercalation compounds, metal guests in chalcogenide hosts, struct., review 9-46627
- lanthanum bicarbamate acetate, cryst. struct. 9-19240
- leghemoglobin, X-ray structural determ. at a resolution of 2.8 Å, electron density synthesis 9-42049
- lithium formate monohydrate, Li sites determ., using method based on bond-strength calcs. 9-7514
- lithium hydrogen phthalate monohydrate, X-ray cryst. struct. determ. 9-14791
- lithium thallium tartrate monohydrate, paraelectric phase structure by neutron diffraction data 9-19238
- metaquoemerythrin, difference Fourier refinement 9-8472
- methyl 2,3,4,5-di-O-isopropylidene-α-D-glucoseptanoside, struct. determ., X-ray and neutron diffr. study 9-42050
- 2-methylamino-1-(spiro[cyclopentane-1,1'-inden]-3'-yl)ethanol hydrochloride, triclinic cell parameters from Weissenberg photographs 9-7518
- myoglobin, from Aplysia limacina, X-ray cryst. struct. determ. at 5 Å resolution 9-16131
- nickel phthalocyanide, cryst. struct. sensitivity of band struct. 9-42444
- organometallic transition metal hydride complexes, struct. geometry bonding, neutron diffr. studies 9-46641
- oxalic acid, theoretical deformation density, ab initio Hartree-Fock calcs. 9-32982
- oxanilide, IR and Raman spectra, cryst. struct. and vibr. 9-42954
- parabanic acid, charge density and cryst. struct. redetern. by X-ray and neutron diffr. 9-46644
- n-paraffins, cryst. struct., rel. to polyethylene, surface effects on core 9-23593
- perdeuteriophthalene, use of neutron time-of-flight technique for cryst. struct. investigation 9-19126
- (phenacetin)₂·HI₃, cryst. struct. determ. using Patterson methods 9-46647
- poly-bis-phenyl glutarate diacetylene, cryst., solid-state synthesis, struct. 9-15638
- polybis-p-toluene sulphate, single crystals., morphology 9-23594
- polyethylene, cryst. struct. struct., rel. to n-paraffins, surface effects on core 9-23593
- polypeptides, cyclic, cryst. struct. conformations 9-24942
- potassium hydroxymethanesulphonate, X-ray cryst. and mol. struct. determ. 9-32983
- potassium oxalate monohydrate, cryst., O-H bond lengths, H-O-H angles, corrections 9-32945
- protein data measured on oscillation camera, collection and reduction method 9-29672
- pyrene, cryst. struct. calc., use of at.-at. pots. 9-46646
- pyridinium manganese (II) chloride monohydrate, crystal struct. and mag. susceptibility 9-19239
- pyrocalciferol, struct. determ. using Karle-Hauptman determinants 9-7513
- quinolinium manganese (II) chloride monohydrate, crystal struct. and mag. susceptibility 9-19239
- Rochelle salt, ferroelec. thin crystals., struct. investig. 9-27962
- scandium nitrate tetracarbamide, cryst. struct. determ. 9-23588
- sodium benzoylacetate, dielec. props. and cryst. struct. 9-8099
- TCNQ complex, [1,2-bis(1-benzyl-4-pyridinio)ethane]²⁺(TCNQ)₃²⁻, cryst. struct. and elec. cond. 9-19236
- TCNQ salt, HMTTF-TCNQ, Madelung energy, intermol. charge transfer, 1-dimens. disorder 9-7572
- TCNQ salt, N,N'-di(n-propyl)-4,4'-bipyridylium²⁺(7,7,8,8'-TCNQ)₄²⁻, cryst. struct., elec. props. 9-27971
- TCNQ salts, (N-methyl pyridine) (TCNQ)₂, struct. and cond., 280 to 340K 9-23955
- TCNQ salts, spin density distrib., estimation from EPR fine struct. and cryst. data 9-11347
- o-terphenyl, cryst. struct. determ. by neutron diffr. 9-42046
- tetrakis(thenoyltrifluoroacetato)thorium(IV), X-ray cryst. struct. determ. 9-37689
- (theobromine)₂·H₂I₈, cryst. struct. determ. using Patterson methods 9-46647
- thiourea SbF₆, cryst. struct., single cryst. X-ray diffr. study, influence of secondary binding (French) 9-32987
- triindylcerium pyridinate, X-ray cryst. struct. determ. 9-32984
- trimethylammonium cadmium chloride, (CH₃)₃NHCDCl₃, struct. phase transitions 9-1502
- triphenyltin bromide, cryst. struct. determ. using Patterson and Fourier methods 9-42044
- urea-oxalic acid (1:1), X-ray cryst. struct. determ. and thermal expansion 9-46645

crystal binding

- see also binding energy; lattice energy
acetic acid, cryst. binding, ab initio MO SCF calc. 9-37657
alkali halide crystals, Szegedi effective charge parameter, strain derivative 9-7571
alkali halides, ion sizes and short range repulsive interactions 9-37652
alkali halides, phenomenological potentials 9-37654
alkali metal suboxides, thermal and struct. anal., elec. and optical props., photoelectron spectra 9-47587
alkaline earth chalcogenides, crystal parameters calcs. using repulsive interaction pot. 9-37795
alkaline earth chalcogenides, ion sizes and short range repulsive interactions 9-37652
alloy systematics, rel. to the long periodic table 9-37649
aluminates, interdepend. between tetrahedral d(T-O) bond lengths, non-bonded d(T...T) separations and TOT angles (T=Al,Si,P), using regression anal. 9-19182
benzidine, cryst. struct. and lattice energy 9-37694
calcium di-DL-glycerate dihydrate, Ca binding, X-ray cryst. struct. determ. 9-46642
chalcopyrite compounds, $A^{100}B^{100}C^{100}D^{100}$, tetragonal distortion 9-32942
conference, International Crystallography Congress, Warsaw, Poland (Aug. 78) 9-23481
depolarization correction for Coulomb lattice sums 9-10829
diamond, tetrahedrally bonded valence crystals, SCF perturbation theory appl. 9-37658
electronic system with two-fold degenerate band, free energy change due to electron-phonon coupling 9-42500
formic acid, cryst. binding, ab initio MO SCF calc. 9-37657
formic acid, lattice energy, non-empirical MO SCF calc. 9-37656
globular hydrocarbons, cohesive energy and Gruisen parameter calcs. 9-19183
hexamethyldialuminium, methyl group rotation and bonding, CW proton second moment and line shape studies 9-47346
hydrazinium hydrogen oxalate, electron and proton distrib. in the short O-H-O bond 9-14789
ice, cryst. binding, H-bonding pot. function 9-32940
inorganic compounds, rel. to Lindemann's theory for melting temp. 9-23702
intermetallic compounds valence bond test, for validity of structure 9-10830
ionic crystal, electrostatic energy calc. by planewise summation method 9-23564
ionic radii, limiting values, rel. to crystallochemical radii 9-14730
ionic solids, variation of shellwise s-electron density at nucleus 9-42507
IV-VI semiconductors, crystal binding energy 9-37650
IV-VI semiconductors, transverse effective charges 9-37651
metallic phases with AlB₂ and related struct. stability 9-46597
metals, electron-ion interactions 9-4377
mica, layer deformation and cryst. energy, struct. models for 1M and 2M₁ polytypes 9-19184
Mulliken electronegativity scale, struct. stability 9-23562
orthosilicates, determ. of electronic polarisabilities of ions 9-7570
oxalic acid, cryst. binding, ab initio MO SCF calc. 9-37657
perovskite structure crystals, appl. of repulsion parameters of ions and radicals 9-32943
phosphates, interdepend. between tetrahedral d(T-O) bond lengths, non-bonded d(T...T) separations and TOT angles (T=Al,Si,P), using regression anal. 9-19182
semiconductor, tetrahedral, lattice thermal cond., ionicity depend. 9-37884
silica, and silicate minerals, interdepend. between tetrahedral d(T-O) bond lengths, nonbonded d(T...T) separations and TOT angles (T=Al,Si,P), using regression anal. 9-19182
spinel type cpds., normal, classification by ionic packing factor (*Japanese*) 9-46595
superlattices, bonding and diff. 9-19535
TCNE, lattice dynamics of both cryst. forms, '6-exp' pot. function 9-28055
tetrahedrally coordinated solids, charge distrib., localised mol. orbitals 9-23560
thianthrene, heat of sublimation, cryst. lattice and polarisation energy 9-32941
transition metal alloys, d-band hybridisation, electronegativities, structural stability 9-42007
transition metal dichalcogenides, layered, electronic band struct. and bonding by atomic orbitals methods 9-15077
transition metal hydride complex, struct. geometry bonding, neutron diff. studies 9-46641
transition metals, interatomic forces, phonon spectra, from band structure charge densities 9-7662
TTF, heat of sublimation, cryst. lattice and polarisation energy 9-32941
Ag halide bonding LCAO-MO treatment 9-23561
Ag₂HgI₄, XPES, lattice instability 9-33904
AgI, XPES, lattice instability 9-33904
Ag₂S, XPES, lattice instability 9-33904
BN tetrahedrally bonded valence crystals, SCF perturbation theory appl. 9-37658
BaTiO₃, electrostatic energy calc. by planewise summation method 9-23564
Ba₂V₂O₇, cryst. struct. determ. and bond strength anal. 9-23576
BeO, tetrahedrally bonded valence crystals, SCF perturbation theory appl. 9-37658
Cl₂, solid, electronic struct. of bonding, X-ray diff. meas. 9-42006
Co complex, monofumaratetraaquocobalt(II) monohydrate, cryst. struct. and cryst. binding 9-37681
Cr-Ni, high temp. strength, interatomic bonds ionic component correlation (*Russian*) 9-15761
Cs halides, rel. to dielectric behaviour and optic mode Gruisen parameters 9-10907
CsCl, electrostatic energy calc. by planewise summation method 9-23564
Cu, lattice and force consts., pairwise atomic repulsions in cluster model 9-32939
Cu₂HgI₄, XPES, lattice instability 9-33904
CuMn₂O₄, comment on cryst. struct. determ. by neutron diff. 9-23585
Cu₂S, XPES, lattice instability 9-33904
D₂, intermolecular pair potential, from solid-state data 9-14727
Dy₂O₃, XPS, charging effects on core-level binding energies 9-24409
Er₂O₃, XPS, charging effects on core-level binding energies 9-24409
α-Fe, BCC, stress-induced interaction and ordering 9-42057

crystal binding continued

- α-Fe, lattice and force consts., pairwise atomic repulsions in cluster model 9-32939
GdI₃, empirical formula for lattice const. calc. 9-27968
GeTe, crystal binding energy 9-37650
H linear chain, near Hartree-Fock limit study 9-32938
H₂, intermolecular pair potential, from solid-state data 9-14727
HBr, cryst. binding, H-bonding pot. function 9-32940
HCl, cryst. binding, H-bonding pot. function 9-32940
HF, cryst. binding, H-bonding pot. function 9-32940
HF, one-dimens. cryst., ground state energy PCIOCC method 9-10056
Ho₂O₃, XPS, charging effects on core-level binding energies 9-24409
K₂Na[Co(NO₂)₆], bond nature, X-ray diff. determ. of electron density distrib. 9-14746
K₂Pt(CN)₄Br₃·2.7D₂O, under hydrostatic press., compressibility, neutron diff. 9-46742
Li sites, determ. in cryst. structs. using method based on bond-strength calcs. 9-7514
Lu₂O₃, XPS, charging effects on core-level binding energies 9-24409
Lu₂S₃, XPS, binding energies 9-15586
Lu₂S₄, XPS, binding energies 9-15586
MgNH₄PO₄·6H₂O, struvite crystals, periodic bond chains 9-41994
NaCl, electrostatic energy calc. by planewise summation method 9-23564
NaCl, valence-electron charge density along nearest-neighbour axis 9-27944
NaNO₂, ferroelec., electric field gradient (*Korean*) 9-15419
Nb, BCC, stress-induced interaction and ordering 9-42057
Ni, lattice and force consts., pairwise atomic repulsions in cluster model 9-32939
O-containing anions of d-elements forming hydration-active phases, electron structs. and props. 9-42005
organometallic transition metal hydride complexes, struct. geometry bonding, neutron diff. studies 9-46641
PbS(Se)(Te), crystal binding energy 9-37650
RbAg₄I₅, Ag⁺ ion pot. energy calcs. 9-10828
RbNiCl₃, cryst., ³⁵Cl and ⁸⁷Rb NMR down to 1.3K 9-42848
Se, molecular crystal, Se-Se nonbonded pot. parameters derivation from heat of sublimation 9-27945
SnTe, crystal binding energy 9-37650
SrCl₂, valence-electron charge density along nearest-neighbour axis 9-27944
Ta, BCC, stress-induced interaction and ordering 9-42057
Tb₂O₃, XPS, charging effects on core-level binding energies 9-24409
Th₃As₄, positron annihilation, mean ionic radius calc. 9-15550
Tm₂O₃, XPS, charging effects on core-level binding energies 9-24409
UAs₂ and U₃As₄, positron annihilation, mean ionic radius calc. 9-15550
UAs(Se)(Te), positron annihilation, mean ionic radius calc. 9-15550
UP₃, positron annihilation, mean ionic radius calc. 9-15550
U₂Pu_{1-x}O₂, theoretical study of electronic thermodynamic and valence props. 9-37655
USb₃, positron annihilation, mean ionic radius calc. 9-15550
V, BCC, stress-induced interaction and ordering 9-42057
Xe, solid, high press. equation of state 9-37809
YIG, empirical formula for lattice const. calc. 9-27968
Yb₂O₃, XPS, charging effects on core-level binding energies 9-24409
ZnAs₂, thermodynamic functions 9-10961
- crystal chemistry**
see also crystallography
bytownite, quenched from 1723K, X-ray single cryst. struct. anal. and refinement 9-19193
cation-deficient close-packed structures, combinatorics 9-23558
conference, solid state chem., Strasbourg, France (Feb. 1978) 9-46506
di-o-thymolate, cryst. chem. study and morphology (*French*) 9-46576
fluorite-related phases, Ln₃MO₇, (Ln=rare earth, Y or Sc), (M=Nb, Sb or Ta) 9-46619
halide compounds, cryst. chem. and structs. of type A₂B⁺B³⁺X₆ 9-46639
metal-boron systems, correlation of phase equilibria, with boride crystal chemistry 9-11562
mica, crystal chemistry, review 9-46612
sulphosalt minerals, exam. of crystal chemistry and morphology 9-10838
ternary metal borides, struct. chem. 9-14769
tetrahedral structures, related to wurtzite type (B₄), non-bonded interactions and cryst. chemistry 9-14743
Ag₂S₂SO₄, new cryst. data 9-37685
Ba₂Mn₂M_{III}F₉, (M_{III}=Fe, Co, Ni, Zn; M_{III}'=V, Cr, Fe), solid state synthesis and cryst. chem. study (*French*) 9-41988
CaWO₄Gd, site occupation 9-28608
Cd₂P₂(As₂), cryst., gas phase growth, morphology 9-10821
Ce₂PrO₄ system, mixed cryst. phase characterisation 9-14936
CsN_{1-x}Mn_xF₃, hexagonal perovskites, struct. evolution and mag. props., effects of high pressure 9-41987
Cu₂S, Cu chem. diffusion, and nonstoichiometry, 400°C, electrochem. determ. 9-28132
FeS, structural chem., influence of itinerant 3d electrons and valence-band holes 9-23563
Hg(NH₃)₂Br₂, Hg(NH₃)₂Cl₂, thermodynamic study of disorder 9-28109
In_{1-x}Ga_xP, quantitative characterisation of chemical disorder from wavelength-modulated non-phonon absorpt. 9-15482
InI, InI₂ and InI₃, far-IR spectra, valence states in InI₂ 9-47435
InSbSe₃, cryst. prep. and props. 9-15601
In₂Sb₂Se₃, cryst. prep. and props. 9-15601
In₂TeO₆, isolated in In₂O₃-TeO₂ system, cryst. struct. anal. (*French*) 9-32977
K₂Cu_{1-x}Mn_xF₄ system, (0≤x≤0.2), prep., cryst. struct., and ferromag. props., X-ray and neutron diff. study 9-24162
(Lu_{1-x}Sc_x)₂V₂O₇, prep., cryst. chem. and chem. anal. 9-41986
Lu₂V₂O₇, prep., cryst. chem. and chem. anal. 9-41986
(Lu_{1-x}Y_x)₂V₂O₇, prep., cryst. chem. and chem. anal. 9-41986
Mn_{0.510}Zn_{0.411}Fe_{2.073}O_{4+δ}, relationship between magnetic permeability and stoichiometry 9-42799
MoO₃, ultrafine crystals, exam. of reduction using electron microscopy (*Russian*) 9-29394
O-containing anions of d-elements forming hydration-active phases, electron structs. and props. 9-42005
P-O compounds, inorganic, exam. of crystal chemistry 9-1406
Pb₂Fe₂O₅, IR absorpt., Mossbauer spectra, Neel temp., cryst. cell (*French*) 9-42759
Rb₂O-Nb₂O₅(Ta₂O₅), phase equilib. relns. and crystal chemistry, structs. useful as ionic conductors 9-20033

crystal chemistry continued

- Si-O bonds, cryst. chem. at high press., rel. to Earth mantle mineralogy 9-48470
 $\text{Sr}_{1-x}\text{Pb}_x\text{TeO}_3$, ferroelec. soln., prep. at room temp. (*French*) 9-43190
 $\text{Ti}_2\text{V}_2\text{O}_7$, prep., cryst. chem. and chem. anal. 9-41986
 UO_2 , cubic Laves phase, prep. and stoichiometry 9-24459
 $\text{Yb}_2\text{V}_2\text{O}_7$, prep., cryst. chem. and chem. anal. 9-41986

crystal classes see crystal symmetry

crystal cleavage

- alkali halide, brittle fracture of single crystals and active struct. of cleavage surfaces 9-28039
 fracture, ionisation wave generation, microbreakdown mechanism 9-33032
 steel, C, heterogeneous structure, fracture characts. 9-38961
 steel, C, martensites, fractography, facets classification (*Slovak*) 9-20173
 TGS, morphology of Au and AgCl films on complementary cleavage planes 9-15031
 NaCl, investigation of fast electrical processes 9-24045
 NaCl, mechanoluminesc. peaks, microbreakdown mechanism, generation of ionisation waves 9-33032
 NaCl, single crystal, surface markings, left by unsteady cleavage crack propag. 9-46746
 Se surface, (1010) and (1210), LEED study (*French*) 9-14991

crystal defects

- see also Cottrell atmospheres; crowdions; crystal inclusions; crystal microstructure; defect electron energy states; disclinations; dislocations; grain boundaries; impurity-defect interactions; phonon-defect interactions; point defects; stacking faults; twinning
 anthracene, structural defect, photolum., γ -irrad. and temp. depend. (*Russian*) 9-28797
 1-bromoadamantane, orientationally disordered, γ -irrad. free radical defects, positron probe obs. 9-23647
 burst noise, physical sources 9-24033
 cavity nucleation, by plastic deform. 9-29127
 channelling studies of surfaces and defects 9-4358
 conference, International Crystallography Congress, Warsaw, Poland (Aug. 78) 9-23481
 defect structure near phase transition pt., effect on solid props. (*Russian*) 9-37838
 diamond, type I, defects of platelet nature, TEM study 9-37719
 diffusion layer, method for determining dopant and defect distrib. using polishing agent 9-37727
 dilatation centres, elastic interaction, nonlocal elasticity theory 9-46743
 ferroelectrics, properties near phase transition point, influence of defects 9-42918
 film, liquid-phase epitaxial growth on (100) and {111} substrates, 'tears' occurrence reduction (*Slovak*) 9-15037
 foil, preparation apparatus, for X-ray diffr. study of lattice defects 9-37585
 graphite, ground natural, Raman spectra, grinding influence 9-42956
 homogeneous material, 2D defects, interface problems 9-46674
 interaction of defects, radiation physics (*Russian*) 9-46702
 interface interaction of point defects and volume defects 9-14843
 interstellar oxide grains, surface defects rel. to mol. prod. 9-25690
 ionic crystal surfaces, defect struct. 9-19439
 isotropic solid, strain energy associated with extended defect 9-14821
 light scattering near phase transition points, cryst. defect effects 9-15415
 metal, FCC He ion irrad., He gas bubbles lattices obs. 9-14858
 metal, plasticity, dynamic, governing relations, elastic energy 9-43328
 metals, irrad., multiple atom displacements 9-46701
 metals, radiation effects, ion beam study, review 9-10883
 molecular single crystal, librational Raman spectra polaris., temp. depend. 9-1760
 muscovite mica, annealing of latent tracks of heavy ions (*French*) 9-19290
 naphthalene:2-fluoronaphthalene(2-chloronaphthalene), triplet state X-traps, ENDOR obs. 9-33561
 neutron diffraction topography, domain and cryst. defect studies, results 9-46520
 NMR and dielectric relaxation, defect diffusion models 9-15375
 non-metals, low-temperature strong enhancement of diffusion and defect generation 9-28149
 nonlinear water soluble crystals, characts. of laser pulse damage 9-45987
 nylon 6, relationship between morphology and dynamic mech. props. 9-4992
 polyethylene, melt crystallised, chain defects distrib. and microstruct. 9-10818
 polyoxymethylene copolymers, solid, mol. motions, 4-315K, dynamic-mech. study 9-4258
 quinoxaline, in p-dibromobenzene, ^{81}Br , elec. field grad. distortion near defect sites, optically NQR 9-38409
 semiconductor, apparent ageing, caused by defect migration, dark and photocond. 9-11169
 semiconductor, localised defects, theory of SEM charge-collection imaging 9-1374
 semiconductor laser, atom displacement as result of nonradiative recomb., defect form. mechanism 9-10308
 semiconductors, charge collection microscopy, surface barrier method, for defect investig. 9-37598
 solar cells, defects, rel. to elec. parameters, SEM electron beam induced current investig. 9-43772
 spectroscopic techniques, anal. with STEM for electronic anal. and obs. of defects in semiconductors 9-14812
 stearic acid, single cryst., characterisation (*Japanese*) 9-46587
 steel, square parts, surface inspection, defect depth meas., eddy current method 9-29307
 steel 120Kh3G3, lattice defects during γ - α - γ transform., electron microscopy obs. (*Russian*) 9-47681
 steels, C, H_2 embrittlement after patenting and cold deform. (*Russian*) 9-29175
 temperature spikes stochastic analysis, contribution towards component damage exposed to nuclear radiation environment 9-7627
 TGS, US propag. and vel. rel. to growth defects 9-28049
 TGS, with radiation defects, dielec. dispersion 9-42882
 topological solitons graded Lie algebras, appl. to obstructions for crossing defect hypersurfaces 9-42062
 tris-sarcosine calcium chloride:Mn(Fe), influence of cryst. defects on ferroelec. transition, EPR 9-38466
 type II superconductor influence of structure defects on resistive and Hall effects (*Russian*) 9-33419

crystal defects continued

- 1-vinyl-o-carborane, orientationally disordered, γ -irrad. free radical defects, positron probe obs. 9-23647
 weak beam calculations, effects of column approximation, in electron microscopic studies 9-32863
 Wiener filtering appl. to nondestructive evaluation 9-11732
 Ag, oriented crystallisation on active amorphous C centres, growth of nuclei at defects 9-7762
 α -Ag-Zn, electron irrad., atomic mobility enhancement by defects, dynamic characts. 9-37871
 Al bimetal film with Cu, Ti(V,Ni) and alloy MLT(RS-3710), struct. and macroscopic defects (*Russian*) 9-1555
 AlGaAs-GaAs lasers, defects and degradation (*Japanese*) 9-31899
 AlGa $_{1-x}$ As, DH, defect generation in active regions at high optical excitation rates 9-23845
 Ba ferrite powder, effect of lattice defects on coercivity (*German*) 9-24194
 BaF $_2$:Er $^{3+}$, fluoresc., importance of defect clustering 9-33827
 BaTiO $_3$:Mn, ferroelec. domain stabilisation by bulk ordering of defects 9-42925
 Cd $_0$ -Hg $_{0.8}$ Te, annealing in saturated Hg vapour (*German*) 9-43447
 CdS, defect struct., dark-field microscopy, anal. of decoration patterns 9-23506
 CdS:Cu,Pb reflectivity of Ni-salt coated powder, pre-irrad. effect on defect form. 9-27973
 CdSb single crystals, surface layer melting and recrystallisation due to laser irradiation (*Ukrainian*) 9-46699
 CoFe $_2$ O $_4$ synthesis, chem., thermal histories rel. to fine cryst. struct. 9-43186
 CoGa, defect struct. model 9-46648
 Cr, films, vac. deposited, defects (*Russian*) 9-33203
 Cr-Si(GaAs) Schottky barriers, interfacial structural defects effect on avalanche breakdown 9-42644
 CsI:Ti single crystal gamma-optical converting screens, factors influencing relative afterglow intensity 9-8173
 Cu, defect annealing around stage III, γ γ ang. correlation expt. 9-14846
 Cu high purity, grain boundaries as dislocation sources in premacrystallised strain region 9-34096
 Cu, self ion irrad., determ. of the nature of defect clusters by Rutherford backscatt. of He ions 9-4342
 Fe-Co films, ordered and disordered, Mossbauer study, role of lattice defects 9-24241
 Fe-Cu (0.34 wt.%), neutron irradiated, field-ion microscope detection of ultra-fine defects 9-42116
 Fe $_2$ O $_3$, haematite, annealing of nonequil. defects 9-43283
 Ge, lattice disorder influence on optical spectra in interband transition region 9-43006
 Ge, microflaw vol. conc. determ., etching method 9-24688
 Ge, p-type, and n-type converted to p-type by irradiation at 77K, defect form. mechanism 9-23651
 Ge-Si(GaAs) heterodiodes, interfacial structural defects effect on avalanche breakdown 9-42644
 ^3He , solid, mag. transition, defect-melting model 9-28172
 $\text{In}_{1-x}\text{Ga}_x\text{As}_y\text{P}_{1-y}$, DH laser material, spatially resolved photolum. characterisation and optically induced degradation 9-47486
 InSb, high-purity, electron irradiation effects on transport props. 9-23650
 K ternary halides, A_2MX_6 type, radiation induced lattice defects and solid state reactions (*German*) 9-42101
 KCl:Ba, defect struct., dark-field microscopy, anal. of decoration patterns 9-23506
 KCl:Pb, photoluminesc. induced by Suzuki-like occlusions, ionic thermocord. 9-33808
 KH $_2$ PO $_4$, real structure influence on optical strength 9-7187
 LiF:Mg(Eu)(Co)(Si)(O), cation sublattice, defect struct., elec. cond. 9-7709
 Li $_3$ N, ionic conductor, single cryst. defect struct. anal. data reduction and struct. refinements, 153-678K 9-32988
 MgO, criteria for assessing activity 9-11820
 n-Si, ion implantation causing surface defects, electroreflectance 9-19274
 NaAl $_3$ (PO $_4$) $_2$ (OH) $_4$, EPR of at. H caused by X-rays 9-28614
 NaF, γ -irradiated cryst., relaxational damping of elastic waves and activation energy of motion of defects 9-14891
 Nb film, bias sputtering prep. 9-1826
 Nb $_2$ O $_5$ -Nb $_2$ O $_3$, oxide defect structures of stable and metastable phases, 800 to 1100°C 9-46651
 Ni-Cr (2 wt.%), role of hydrostatic pressure on sintering of creep cavities 9-28980
 NiGa, defect struct. model 9-46648
 PLZT ceramics, electro-optic; defect struct. and prop. 9-42910
 PbF $_2$, acoustic phonon modes up to high temps., neutron scatt. meas., time averaged defect struct. 9-33052
 Pb $_{1-x}$ Sn $_x$ Te layers, LPE, phase diagram rel. to lattice const., distrib. coeffs. 9-37925
 Si, dislocation-free, defect formation, high temp. treatment, growth-band influence (*Russian*) 9-4299
 Si dosimetry diode, irrad. by γ -rays and fast neutrons, lattice defect annealing (*Czech*) 9-45570
 Si, electron-hole droplets nucleation at swirl defects 9-15095
 Si, lattice parameters and perfection (*Japanese*) 9-4300
 Si, RTR ribbon, impact of defects on photovoltaic potential 9-11186
 Si, single-crystal, grown-in structural defects 9-10860
 Si:B, ionisation-assisted annealing 9-23628
 n-Si:P, fast neutron irrad., defect clusters and defect build-up kinetics 9-33019
 n-Si:P, secondary defects produced by high-temp. electron irrad. 9-33017
 Si $_3$ Ge $_{1-x}$ Si(GaAs) heterodiodes, interfacial structural defects effect on avalanche breakdown 9-42644
 TiO $_2$, OH $^-$ adsorption on defect site, electronic struct. 9-47150
 Ti $_6$ O $_{11}$, electron-optical imaging, at 1.6 Å point-to-point resolution 9-46531
 V $_2$ Si, lattice defect, high voltage electron microscopy (*French*) 9-27993
 Y $_3$ (Al,Fe) $_2$ O $_{12}$, optical anisotropy and stress birefringence assoc. with growth striations 9-42940
 ZnS, defect struct., dark-field microscopy, anal. of decoration patterns 9-23506

crystal dislocations see dislocations

crystal electron states see electron energy states (condensed matter)

crystal energy *see* lattice energy

crystal etching *see* etching

crystal faces

organic crystal, struct. and habit correspondence, mol. centre of gravity determ. (*German*) 9-32934

steel, C, martensites, fractography, facets classification (*Slovak*) 9-20173

symmetric Belov subclasses for homologous series of bases of structural minals 9-19176

X-ray goniometer, for producing accurately oriented cryst. faces 9-37591

Ag vacuum deposition on GaAs (001), perfect and faceting growth 9-47632

Al vacuum deposition on GaAs (001), perfect and faceting growth 9-47632

Na₃Al₂Li₃F₁₂ garnet, cryolithionite, hydrothermal growth 9-43123

YAG, influence of facial growth effect on Yb ion incorporation 9-10822

crystal field interactions

see also crystal hyperfine field interactions

acetylene cryst., lattice energy, spheroidal multipolar expsn. for intermol. energy 9-14726

additive models for effective parameters 9-33269

alkali halides, three-body interactions, effect on electronic polarisabilities and photoelastic behaviour 9-47382

amphiboles, Mg and Mn rich, Mossbauer spectra 9-38412

charged defects, Holtsmark elec. field sitrubs. and assoc. broadening effects 9-1584

Clausius-Mossotti relation, modified, for lattice of finite ions 9-42503

copper porphrin, Zeeman expt. on phosphoresc. triplet and quartet states 9-33786

dielectric response of solids, approxs. for treatment of local field effects 9-47033

doublet-triplet mag. system, dipolar and quadrupolar ordering 9-8004

electronic system with two-fold degenerate band, free energy change due to electron-phonon coupling 9-42500

ferromagnet, dynamic magnetic field on fast charged traversing particle 9-38423

ferromagnetic BCC and HCP crystals, anisotropy of dipole fields, at interstitial sites 9-33584

fluorite type crystal; Tm²⁺(Yb³⁺), axial g-values of 4f¹³ ions with trigonal symmetry (*Korean*) 9-24135

garnet:⁵⁷Fe, electric field gradient, Mossbauer exam. 9-1732

Heisenberg Hamiltonian, generalisation for crystal with allowance for orbital degrees of freedom 9-4644

III-V semiconductors, deep centres, many-electron effects 9-15117

inert gas crystals, intermediate-radius excitons (*Russian*) 9-11068

ion channelling, coherent excitation 9-46727

irreducible tensor operator methods in strong-field coupling 9-7811

lanthanide ions, finite ligand size and Sternheimer antiscreening 9-19561

magnetically ordered singlet ground state system, nucl. spin Hamiltonian 9-28496

metallic systems with rare earth impurities, US attenuation in mag. field, absorpt. mechanisms 9-15336

metals, non-S-state impurities, coupled ESR 9-47326

micas, Mg and Mn rich, Mossbauer spectra 9-38412

molecular crystal, spheroidal multipolar expsn. for intermol. energy 9-10824

palladium porphrin, triplet state, optically detected EPR and Zeeman meas. 9-19809

palladium porphrin, Zeeman expt. on phosphoresc. triplet and quartet states 9-33786

paramagnetic ion, eigen-value problem in crystalline and mag. field 9-7954

quartz, single-cryst., Fe²⁺ absorpt. spectra in polarised light and struct. position 9-43007

quinoxaline, in p-dibromobenzene, ⁸¹Br, elec. field grad. distortion near defect sites, optically NQR 9-38409

rare earth and actinide ions, corrections to cryst. field Hamiltonian 9-33268

rare earth cobaltites, ⁵⁹Co NMR, quadrupolar and hyperfine interactions 9-15366

rare earth compounds, cryst. field effects on EPR and NMR 9-4736

rare earth intermetallics, RAl₂, cryst. field volume magnetostriction calc. 9-8029

rare earth metal S-states in metals, anomalous cryst. field splittings 9-19563

rare earth metals, mag. excitations, neutron inelastic scatt., review 9-47265

rare earth systems, mag. field depend. of polaritons 9-33246

rare earth-Co alloy, mag. anisotropy origin 9-38319

ruby, luminesc., ground state of Cr(III) pair 9-33782

semiconductor, heavily doped, perturbation potential distrib. and density of states 9-47052

semiconductor, recombination radiation mag. depolaris., spin level quadrupole splitting of lattice nuclei (*Russian*) 9-38666

spin-lattice relax. 9-15337

spin-lattice relax. times in crystals, anisotropy 9-15374

superconductors with paramag. impurities, NMR theory in singlet state 9-28445

terbium ethyl sulphate, mag. and thermal props. 9-7971

tetrachloroaurates and tetrachloroiodates, ³⁵Cl NQR freqs., correl. with crystallographic data 9-33559

TGS:Cr³⁺, EPR obs. of ferroelectric monocrystals, fine struct. EHT-SCCC-MO calcs. 9-19769

transition metal alkali metal halide, A_nCY₆, spectra by cryst. field theory 9-4820

transition metal compounds, pd^N (N=7,8,9) electron system in cubic crystal field, energy matrices (*Japanese*) 9-42504

transition metal ions in crystals, two-centre exchange interactions between orbitally degenerate ions 9-15126

1,3,5-trichlorobenzene, ³⁵Cl NQR, high press. behaviour 9-33560

YIG, energy location of mag. Fe levels, spin polarised photoemission 9-24413

Ag, deformation potentials for isotropic strains 9-42506

Al₂Ga_{2(1-x)}O₃:Cr³⁺, luminesc., lifetime, 77 and 4K, struct., energy transfer 9-28798

AmO₃ and AmO₂, electronic struct. and chem. bonding and XPS line shape calcs. 9-33264

BaMo₄, M=Mo,W, EPR spectrum, temp. depend. of zero field splitting 9-15346

BkO₃ and BkO₂, electronic struct. and chem. bonding and XPS line shape calcs. 9-33264

crystal field interactions continued

CaF₂:U⁵⁺, charge compensation, struct. 9-15124

CaMo₄:Mn²⁺, M=Mo,W, EPR spectrum, temp. depend. of zero field splitting 9-15346

CaWO₄:Fe³⁺, EPR, spin Hamiltonian parameters from anal. of Kramers' doublets 9-28595

CaWO₄:Mn²⁺, polycryst., EPR spectra calc. using Bir's method, compared with expt. 9-1707

Cd, field gradients, temp. depend., electronic and lattice contris., ab initio study 9-42501

CdMoO₄:Mn²⁺, EPR spectrum, temp. depend. of zero field splitting 9-15346

CeAl₂, Anderson lattice system, thermal expansion meas. 1.5 to 10K 9-37860

CeAl₃, inelastic neutron scatt. meas. 9-47066

CeCl₃, mag. field depend. of polaritons 9-33246

CePt₅, mag. susceptibility, 4.2 to 295K (*German*) 9-47233

Ce₂Th₂, inelastic neutron scatt. meas. 9-47066

CmO₂ and CmO₃, electronic struct. and chem. bonding and XPS line shape calcs. 9-33264

Co complex, Co(III) five coordinate, paramagnetic behaviour 9-15276

Co, dipole field anisotropy, at interstitial sites, lattice-deformation effects 9-33584

Co₂(AsO₄)₂.8H₂O, optical absorpt. spectra, spin orbit splitting and cryst. field parameters 9-38560

CoCl₂, electronic absorpt. spectra and coord. in cryst., soln. and melt 9-38570

CoCl₂.2H₂O, phonons and electronic transitions, Raman spectra 9-28761

CoO, valence band struct., cryst. field anal., photoelectron data 9-47007

CrBr₃(Cl₃), two-dimensional mag. insulator, cryst. field splitting, spectroscopic g-factors 9-47059

CrBr₃(Cl₃), two-dimensional mag. insulators, cryst. field spectra, mag. circular dichroism 9-47058

CsBr:Cu²⁺, off-centre, optical absorpt. meas., cryst. field splittings 9-33740

CsFeCl₃, linear chain cryst., quadrupole and mag. reson., rel. to RbFeCl₃ 9-38403

CsMF₃:Mn²⁺, (M=Ca,Cd), zero-field splitting of Mn²⁺, superposition model (*French*) 9-15267

Cs₂NaEuCl₆, mag. dipole transitions ⁵D₃-⁷F₄, interpretation 9-42505

CsPr(MoO₄)₂, energy levels and mag. props. of Pr³⁺ ion (*Russian*) 9-7810

Cu complex, substituted Cu(II) acetates, exchange interactions, EPR, struct. 9-42829

Cu, deformation potentials for isotropic strains 9-42506

CuGaS₄, tetragonal distortion, crystal field splitting, temp. depend. 9-47060

Eu pyrochlores, Eu₂Zr₂O₇ (Z=Ti, Ru, Ir, Mo, Sn, Zr, Pb, Pt and Hf), elec. field gradient, Mossbauer expt. 9-8077

Fe, muon⁺, 40 MeV, traversing magnetised plates, dynamic mag. fields 9-38422

Fe, spin 3/2, in strong crystal field, axial and rhombic symmetry, EPR parameters 9-28591

FeBO₃, Mossbauer coherent scatt. polaris., rel. to cryst. mag. struct. (*Russian*) 9-11368

FeCl₂.2H₂O(2D₂O), phonons and electronic transitions, Raman spectra 9-28761

FeOHSO₄, mag. props., Mossbauer spectra meas. 9-19824

FeS, structural chem., influence of itinerant 3d electrons and valence-band holes 9-23563

α-FeSe, quadrupole splitted Mossbauer spectrum 9-24239

GaAs:Co²⁺, piezoabsorption meas. tunnel splitting and Jahn Teller effect in ⁴T₁(P) state 9-15494

Gd, dipole field anisotropy, at interstitial sites, lattice-deformation effects 9-33584

GdCrO₃, magnetisation, appl. of molecular field theory 9-4637

GeO₂:V⁴⁺, crystal field splitting from ESR and optical absorpt. results 9-47063

H₂, solid, nuclear spin-lattice relaxation, crystal and mag. field effects 9-42865

HoAl₂, Ho moment reorientation, polarized neutron diffr. study 9-42761

HoZn, mag. excitations near spin rot. temp., neutron scatt. study 9-19731

KBr:Eu²⁺, spin Hamiltonian cryst. field const. calcs. 9-38035

KCl:Eu²⁺, spin Hamiltonian cryst. field const. calcs. 9-38035

K₂CrF₇, monocystal, cryst. field and mag. props., EPR and optical absorpt. spectra 9-19773

K₂MF₄:Mn²⁺, (M=Mg,Zn,Mn), zero-field splitting of Mn²⁺, superposition model (*French*) 9-15267

KMgF₃:Sm²⁺, absorpt. spectra and Zeeman effect, 3000-12000 Å, 4.2-295K 9-24341

KMn_{0.1}Zn_{0.9}F₃, exchange interaction determ. by neutron scatt. 9-47274

K₂PdBr₄.2H₂O, visible and UV absorpt. spectra, 10-295K 9-38572

K₂PdCl₄, visible and UV absorpt. spectra, 10-295K 9-38572

K₂Pd(SCN)₄, visible and UV absorpt. spectra, 10-295K 9-38572

K₂PtBr₄, visible and UV absorpt. spectra, 10-295K 9-38572

K₂PtCl₄, visible and UV absorpt. spectra, 10-295K 9-38572

K₂Pt(SCN)₄, visible and UV absorpt. spectra, 10-295K 9-38572

(La,Er)Al₂, cryst. field parameters, inelastic neutron scatt. study 9-23937

LaPd₃, Γ₃ and Γ₂ states at Pr³⁺ site, creation by cryst. field 9-28547

Li₂AsO₄:CrO₄³⁻, EPR, 4.2K, cryst. field parameters 9-28586

Li₂PO₄:CrO₄³⁻, EPR, 4.2K, cryst. field parameters 9-28586

Li₂VO₄:CrO₄³⁻, EPR, 4.2K, cryst. field parameters 9-28586

MgCl₂:Co²⁺, Zeeman electronic Raman scatt. spectra 9-42962

MgCrO₄, magneto-electric splitting of crystal field Γ₂-level of Cr³⁺ ion, neutron spectroscopic obs. 9-19562

MgO:Mn²⁺, ground state exam., thermal conductivity meas. 9-42497

Mn²⁺, in polycrystals, EPR spectra calc. using Bir's method 9-1707

MnCl₄, fine struct. of Mn²⁺ lines 9-33780

MnCl₂.2H₂O, magnetisation and mag. resonance 9-11349

MnCl₂.2H₂O, phonons and electronic transitions, Raman spectra 9-28761

MnO-B₂O₃, polycryst. cpds., mag. susceptibility and ¹¹B NMR 9-8056

α-Ni₂, solid, wΔ₁-X₁²- intensity and band shape 9-47427

(NH₄)₂Zn(MoO₄)₂:Ni²⁺, optical absorpt. spectrum, room and liq. air temp. 9-15499

NaCl:Eu²⁺, spin Hamiltonian cryst. field const. calcs. 9-38035

NaHSO₄:Mn²⁺, EPR 9-24215

NaMgF₃:Sm²⁺, absorpt. spectra and Zeeman effect, 3000-12000 Å, 4.2-295K 9-24341

NaNO₃, pure cryst., NO₃⁻ singlet-triplet absorption, Stark effect obs. 9-8153

crystal field interactions continued

- Nd₂C₃, cryst. struct., mag. struct. and props., 1.6 to 300K 9-11296
 Ni, Si ion projectile bound s electron polaris. rel. to transient mag. fields 9-33023
 Ni(BF₄)₂·6H₂O, EPR, cryst. field symmetry 9-28593
 NpO₂ and NpO₃, electronic struct. and chem. bonding and XPS line shape calcs. 9-33264
 Pb, supercond., internal mag. field meas. by μ^+ method (*Russian*) 9-33391
 PbF₂:Tb³⁺, ESR spectrum of ions in cryst. field of cubic symmetry 9-38378
 PbMo₄, M=Mo,W, EPR spectrum, temp. depend. of zero field splitting 9-15346
 Pb₃(PO₄)₂:Gd³⁺, EPR near ferroelastic transition point 9-15350
 Pd_{1-x}Pr_x (x=0.02 and 0.03), dil. alloy, min. resist. around 20K 9-19583
 Pd_{100-x-y}Si_xFe_y, amorphous, ⁵⁷Fe Mossbauer spectra, X-ray diffr., ageing behaviour 9-28651
 Pr ion in free state and in crystal, change of spectra 9-33271
 PrAl₃, crystal field splitting, inelastic neutron scatt. study 9-47067
 Pr₂Al₃, crystal field splitting, inelastic neutron scatt. study 9-47067
 PrAs, crystal field press. depend., negative point charge model representation 9-42502
 PrBi, crystal field press. depend., negative point charge model representation 9-42502
 PrF₃, crystal field split levels, inelastic neutron scatt. study 9-47065
 PrFeO₃, crystal field splitting, inelastic neutron scatt. study 9-47067
 PrGaO₃, crystal field splitting, inelastic neutron scatt. study 9-47067
 Pr₂Mg₃(NO₃)₁₂·24H₂O:Gd³⁺, EPR X-band, fine struct., low field lines 9-15351
 PrPd₃, Γ_3 and Γ_2 states at Pr³⁺ site, creation by cryst. field 9-28547
 PrSb, crystal field press. depend., negative point charge model representation 9-42502
 PrSe, crystal field press. depend., negative point charge model representation 9-42502
 PrTe, crystal field press. depend., negative point charge model representation 9-42502
 PuO₂ and PuO₃, electronic struct. and chem. bonding and XPS line shape calcs. 9-33264
 RbCl:Mn²⁺, spin-Hamiltonian parameters anal., superposition model applicability 9-28592
 RbFeCl₃, linear chain cryst., quadrupole and mag. reson., rel. to CsFeCl₃ 9-38403
 RbMF₃:Mn²⁺, (M=Mn,Cd,Ca), zero-field splitting of Mn²⁺, superposition model (*French*) 9-15267
 ReCl₄³⁺ doped in various host lattices, luminesc. spectra and vibr. struct. 9-43024
 Ru complexes, K_{a1} lines chem. shift, donor-acceptor capacity of ligands 9-33867
 SmAs, low temp. props. 9-28528
 SmBi, low temp. props. 9-28528
 SmCo₅, single crystals, mag. props. study and role of anisotropy effects of cryst. field (*French*) 9-38356
 SmCo₅Cu_{1.5}, single crystals, mag. props. study and role of anisotropy, effects of cryst. field (*French*) 9-38356
 SmP, low temp. props. 9-28528
 SmSb, low temp. props. 9-28528
 Sm₂Zn₃(NO₃)₁₂·24H₂O:Gd³⁺, EPR X-band, fine struct., low field lines 9-15351
 SnO₂(F₂), elec. field gradient at Sn⁴⁺ site, Mossbauer quadrupole splitting and anionic polarisability calc. (*French*) 9-15384
 SrF₂:Gd, cryst. field parameters calc. and model of tetragonal Gd³⁺ centres 9-28328
 SrMo₄, M=Mo,W, EPR spectrum, temp. depend. of zero field splitting 9-15346
 SrTiO₃:Cr³⁺ Jahn-Teller system, EPR, electric field effects 9-28599
 Tb_{0.5}Ho_{0.5}, ferromag. and helical phase, spin wave dispersion relations 9-24149
 TiCdF₃:Mn²⁺, zero-field splitting of Mn²⁺, superposition model (*French*) 9-15267
 U complex, cyclopentadienyl-U-halides, paramag., U IV ligand interaction, mag. susceptibilities, 1-300K (*German*) 9-15279
 UF₆(Cl₄)(Br₄)(I₄), paramag., U IV ligand interaction, mag. susceptibilities, 1-300K (*German*) 9-15279
 U(OH)₂SO₄, antiprismatic crystal field, paramag. susceptibility, 4.2 to 300K 9-1655
 U₆O₄(OH)₄(SO₄)₆, antiprismatic crystal field, paramag. susceptibility, 4.2 to 300K 9-1655
 UPd₃, anomalous behaviour in low temp. props. 9-28108
 U(SO₄)₂·4H₂O, antiprismatic crystal field, paramag. susceptibility, 4.2 to 300K 9-1655
 (Y,Er)Al₃, cryst. field parameters, inelastic neutron scatt. study 9-23937
 YAG:Nd³⁺ and free Nd³⁺ ion, energy levels, absorption spectra 9-11076
 Zn, field gradients, temp. depend., electronic and lattice contribs., ab initio study 9-42501

crystal field splitting see *crystal field interactions*

crystal field theory see *crystal field interactions*

crystal fields see *crystal field interactions*

crystal filters

- Pb(Zr_{0.53}Ti_{0.47})O₃, piezoelec. ceramic, HF filter appl. (*Korean*) 9-27472

crystal growth

- see also *crystal growth from melt*; *crystal growth from solution*; *crystal growth from vapour*; *crystal purification*; *crystallisation*; *dendrites*; *epitaxial growth*; *nucleation*
 alkaline earth uranates, struct., phys. and chem. props., preparation methods, review (*Japanese*) 9-14764
 n-alkanes, monoclinic, polygonized spiral growth patterns on {001} faces (*Italian*) 9-23559
 anthracene and dianthracene, phase equilb. in photocondensation (*Russian*) 9-7561
 benzene, rot. motions and cryst. growth, Monte Carlo calcs. 9-46577
 conference, International Crystallography Congress, Warsaw, Poland (Aug. 78) 9-23481
 crystal growth-disorder models and Ising models 9-46585
 dendrites, growth theory, replacement of maximum velocity principle, by stability criteria 9-11049
 dendrites, growth theory, surface tension effects 9-11051
 dendrites, Ivantsov needle crystal model, with zero capillarity and small Peclet number, stability analysis 9-11050
 dendritic growth rates, evidence for a universal law 9-4496
 diamond, synthetic, history and present status 9-33906

crystal growth continued

- interfacial roughening transition, renormalisation group theory 9-2734
 low gravity experiment possibilities in electronic materials growth technology 9-47606
 materials science and technology, space flight appl., conf., Gaithersburg, USA (April 1977) 9-47881
 Monte Carlo computer simulations, of cryst. surfaces and cryst. growth 9-14710
 organic eutectics, surface nucleation parameters 9-19163
 review, morphology of crystals (*French*) 9-4266
 roughening transition, self-consistent calc. of statics and dynamics 9-27939
 snow, growth mechanism with specific grain boundary 9-23547
 space environment, future research 9-47607
 space laboratory, crystal growth, techniques (*Hungarian*) 9-47603
 space microgravity environment 9-47605
 step motion, in the presence of a mobile impurity, computer model 9-14713
 step trains, modes of vibr., rhythmical bunching, expt. obs. to show periodicity in step patterns 9-41996
 symmetric models of crystal growth disorder graphical solns. for correlations 9-1401
 thermohydrodynamic equations for two-phase polydisperse medium with phase transformations and size distrib. 9-41743
 Al₂Be₄(Si₆O₁₈), beryl single crystals, growth defects study using X-ray topography (*French*) 9-37710
 AlN whiskers, strength rel. to growth conditions using vapour-liquid-solid method 9-11052
 alkali earth uranates, struct., phys. and chem. props., preparation methods, review (*Japanese*) 9-14764
 Ge detector; high-purity, effect of crystal growth direction on energy resolution 9-45541
 K₂Cu_{1-x}Mn_xF₄ system, (0≤x≤0.2), prep., cryst. chem., and ferromag. props., X-ray and neutron diffr. study 9-24162
 LiNbO₃-Ca(NbO₃)₂, cryst. growth in baked mixture, Seignettelec. phase (*Russian*) 9-47395
 LiNdP₂O₁₂ laser material, optical props. and crystal growth (*Japanese*) 9-27259
 Mn chalcogenides-II-VI compound solid solutions, cryst. growth and physicochem. props. 9-14711
 γ-NbN, single crystal growth by annealing, NbN in nitrogen gas pressure 9-8246
 NdLaP₂O₁₄, large crystal growth technique (*Chinese*) 9-24418
 NdP₂O₁₄, large crystal growth technique (*Chinese*) 9-24418
 Pb ternary oxides, antiferroelec., growth and props. 9-38461
 PbNb₂O₆, surface (001), microstruct. obs. by optical, etching, and interferometric techniques 9-11399
 ZnSe, growth centres, crystallographic parameters and etching patterns study (*French*) 9-41998

crystal growth from gel

- PbHPO₄, ferroelectric, sp. ht., effects of growth method 9-19853
 γ-Zr(HPO₄)₂·2H₂O, form./region and struct. model 9-46615

crystal growth from melt

- see also *liquid phase epitaxial growth*; *zone melting*
 anthracene, liq. chromatography, sublimation, zone refining, exciton fluorescence, mobility meas., melt grown crystal 9-38736
 apparatus for growing low-temp. single crystals 9-4908
 composition control of crystals grown in elec. and mag. fields 9-33920
 convection control, future fluid flow research, space environment possibilities 9-47622
 crystal growth, from liquids at high temps., review 9-15602
 crystallisation process, controlled from binary melt (*Polish*) 9-14708
 diamagnetic solids crystallised from melt, mag. fluid effect on props. 9-37815
 dibenzyl-tolane, single cryst. growth from melt, influence of supercooling and impurity conc. on growth rate of faces 9-14714
 gemstones, synthetic, cryst. growth, review (*German*) 9-33926
 growth affinity, a driving force for crystallisation 9-23554
 ice, droxtals grown from supercooled water droplets, morphology 9-24426
 magnetic field effect (*Russian*) 9-37641
 magnetoelectric composite, gas bubble form. ahead of solidification front 9-29044
 Marangoni number, critical, for the onset of oscillatory flow in crystal growth melts 9-23555
 melt surface boundary, mass transfer, influence on crystal habit during growth 9-14712
 metals, ingots, controlled crystn. using Bridgman method, modernisation of OKB-8093 unit 9-24425
 phthalic anhydride spherulites, cryst. growth from melt 9-32930
 rare earth titanates, R₂Ti₂O₇, synthesis and phys. props. 9-43128
 review (*Japanese*) 9-4915
 sapphire ribbon crystals, grown by edge-defined film-fed growth technique, X-ray topography study of dislocations 9-4305
 segregation, reformulation of Burton Prim and Slichter model during cryst. growth from melt 9-4909
 semiconducting crystals, with toxic and/or highly volatile components, improved system for Bridgman growth 9-47620
 shape former, pulling method for desired cross-section (*Japanese*) 9-15603
 solid solution, single cryst. growth from melt, role of composition fluctuations 9-8239
 step free edge energy, estimation from growth kinetics 9-46586
 Verneuil technique, powder feeder for crystals of large diameter 9-33925
 zone melting crystn. parameters optimisation using temp. distrib. calcs. (*German*) 9-43140
 Ag and dil. alloys, Bridgman growth, distrib. of growth directions 9-33924
 BaAl₂O₉, single crystals, Czochralski growth, Al₂O₃-BaO phase diagram, cryst. quality 9-24428
 BaTiO₃:Nb, ferroelec. and paraelec. phases, props. 9-42919
 BaWO₄, single cryst. growth by Czochralski method and U incorporation, effective distrib. ratios, luminesc. characts. 9-42094
 Bi_{1-x}GeO₂₀, Czochralski single crystal growth 9-1823
 Bi₂SiO₂₀, pulling large crystals 9-11507
 Bi₂Te₃, Bridgman method modified for excess iodine, elec. props. 9-4907
 Bi₂Te_{2.8}Se_{0.12}, solid soln., single cryst. growth and doping, thermoelec. efficiency and Hall coeff. 9-33921
 12CaO·7Al₂O₃, single cryst. growth from melt 9-47614
 CaWO₄, single cryst. growth by Czochralski method and U incorporation, effective distrib. ratios, luminesc. characts. 9-42094

crystal growth from melt continued

- CdCr₂Se₄, ferromagnetic semiconductor, single cryst. growth (*Japanese*) 9-47612
- CdGeAs₂, optical and elec. props. 9-19590
- Cd_{1-x}Hg_xTe, homogeneous mixed crystals, with large segregation tendency, Bridgman growth (*German*) 9-33923
- CdS single cryst., melt growth, improvement of elec. characts. 9-38734
- CdSb, monocrystalline film, prep., elec. props. 9-43159
- CdTe-ZnSe pseudobinary system, phase diagram and equil., Bridgman single cryst. growth method 9-43213
- CoSi₂, interface struct. and growth mechanism from melt 9-14715
- Cr₂O₃, cryst. growth from decomposition of K₂Cr₂O₇ melt 9-43131
- Cs₂NaLn(III)Br₆, single crystals, grown by Bridgmann-Stockbarger method, charact. by X-ray powder diff. (*French*) 9-43135
- Cs₂NaYCl₆Bi³⁺, luminesc., cryst. growth, Stockbarger method 9-8174
- Cu, preferred crystallographic orientation of melt grown single crystals (*Czech*) 9-43134
- Cu, single crystal growth, new technique for prep. from bulk using four pts., RHEED anal. 9-8240
- Cu-Al(Si), preferred crystallographic orientation of melt grown single crystals (*Czech*) 9-43134
- Cu-Ge (5 at.%), single crystal, Bridgman growth, neutron diffraction topographic obs. of layer substructure 9-27938
- Cu₄Mn₂S₄(Se₄)(Te₄) spinel, prep. and elec. props., 100 to 650K 9-43127
- Fe-Ni (31 wt.%) alloy, Bridgman grown, cellular to dendritic cryst. transition, morphology and microstruct. (*Russian*) 9-14709
- Fe-Ni alloy, Bridgman growth, distrib. of growth directions 9-33924
- FeBO₃, FeBO₆, magneto-optical materials, single cryst. growth (*Japanese*) 9-47612
- FeGe₂, interface struct. and growth mechanism from melt 9-14715
- Fe_{1.76}Ge, interface struct. and growth mechanism from melt 9-14715
- Fe₂O₄, magnetite crystals, skull melter growth 9-24430
- FeP₄, twinned cryst., synthesis and cryst. struct. 9-4278
- α -FeSi_{2.33}, interface struct. and growth mechanism from melt 9-14715
- Ga single crystals, rate equations for dislocation-free and dislocation-assisted growth 9-4262
- GaAs, crystal pulling of semi-insulating material, liquid encapsulated compounding and Czochralski growth 9-43136
- (GaP)_{1-x}(ZnSe)_x, solid solution, reaction of Zn with Se during Czochralski growth and LPE 9-8238
- Gd₂Ga₂O₁₂, cryst. growth by Czochralski technique, dissociation products calcs. 9-47615
- Ge, crystal growth and segregation under zero gravity 9-43130
- INP, growth and props. 9-1822
- INP, liquid encapsulated Czochralski cryst. growth, X-ray study 9-47619
- INP, synthesis solute diffusion grown, elec. props., photoluminesc., etch pit profiles 9-4914
- InSb, morphological instability under constitutional supercooling during cryst. growth from melt and stabilising thermal gradient 9-4910
- InSb-Te, Czochralski cryst. growth, strain configuration study using X-ray anomalous transmission topography 9-23552
- InSbSe₃, cryst. prep. and props. 9-15601
- In_{1.8}Sb_{0.2}Se₃, cryst. prep. and props. 9-15601
- In₄Se₇, single cryst. prep. and electrophys. props. 9-43129
- K₂Co₂(SO₄)₃ polycryst., growth and phase transitions 9-33918
- LiC₆ intercalation cpd., synthesis method and reflectivity spectrum 9-15600
- Li₂GeO₃, melt-grown single crystals, polar twins, piezoelec. meas., etching behaviour 9-32999
- Li₃N, superionic conductor, cryst. growth and struct., phys. props., book contrib. 9-42308
- LiNdP₂O₇, laser material, crystal growth and optical props. 9-41386
- Li₂SiO₃, melt-grown single crystals, polar twins, piezoelec. meas., etching behaviour 9-32999
- LiTaO₃, single crystals, Czochralski growth for SAW device appl. 9-33922
- Li₂ZnGe, single cryst. growth, by normal freezing method, X-ray diff. study 9-28908
- LuAlO₃, single crystals, prep. and phys. props., X-ray struct. anal. 9-4298
- Mn chalcogenides-II-VI compound solid solutions, cryst. growth and physicochem. props. 9-14711
- Mn₂Si₃, interface struct. and growth mechanism from melt 9-14715
- Mn₂N ferrite single cryst., high temp. phase transform. characts., growth techniques (*Chinese*) 9-33927
- Mn₂N ferrite single cryst., Bridgman growth and appl. (*Chinese*) 9-33928
- Na₂CO₃, single cryst. growth from melt, thermal expansion meas. 9-4913
- β -Na₂V₂O₅, Bridgman and Czochralski single cryst. growth 9-47618
- Nb single crystals, growth by pulling from a melt on a pedestal, charact. arrangement of dislocations 9-4911
- Nb₂Si, A-15 type, growth by levitation melting, transition temp. meas. (*Chinese*) 9-24424
- Ni-Co alloy, Bridgman growth, distrib. of growth directions 9-33924
- Ni₂MnSn, large single cryst. growth by Czochralski and Kyropoulos method 9-47613
- Ni₂Mn_{1-x}V_xSn, large single cryst. growth by Czochralski and Kyropoulos method 9-47613
- Pb_{1-x}Sn_xTe, segregation during solidification by Bridgman technique 9-38735
- PbWO₄, single cryst. growth by Czochralski method and U incorporation, effective distrib. ratios, luminesc. characts. 9-42094
- Si (111), growth and etching vectors, adsorption and step reconstruction 9-23548
- Si, crack free ingots, by directional solidification using heat exchanger method 9-8242
- Si crystal, high O₂ content, Czochralski growth parameters related to epitaxial stacking faults 9-4314
- Si, Czochralski crystal growth and charact., oxidation induced stacking faults 9-47621
- Si, Czochralski grown, inhomogeneous O precip. and stacking fault form. 9-14820
- Si, Czochralski growth and characterisation (*Japanese*) 9-43125
- Si dendritic web growth, correlation of solute and interface partition coeffs. 9-24427
- Si, dendritic web growth processes for solar cells, computer modelling 9-11508
- Si, high capacity arc heater production for solar cell manufacture 9-11509
- Si, inclusion type defects removal from bulk of single cryst. by elec. fields 9-43126

crystal growth from melt continued

- Si, melt and vapour growth for integrated circuits and solar cells 9-47609
- Si, multiple ribbon growth by EFG 9-8245
- Si on ceramic, for solar cell appl. 9-11511
- Si, polycryst. layers, ribbon-against-drop pulling process 9-8241
- Si, reaction of rare earth impurities with carbon during cryst. growth 9-38733
- Si ribbon growth, Stepanov technique, recent develop. 9-11510
- Si, single cryst. growth in clear SiO₂ crucibles, heat exchanger method 9-33919
- Si, solar grade, advances in Dow Corning process 9-8243
- Si, solar grade, directionally solidified using C crucibles, TEM study 9-47617
- Si solar power cell production by capillary action shaping technique 9-34431
- Si, swirl type defects in float-zone and Czochralski single crystals. 9-27992
- β -Si₃N₄, single cryst., growth from Si melt in N₂ atmosphere, growth mechanism 9-24429
- SnSe, single crystals, growth by Bridgman technique, electron diff. anal., lattice const., carrier conc. 9-47616
- SiWO₄, single cryst. growth by Czochralski method and U incorporation, effective distrib. ratios, luminesc. characts. 9-42094
- Te, Czochralski growth of single crystals 9-4912
- Te, single crystals, Czochralski growth, etch pit orientation study 9-43133
- Ti₃As₄, crystal growth by Bridgman-Stockbarger method, exam. of props. 9-11506
- W, high purity, zone-refining growth, radial distrib. of structural defects (*Russian*) 9-19250
- YAG, influence of facial growth effect on Yb ion incorporation 9-10822
- YAG, molten, complexity in solidification behaviour, SEM electron images 9-43229
- YbAlO₃, single crystals, prep. and phys. props., X-ray struct. anal. 9-4298
- ZnS-MgS, solid solution, prep. of single crystals with wurtzite structure, exam. 9-1821
- ZnSi_{1-x}Te_x, polytype single cryst. by Bridgman's method 9-14762
- ZnSe, single crystals, grown from melt under Ar pressure, defects form. 9-4312
- ZnSe:Ag(In)(Cu), melt growth, dopant partition coeffs. 9-14837

crystal growth from solution

- see also crystal growth from gel; liquid phase epitaxial growth
- adenine hemisulphate hydrate, single cryst. growth from soln., props., cryst. parameters, X-ray anal. 9-32929
- adenine sulphate, single cryst. growth from soln., props., cryst. parameters, X-ray anal. 9-32929
- adsorption, localised in one layer, on cryst.-soln. interface, using Bragg-Williams monolayer model 9-46582
- amethyst, natural form. conditions and optimum artificial growth conditions (*French*) 9-33911
- camphor crystals, investigation of structural formation and growth kinetics 9-47610
- capillary tube crystn., grain diameter distrib. 9-41999
- crystal growth, from liquids at high temps., review 9-15602
- cytosine monohydrate single crystal growth, effect of pH 9-34473
- dendrite growth on ion emitters for field desorption mass spectroscopy 9-2873
- diffusion kinetics, crystallisation of salts from supersaturated solns. 9-23553
- growth affinity, a driving force for crystallisation 9-23554
- growth curves, growth affinity presentation, for growth from soln. 9-27936
- L(+) hydrazonium tartrate, soln. growth and cryst. morphology 9-33914
- ionic crystal growth, fast growth of ordered AB crystals, Monte Carlo simulation 9-19165
- ionic crystals, solvent effects and growth kinetics 9-19169
- lysozyme effect of pH on dimorphic crystal growth 9-14728
- naphthalene crystals, investigation of structural formation and growth kinetics 9-47610
- paradibromo benzene crystals, investigation of structural formation and growth kinetics 9-47610
- periodic mass crystn., kinetics and max. supersaturation (*German*) 9-41997
- phloroglucinol dihydrate crystals, growth characts., X-ray diff. and optical microscopic study 9-19986
- quartz, synthetic, metallic impurity incorporation 9-19167
- salol crystals, investigation of structural formation and growth kinetics 9-47610
- sodalite, crystallisation process, effect of solid and liq. boundary layers, SEM 9-23544
- sparingly soluble salts, aqueous supersaturated solutions, scale formation, biological mineralization 9-43119
- stearic acid, single cryst., characterisation (*Japanese*) 9-46587
- supersaturation evaluation, in cryst. growth from soln. 9-46584
- TGFB, deuterated, single cryst. growth from soln. and props. 9-24422
- TGS, deuterated, undoped and alanine-doped, growth by rotating disc method and elec. props. 9-47611
- vitamin B₁₂:B₁₂, cryst. growth, orientation, ESR obs. 9-34486
- Ag growth in Ag-Bi and Ag-Pb melts, transition from round to face forms (*Russian*) 9-28906
- AgI precipitations, effects of pAg on crystal growth 9-19172
- α -Al₂S₃, prep. by direct sulphidation, chem. vapour transport and AlI₃ flux growth 9-43118
- Ca₂Bi_{3-2x}V₂Fe₂O₁₂ ferrogarnet, magnetis. distrib., correl. with morphological habit 9-42802
- CaF₂, whiskers and crystals, flux growth and charact. by morphology and fracture strength 9-19987
- Ca₂Si₂O₇·4H₂O, tobermorite synthetic crystals, hydrothermal growth, TEM and X-ray diff. characterisation 9-43122
- CsI, Wulff habits, ideal forms of soln. of crystals. 9-14718
- Cu electrocrystallisation from CuSO₄ solns., current density under stationary surface diffusion (*Russian*) 9-8237
- Cu electrocrystallisation from CuSO₄ solns., current density/overvoltage curves (*Russian*) 9-8236
- Cu electrocrystallisation from CuSO₄ solns., exptl. methods (*Russian*) 9-8235
- Cu electrocrystallisation from CuSO₄ solns., expt. and slow surface diffusion theory (*Russian*) 9-11505
- GaSb, single crystals, grown by vertical and horizontal travelling heater method, growth parameters and cryst. quality 9-24421

crystal growth from solution continued

- InP, large size single crystals., synthesis, solute diffusion technique 9-33917
- p-InP: Cd(Zn), single cryst. growth by temp. gradient method 9-28907
- InSb, single crystals., grown by vertical and horizontal travelling heater method, growth parameters and cryst. quality 9-24421
- KCl solution, thermodynamic driving force, for crystallisation at 298K 9-37643
- K₂Cr₂O₇, role of metastable β -phase in cryst. growth 9-32931
- KH₂PO₄, cryst. regeneration of z-cut plates, effect of impurities 9-43120
- KH₂PO₄ crystals, mechanism of growth in presence of impurities 9-1403
- KH₂PO₄, supersaturated solution, nucleation rates meas. from induction period 9-23549
- (K₂Na_{1-x})NbO₃ single crystals, growth and phase transitions 9-33915
- K₂SO₄, growth rate characts. in fluidised bed crystalliser 9-19164
- K₂SO₄ solution, thermodynamic driving force, for crystallisation at 298K 9-37643
- K₂Ti₆O₁₃ fibres, synthesis by the hydrothermal dehydration method 9-43121
- LaBO₃, flux growth 9-38732
- LiNO₃.3H₂O, crystallisation kinetics 9-4264
- LiNO₃, crystallisation from solution in borate, vanadate and tungstate melts 9-1820
- LiNd(PO₃)₄, crystallisation from LiPO₃ flux, exam. of optical props. (*German*) 9-11401
- LiNdP₂O₁₂, single crystals. flux growth and cryst. morphology, solubility curve 9-43124
- MgNH₄PO₄.6H₂O, struvite crystals., growth morphology and cryst. habit 9-41994
- MgSO₄.7H₂O, cryst. regeneration and growth in contact nucleation 9-23545
- MgSO₄.7H₂O, relation between soln. and growth rates of cryst. faces 9-14716
- NH₄Cl, cryst. nucleation, growth rates from organic media, outline meas. technique 9-38730
- Na₃Al₂Li₃F₁₂ garnet, cryolithionite, hydrothermal growth 9-43123
- NaCl solution, thermodynamic driving force, for crystallisation at 298K 9-37643
- NaClO₃, cryst. growth from soln., selective etching technique for observation of dislocations 9-19251
- Na₂CoGeO₄ hydrothermal single crystals, X-ray topographic study of growth defects rel. to growth conds. 9-19166
- Na₂CoGeO₄, single cryst. growth and study of their piezoelec. and elastic props. 9-4906
- NbO₂, continuous coating crystallite, electrocrystallisation from molten fluorides containing oxide contamination 9-24423
- NbO₂ hollow needles, electrocrystallisation from molten fluorides containing oxide contamination 9-24423
- Pb₃GeO₅, single crystal, props., grown by hydrothermal method 9-11504
- PbHPO₄, ferroelectric, sp. ht., effects of growth method 9-19853
- Pb₂S₁₆, ferroelec., synthesis and hydrothermal growth 9-38731
- Pb₂WO₃, phase transformation study by high temp. X-ray diffr. and differential scanning calorimetry 9-43244
- RbAg₄I₃, cryst. growth from soln. 9-33916
- Rb₂Cd₂(SO₄)₃ single crystals., growth and phase transitions 9-33918
- SbNbO₄, ferroelec., synthesis and hydrothermal growth 9-38731
- TaTaO₄, ferroelec., synthesis and hydrothermal growth 9-38731
- Se₂S₄, mol. chalcogenide, synthesis and struct. 9-33912
- Sr(Fe_{0.76}W_{0.24})O₃, cryst. growth, mag. and Mossbauer studies 9-42743
- Sr(NO₃)₂.4H₂O, crystallisation kinetics 9-4264
- Sr[Al₂(SiO₄)₂], hydrothermally grown, cryst. morphology study 9-46590
- Ti₂Cd₂(SO₄)₃ single crystals., growth and phase transitions 9-33918
- YAG, crystallization kinetics and growth mechanism on oriented seeds in melt-solns. 9-14717
- YAG, single crystals., kinetic characts. of growth from melt-solns. on oriented seeds 9-14719
- YAG solution, in PbO/PbF₂/B₂O₃ solvent systems, density, surface tension and expansivity data, effect of B₂O₃ conc. 9-19985

crystal growth from vapour

- see also vapour phase epitaxial growth
- adamantane crystals, vapour grown, temp. depend. of morphology of initial growth forms 9-47608
- dichalcogenides, layered, thermodynamic considerations for growth by vapour transport processes 9-4903
- growth affinity, a driving force for crystallisation 9-23554
- heterogeneous reactions, modified entrainment method appls. 9-23551
- ice crystals, epitaxial, influence of environmental saturation and elec. field on growth and evaporation 9-42408
- metal, BCC, fine particles formed by gas-evap. technique, cryst. struct. and habit 9-27935
- metal crystallites, polyhedral, growth in inactive gas, review 9-27934
- minerals, vapour growth and epitaxy, comparison of growth methods 9-23856
- rare earth orthophosphates, gas transport reactions 9-1819
- stochastic models, diffusion and relax. kinetics 9-37642
- synthetic crystals, vapour growth and epitaxy, comparison of growth methods 9-23856
- α -Ag₂S whiskers, growth in VLS system, SEM and X-ray diffr. anal. 9-46989
- Ag₂Te, growth by chem. transport (*Russian*) 9-38728
- Al₂O₃, whiskers growth by hydrolysis of AlF₃ 9-28260
- α -Al₂S₃, prep. by direct sulphidation, chem. vapour transport and Al₂ flux growth 9-43118
- B₂C, morphology and struct. of vap. grown crystals. 9-7562
- BN, polymorphic modifications form. under low and high press. 9-15597
- C, polymorphic modifications form. under low and high press. 9-15597
- Cd, vapour grown crystal, morphology and growth mechanism, Bi impurity effects 9-23546
- CdCr₂S₄, single crystal, prep. and elec. props. 9-38727
- CdS, cryst. growth from vapour in sealed silica tubes, emission and mass spectra 9-43117
- CdS crystal growth with strong long-lived polarisation echoes 9-43113
- CoCl₂(Br₂)(I₂), prep. using chem. transport via gas complexes (*German*) 9-15599
- Cu, thin single cryst. films, new technique for prep. employing two stages of evaporation 9-33932
- CuCl₂(Br₂)(I₂), prep. using chem. transport via gas complexes (*German*) 9-15599
- CuInS₂ crystals, growth, struct., and elec. props. 9-38729

crystal growth from vapour continued

- FeCl₂(Br₂)(I₂), prep. using chem. transport via gas complexes (*German*) 9-15599
- FeCr₂S₄, single crystals., vapour grown, growth of triple unit cell steps on surface 9-19984
- FeCr₂S₄, struct. and stoichiometry, X-ray fluoresc. anal. 9-4263
- FeS₂, pyrite, single cryst. growth by chem. vapour transport, surface struct. and morphology 9-23550
- Ga₂Se_{1-x}, grown by iodine vapour transport, X-ray struct. studies 9-4411
- GeAs+Cl₂(Br₂)(I₂), high temp. Raman spectra, cryst. growth mechanism (*French*) 9-26999
- GeS, growth parameter meas. during cryst. growth from vapour in closed ampoules 9-19168
- HgI₂, single crystal growth in small opened ampoules using dynamic sublimation technique 9-4904
- HgTe single crystals, crystn. from vapour phase, thermodynamical conditions 9-33908
- MnCl₂(Br₂)(I₂), prep. using chem. transport via gas complexes (*German*) 9-15599
- MoO₂.V, growth by VO₂ transfer reacts. 9-43116
- MoO_{3-x}, single cryst. growth and vapour phase transport 9-28903
- MoTe₂, pure and V doped, single cryst. growth and vapour phase transport 9-28903
- NbN, Nb₂N₃-NbN, Nb₂N-Nb₂N₃, Nb₂N, cryst. growth parameters and morphology of chem. vapour deposition, X-ray diffr. and SEM study 9-23861
- NiCl₂(Br₂)(I₂), prep. using chem. transport via gas complexes (*German*) 9-15599
- PdCl₂(Br₂)(I₂), prep. using chem. transport via gas complexes (*German*) 9-15599
- SeH₂, CVD 9-24420
- Si (111), growth and etching vectors, adsorption and step reconstruction 9-23548
- Si, melt and vapour growth for integrated circuits and solar cells 9-47609
- Si, solar grade, by silane pyrolysis, process design and economics 9-8234
- Si, strip-type crystals, growth mechanism, morphology 9-7559
- Si-Ge-Br, heterogeneous system, equilb. gas phase composition, Si-Ge cryst. growth appl. 9-10820
- SiAs+Cl₂(Br₂)(I₂), high temp. Raman spectra, cryst. growth mechanism (*French*) 9-26999
- SiC, crystal growth from gas phase role of Si in mass transfer 9-8233
- SiO₂, transfer in quartz capsule 9-4902
- SnS₂-SnI₄, and SnS₂-I₂, systems, transport props. and thermodynamical calcs. 9-32928
- ThSiO₂, single crystals. prep. by vapour phase reaction 9-28905
- TiN, gaseous phase, crystallisation, effect of temp., vapour-gas mixture conc., and deposition time 9-33910
- TiS₂, V addition effect on chemical transport 9-24419
- V₂O₅, single crystals., prep. by chem. transport reacts. props. 9-43115
- VO_{2a-1}, microsyntactic intergrowth 9-1402
- VO₂, crystal growth by I₂ vap. transport 9-43116
- WO₂, chem. transport conditions influence on morphology and quality 9-43114
- WS₂, single crystals., growth by direct vapour transport method, X-ray and electron diffr. study 9-28904
- Zn₂As₂Cu(Te), single crystals., gas phase growth, elec. props. 9-15598
- ZnO, c-direction cryst. growth and crystallographic polarity 9-28902
- Zn₃P₂(As₂), cryst., gas phase growth, morphology 9-10821
- ZnSe:In, single crystals., new vapour phase growth method, elec. cond. props. and photoluminesc. spectra 9-19982
- ZnSiP₂, growth under nonstoichiometric conditions in gas phase, microanalytical investig. (*German*) 9-33909
- ZnTe high-purity single crystal, growth by sublimation travelling heater method 9-28901
- ZrC, single crystal, growth by modified hot-filament method, cryst. morphology and microhardness 9-19983

crystal hyperfine field interactions

- arabinose, X-irradiated single crystal, intermol. electron trapping, hyperfine ESR pattern 9-39166
- aromatic molecular crystals, optical nuclear polarization by optically excited triplet states 9-19804
- benzophenone, high resolution ODMR and optically detected ENDOR 9-19811
- diamond, electric quadrupole sum rules rel. to optical conds. 9-38036
- doublet-triplet mag. system, dipolar and quadrupole ordering 9-8004
- dulcitol, X-irradiated single crystal, intermol. electron trapping, hyperfine ESR pattern 9-39166
- electric quadrupole interaction, special feature of integral perturbed ang. correlation method 9-11364
- electron spin echo envelope modulation effect, powder pattern behaviour, hyperfine coupling conds. determ. 9-33524
- ferromagnetic metal, temp. depend. of hyperfine fields at impurities 9-15300
- ferrous tetraphenylporphyrin, Mossbauer effect, mag. hyperfine interaction 9-24236
- fluorene:acridine, EPR of excited triplet state complex 9-19767
- I-III-VI₂ semiconductors, nucl. quadrupole coupling conds. and struct. parameters 9-42509
- Invar, deformed, magnetism and temp. depend. of effective field on ⁵⁷Fe (*Russian*) 9-24234
- Invar, mag. inhomogeneity, ⁵⁷Fe and ⁶¹Ni NMR 9-19803
- macroradical, electron spin echo spectra, instantaneous and conventional spectral diffusion 9-15355
- magnetic cooling, hyperfine enhanced nucl., using Pr alloys 9-1674
- magnetic dipole-dipole hyperfine integrals for Slater-type orbitals 9-11095
- Mossbauer effect-time dependent PAC technique, theory of combined method 9-28645
- nuclear spin echo in the NMR and FMR overlap region 9-24229
- praseodymium ethyl sulphate, one-dimensional X-Y model, hyperfine contrib. to specific heat 9-1678
- protocatechuate 3,4-dioxygenase, reduced, Mossbauer effect zero field splitting 9-24955
- α -quartz:Ag²⁺(Cu²⁺), γ -irradiated, stabilisation of impurity atoms 9-8047
- α -quartz, muonium precession, quadrupole splitting 9-42879
- rare earth, heavy, elec. field gradient, at ¹¹¹Cd impurities, temp. depend. 9-28642

crystal hyperfine field interactions continued

- rare earth- $\text{Al}_2(\text{Zn})$, mag. coupling mechanism 9-4655
 rare-earth impurities in s-p hosts, self-polarization hyperfine fields 9-33456
 ruby, ENDOR of Cr^{3+} ions, elec. field effect (*Russian*) 9-8071
 superhyperfine and hyperfine interaction parameters, ENDOR determ. (*Russian*) 9-47064
 transition metal-rare earth dil. alloy, hyperfine field of rare earth impurity 9-1588
 - Ag, elec. field gradient generated by nearest-neighbour impurity atoms 9-42510
 Ag-Cd, dil., DPAD meas. on ^{107}Cd and ^{109}Cd , nucl. Larmor precession meas., role of hyperfine interactions 9-47363
 AgNa(NO_3) $_2$, ferroelec. transition, ^{23}Na elec. field gradient tensor, NMR meas. 9-4777
 Al_2O_3 , transition metal ion doped, phonon spectroscopy using freq. crossing techniques 9-42193
 $\text{Al}_2\text{O}_3\cdot\text{Fe}_2\text{O}_3\cdot\text{Cr}^{3+}$, dil. paramag. system, Cr^{3+} conc., effect on cross relax. 9-15387
 $\text{Al}_2\text{O}_3\cdot\text{Fe}_2\text{O}_3(\cdot\text{Cr}^{3+})$ paramag. system, cross relax. temp. and mag. field effects on Mossbauer spectra 9-33576
 BMn, ferromag., ^{55}Mn magneton-induced pseudoquadrupole processes 9-19802
 $\text{BaF}_2\text{U}^{3+}$, single crystal, superhyperfine interaction of tetragonal centres 9-42834
 $\text{BaFe}_2\text{O}_{19}$, high field Mossbauer effect on ^{57}Fe at room temp. and 4.2K 9-24238
 $\text{Bi}_2\text{Ti}_2\text{Fe}_2\text{O}_{27}$, combined hyperfine interaction 9-28663
 $\text{C}_2\text{O}_3^{125}\text{Fe}^{64}$, mag. hyperfine interactions, Mossbauer study (*French*) 9-24247
 $\text{CaF}_2\cdot\text{PrF}_3$, EPR of cubic Pr^{3+} 9-28607
 Cd^{67}Ge , elec. quadrupole interaction temp. depend., PAC meas. 9-42877
 Cd^{67}Zn elec. quadrupole interaction temp. depend., PAC meas. 9-42877
 CeAl_2 , specific heat between 0.02 and 1K 9-1680
 Co, nucl. orientation on implanted ^{114m}In 9-47345
 Co-Mn, dil., hexagonal hyperfine field at ^{54}Mn , nucl. orientation meas. 9-8057
 Co-Sn, dil., ferromag., temp. anomalies of Sn mag. hyperfine field and thermal expansion 9-33270
 $\text{CoV}_2\text{O}_4\cdot\text{Fe}$, spinel, prep. and Mossbauer spectra 9-28660
 Cr-Rh, dil., hyperfine fields meas. 9-47056
 $\text{Cr}_2\text{O}_3^{119}\text{Sn}^{4+}$, Mossbauer spectra (*French*) 9-24248
 $\text{Cs}_2\text{NaYCl}_6\cdot\text{Ce}$, ENDOR evidence of noncubic distortion 9-11357
 $\text{Cs}_2\text{VCl}_6\cdot 4\text{H}_2\text{O}$, magnetisation of ground state, field-induced level crossing 9-47068
 $\text{Cs}_2\text{ZrCl}_6\cdot\text{Np}^{4+}$, EPR obs. 9-33526
 Dy-Sr, magnetic relax. phenomena 9-33579
 $\text{Er}(\text{OH})_3$, g-values and hyperfine interaction parameters, calc. for Er^{3+} 9-15123
 Fe complex, $[\text{Fe}(\text{S}_2\text{C}_2\text{O}_2)_2\text{X}]^{2-}$, ($\text{X}=\text{Cl}, \text{Br}, \text{I}$), Mossbauer effect, EPR, mag. susceptibility 9-11366
 Fe, nuclear orientation and NMR/ON on implanted ^{114m}In 9-47345
 Fe-alloys, Mossbauer isometric effects (*Dutch*) 9-1731
 Fe-Co, hyperfine field, variation with atomic order 9-7953
 $\beta\text{-Fe}_2\text{Ge}$, mag. props. from X-ray, magnetisation and Mossbauer meas. 9-42755
 Fe-Pd alloy, uniaxial ferromag., anisotropic component of localised mag. field, Mossbauer meas. (*Russian*) 9-15382
 Fe-Sn, dil., ferromag., temp. anomalies of Sn mag. hyperfine field and thermal expansion 9-33270
 Fe_2B_{20} , binary amorphous ferromagnet, Mossbauer spectra 9-4749
 FeCO_3 , Mossbauer quadrupole splitting of ^{57}Fe , vibronic effects 9-19813
 $\text{Fe}_{1-x}\text{Co}_x\text{Sn}$, transferred hyperfine fields at ^{119}Sn , Mossbauer spectroscopy 9-33582
 FeF_3 , antiferromag., Mossbauer spectrum, effect of mag. hyperfine struct. at low temps. 9-28662
 $\text{Fe}_{1.67}\text{Ge}$, Mossbauer and X-ray expts. 9-1734
 Fe_2Ge , ^{119}Sn mag. hyperfine interaction, Mossbauer spectra (*Russian*) 9-38420
 $\text{Fe}_{1-x}\text{Mn}_x\text{Sn}$, transferred hyperfine fields at ^{119}Sn , Mossbauer spectroscopy 9-33582
 FeNb_2O_6 , low temp. Mossbauer exam. 9-28659
 $\text{Fe}_{90}\text{Ni}_{10}\text{P}_{20-y}$, amorphous, mag. props. effect of metalloid elements 9-28658
 $(\text{Fe}_x\text{Ni}_{1-x})_{90}\text{P}_{10}\text{B}_{10}$, amorphous, hyperfine field distrib., ^{57}Fe Mossbauer spectra 9-11367
 $(\text{Fe}_{1-x}\text{Ni}_x)_{90}\text{PyB}_{10-y}$, local struct. disorder and crystallisation, Mossbauer exam. 9-1728
 $\text{Fe}_{1-x}\text{Ni}_x\text{Sn}$, transferred hyperfine fields at ^{119}Sn , Mossbauer spectroscopy 9-33582
 FeO_4^{2-} ion, electronic struct., hyperfine interactions, SCF $\text{X}\alpha$ calcs. 9-37951
 $\text{Fe}_{1-x}\text{P}_x$ dilute alloys, electronic struct., mag., elec. and struct. props. 9-37971
 $\text{Fe}_{1-x}\text{Sb}_x$, hyperfine interactions of ^{57}Fe , room temp. Mossbauer meas. 9-47374
 Fe_3Sn_2 , ^{57}Fe anisotropic hyperfine field variation 9-11294
 ^{57}Fe , Mossbauer effect-time dependent PAC technique, theory of combined method 9-28645
 GaP:Te, ENDOR meas., hyperfine interactions and elec. field gradient 9-42869
 Gd-Ta, dil., mag. hyperfine field and elec. field gradient at ^{181}Ta impurities, TDPAC meas. 9-47361
 Gd-Yb(Ir), dil., ferromag., mag. hyperfine fields of ^{170}Yb and ^{193}Ir , Mossbauer effect meas. 9-24242
 GdAlO_3 , ^{155}Gd excited states, determ. of nuclear parameters using Mossbauer effect 9-28646
 GdVO_4 , ^{155}Gd excited states, determ. of nuclear parameters using Mossbauer effect 9-28646
 GdVO_4 , hyperfine field and exchange interactions, Mossbauer meas. 9-47370
 Ge, electric quadrupole sum rules rel. to optical consts. 9-38036
 $\text{GeO}_2\cdot\text{V}^{4+}(\text{Cr}^{3+})$, direct mechanism in supertransferred hyperfine interaction 9-23936
 GeTe, degenerate semiconductor, EPR experiments on Mn^{2+} 9-11339
 ^{119}Ge , elec. quadrupole interaction temp. depend., PAC meas. 9-42877
 In-Te, elec. field gradient, at ^{111}Cd probes, temp. depend. 9-28643
 KCl:Ag, Br, EPR spectra of $\text{Ag}^+(\text{Br}^-)$ paramag. centres (*French*) 9-11346
 KF, self-trapped exciton, ODMR spectra, anisotropy of hyperfine interaction 9-28286

crystal hyperfine field interactions continued

- K_2FeF_6 , antiferromag., Mossbauer study of mag. ordering 9-28655
 $\text{KMgF}_2\cdot\text{V}^{2+}$, ^{51}V ENDOR meas., spin Hamiltonian parameters 9-28638
 $\text{KZnF}_2\cdot\text{V}^{2+}$, ^{51}V ENDOR meas., spin Hamiltonian parameters 9-28638
 $\text{LaF}_3\cdot\text{Pr}^{3+}$, 2K, optically detected coherent transients in nuclear hyperfine levels 9-19806
 LaFeO_3 , doped, effect of doping on hyperfine fields, supertransfer model 9-47057
 LaFe_2O_9 , high field Mossbauer effect on ^{57}Fe at room temp. and 4.2K 9-24238
 $\text{La}_2\text{O}_3\cdot\text{Mn}^{2+}$, position and intensity of forbidden hyperfine lines, ESR spectra 9-19775
 $\text{LaRh}_2\text{Nd}^{3+}$ cubic metallic host, spin-lattice relaxation, ESR obs. 9-1710
 LiF, self-trapped exciton, ODMR spectra, anisotropy of hyperfine interaction 9-28286
 LiFeO_2 , quadrupole splitting in Mossbauer ^{57}Fe spectrum, geometric anal. and computer simulation 9-1730
 LiHoF_4 , NMR shift tensors, temp. and field depend. 9-38391
 LiTbF_4 , NMR shift tensors, temp. and field depend. 9-38391
 MgFe_2O_4 , Mossbauer study 9-47375
 MgO, transition metal ion doped, phonon spectroscopy using freq. crossing techniques 9-42193
 $\text{Mn}_1-x\text{Co}_x\text{Sb}$, ferromagnetic, NMR exam. 9-24228
 Mn_2Sb , hyperfine fields of ^{121}Sb in several mag. phases 9-28650
 $(\text{NH}_4)_2\text{SO}_4$, ferroelec. transition, EPR study 9-38472
 NaF, self-trapped exciton, ODMR spectra, anisotropy of hyperfine interaction 9-28286
 $\text{NaNO}_2\cdot\text{Ag}^+$, optical and MODR spectra, anion states spin-orbit perturbation 9-19908
 NaNO_3 , ^{23}Na satellites in nuclear double resonance interferometric spectroscopy 9-4745
 Ni, ferromag., hyperfine field of positive muon 9-47378
 Ni, mag. hyperfine field at ^{140}Ce , TDPAC meas. 9-11363
 Ni:B, impurity electronic struct. calc., ^{15}B NMR data anal., magnetisation decrease 9-47046
 Ni:F, ion-implanted, mag. hyperfine field, anomalous temp. depend., PAC meas. 9-4754
 Ni-In, elec. field gradient, at ^{111}Cd probes, temp. depend. 9-28643
 Os, Mossbauer meas., elec. field gradients at ^{186}Os nuclei 9-47373
 Pa, Mossbauer resonance, electric field gradient 9-19823
 Pd-Fe alloys, dil., spin polarisation effect on hyperfine interactions, anal. of Mossbauer meas. (*Russian*) 9-47055
 $\text{Pd}_2\text{MnIn}_{1-x}\text{Sn}_x\text{-Cd}$, dil., Heusler alloy, hyperfine mag. field on Cd, TDPAC obs. 9-8075
 PdMnSb , Pd_2MnSb , Heusler alloys, ^{129}I mag. hyperfine struct., Mossbauer meas. 9-33580
 $\text{Pd}_{90-x}\text{Si}_{10}\text{Fe}_x$, amorphous, low x, hyperfine interactions and mag. ordering temp. 9-15303
 Pr_2Ti , hyperfine interactions, sp. ht. and magnetisation meas. 9-28531
 Pr^{181}Ta , lattice defect induced elec. field gradient, PAC meas. 9-42878
 Pt-Mn-Sn alloy, mag. hyperfine fields 9-1737
 Re, Mossbauer meas., elec. field gradients at ^{186}Os nuclei 9-47373
 Sb-Hg, quadrupole interaction, time differential perturbed ang. correl. and nucl. orientation 9-24250
 Si, divacancy, hyperfine interactions from ENDOR meas. 9-42868
 $\text{Si}_3\text{N}_4\cdot\text{Fe}$, α - and β -phases, Mossbauer and Raman obs. of state of Fe 9-33572
 SiO_2 , g-tensor and ^{29}Si hyperfine tensors of E_1' -centre for model of O^- vacancy 9-19777
 SiO_2 , vitreous, irradiated, EPR exam. of H_2 hyperfine spectra 9-28611
 Sn^{67}Ge , elec. quadrupole interaction temp. depend., PAC meas. 9-42877
 $\text{SnO}_2\cdot\text{V}^{4+}(\text{Cr}^{3+})(\text{Mo}^{3+})(\text{Nb}^{3+})(\text{Re}^{4+})$, direct mechanism in supertransferred hyperfine interaction 9-23936
 $\text{SnO}_2(\text{Fe})$, elec. field gradient at Sn^{4+} site, Mossbauer quadrupole splitting and anionic polarisability calc. (*French*) 9-15384
 $\text{SrF}_2\cdot\text{Tm}^{2+}$, modulation magnetooptic spectroscopy of cross-relaxation resonances 9-15381
 $\text{Tb}(\text{OH})_3\cdot\text{Er}^{3+}$, g-values and hyperfine interaction parameters, calc. for Er^{3+} 9-15123
 Th_2D_{15} , NMR relax. expts., diffusion processes and hyperfine fields 9-8066
 $\text{V}_{20}\text{O}_{3+x}$, nonstoichiometric, microscopic mag. props., NMR and inelastic spin-flip neutron scan. 9-38223
 $(\text{Y}_{1-x}\text{Ca}_x)(\text{Fe}_{2-x}\text{Sn}_x)(\text{Fe}_2)\text{O}_{12}$, long and short range magnetism 9-38419
 YCrO_3 , antiferromag., mag. domain walls, ^{53}Cr NMR study 9-11327
 YIG, Al substituted, transferred hyperfine fields, Mossbauer effect meas. 9-1726
 $\text{Y}(\text{OH})_3\cdot\text{Er}^{3+}$, g-values and hyperfine interaction parameters, calc. for Er^{3+} 9-15123
 YbFe_2 , Mossbauer spectra, cryst. elec. field and exchange interaction 9-47368
 $\text{Yb}_2\text{Ti}_2\text{O}_7$, crystal field props., ^{170}Yb Mossbauer spectroscopy 9-4750
 ^{170}Yb in some metal and metal-like compounds, Mossbauer study, isomer shift and intermediate valence state 9-33569
 Zn^{67}Ge , elec. quadrupole interaction temp. depend., PAC meas. 9-42877
 $\text{ZrH}_{1.97}$, FCT, elec. quadrupole interaction at ^{181}Ta , TDPAC obs., 20-588K 9-33574

crystal imperfections see crystal defects**crystal inclusions**

- 200 to 500 MHz A-scan defect characterisation 9-47873
 alkali halides, cryst., optical emission following pulsed 10.6 μ irradiation 9-28847
 diamond, epitaxial synthesis by C-ion deposition at low energy, and struct. 9-1559
 dielectric, transparent, laser-induced damage, role of absorbing microinclusions, passive methods 9-31969
 Duralumin, fatigue cracks development, intermetallic inclusion influence 9-38962
 ferromagnets, hardening by non-mag. inclusions, meas. of coercivity 9-38841
 non-metallic materials, flaw detection by tomodensitometry (*French*) 9-20295
 nuclear fuel, quantitative metallographic anal., computer program, QMA 9-15951
 periodic elastic inclusion-rectilinear crack system in isotropic medium 9-41619
 physical chemistry of some microstructural phenomena 9-11550

crystal inclusions continued

- steel, AISI 4340, thermomechanical treatment, sulphide inclusion behaviour 9-11647
 steel, austenitic stainless, deformation induced cavitation, exam. 9-43363
 steel, Cr-Ni-Al, intergranular crack investigation by etching (*Chinese*) 9-43457
 steel, Cr-Ni-Mo, 'light spots', fractographic anal. 9-29204
 steel, high-C, boriding, boride case struct. 9-24665
 steel, low C, type 08Yu, influence of nonmetallic inclusions on microfailures, during strain (*Russian*) 9-34128
 steel, rare earth addition effects and behaviour, review (*Chinese*) 9-43257
 steels, mechanism of H₂ entry in acid environments 9-39023
 transparent dielectrics, with inclusions, laser-induced stresses 9-28012
 Au-Co, electroplated, 'polymer' inclusions, chem. identity obs. 9-37931
 CaF₂-rare earth trifluoride, characts. of ordering of solid solns. 9-14725
 EuS, defect struct., etch pitting and electron microscopic obs. 9-27989
 Fe-Mn-S, thermodynamics, solubility of S and Mn in γ -Fe, 1100 to 1300°C 9-47662
 Fe-N (0.03 at.%), single cryst., stress distrib. around spherical inclusion, TEM study 9-34038
 GaAs, antepitaxial layer, local impurity inhomogeneities (*Russian*) 9-23854
 GaP, containing matrix metal inclusions, internal friction study 9-42145
 p-GaSe, single cryst., negative photocond. induced by elec. field 9-19623
 K₂CaCl₃ impurity in NaCl cryst., precipitation and dissolution 9-42259
 Mg-Cu-Mn-Ni-Fe-O, UHF ferrites, synthesis, physicochem. state, mag. and dielec. parameters 9-11536
 MgO:Li⁺, quenched, elec. polarisation, thermal depolarisation and dielectric loss meas. 9-1738
 Ni, electrodeposit, linear defect obs., TEM study 9-4304
 Si, annealing in elec. field, behaviour of second phase inclusions (*Russian*) 9-23779
 Si, inclusion type defects removal from bulk of single cryst. by elec. fields 9-43126
 SiC-B eutectic alloys, struct. of crystallising graphite 9-38829
 Si₃N₄, Wiener filtering appl. to nondestructive evaluation, defect charact. 9-11732

crystal internal fields see crystal field interactions

crystal interstitials see interstitials

crystal lattice structures see crystal atomic structure

crystal microphones see microphones

crystal microstructure

- for microstructural changes, see also phase transformations, hardening, heat treatment, metalworking
 see also crystal defects; crystal inclusions; crystallites; dendritic structure; domain boundaries; domains; electron microscope examination of materials; eutectic structure; grain boundaries; grain size; Guinier-Preston zones; mosaic structure (microstructure); noncrystalline state structure; precipitation; segregation; subboundary structure; superlattices; texture; X-ray diffraction examination of microstructure
 alloy, two phase microstruct. revealed by selective sublimation 9-24698
 alloys, fracture toughness rel. to microstruct. characts., alloy design 9-43423
 alloys, industrial, stacking fault energy rel. to mech. props. (*French*) 9-43339
 boride coatings, high temp. resist. and struct. 9-39008
 brass, two-phase α/β bicrystal, diffusion induced twins in α -phase 9-46967
 brass, two-phase α/β bicrystal, morphology and crystallographic relationships between phases 9-46966
 ceramics, fracture mech. appl. 9-43426
 cermet film, as solar selective absorbers, production, struct. and optical props. 9-29485
 coherent domain structures from crystal transitions with related space groups 9-42002
 corundum, subjected to thermal shock, study of substruct. and surface morphology 9-43292
 corundum ceramic, high-temp. treatment, powder medium effect on microstruct., comp., strength and dielec. props. 9-33984
 deep-drawing curves, cryst. microstruct. during deform. (*French*) 9-20066
 diamond, ultradisperse, obtained by high temp. synthesis in explosion, struct. 9-29003
 Duralumin, effect of alloy purity and ageing on fracture mechanism, and resultant toughness 9-5049
 earth reentry exposure, simulated, effect on mech. props., oxidation of ThO₂ dispersion hardened alloys, Haynes 188 and Hastelloy X 9-5086
 II-VI semiconductors, electron microscopic investigations 9-32864
 Incoloy 800, exam. of mech. and microstructural props. 9-5022
 metal foams, solidification in space environment, fluid flow effects 9-47674
 meteorite, Kirin, fusion crust microstruct. from SEM study (*Chinese*) 9-2525
 nuclear fuel, quantitative metallographic anal., computer program, QMA 9-15951
 poly-phase microstructures, quantitative metallography, review 9-15925
 quartz overgrowths, on quartz, cathodoluminescence and microstruct., SEM exam. 9-25239
 satellite, hardness and erosion resistance to aqueous SiO₂ slurry, microstruct. obs. 9-43441
 solid state chemistry problems, appl. of electron microscopy and diff. 9-46527
 steel, 24Kh2NMFA, weldments, heat-affected zone struct. 9-24552
 steel, austenitic, low-C, transform. kinetics rel. to temp., deform., struct., mech. props. 9-24519
 steel, austenitic stainless, type 304, exam. of continuous cooling sensitization 9-29098
 steel, C, weldable, ferrite-pearlite, Widmanstätten structs., resist. to fracture 9-29203
 steel, carburised, microstruct. and fracture 9-24658
 steel, cast, high speed, solidification, (Fe,Mn)₆C form., struct. 9-24514
 steel, chemicothermal treatment quality control by fractographic method 9-39080
 steel, Cr (12wt.%), mech. props, carbide phase struct. 9-15702
 steel, Cr-Ni-Mo, combined B and rare earth metal additions effect on microstruct. impact strength and hardness 9-38963
 steel, Cr-V (1.5, 0.5 wt.%), ferritic, effect of temp. and microstruct. on creep damage 9-5023
 steel, ductile fracture under cold metal forming conditions, metallurgical struct. influence 9-34125
 steel, Kossel patterns, small area 9-1375

crystal microstructure continued

- steel, low alloy, B, quenchability and microstructure (*French*) 9-47727
 steel, low alloy, reactor pressure vessel, effect of Mn and C content on irradiation response 9-20196
 steel, low C, γ - α transform., martensitic mechanism (*Russian*) 9-47682
 steel, low C, microalloyed, heat treatment, mech. props. 9-24551
 steel, low-C, preliminary thermomech. treatment, cold deformation. effect on struct. and props. 9-38847
 steel, medium C, type 35 laser treatment effect on struct. and mech. props. 9-39041
 steel, Ni-B, B effect on temperability and microstructure 9-15710
 steel, Ni-Mn-Al-V, nonmagnetic, ageing, dispersion hardening, microstruct., phase comp., mech. props. (*Russian*) 9-34046
 steel, precipitation hardening, strength and struct. (*German*) 9-47701
 steel, Si-Mn, ferrite-pearlite structs., fatigue crack propagation (*Russian*) 9-34126
 steel, spheroidized AISI 1095, ductile fracture of U-notched bend specimens 9-24616
 steel, stainless, ferritic, BCC cryst., fatigue cracking rel. to cryst. orient. (*French*) 9-20178
 steel, stainless, filament produced by glass coated melt spinning, new metastable tetragonal struct. 9-20072
 steel, tool, cutting blades, heat treatment in fluidised bed, hardening 9-20087
 steel, tool and high speed samples, emission spectral and X-ray fluorescence anal., SEM microstruct. obs. (*Japanese*) 9-43232
 steel 45 microstruct. and hardness after electron bombardment 9-38956
 sylvite powder, compression in smooth faced rolling presses, preferred orientation (*German*) 9-33959
 Tishomingo Fe meteorite, microstructural study 9-16898
 transition metal, amorphous struct. microcrystalline model 9-14733
 transition metal alloys, deformation and solute-induced microstructural effects on superconductivity 9-7925
 transition metals and alloys, high-melting-point, fast cooling from melt, cooling rate influence on struct. (*German*) 9-43287
 turquoise, crystalline, Nogales Mexico, SEM and TEM study 9-29760
 upset forgings, grain flow structure 9-38872
 welded joint, microstructural and chemical heterogeneity 9-29096
 welded joints, flash, fatigue strength obs. 9-15760
 Al alloy 2219-T851, fatigue crack initiation, effect of intermetallic comp. and microstruct. 9-5054
 Al alloys, microstruct. effects on strength, fracture toughness, fatigue cracks 9-43434
 Al, structure sensitive props., temp. hysteresis after melting and crystallisation (*Russian*) 9-29036
 Al-Al₃Fe, fibre reinforced eutectic, deformation behaviour by rolling, TEM and SEM study 9-29129
 Al-Bi-(Fe), directionally solidified monotectic, growth parameters for aligned microstructs. 9-43236
 Al-Cu, effect of alloy purity and ageing on fracture mechanism, and resultant toughness 9-5049
 Al-Cu (4 wt.%), effect of semicoherent precipitation on void swelling, when neutron irradiated, microstruct. obs. 9-42115
 Al-Cu-Ni, vacancy ordering, electron microscope and electron diff. obs. 9-27954
 Al-Cu-Si, Al rich, unidirectionally solidified, microstruct. 9-34021
 Al-CuAl₃ lamellar composite, creep, microstruct. obs. 9-8331
 Al-In alloys within miscibility gap, agglomeration in space environment 9-47672
 Al-Mg alloy AMg6, US vibr. during superplastic deform. effect on struct. 9-38911
 Al-Mg-Li-Zr alloys, struct., mech. props. 9-24498
 Al-Si, inoculated with NaCl+KCl+NaF, effect on morphology of eutectic columns (*Russian*) 9-15684
 Al-Zn (6.8 at.%), synchrotron radn. use in X-ray scatt. (*French*) 9-47723
 Al₂O₃, corundum ceramic, effects of Na₂O, CaO additions on sintering struct., props. 9-15630
 Al₂VO₃, reduced, microstruct., crystallographic shear planes, electron microscope obs. 9-1443
 AuCu II, periodic antiphase struct. (*French*) 9-14937
 Au₂Mn, fully ordered, microstruct., high resolution electron microscopy 9-1439
 Au₂Mn, high resolution dark field electron microscopy exam. of ordering 9-7615
 Au₂Mn₂, monoclinic, ordering, high resolution electron microscopy 9-43290
 BaTiO₃, donor doped, exam. of heterogeneous microstructure (*German*) 9-24632
 BaTiO₃, single crystals, electron microscope study of domain and defect structures. 9-15425
 Ba₁₀₀Ti_{100-₁₀}Sn₂+0.3 at.%Sb, intergranular capacitor, effect of microstructure on electrical props. 9-34160
 Bi₂Te₃-Sb₂Te₃, Bi:Sb=1:2, 2:1, solid soln. deviation from stoichiometric cross section 9-43221
 β -Ca₂SiO₄, stabilisation, IR and Raman spectra 9-42265
 Ca₂SiO₅, P containing, hydrated, microstruct. and IR struct. 9-29074
 Cd,Hg_{1-x}Te, X-ray topographic assessment 9-37716
 CdS film, precipitation from solns., form. characts. 9-11524
 CdTe-Co(Mn) systems, reaction of components, DTA, microstruct. and microhardness obs. 9-38804
 Co-C-TaC directional eutectic, high-strength, interphase boundaries (*Russian*) 9-38812
 Co-Fe alloys, transformation induced microstructs. extended total dislocations, TEM study 9-42073
 Co(Cr,Ni)-TaC fibrous eutectic, deformed, thermal stability of microstruct. (*Russian*) 9-1895
 Cr/Au layered films, microstruct. and interdiffusion during ageing, 423 to 573K 9-46965
 Cr-N, N₂ absorb. by molten chromium, cryst. microstruct. after quenching (*Japanese*) 9-43201
 Cr₂O₃-Al₂O₃-ZrSiO₄, exam. of microstructure by optical microscopy 9-29073
 Cu ion-plated coating, grain structure 9-28249
 Cu-Al (15 at.%), rolled single crystals, metallographic study of deformation struct., orientational change, shear bonds (*Japanese*) 9-24582
 Cu-Al-Si, Si effect on mech. props. and microstructure (*Korean*) 9-38903
 Cu-Be (6.2, 9.3, 13.4 at.%), cell growth of discontinuous precipitation (*Japanese*) 9-24525
 Cu-Cr(Nb), formation of two phase microstructure, during volumetric, and directional crystallisation (*Russian*) 9-29040

crystal microstructure continued

- Cu-Ge (5 at.%), single crystal, Bridgman growth, neutron diffraction topographic obs. of layer substructure 9-27938
 Cu-In eutectoid, coarsening at 829K 9-1885
 Cu-Ni-Fe, spinodal alloy, heat treatments for improved mech. props. 9-5024
 Cu-Ti (4 wt.%), combined recrystallization and precipitation 9-29072
 Cu₃Ga, interpretation of diffuse contours in electron diff. (French) 9-19377
 Fe, Arcco, microstruct. and hardness after electron bombardment 9-38956
 Fe, cast, eutectic solidification, expt. study by quantitative metallography 9-24516
 Fe, cast, high Cr, phase composition, mech. props. rel. to heat treatment 9-29108
 Fe, cast, homogenization of property difference due to mass effect by repeated heat treatment (Japanese) 9-38857
 Fe, grain struct., multifeature mass analysis utilising digital image processing, Fe anal. appl. 9-43684
 Fe, whiskers, high strength, polycrystalline, microstruct. obs. 9-33214
 Fe-B, rapidly solidified, metastable phases (German) 9-29045
 Fe-C (0.64 wt.%), quasiclave during fatigue crack propag., pearlitic microstruct. effect 9-11702
 Fe-C (30 at.%), production of Fe₇C₃ at high press., morphology and microstruct. (Russian) 9-38828
 Fe-Cr-Ni-C (17.2, 7.34, 0.2 wt.%) alloy, twin related laths, fracture elongation, TEM study 9-29192
 Fe-Cu-Ti, improvement of irradiation-enhanced Cu embrittlement by Ti addition 9-43393
 Fe-Ni, alloy 20N24, martensitic, exam. of structure after laser treatment, and recrystallisation (Russian) 9-11608
 Fe-Ni (32.86, 30.65 wt.%), characts. of quenched struct. formed in textured sheets, TEM and optical microscopy study 9-34084
 Fe-Ni-Co alloys, struct., appl. of mag., thermomag. methods (French) 9-20318
 Fe-Si sheets, grain oriented, with insulating coating, nondestructive grain identification methods (Slovak) 9-5090
 Fe-Ti-(Mn)(O), exam. of interrelations between phase diagrams and hydriding props. 9-8277
 β-FeOOH, akaganeite, struct. changes due to radiation damage 9-28014
 Fe₃Pt, plastically deformed, struct. inhomogeneities, positron annihilation meas. 9-33859
 Fe₃VO₂, reduced, microstruct., crystallographic shear planes, electron microscope obs. 9-1443
 Ga₂VO₂, reduced, microstruct., crystallographic shear planes, electron microscope obs. 9-1443
 Hf-V, superconductivity and metallurgy of C15 materials 9-4610
 InP-Au contacts, conditions of fabrication that control interfacial microstruct. 9-42643
 Invar alloys, plastically deformed, struct. inhomogeneities, positron annihilation meas. 9-33859
 KCl:Ba(Ca)(Sr), microstruct. and hardness, impurity distrib. effects 9-24529
 LaAlO₃ perovskite electrolytes for high-temp. fuel cells 9-29467
 Li-Al-Mg alloy electrodes, polarisation behaviour and struct. 9-43588
 MgAl₂O₄, composition rel. to ceramic microstruct. form., light transmission 9-43188
 Mo, cellular structure, initial stages of formation in rolled single crystals 9-23611
 NaNbO₃-SrNb₂O₆, phase diagram, props. meas. 9-11576
 Na₂O-B₂O₃-SiO₂ glass, phase separated, HCl leaching rate and microstruct. 9-29242
 Nb₃Ge films, correl. between crit. current density and microstruct. 9-38277
 Nb₃Sn, electron beam deposited, microstruct., rel. to supercond. props. 9-37935
 Nb₃Sn-Al₂O₃ composite, electron beam deposited, microstruct., rel. to supercond. props. 9-37935
 Nb₃Sn-Cu superconducting composite, electron beam co-evaporated, TEM study 9-28247
 Ni-Cr, wrought, fatigue at high temp., microstruct. assessment 9-29208
 Ni-Cr-TaC directional eutectic, high-strength, interphase boundaries (Russian) 9-38812
 Ni-Mo (5.8-24 at.%) solid soln. struct. and strength characts. (German) 9-4975
 Pb, structure sensitive props., temp. hysteresis after melting and crystallisation (Russian) 9-29036
 Pb-Ag eutectic alloy, microstruct. coarsening under isothermal and temp. gradient conditions 9-20079
 PbO-B₂O₃-SiO₂, glass enamel, heat treated, exam. of microstructure and chemical durability 9-29254
 PbO-B₂O₃-SiO₂-Li₂O-MgO(CaO)(ZnO)(Al₂O₃)(TiO₂)(ZrO₂), glass enamel, heat treated, chemical durability, MgO, CaO, ZnO, Al₂O₃, TiO₂, ZrO₂ addition effects 9-29255
 PbO-B₂O₃-SiO₂-Li₂O-ZrO₂-CdO(CoO)(CuO), glass enamel, chemical durability, microstruct., CuO, CdO and CoO addition effects 9-29256
 Si, (100) and (110), anisotropic etching for fabrication of 3-D microstructures 9-15826
 Si films, electron-beam-deposited on W substrates, growth and struct., AES and SEM obs. 9-46972
 Si, polycryst. with columnar struct., crystn. using casting technique and microstruct., book contrib. 9-43137
 Si, solar grade, directionally solidified using C crucibles, TEM study 9-47617
 SiC, β-α transformation, interfacial energetics 9-8296
 SiC, β-α transformation, microstructural aspects 9-8295
 SiC, CVD, microstruct. obs., optical and TEM 9-7560
 SiC pyrolytic coatings for HTGR fuel particles, props. rel. to deposition conditions 9-31088
 α-SiC, sintered, influence of B, C additives on microstructure, SEM exam. 9-8262
 SiC, subjected to thermal shock, study of substruct. and surface morphology 9-43292
 Si₃N₄, hot pressed, effect of powder composition and sintering temp., on phase transformation kinetics, microstructure and mech. strength (German) 9-4939
 Si₃N₄, hot-pressed, impurity phases, TEM obs. 9-8260
 Si₃N₄, reaction bonded, effect of Si powder grain size on microstructure, and mech. props. (German) 9-4998
 Si₃N₄, reaction bonded, fracture mech. paracructs, microstmet. and temp. effect 9-24598

crystal microstructure continued

- Si₃N₄, reaction bonded, pore size and distrib. effect on strength 9-29165
 Sn/graphite particulate composite, prep. using vacuum infiltration, microstruct., anal. 9-20005
 Ti alloy VT20, phase composition and structure effect on mech. props. 9-38958
 Ti-Al-V (6, 4 wt.%), stress corrosion cracking, composition, microstruct. and texture effects 9-11725
 Ti-Al-V (6.4 wt.%), heavy ion irradiation effect on microstructure 9-10884
 VO₂, reduced, microstruct., crystallographic shear planes, electron microscope obs. 9-1443
 V₂O₃ cathode, used in Li-V₂O₃ reserve cells, microstruct. optical reflectance, elec. cond. meas., chem. anal., SEM obs. 9-43752
 W-Ni system, grain growth and densification during liquid phase sintering 9-38760
 WS₂, single cryst., growth by direct vapour transport, pit density determ. by etching 9-28904
 Zn, structure sensitive props., temp. hysteresis after melting and crystallisation (Russian) 9-29036
 ZnTe-CdSe solid solutions phase equilibria (Russian) 9-43224
 Zr-Al (4.6 wt.%), microstruct. effect on mech. props. 9-20080
 Zr-Dy dil. alloys, plastically deformed, mech. props. and microstruct. (Russian) 9-20112
 Zr-V, superconductivity and metallurgy of C15 materials 9-4610
 ZrH₂, laser irradiation effect on interstitial phases, metallographic obs. 9-37734
 ZrSiO₄, plasma dissociated, quenching rate effect on microstruct. 9-38854

crystal morphology

- adamantane crystals, vapour grown, temp. depend. of morphology of initial growth forms 9-47608
 n-alkanes, monoclinic, polygonized spiral growth patterns on {001} faces (Italian) 9-23559
 brass, two-phase α/β bicrystal, morphology and crystallographic relationships between phases 9-46966
 camphor crystals, investigation of structural formation and growth kinetics 9-47610
 conference, International Crystallography Congress, Warsaw, Poland (Aug. 78) 9-23481
 cordierite glass-ceramic, effect of crystn. on thermal diffusivity, TEM, X-ray anal. 9-33127
 corundum, subjected to thermal shock, study of substruct. and surface morphology 9-43292
 di-o-thymotide, cryst. chem. study and morphology (French) 9-46576
 habits, graphical presentation, programmable method 9-32935
 L(+) hydrazonium tartrate, soln. growth and cryst. morphology 9-33914
 ice, droxtals grown from supercooled water droplets, morphology 9-24426
 metal crystallites, polyhedral, growth in inactive gas, review 9-27934
 naphthalene crystals, investigation of structural formation and growth kinetics 9-47610
 organic crystal, struct. and habit correspondence, mol. centre of gravity determ. (German) 9-32934
 paradibromo benzene crystals, investigation of structural formation and growth kinetics 9-47610
 phloroglucinol dihydrate crystals, growth characts., X-ray diff. and optical microscopic study 9-19986
 phthalic anhydride spherulites, cryst. growth from melt 9-32930
 point groups, basis functions for irreducible representation, appl. to morphic effects on IR and Raman spectra (Japanese) 9-4265
 poly-γ-methyl-D-glutamate, α-helical form, annealing effect, morphology 9-14702
 polybis-p-toluene sulphonate, single crystals. 9-23594
 rare earth mixed molybdates, R₂(MoO₄)₃, R_{2(1-x)}R'_{2x}(MoO₄)₃, cryst. growth and crystallographic data 9-43132
 review, morphology of crystals (French) 9-4266
 salol crystals, investigation of structural formation and growth kinetics 9-47610
 SEM, automation of comparative morphological analysis 9-23509
 steel, cast, high speed, solidification, (Fe,Mn)₆C form., struct. 9-24514
 step trains, modes of vibr., rhythmic bunching, expt. obs. to show periodicity in step patterns 9-41996
 sulphosalt minerals, exam. of crystal chemistry and morphology 9-10838
 turquoise, crystalline, Nogales Mexico, SEM and TEM study 9-29760
 Wulf habits, ideal forms of soln. of crystals. 9-14718
 AgBr, influence of Cd ions on crystal shape 9-19235
 AgCl film, on complementary cleavage planes of TGS, morphology, electron microscope obs. 9-15031
 α-Ag₂S whiskers, growth in VLS system, SEM and X-ray diff. anal. 9-46989
 Al film, ion plated, morphology exam. by SEM 9-28251
 Al-Ti alloys, growth crystallography and morphologies of Al₃Ti primary dendrites 9-43230
 Al₂O₃, alumina, whiskers growth by hydrolysis of AlF₃ 9-28260
 Al₂O₃, crystallite size and lattice distortion, determination using X-ray line broadening analysis, appl. to ceramic powders 9-8261
 Al₂O₃, layer, obtained by reactive evap., surface struct. and morphology (Polish) 9-28242
 Au film, on complementary cleavage planes of TGS, morphology, electron microscope obs. 9-15031
 BN, high pressure synthesis, exam. of relationship between synthesis condition, and crystal shape, size (Japanese) 9-20018
 Ca₂Bi_{2-2x}V₂Fe_{8-2x}O₁₂ ferrogarnet, magnetism, distrib., correl. with morphological habit 9-42802
 CaF₂, whiskers and crystals, flux growth and charact. by morphology and fracture strength 9-19987
 Ca₆Si₂O₁₈·4H₂O, tobermorite synthetic crystals, hydrothermal growth, TEM and X-ray diff. characterisation 9-43122
 Cd, vapour grown crystal, morphology and growth mechanism, Bi impurity effects 9-23546
 (Co_{1-x}Ni_x)O, single crystals., morphology change during compressive creep testing 9-29144
 CrO₂, synthesis and morphology 9-24481
 Cr₂O₃, cryst. growth from decomposition of K₂Cr₂O₇ melt, morphology study 9-43131
 Cu and α-Cu-Zn alloy, whisker growth in Zn reduction, morphological change to dendrites 9-28261
 Cu corrosion, by COS, kinetic and morphological study (French) 9-43488
 Cu, deposits on Cu (110) electrode, morphology and crystal growth 9-47644

crystal morphology continued

- Cu-Cr, eutectic, effect of comp. and solidification conditions on microstruct. (*Russian*) 9-29037
 Cu-W composite powder, prod. by H_2 reduction of $CuWO_4$ 9-20006
 Fe, cast, white, prep. and morphological obs. (*French*) 9-43168
 Fe whiskers, cryst. morphology and dislocation struct. study using optical and SEM, X-ray diffr. topography 9-23876
 Fe-Ni (31 wt.%) alloy, Bridgman grown, cellular to dendritic crystn. transition, morphology and microstruct. (*Russian*) 9-14709
 Fe-Ni-Ti-Al, martensite, nature of tetragonality 9-32936
 Fe-Pt, crystallography and morphology studies, lenticular thin plate transition, thin plate morphology 9-1862
 $FeCr_2S_4$ single crystals, vapour grown, growth of triple unit cell steps on surface 9-19984
 α - Fe_2O_3 , mutual orientations and morphology obs. (*French*) 9-37647
 FeS_2 , pyrite, single cryst. growth by chem. vapour transport, surface struct. and morphology 9-23550
 GaN single crystals, growth by three methods (*Japanese*) 9-43112
 Ge, thin crystal, SEM, contrast features, variation of specimen thickness 9-23508
 Ge-Sb, eutectic alloy, exam. of morphology during solidification (*Russian*) 9-34022
 HgTe single crystals, crystn. from vapour phase, thermodynamical conditions, cryst. habit 9-33908
 $In_{1-x}Ga_xAs$, LPE on InP substrate, comp. latching phenomenon and lattice mismatching effects 9-28961
 InGaAsP, LPE growth on InP, influence of lattice mismatch on surface morphology 9-1553
 $LiNdP_2O_{12}$, single crystals, flux growth and cryst. morphology, solubility curve 9-43124
 $MgNH_4PO_4 \cdot 6H_2O$, struvite crystals, growth morphology and cryst. habit 9-41994
 $Mn_2NaSi_3O_8(OH)$, serandite, synthesis, struct., physicochem. props. 9-43187
 MoO_3 , ultrafine crystals, exam. of reduction using electron microscopy (*Russian*) 9-29394
 $NH_4H_2PO_4$, crystals, mechanism of habit change due to Fe^{3+} , Mossbauer study 9-19821
 NH_4NO_3 , elastic growth of cryst. during IV to x polymorphic transitions 9-46593
 β - $Na_2V_2O_8$, Bridgman and Czochralski single cryst. growth 9-47618
 NbN, Nb_4N_3 -NbN, Nb_2N - Nb_4N_3 , Nb_3N , cryst. growth parameters and morphology of chem. vapour deposition, X-ray diffr. and SEM study 9-23861
 Si, strip-type crystals, growth mechanism, morphology 9-7559
 Si-Ge heteroepitaxial system, imperfections and morphology, electron microscope and electron diffr. obs. 9-42420
 SiC, subjected to thermal shock, study of substruct. and surface morphology 9-43292
 $Sr[Al_2Si_2O_8]_2$, hydrothermally grown, cryst. morphology study 9-46590
 Ti film, ion plated, morphology exam. by SEM 9-28251
 TiC whiskers, CVD growth on various metals and refractory oxides, SEM examination 9-33211
 TiN, gaseous phase, crystallisation, effect of temp., vapour-gas mixture conc., and deposition time 9-33910
 V_2O_5 single crystals, prep. by chem. transport reacts. props. 9-43115
 WO_2 , cryst. growth, chem. transport conditions influence on morphology and quality 9-43114
 $Zn_3P_2(As_2)$, cryst., gas phase growth, morphology 9-10821
 ZrC single cryst. growth by modified hot-filament method, cryst. morphology and microhardness 9-19983
 ZrO_2 -CaO(MgO)($YO_1.5$), partially stabilised, growth morphology of tetragonal phase 9-4968

crystal orientation

- electrode, effect on iodide ion adsorption on Au surface 9-15020
 ice, preferred orientations in fast sea ice along Arctic margins 9-16486
 icicles, examination between crossed polarizers, growth mode determination, cryst. orientation 9-41995
 Laue method, computer calc. (*Chinese*) 9-32853
 polycyclic aromatic quinone, epitaxy on alkali halides, adsorbed water effect 9-28239
 X-ray goniometer, for producing accurately oriented cryst. faces 9-37591
 Ag, plasmons, influence of cryst. orientation on intensity, electron energy loss meas. (*German*) 9-23921
 Au, effect of intermittent deposition on nucleus formation and growth on alkali halide substrates 9-23853
 α - Fe_2O_3 , mutual orientations and morphology obs. (*French*) 9-37647
 Mo single crystal, effect of prior ultrasonic working on hardness, crystal orientation and creep resistance (*Russian*) 9-34056
 Si, plasmons, influence of cryst. orientation on intensity, electron energy loss meas. (*German*) 9-23921

crystal oscillators *see crystal resonators***crystal properties**

- see also crystal chemistry*
 oxides, struct. and props. 9-27964

crystal purification

- see also zone refining*
 anthracene, liq. chromatography, sublimation, zone refining, exciton fluorescence, mobility meas., melt grown crystal 9-38736
 Al_2O_3 , commercial, Na_2O impurity removal and modifier in corporation 9-43183
 BaF_2 purification for laser components, selective ion filter design and construction 9-14051
 GaAs, bulk purification by chemical vapour transport 9-24437
 KBr purification for laser components, selective ion filter design and construction 9-14051
 Si, inclusion type defects removal from bulk of single cryst. by elec. fields 9-43126
 SrF_2 purification for laser components, selective ion filter design and construction 9-14051
 Te, pure, prep. by combined method, vacuum distillation and double condensation 9-33956

crystal resonant gamma-ray interactions *see Mossbauer effect***crystal resonators**

- see also piezoelectric oscillations*
 clocks and watches, accuracy setting and control (*Czech*) 9-40541
 crystal tuning fork development and biography of Jurgen Staudte (*German*) 9-30182
 micro-resonators, high flux, for X and γ -ray lasers 9-7151

crystal resonators continued

- phase and frequency instabilities in precision frequency sources, characterisation and mathematical models 9-2750
 piezoceramic planar Poisson ratio variation with poling conditions 9-11391
 piezoelectric ceramic platelets, geometry effect, effect on props. of flexural oscillator (*German*) 9-32168
 polarisation effects, in piezoelectric resonators executing longitudinal vibs. 9-1741
 quartz, AT-cut resonators, temp. depend. of oscillation freq. between resonance and antiresonance freqs. 9-46749
 quartz crystal thermometer with $10^{-4}^\circ C$ resolution (*Polish*) 9-40562
 quartz gravitational wave antenna, Q-factor 9-35623
 quartz resonator, low-freq. heat-sensitive, characs. 9-30475
 quartz resonators, freq. instability rel. to time scales (*Italian*) 9-17400

crystal structure

- see also crystal atomic structure; crystal microstructure; crystal morphology; crystal orientation; crystal symmetry; crystallography; granular structure; polymorphism*
 Kevlar fibres, effect of crystallinity and orientation on mech. props. (*Japanese*) 9-38952
 molecular model building, computer program MMB 80 (*Japanese*) 9-36793

crystal surface and interface vibrations

- adatom lattice instability and fluctuation of field emission current 9-15024
 adsorbed layers, normal modes of vibr. obs. by neutron scatt. 9-19443
 adsorbed molecule on metal, vibr. energy relax. 9-42362
 adsorbed molecules, IR frequency shifts, coverage dependence 9-19464
 adsorbed molecules on metal surface, vibr. excitation due to electron impact 9-46912
 atom, chemisorbed on solid, diffusional motion, microscopic anal. 9-4467
 atom-surface in-plane scattering, 2- and 3-dimens., rainbow struct., energy spectra, surface temp. influence 9-38699
 corrugated hard wall, elastic and inelastic scatt. of neutral 9-46899
 diamond (111) surfaces, relax. and reconstruction using C_4H_9 clusters, MINDO/3 calc. 9-42356
 dye crystal, CTIP, exciton surface polaritons detect. by ATR spectra at 295K 9-4818
 effective-modulus approximation for surface-vibration modes 9-19446
 Einstein model, self consistent, penetration of surface vibr. and melting 9-33171
 film, light scatt. from interface, polaritons 9-8202
 graphite particles, small, adsorption of butane, struct. and dynamics, appl. of neutron scatt. 9-4481
 hard corrugated surface, one phonon scatt. of atoms 9-47577
 high frequency phonon, at interface, coupling mech. 9-28189
 ice, intrinsic surface order near melting point 9-14986
 incommensurate two-dimensional crystal, ground state, spectrum, phase diagram 9-19458
 ion reflection, surface semichannelling effects 9-46728
 ion scattering, medium and high energy, two-atom model for surface blocking calc. 9-4886
 ionic crystal plate, line widths in spectrum of surface vibr. 9-33174
 Kapitza resistance, axiomatic acoustic mismatch theory, with loss 9-33132
 metal, surface relax. from LEED, Fourier transform-convolution method 9-4459
 metal-air interface, far IR propag. distances of surface EM waves 9-42616
 metals, chemisorption of CO, electronic struct., vibr. spectra, and chem. 9-42390
 molecular complex, adsorbed on metal, charge transfer model of Raman intensity enhancement 9-13720
 phonon transport in bounded systems, influence of size effect and surface roughness 9-46849
 piezoelectric semiconductors, acoustoelectric surface phonon-conduction electron interaction 9-42360
 α -quartz as substrate in thermal phonon radiation 9-42363
 semiconductor-dielectric interface, surface polaritons of LO-phonon-plasmon coupled modes 9-7792
 step trains, modes of vibr., rhythymal bunching, expt. obs. to show periodicity in step patterns 9-41996
 surface polaron in mag. field 9-23912
 three-phonon processes and anomalous interfacial energy transport 9-46913
 vibration entropy and mean square atomic displacements due to defects in crystals. (*French*) 9-28064
 AgBr surface, vibr. freq. of adsorbed Ag atom, LCAO-MO calc. (*Russian*) 9-2866
 CO adsorbed on Ni, energy depend. of vibr. excitation, electron energy loss spectra 9-28201
 CO, chemisorbed on Ni(111), adsorption sites and long range order, vibr. spectra 9-46946
 Cu (001), inelastic scatt. of He atoms, 20K 9-8222
 Cu (001), surface relax. and thermal expansion calcs., equal-time vibr. correlation functions 9-23820
 α -Fe, (001), surface relax. and thermal expansion calcs., equal-time vibr. correlation functions 9-23820
 Fe film bounded by dielec. layers, surface polariton in ATR angular spectra 9-15545
 GaAs (110) surface states, surface relax. models, tight-binding calcs. 9-4594
 n-GaAs, far IR propag. of surface EM waves 9-42615
 GaAs-Pt-air system, far IR propag. distances of surface EM waves 9-42616
 GaAs P_{1-x} , surface phonon polaritons, total internal refl. (*Russian*) 9-38688
 4He , quantum cryst., surface equilb. shape and vibs. (*Russian*) 9-7732
 n-InSb, rel. to damped surface magnetoplasmons, theory 9-7873
 Mo (001) surface, electronic susceptibility and surface phase transition 9-33169
 Mo, desorption of He, Mo-He and He-He interaction pot. 9-19459
 Nb sputtered film, tunnelling characs. 9-4621
 Ni (100), adsorbed $c(2 \times 2)$ CO, photoemission orientation determ. 9-19974
 Ni (100), O and S chemisorption, surface vibs., electron energy loss spectra 9-33173
 Ni(111), adsorbed benzene, vibr. loss spectra 9-23838

crystal surface and interface vibrations continued

- OH adsorbed on Ni, energy depend. of vibr. excitation, electron energy loss spectra 9-28201
 Pt (111), relax. effects, and thermal vibr., medium energy ion scatt. 9-28182
 Pt(111), adsorbed benzene, vibr. loss spectra 9-23838
 Pt(111) surface relaxation, temp. depend., He scatt. 9-19447
 Rh, adsorption of CO, inelastic electron tunnelling spectra obs. 9-46962
 Ru(001) surface, adsorption of CO, IR spectra and LEED 9-37914
²Si (111), dynamic effective charge and surface reconstruction, soft-mode theory 9-4460
 Si (111) surfaces, relax. and reconstruction using Si₄H₂ clusters, MINDO/3 calc. 9-42356
 W (100) surface, adsorbed H-induced lattice reconstruction, surface vibr. obs. 9-19445
 W(100), chemisorbed H, vibr. excitation of hydrogenic modes, angle dependent electron energy loss meas. 9-46914
 ZnO, microcryst., surface microscopic modes, IR detection 9-38527

crystal symmetry

- see also crystallography; group theory
 -Z (French) 9-7688
 Al₅ compounds, high supercond., T_c, attributed to linear chains or cubic symmetry 9-38221
 Belov's classes, and subclasses, distrib. of symmetry groups 9-14721
 cation-deficient close-packed structures, combinatorics 9-23558
 coincidence site lattice rotations, permissible angles 9-32932
 conference, International Crystallography Congress, Warsaw, Poland (Aug. 78) 9-23481
 conjugated elements, classes, of crystallographic groups (French) 9-7564
 dicalcium strontium propionate, cryst. symmetry in low temp. phase 9-37693
 electron diffraction patterns, and optical transforms of atomic aggregates, symmetry aspects using computer simulation 9-7525
 four-dimensional space, crystallographic groups, book 9-27942
 garnet structures, X-ray diff. data 9-42024
 inner elastic constants, symm., depend. on symm. of interlattice tensors 9-28028
 Lifshitz's criterion for symmetry changes in second-order phase transitions 9-4392
 magnetic point groups, simplified calc. and tabulation of tensorial covariants belonging to same Laue class 9-19174
 naphthalene-d₈:naphthalene, symmetry reduction obs. of deformed crystals. by absorpt. spectrum method 9-15504
 noncentrosymmetric structures, antisymmetric atomic features, Bijvoet ratio 9-32925
 octahedral molecule MX₆ with close-packed arrangement of X-atoms, possible cryst. struct. (German) 9-27940
 organic crystal, struct. and habit correspondence, mol. centre of gravity determ. (German) 9-32934
 perovskite-like structures, some remarks on the 'family tree' of Barnighausen 9-7565
 point groups, basis functions for irreducible representation, appl. to morphic effects on IR and Raman spectra (Japanese) 9-4265
 powder reflections, an error in several published tables of the multiplicities for Laue class 31m 9-14720
 powder reflections, computer program for determining multiplicities, correction for 31m Laue symmetry 9-10759
 squaric acid, second harmonic generation 9-46000
 stereographic projections, standard, computer generated 9-37579
 symmetric Belov subclasses for homologous series of bases of structural minals 9-19176
 symmetry coordinate generation using multiplier representations of space groups 9-37646
 tensor components, unitary groups appl., and phase transition selection principles 9-46589
 tensorial covariants for the 32 crystal point groups 9-19173
 vector symmetry, in crystallography, basic theorems 9-23556
 X-ray intensities variation, effect of dispersion and higher symmetries 9-7520
 CdA₂X₄ (A=Ga,In; X=S,Se), Fourier IR and Raman spectra, cryst. struct. and symm. (German) 9-24313
 GeH₄:SiHD₃, symmetries of GeH₄ cryst. phases, IR spectra meas. 9-19886
 HgA₂X₄ (A=Ga,In; X=S,Se), Fourier IR and Raman spectra, cryst. struct. and symm. (German) 9-24313
 (NH₄)₂CuCl₄·2H₂O, Raman spectra, dynamics, struct., phase transition 9-47434
 Pb_{1-x}Br_x, form., cryst. symmetry, X-ray diff. obs. 9-23570
 Pb_{1-x}Br_x, form., cryst. symmetry, X-ray diff. obs. 9-23570
 ZnA₂X₄ (A=Ga,In; X=S,Se), Fourier IR and Raman spectra, cryst. struct. and symm. (German) 9-24313

crystal whiskers see whiskers (crystal)**crystallisation**

- see also crystal growth; dendrites; heat of crystallisation; nucleation alloy, solid state reactions, effect on microstruct. 9-29015
 amorphous metals, struct. imperfections, review of expt. evidence 9-37630
 amorphous semiconductors, decomposition 9-41959
 bisphenol-A-diglycidyl ether epoxies, struct., fracture and mech. response, cure and crystallisation conditions effects 9-15779
 brine, MgCl₂, crystallising, direct contact cooling using kerosene drops 9-1053
 casting in space environment, dendrite remelting and macrosegregation in low-gravity 9-47669
 cholesteryl caproate, isothermal crystn., spherulites growth rate, optical microscopy obs. 9-32892
 controlled, from binary melt (Polish) 9-14708
 cordierite glass-ceramic, effect of crystn. on thermal diffusivity 9-33127
 crystal growth, from liquids at high temps., review 9-15602
 diamond, temperature field dynamics during synthesis 9-38755
 dibenzyl-tolane, single cryst. growth from melt, influence of supercooling and impurity conc. on growth rate of faces 9-14714
 diffusion kinetics, crystallisation of salts from supersaturated solns. 9-23553
 dynamic isomers and spontaneous generation of optical activity, phase rule prediction 9-34421
 fibre reinforced composite prep. by crystallizing metallic and metal-ceramic eutectics (Polish) 9-20008
 gehlenite glass, crystallisation kinetics 9-4251

crystallisation continued

- glass ceramic, nucleation and growth studies by small angle neutron scatt. 9-32913
 growth affinity, a driving force for crystallisation 9-23554
 growth curves, growth affinity presentation, for growth from soln. 9-27936
 ices, examination between crossed polarizers, growth mode determination 9-41995
 industrial, using geothermal power, feasibility assessment 9-48086
 ingots in contact (Russian) 9-29039
 macromolecules, epitaxial crystallisation, review 9-42409
 magnetic field effect (Russian) 9-37641
 melt near solid-liquid interface, diffusion during crystallisation (German) 9-29046
 Metglas 2826A, direct meas. of decomp. on crystn. by X-ray microanal. in STEM 9-48025
 Na zirconogermanates hydrothermal crystn. 9-47604
 nylon 6 fibre, melt spun crystallisation (Chinese) 9-14792
 nylon-6 dilute soln., gelation and crystallisation, struct. determ. 9-37635
 percolation theory, Lindemann melting criterion and thermodynamic props. 9-28081
 periodic mass crystn., kinetics and max. supersaturation (German) 9-41997
 PET, crystallised by nonreactive liquids, exam. of mech. props. 9-43338
 PET, crystallised in liquid environment, exam. of crystallisation kinetics and X-ray scattering 9-41980
 PET film, crystallised by nonreactive liquids and vapours, exam. of diffusion of liquids and vapours 9-42314
 poly(ethylene-but-1-ene) copolymer, gelation and precipitation from solutions, NMR exam. 9-43641
 poly-bis-phenyl glutarate diacetylene, cryst., solid-state synthesis, struct. 9-15638
 poly-tetramethyl-p-silphenylene-dimethylsiloxane block copolymers, crystn., morphology, kinetics 9-14695
 polybromoprene, crystn., morphology, kinetics (Russian) 9-4256
 polycaprolactam, pure and TiO₃ filled, radiation effects (Bulgarian) 9-33015
 polycaprolactam film, subjected to 9 kV elec. discharge, X-ray obs. (Russian) 9-23536
 polyethylene, from the melt, small-angle X-ray scatt. study of crystn. 9-14692
 polyethylene, hexagonal, high press. crystn., review 9-23529
 polyethylene, linear, bulk-crystallised, morphology study 9-32918
 polyethylene, radiation effects on EPR and differential thermal anal. (Bulgarian) 9-46698
 polyethylene oxide, block polymer, crystallisation 9-10817
 polyethylene terephthalate, induced crystn. on metallic nucleating particles 9-15658
 polyethylene terephthalate, nonisothermal crystallisation kinetics 9-32920
 polyethylene terephthalate sheeting, storage in aqueous media rel. to props. (German) 9-29250
 polyethylene-paraffin mixtures, crystallisation kinetics 9-41985
 polymer, crystallisation rates from melt, universal relation 9-10816
 polymer, crystn. at low supercooling 9-10823
 polymer fibres, ultra high modulus, prep. by soln. and melt spinning, review 9-11544
 polymers, linear, melt crystallisation, intrachain trans double bonds influence 9-14701
 polyoxymethylene diacetate, bulk cryst. and melting, polyoxyethylene additive effects 9-32921
 polyvinylidene fluoride, crystn. process and elec. cond., differential scanning calorimetry 9-24024
 PVC, influence of thermal history on physical props. 9-4984
 rare earth metal oxide films, crystallisation, electron microscope obs. 9-15034
 rubbers, cross linked, thermodynamic approach to stress induced crystallisation 9-41984
 soft-core model, geometrical anal. 9-42220
 solid solution, single cryst. growth from melt, role of composition fluctuations 9-8239
 stability limit at low temp. 9-7539
 surface nucleation, method for determining kinetic parameters 9-46980
 thermodynamic driving force, for crystallisation, from solution 9-37643
 zone melting crystn. parameters optimisation using temp. distrib. calcs. (German) 9-43140
 Ag, oriented crystallisation on active amorphous C centres 9-7762
 AgBr(Cl) precipitates, phase boundary processes, quantum mech. law in mass transfer processes (German) 9-27937
 Al, structure sensitive props., temp. hysteresis after melting and crystallisation (Russian) 9-29036
 Al-Cu, melt near solid-liquid interface, diffusion during crystallisation (German) 9-29046
 AlAs-GaAs heterostructure, fabrication by selective liq.-phase epitaxy 9-15618
 As₂Te₃(Se₂)(Sb_x)(Bi_x), chalcogenide glass, thin film crystallisation 9-7758
 B-transition metal, amorphous thin film, crystallisation, TEM obs. 9-19483
 BN, deposition of wurtzite type layers, by reactive pulse plasma crystallisation 9-28953
 B₂O₃-Li₂O-Fe₂O₃, prep. by quenching methods, exam. of microcrystalline precipitates of Li₂O-Fe₂O₃ (French) 9-20019
 BaO-Al₂O₃-SiO₂-H₂O system, phase transitions during hydrothermal treatment 9-43216
 BaO-GeO₂-Na₂O-H₂O system, hydrothermal crystn., phase formation laws 9-46636
 BaSO₄, crystallisation, seeded growth kinetics, inhibitor effects 9-37644
 BaTiO₃-PbO-B₂O₃, liquid phase sintering, effect on props. (German) 9-33980
 Bi-Sb, conditions for dendritic crystallisation, accompanying rapid cooling (Russian) 9-34020
 Ca-Al rich inclusion, rhonite bearing, in Allende meteorite, mineralogy rel. to crystallisation 9-2530
 Cs amorphous film, catalytic crystallization by Ni particles 9-14683
 Cs₂O-MgO-SiO₂ system, glasses, crystn. prods., composition, props. 9-41961
 Cu melts, pure and alloyed, supercooled, influence of impurities on crystallisation 9-29042
 Cu-Cr(Nb), formation of two phase microstructure, during volumetric, and directional crystallisation (Russian) 9-29040

crystallisation continued

Cu-Cu Zr eutectic composite, struct. and props., heat treatment and crystn. rate influence (*Russian*) 9-38813
 Cu-Cu₂O crystallisation from melt, influence of crystn. conditions on struct. (*Russian*) 9-38814
 Cu₂S, molten, oxidation, exam. of product phase composition by X-ray anal. (*Russian*) 9-34166
 Fe, cast, hypoeutectic, primary crystn. features by means of apparent viscosity meas. in early stages of solidification (*Japanese*) 9-43231
 Fe-B glass, crystallisation kinetics, elec. resist. meas. 9-4254
 Fe-B metallic glass, struct. and crystallisation, Mossbauer spectra, calorimetry and magnetisation meas. 9-23528
 Fe-B(-Co), two amorphous phases form. and crystallisation 9-27924
 Fe-Gd films, crystallisation, electron microscope obs. 9-15034
 Fe-Ni based metallic glasses, nonisothermal crystallisation kinetics, DSC anal. 9-27927
 Fe-rare earth, amorphous thin film, crystallisation, TEM obs. 9-19483
 Fe₈₀B₂₀, amorphous, crystn. temp. under press. 9-23523
 Fe₈₀B₂₀, binary amorphous ferromagnet, Mossbauer spectra 9-4749
 Fe₈₀B₂₀, elastic, magnetoelastic and thermal props. 9-19759
 Fe₃Ni₃₆Cr₁₄Pi₂B₆, elastic, magnetoelastic and thermal props. 9-19759
 Fe₄₀Ni₄₀P₁₄B₆, elastic, magnetoelastic and thermal props. 9-19759
 (Fe_{1-x}Ni_x)₈₀PyB_{20-y}, local struct. disorder and crystallisation, Mossbauer 9-1728
 Fe₃Sn_{1-x}, amorphous alloy stability, comp. and temp. depend. 9-19156
 GaSb film, gamma-irradiated, struct., TEM and SEM obs. 9-15033
 Ge film, electrical cond. during laser-induced crystallisation 9-47175
 Ge-GaSb, metastable continuous solid solutions 9-8284
 Ge-Te and Ge-Te-As system glasses, local struct., ¹¹⁹Sn Mossbauer obs. 9-41968
 GeS₂ glass, x=1.25 to 1.5, softening and crystallization kinetics 9-32906
 Ge₂Se_{1-x} amorphous film, photocrystallisation, elec. cond. meas. 9-32911
 HgTe single crystals, crystn. from vapour phase, thermodynamical conditions 9-33908
 In island film, melting and crystn. kinetics, dark field electron microscopy 9-11026
 In₂O₃, lattice defects, optimum prep. conditions w.r.t. stoichiometry 9-27974
 InSb film, gamma-irradiated, struct., TEM and SEM obs. 9-15033
 Li₂B₂O₇, melt-crystal interface temp. meas. during crystallization of melts 9-44908
 LiNO₃·3H₂O, crystallisation kinetics 9-4264
 LiNbO₃, crystallisation from solution in borate, vanadate and tungstate melts 9-1820
 LiNd(PO₃)₄, crystallisation from LiPO₃ flux, exam. of optical props. (*German*) 9-11401
 Li₂O-SiO₂ glass, crystallisation and phase separation 9-10803
 MgO-CaO-Al₂O₃-SiO₂(-TiO₂) systems, glass-ceramics, crystn. kinetics (*Russian*) 9-37626
 Mn chalcogenides-II-VI compound solid solutions, cryst. growth and physicochem. props. 9-14711
 Mn-Bi film, amorphous, form. and crystn. 9-28923
 Na₂B₄O₇, melt-crystal interface temp. meas. during crystallization of melts 9-44908
 Na₂O-CaO-Bi₂O₃-SiO₂, electro-conducting glass-ceramic production by ion-exchange and reduction treatment 9-1616
 Na₂O-Fe₂O₃-SiO₂, Mossbauer spectra, crystallisation study (*Russian*) 9-19816
 Na₂WO₄-CsWO₄-WO₃, system form., melting point 9-43222
 Ni-P, electrodeposited films, amorphous and crystalline, electron microscopy, in-situ crystallisation 9-11043
 Ni-P amorphous alloy, positron annihilation exam. of crystallisation 9-43061
 Pb, structure sensitive props., temp. hysteresis after melting and crystallisation (*Russian*) 9-29036
 Pb-Sb eutectic alloys, solidification in space environment 9-47671
 Pd-Si amorphous alloy, positron annihilation exam. of crystallisation 9-43061
 Pd-Si amorphous alloys, anal. of crystallisation kinetics 9-32912
 Se, amorphous, kinematic transform. study by DTA 9-27921
 Se film, amorphous, block formation during crystn., electron microscope obs. 9-11030
 Se, liquid-crystal phase transition, elec. cond. changes 9-33310
 Si film, elec. props., effect of amorphous to polycryst. transition 9-28425
 Si, mol. beam and solid-phase epitaxies under ultrahigh vacuum 9-28945
 Si, polycryst. with columnar struct., crystn. using casting technique and microstruct., book contrib. 9-43137
 Si-Te system glasses, local struct., ¹¹⁹Sn Mossbauer obs. 9-41968
 Si₃N₄ powders, synthesis, charact. 9-33977
 Si₃N₄ amorphous films, struct., short-range order, and crystn. kinetics 9-28240
 Si₃N₄, dielectric film, on Si. crystals from amorphous state 9-28225
 Si₃N₄ with Y₂O₃ and Al₂O₃ additions, hot pressed, exam. of mech. props., grain boundary crystallization 9-20009
 SiO₂, dielectric film, on Si. crystals from amorphous state 9-28225
 SiO₂-Al₂O₃-CaO-MgO-NaO-K₂O-B₂O₃-ZrO₂, glaze, exam. of crystal crystallisation 9-19155
 SiO₂-Al₂O₃-K₂O-Na₂O, exam. of leucite crystal growth 9-19496
 Si₃N₄, dielectric film, on Si. crystals from amorphous state 9-28225
 SnO-SiO₂ glass, struct., X-ray density, IR obs. 9-46574
 Sr(NO₃)₂·4H₂O, crystallisation kinetics 9-4264
 Te-Ge-Sn(Pb), Te rich, structural phase transformation concurrent with glass crystallisation, thermal evidence 9-4965
 TeSe₂₀, vitreous alloy, elec. and thermal cond. during crystallisation 9-7550
 Ti alloys, ingots, produced by vacuum arc smelting, exam. of crystallisation process (*Russian*) 9-34019
 TiS₂, struct. from radial electron density distrib. curves, entropies of melting and crystallisation 9-23527
 YAG, crystallization kinetics and growth mechanism on oriented seeds in melt-solns. 9-14717
 YAG, influence of facial growth effect on Yb ion incorporation 9-10822
 YAG, single crystals, kinetic characts. of growth from melt-solns. on oriented seeds 9-14719
 Zn, structure sensitive props., temp. hysteresis after melting and crystallisation (*Russian*) 9-29036
 ZnO-Al₂O₃-SiO₂ glass, crystalline phase precipitation, crystallisation (*Japanese*) 9-32916
 ZnS-CdS system, solid soln. form. mechanism 9-43177
 Zr-Nb-Fe (13 wt.%, 5 wt.%), struct. changes during decay of BCC β solid solution 9-15669

crystallisation continued

Zr-Nb-V-Fe (12 wt.%, 6 wt.%, 4 wt.%), struct. changer during decay of BCC β solid soln. 9-15669
 ZrO₂, crystallisation from Zr(OH)₄, effect of water vapour, heat treatment and grain size (*Japanese*) 9-19170
 ZrTiO₄, form. mechanism from spray drying of solns., precip., of hydroxides and reactions of hydrates and solns. 9-43182

crystallite texture see texture

crystallites

see also crystal microstructure
 direct ripening on substrate 9-42417
 graphite, nuclear, change in ratio of thermal expansion coeffs. at elevated temps., effect of crystallite size 9-42283
 metal, BCC, fine particles formed by gas-evap. technique, cryst. struct. and habit 9-27935
 metal crystallites, polyhedral, growth in inactive gas, review 9-27934
 microprecipitates, small angle X-ray scattering 9-10813
 Mossbauer absorbers, deformation induced texture 9-8074
 polyethylene, hot-stretched, small angle X-ray scatt., computer anal. 9-14699
 polyethylene, oriented, partially crystalline, amorphous component obs., X-ray diffr. (*Russian*) 9-23534
 polymers, X-ray diffr., lateral grain boundaries 9-14700
 PVC, rheology, viscoelasticity, panel discussion 9-3984
 PVC cpds., rigid, plasticised, capillary flow 9-4046
 pyrocarbon coatings on HTGR fuel particles, Bacon anisotropy factors meas. technique 9-13418
 surface decoration, localization of crystallites along steps 9-14992
 X-ray diffraction by small crystals, intensity calc. method 9-27871
 X-ray diffraction from small crystals, profiles calc. 9-27872
 X-ray diffraction of elliptical crystallites 9-19122
 Al₂O₃, crystallite size and lattice distortion, determination using X-ray line broadening analysis, appl. to ceramic powders 9-8261
 As₂S₃(Se₂) coating defects and impurities affecting damage threshold and absorbance 9-14065
 Au film, on W substrate, chemisorbed N₂ effect on crystallite growth, FEM obs. 9-46976
 Pb, cathodic deposition on Ag (111) and (100) surfaces, potentiostatic obs. (*German*) 9-15616
 Se film, vacuum deposited, struct. asymmetry, reflectivity elec. cond. 9-23855
 Ti, cathodic deposition on Ag (111) and (100) surfaces, potentiostatic obs. (*German*) 9-15616
 ZnO triode-sputtered film crystallite structure, X-ray evaluation 9-46987

crystallographic shear

ductile single crystal, geometric effects in inhomogeneous deform. 9-46741
 fracture, statistics in brittle materials with surface shear-sensitive cracks 9-41616
 homogeneous material, 2D defects, interface problems 9-46674
 quartz, Brazil twins, twinning prod. by successive shears 9-19263
 Al₂VO₃, reduced, microstruct., crystallographic shear planes, electron microscope obs. 9-1443
 Cu-Al (15 at.%), rolled single crystals, metallographic study of deformation struct., orientational change, shear bonds (*Japanese*) 9-24582
 Fe₂VO₃, reduced, microstruct., crystallographic shear planes, electron microscope obs. 9-1443
 Ga₂VO₃, reduced, microstruct., crystallographic shear planes, electron microscope obs. 9-1443
 MoO₃, reduced crystals, planes of crystallographic shear, TEM study 9-46683
 Nb₂O₅-WO₃ system, TEM study of intergrowth of ReO₃ and tetragonal-type structs. 9-7580
 VO₂, reduced, microstruct., crystallographic shear planes, electron microscope obs. 9-1443

crystallography

see also crystal atomic structure; electron diffraction crystallography; gamma-ray diffraction; isomorphism; lattice constants; neutron diffraction crystallography; space groups; X-ray crystallography
 atom packing projections, along real or reciprocal lattice directions, computer program 9-14707
 conference, International Crystallography Congress, Warsaw, Poland (Aug. 78) 9-23481
 constrained refinement, clarification on discussion 9-7507
 crystal, single, jig for precise orient. and grinding (*Czech*) 9-26047
 crystal structure refinement with constraints, least squares refinement program 9-10744
 cumulative distributions, symmetry- and composition-dependent of normalized structure amplitude for use in intensity statistics 9-32847
 determinantal inequalities, invariant joint probability distrib., heuristic derivation 9-32927
 education, in crystallography, a survey in USA 9-9047
 Hamilton's R-factor ratio test, alternative with appl. to atom assignment problems 9-7506
 hard-disc system, structures of close-packed thin layer 9-27941
 noncentrosymmetric structures, antisymmetric atomic features, Bijvoet ratio 9-32925
 nuclear blocking patterns, crystallography demonstration, for teachers 9-40328
 orientational average, of exp[2πi(h.x+k.y+l.z)] 9-7519
 radiation quanta, comparison of least-squares and maximum likelihood estimates for counts which follow a Poisson distrib. 9-23487
 Richard's box, low-cost, superimposing mol. models on 3D electron density maps 9-35495
 Schmid equal factor, automatic curve plotting (*French*) 9-46507
 statistical system unknowns optimal evaluation (*French*) 9-9194
 stereographic projections, standard, computer generated 9-37579
 superposition of similar structures, optimisation transformations 9-27865
 two-phase seminvariants, of first rank, probabilistic theory via method of representations 9-32848
 vector symmetry, in crystallography, basic theorems 9-23556

crystals

see also bicrystals; crystal structure; crystallography; dendrites; epitaxial layers; liquid crystals; plastic crystals; whiskers (crystal)
 No entries

Curie point *see* Curie temperature

Curie point writing *see* thermomagnetic recording

Curie temperature

see also ferroelectric Curie temperature

- amorphous ferromagnets, mag. fundamentals, props. and appl. (*German*) 9-28557
- amorphous systems, mag. props. effect of random anisotropy 9-4686
- di-(2,2,6,6-tetramethyl-4-piperidinyl-1-oxyl) substrate, nitroxide radical polarised neutron study in paramag. phase 9-47231
- dilute ferromagnet (*Japanese*) 9-33484
- dilution effect in ferromagnet 9-47278
- ferrites of divalent metals, prep. by double decomp. reaction, mag. characts. (*French*) 9-33463
- ferromagnet, dynamic slowing down of dislocations near Curie point (*Russian*) 9-8036
- ferromagnets, classical-spin model 9-33446
- Heisenberg, ferromagnet, nearly two-dimensional and nearly one-dimensional thermodynamic props., Green's function investigation 9-15275
- Heisenberg three-dimens. quantum models, ferromag. phase, conditions for $T_c=0K$ 9-38345
- Ising model, bond-dilute two-dimensional, crit. behaviour 9-8009
- magnetically dilute ferromagnets 9-11312
- minerals, HF meas. method (*Russian*) 9-39992
- Ni single crystal near T_c , neutron transmission depolarisation 9-33479
- one-dimensional diatomic chain, order-disorder transition, simple model 9-4394
- rare earth-Co, RCO_3 ($R=Gd, Dy$ and Ho), effect of absorbed H_2 on mag. behaviour 9-33483
- rare earth- Fe_2 Laves phase intermetallics, mag. ordering temps. by DTA 9-47283
- semimetal, doped, interband transition, effect on Curie temp. of ferromagnetic phase transition 9-7994
- spin glass, cluster mean-field model, static props. 9-4689
- three-dimens. quantum Heisenberg model, multi-neighbour interactions ferromagnetic Curie temp. 9-42786
- transition metal-rare earth alloys, amorphous, mag. props., mean field anal. 9-4701
- Al-Cu-Fe, liquid, mag. moment and transition from mag. to nonmag. state 9-24132
- $Ba_2Zn_{2-x}Cu_xFe_{12}O_{22}$, hexagonal ferrites, prep. and mag. characterisation 9-1727
- $CdCr_2S_4$, EPR line profiles in paramag. and ferromag. phases 9-28602
- $CdCr_2S_4:In(Ga)$, resist. and magnetoresist. meas., effect of donor impurities 9-19608
- $CdCrSe_4$, ferromag. semiconductor, mag. props. near Curie pt., doping effects 9-1670
- $CdCr_2Si_2Ga$, negative magnetoresist. effects near Curie temp. 9-11152
- Co-Ga-Mn(Fe), small-angle mag. neutron scatt., states of mag. order study rel. to Mn and Fe substitution 9-11292
- β -Co-Mn-Sn Heusler alloy, constitution and magnetic props. (*German*) 9-34009
- Co-V (12.4-18.7 at.%), ferromag. behaviour 9-24163
- $CoFe_2Se_4$, low-temp. thermal expansion anomalies and isothermal compressibility, mag. ordering and magnetorestriction 9-38363
- $CoMnSi$, $CoMnSi_{0.85}Ge_{0.15}$, mag. props. 9-42758
- $Co_2(Ti,Mn)Sn$, Heusler alloy, mag. meas. 9-47261
- Cr-Fe, superparamagnetism and mag. order charact. near critical conc., neutron scatt. study 9-11293
- Cr-Fe-O, rutile type oxides, obtained from thermal decomp. of $Cr_{1-x}Fe_x$ -OOH, Curie temp. and saturation magnetisation 9-24740
- Cr-Ge system, phase anal. and physical props. 9-24160
- $CrBr_3$, anisotropic ferromagnet, crit. mag. relax., field and temp. depend. 9-1717
- $Cr_2(CrO_4)_3$, ferromagnet, ESR spectra near Curie temp. 9-8042
- $Cr_{1-x}Rh_xO_2$, prep., Curie temp. evolution, SEM characterisation 9-43164
- Cu, nuclear susceptibility thermometer rel. to ^{199}Sn Mossbauer effect thermometer, 6 mK to 1K 9-35737
- Cu-Ni-Fe, spinodal alloy, heat treatments for improved mech. props. 9-5024
- $Cu_{0.67}Cr_{1.7}Se_{2.67}Br_{1.34}$, polycrystalline mag. semicond., mag. and elec. props. 9-7846
- $Dy_2Ce_{1-x}Ru_x$, supercond., mag. props. 9-11267
- $Dy_2(WO_4)_3$, mag. props., 300 to 900K 9-28510
- $Er_{1-x}Gd_xRh_4B_4$, supercond. and mag. transitions at press. up to 19 kbar 9-38236
- $Er_2(WO_4)_3$, mag. props., 300 to 900K 9-28510
- EuO , nonstoichiometric film with excess Eu , depend. on lattice parameter 9-8204
- EuO , optical orientation of f-electrons, Curie temp. variation due to exchange interactions (*Russian*) 9-15431
- EuS , three dimens. Heisenberg ferromagnet, crit. relax. spectra mag. susceptibility 9-8000
- Fe , internal friction near Curie point 9-24567
- α -Fe-Be(P)(Mo)(W)-Co, effect of Co on solubility anomaly due to mag. transition (*Japanese*) 9-42257
- Fe-Ni-Te alloys, magnetisation 9-7975
- Fe-V alloy, Curie temp. determ. using deviation from Mattheisen's rule 9-15306
- $Fe_{80}B_{20}$, binary amorphous ferromagnet, Curie temp. determ. by frequency counting 9-4749
- $(Fe_{1-x}Co_x)_{77}Si_{13}B_{13}$, amorphous, mag. moments at 0K, Curie temp., mag. interactions 9-4670
- $Fe_3-In_2O_4$, ferrosinels, cation distrib., Curie point and magnetisation meas. 9-42095
- $Fe_78Mo_2B_{20}$, amorphous ferromag., mag. props. 9-38309
- $(Fe_xNi_{1-x})_{80}P_{20}$, (Fe_xNi_{1-x}) $_{80}P_{20}$, new soft amorphous ferromagnetic glasses (*Croatian*) 9-11298
- $Fe_{40}Ni_{40}P_{20}B_6$, metglas 2826, amorphous, Hall resistivity, thermal cycling and annealing effects 9-38050
- $Fe_{40}Ni_{40}P_{20}B_{20-y}$, amorphous, mag. props. effect of metalloid elements 9-28658
- Fe_2P , magnetisation, susceptibility, thermal expan. 9-11302
- $Fe_{80}P_{20-x}M_x$, $M=B, C, Si, Ge$, amorphous, effect of metalloids on mag. props. 9-11304
- $Fe_{1-x}Se_x$, phase relation 9-14926
- ^{160}Gd , ferromagnetic, isotopically enriched single crystals short-range order 9-4653
- Curie temperature continued
- Gd_2Co , amorphous ferromag. obtained by splat cooling, local and bulk mag. props. 9-1685
- Ho_2Au , mag. props., 4.2-300K 9-7972
- $Ho_2(WO_4)_3$, mag. props., 300 to 900K 9-28510
- $K_2Cu_{1-x}Mn_xF_4$ system, ($0 \leq x \leq 0.2$), prep., cryst. chem., and ferromag. props., X-ray and neutron diff. study 9-24162
- $KMnF_6$, mag. props. and struct. transitions, antiferromag. reson. mea. 9-8052
- $LaNi_{1-x}Fe_xO_3$, mag. props., 7 to 300K 9-4648
- $La_{1-x}Sr_xCoO_3$ ($0.5 \leq x \leq 1.0$), Curie and paramag. Curie temp. as function of composition 9-24154
- $LiMnCrF_6$, ferrimagnetic, magnetic props. (*French*) 9-1668
- $NaMnCrF_6$, ferrimagnetic, magnetic props. (*French*) 9-1668
- Ni film, effects of finite size on crit. phenomena, resistivity anomalies 9-38192
- Ni-Ti alloy, Curie temp. determ. using deviation from Mattheisen's rule 9-15306
- $Ni_2(Ti,Mn)Sn$, Heusler alloy, mag. meas. 9-47261
- $Pd_{80-x}Si_{20}Fe_x$, amorphous, low x, hyperfine interactions and mag. ordering temp. 9-15303
- Rb_2ZnBr_4 , incommensurate phase transition, neutron-scatt. obs. 9-4390
- $SmCo_5$, specific heat and kinetic props. at elevated temp. (*Russian*) 9-28530
- Tb-Ho, thermal expansion in vicinity of Curie temp. 9-28524
- $Tb_2(WO_4)_3$, mag. props., 300 to 900K 9-28510
- $ThFe_3$, H induced change from supercond. to mag. ordered state 9-28525
- $Tm_2(WO_4)_3$, mag. props., 300 to 900K 9-28510
- UIG, Ga-substituted, computer simulation of temp. and field depend. of sublattice magnetisation and spin-flip transition 9-11300
- $V_2Cr_{1-x}S_x$, elec. and mag. props. 9-28523
- $Y_{2+x}Cr_{1-x}O_7-2x$ single crystal, magnetocrystalline anisotropy 9-38320
- $Y(Fe_2Al_{1-x}O_2)_3$, mag. props. 9-38308
- $YFe_{1-x}Ga_xO_3$, zone refined, exam. of Curie point and magnetisation 9-4673
- YIG, substituted, effect of electron bombardment on mag. and elec. props. 9-42103
- $Yb_2(WO_4)_3$, mag. props., 300 to 900K 9-28510
- Zr-Co-Ga alloy, mag. susceptibility in phases of structural type Th_6Mn_{17} (*Russian*) 9-24130
- curium
- see also* nuclei with
solar nebula, Th, U, Pu and Cm condensation and fractionation 9-35154
- ^{247}Cm , $A=242, 244$, in English Channel, transfer into S.North Sea 9-48519
- ^{247}Cm , K-shell fluorescence yields from Auger electrons and X-rays, precision meas. 9-31462
- curium compounds
- CmO and CmO_2 , electronic struct. and chem. bonding and XPS line shape calcs. 9-33264
- current (electric) *see* electric current
- current algebra
- see also* elementary particle theory; hadron current; light cones; quantum field theory
- axial meson exchange currents and hard pions in nuclear physics 9-40854
- axial vector anomaly, uniqueness 9-35965
- charged current ν and $\bar{\nu}$ interactions, hadron prod. at high energy, quark parton model 9-36058
- charged current neutrino physics with Gargamelle bubble chamber, bootstrapping 9-30728
- charged current neutrino physics with Gargamelle bubble chamber, bootstrapping 9-30728
- chiral solutions and current algebra 9-40680
- conserved opposite parity currents, coupling to single vector field 9-21990
- current conservation in perturbative sine-Gordon and massive Thirring models 9-9273
- deuteron, current conservation and off-shell effects with arbitrary interaction 9-45183
- extended partially conserved axial vector current hypothesis, Dashen mass formula, $\eta \rightarrow 3\pi$ 9-289
- g_0^0 model, supersymmetric, massive and massless, renormalised supercurrent and anomalies 9-6267
- Gamow-Teller matrix element, axial currents in nuclei, quenching mechanism 9-17859
- generalised Federbush model, current definition, perturbation calcs., gauge transformations 9-6297
- hadron-hadron weak interactions, right handed currents effects in QCD 9-13016
- hadronic EM current, short distance scaling, $R(s)$ behaviour as $s \rightarrow \infty$ 9-22095
- hierarchy in asymptotic reconstruction of spontaneously broken isotopic symmetry (*Russian*) 9-2968
- high energy neutrino experiments, state of art 9-26322
- high energy neutrino interactions, quark parton model anal. 9-30730
- high energy neutrino-hadron collisions, dilepton mass spectrum, V-A and Weinberg interaction calcs. 9-3010
- left-right symmetric gauge models, $SU(2)_L \times SU(2)_R \times U(1)_L \times U(1)_R$ weak currents, Z^0 prod. and mass 9-253
- massless gauge theories, supersymmetric extension, supercurrent construction principle 9-40664
- muon capture, axial current role, possible solns. conserved isovector current hypothesis 9-26401
- $N=2$ extended supersymmetry, Noether current multiplets, extended supergravity 9-40438
- N-flavour quark model, axial-vector current anomaly, decay constants and $\eta-\eta'$ problem 9-13045
- non-Abelian gauge theory in a nonlinear gauge, charged current description 9-12937
- nonleptonic interactions, enhancement and suppression factors for left handed current, K decay 9-385
- nonleptonic weak Hamiltonian, current \times current theory, $SU(4)$ representations 9-17666
- parity violating currents in rotating thermal radiation 9-17633
- partial conservation of axial-vector current, dynamical theory, and dispersion relations 9-35966
- partially conserved axial vector currents, corrections, light-plane commutators, sum rules, meson decay 9-304

current algebra continued

perturbation theory of currents and continuous symmetry restoration in two dims. 9-21910
pion condensation in neutron matter: effects of pion-nucleon scattering 9-26388
pion-nucleus coupling constants, deduction using PCAC 9-40855
quark geometrodynamics, baryon struct., current and meson couplings 9-6320
representation in ultralocal quantum field theory model 9-6288
semileptonic weak and EM interactions, nuclear current operators 9-6515
short-distance and light-cone expansions for products of currents 9-17638
single pion production in antineutrino induced charged current interactions 9-36063
soft pion theorem, appl. to currents in nuclear forces and matter. 9-26377
string in static field, conservation laws 9-21969
SU(4)×SU(4) chiral symmetry breaking, axial vector current divergences, kaon PCAC 9-45032
Thirring model with SU_n symmetry, scale invariance 9-9288
topological setting for axial anomalies and index theorems on open spaces 9-303
trace and axial vector anomalies, for spin 3/2 Majorana field, derivation using zeta function regularisation procedure 9-2700
D⁺→K⁺π⁺ strong signal, (t̄s)_R current implications 9-36070
e/μ charged current ν(ν̄) interaction comparison in Ne-H₂ mixture, μ-e universality 9-9363
e⁺e⁻→π⁺π⁻π⁺π⁻ cross section, current algebra calc., props. of hadronic axial vector current 9-17742
eN→eπ_s+X, test of soft-pion theorem in inclusive pion electroprod. 9-17739
η→ηππ, current algebra calcs. with symmetry breaking, inconsistency with expt. 9-13114
K nonleptonic decays, without dynamics enhancement (*Russian*) 9-30733
K→π⁰π⁰, contrib. of 2nd. class currents to nonleptonic decay 9-13117
K⁺π⁻→K⁰π⁰, amplitude calc. for soft pion emission, using PCAC 9-13153
μp charged current interactions, hadron production, quark-parton model comparison 9-40769
NN̄ amplitudes, weak, sum rules and theoretical description nonleptonic hyperon decays 9-17663
ν-nucleus charged current interactions 9-22275
N→νNππ, neutral-current cross sections for double-pion production by neutrinos 9-17712
pn→nKA, field current relations (*Chinese*) 9-22126
πK scatt. and related processes (*German*) 9-30750
π⁺π⁻→e⁺e⁻n, induced pseudoscalar nucleon form factor, current algebra framework 9-22131
τ→3π or 5π, decay rate using current algebra and PCAC 9-3062
τ→3πμ decay, current algebra calcs. 9-30764
τ⁺→ν_μρ⁰π⁺, possibility of observing A₁ meson current algebra anal. 9-13176
⁸Be isovector radiative decay, observed vector and second class current theory test 9-6488
Bi vector charge, SU(2)×U(1) model anal. 9-26281
²⁰F, β-γ directional correlation meas., search for second class currents 9-13245
²⁰F decay, β-γ ang. correlation, second class current contrib. 9-22236
²⁰F→²⁰Ne+e⁻+ν_e, CVC test in 2⁺→2⁺ transitions 9-6514
²H(μ⁺, ν)2n, hard pions and axial meson exchange current effects 9-40906
³H ν-decay, ρ exchange current, weak axial vector current low energy theorem 9-40886
²⁰Na, β-γ directional correlation meas., search for second class currents 9-13245

current control, electric *see electric current control*

current density

see also critical current density (superconductivity); electron density
Bitter solenoid efficiency factor, allowance for cooling holes 9-30502
nonferromagnetic solid eddy currents, three-dimensional calc. (*French*) 9-41301
one-band approximation, current density under high elec. field 9-28352
photoconductive insulators, interdigital electrode method, current density and arrival time 9-33308
plasma arc heating, equilib. in gas-melt system (*Russian*) 9-37512
ultracold neutron storage ring supercond. magnet design 9-31266
ultrathin-coil supercond. solenoids for high-energy accelerators and storage rings 9-31260
Cu electrocrystallisation from CuSO₄ solns., current density under stationary surface diffusion (*Russian*) 9-8237
Cu electrocrystallisation from CuSO₄ solns., current density/overvoltage curves (*Russian*) 9-8236
Cu electrocrystallisation from CuSO₄ solns., expt. and slow surface diffusion theory (*Russian*) 9-11505
Cu, electrodeposition from cyanide solns., interaction with 2-butyne-1,4, obs. (*Russian*) 9-47936
HgI₂, single cryst. elec. and thermal props. 9-11111
Na-S cells, factors affecting S electrode operation 9-29463

current distribution

see also current density
30 T pulsed solenoid construction and life tests 9-31297
Bitter solenoid efficiency factor, allowance for cooling holes 9-30502
crystal with coplanar electrodes, potential and current distribution 9-33341
eddy current transient, in plate of finite thickness, due to coil of arbitrary shape (*German*) 9-27129
electrode, disc type, current distrib., analogue model investig. 9-34321
multifilamentary composite superconductor transport current distrib. 9-30505
pulsed corona meas. in coaxial electrode structures 9-19114
semimetal, by diffusion size effect 9-23987
Tokamak machine with iron cct., flux mapping and current distrib. 9-41866
W electrochemical treatment, current distrib. and metal throughput (*Russian*) 9-15849

current fluctuations

see also noise

VO₂, single crystal, fluctuations of current and switching time 9-38137

current limiters

see limiters

current measurement, electric

see electric current measurement

current-mode logic

see transients

see current algebra

curvature measurement

radiotelescope, surface meas. with two feeds 9-12403
shape meas., space-time optics 9-6093

curvature of field

see aberrations

curve fitting

activation analysis, low-energy photon spectra, nonlinear least-squares fitting program 9-1987
chromosome density profiles, description and classification 9-43830
empirical relationships for random self-avoiding walks on lattices 9-9190
experimental curves, information content, deconvolution using apparatus functions 9-40354
exponential clipped photon autocorrel. spectra, data anal. 9-2837
gamma spectra, accelerated fitting and nuclide identification by graphical and associative memory methods 9-9945
halftone or line printing, Yule-Nielsen curve fitting parameter 9-13906
least squares criterion, with reference to exponentials and Arrhenius plots 9-17200
malignant melanoma, relationship between total dose, fraction number, fraction size 9-5341
program on KIM-1 using FOCAL 9-35693
radiographic screen-film system, determination of charact. curve and its gradient 9-5362
restricted range adaptive curve fitting 9-30214
single-mode obs. distributions, invalid data rejection algorithm (*Russian*) 9-21690
X-ray spectra, energy-dispersive detector, simplex method for fitting Gaussian profiles 9-722

cutting

see also machine tools; machining

biological specimens, cryosectioning for X-ray microanal. 9-39626
blood cells, red, human, frozen section prep. for electron probe anal., fracturing or cutting 9-39625
cemented carbide tools coated with HfN and TiC, machining evaluation 9-29253
corneal mechanised trepan control 9-29659
fibre-optic waveguide, flat-surface ends preparation, using handheld tool 9-37062
glass, with conc. energy sources (*Russian*) 9-38994
irradiated stainless steel tube high-speed slitting machine 9-9210
metal, friction heating during cutting 9-39055
metals, submicroscopic surface relief after finishing 9-29276
metals and alloys, ferrous and non-ferrous improved plasma torch design 9-8401
reactor components and vessels, underwater plasma arc and explosive cutting 9-9922
rubber, cutting resistance measurement in absence of friction 9-5035
shearing process, basal section profile effect 9-47754
spherical optical component, cutting process for coarse grinding, optimisation 9-32103
steel, grinding, effect of hardness, texture, and bond of grinding wheel, temp. effect (*German*) 9-43459
steel, high speed, hardened, for drills, mech. and cutting props. 9-43407
steel, machining, adhesion mechanism of built-up edge and layer on rake face of cutting tool 9-47784
steel, medium C, drilling in liq. Sn-Zn eutectic, cutting conditions rel. to tool parameters (*Russian*) 9-34187
steel, tool, cutting blades, heat treatment in fluidised bed, hardening 9-20087
steel austenitic stainless, cold working type, heat treated, tool wear during cutting 9-47782
Al, cutting mechanism, anisotropy effects 9-11760
Al single crystals, crystal orientation effect on their cutting mechanism 9-34193
Fe-Si (3.25 wt.%), single crystals and polycrystals, cutting surface texture 9-20291
Pb-Sn superplastic alloy, cutting, stress distrib. (*German*) 9-24682

CVD *see chemical vapour deposition*

CVD coatings

optical fibres having surface compression, fatigue characts. 9-46064
graphite, CVD anisotropic thick hollow cylinder, residual stress due to uniform cooldown 9-42423
metallurgical coatings, conf., San Francisco, USA, April 1978 9-15052
optical fibre preform diagnostics, nondestructive noncontacting method 9-27376
oxide, distributed fixed charge elimination using HCl 9-42661
Al_{0.5}Ga_{0.5}As, metalorganic-CVD, photopumped laser operation meas. GaAs quantum well 9-10303
Al_{0.5}Ga_{0.5}As-GaAs quantum-well heterostructure laser, metalorganic CVD growth, CW operation 300 to 337K 9-10304
BP coatings, on Mo by CVD and their composition and microhardness 9-28942
GaAs, CVD on W coated graphite, characterisation, and Schottky barrier solar cell characts. 9-28930
In₂O₃/Sn, transparent conducting films, prep. by InCl₃ thermal decomp., transmittance, resistivity 9-33944
p-InP film growth, by close space vapour transport 9-28944
Mo film, CVD, passivating against IR reflectance losses caused by oxidation 9-3758
MoSe₃, lubricant, synthesis by Mo+Se vapour reaction, process kinetics 9-33942
Nb-Ge-Sn A15 cpds., CVD, superconductivity 9-38222
Nb-Si compounds, CVD, struct. and supercond. props. 9-24447
Nb₃(Ge, X), X=Si, Ga, CVD tapes, supercond. props. at high mag. fields 9-38279
Nb₃Ge CVD supercond. tape critical current anisotropy obs. 9-33372
Nb₃Ge CVD tapes, supercond. props. at high mag. fields 9-38279
Nb₃Ge films, correl. between crit. current density and microstruct. 9-38277
Nb₃Ge tape conductors, strain depend. of crit. current density 9-38278
Nb₃Ge_{1-x}Ga_x CVD films, supercond. transition temp. depend. on lattice parameter 9-38219
Nb₃Ge_{1-x}Ga_x(Sn_y) CVD films, supercond. props., 4.2 to 19K 9-42713
Ni-P alloy, amorphous, NMR expts. and interpretation 9-8060
Si, CVD film, transport props. 9-24089
Si, epitaxial layers, cryst. quality improvement by ion implantation, backscatt. and TEM obs. 9-42397
Si:B, polycryst., effect of laser annealing on struct. and elec. props. 9-11243

CVD coatings continued

- Si:B amorphous film, EPR, elec. and optical props. 9-4558
 Si:P, amorphous, CVD, substitutional doping, electronic props. 9-23923
 Si:P amorphous films, doping and annealing effects on localized states, ESR meas. 9-38380
 Si-C amorphous wear-resistant coating 9-34165
 SiC, CVD anisotropic thick hollow cylinder, residual stress due to uniform cooldown 9-42423
 SiC pyrolytic coatings for HTGR fuel particles, props. rel. to deposition conditions 9-31088
 Si₃N₄ film, H₂ concentration profile, chem. bonding 9-33205
 Si₃N₄ film, in MNOS struct., mechanical stress and elec. props. as function of nitride deposition temp. 9-42651
 Si₃N₄ films, plasma deposited over substrate steps, fast etching phenomenon 9-34168
 Si₃N₄ films grown by pyrolytic reaction between silane and ammonia, DC cond. 9-15243
 Si₃N₄ non-stoichiometric films, struct. 9-42412
 Si₃N₄ pyrolytically-deposited, engng. significance 9-38746
 Si₃O₂N₄ non-stoichiometric films, struct. 9-42412
 SnO₂/Si₃N₄, X=Fe,Cu,S, CVD thin film, resist. temp. coeff. 9-38198
 TiB₂, prep. by CVD and interaction with substrate 9-24680
 TiC, CVD and activated reactive evaporation on WC-TiC-Ta(Nb)C-Co, substrate-layer interactions, AES obs. 9-24679
 TiC hard coating on Co, effect of martensitic transform. in substrate causing cracks 9-29060
 ZnS, CVD sample, refractive index var. with temp., 22° and 34°C 9-14053
 ZnSe, RF bias-sputtered CVD films on CaF₂ 9-14060

CVD epitaxial growth *see vapour phase epitaxial growth***CVD thin films** *see CVD coatings***cyanogen, C₂N₂** *see carbon compounds***cyclopentadienylides** *see organometallic compounds***cyclotron resonance**

- for ion cyclotron resonance spectroscopy see mass spectroscopy; for ion cyclotron resonance heating see plasma heating*
see also diamagnetism; dopplers
 Alcator Tokamak submillimetric-wave emission obs. 9-32816
 charged particle beam, instability normal to beam (Russian) 9-13883
 electrical conduction in metals, neutral and charged impurity scattering, Matthiessen's rule 9-47081
 electron-phonon system, two-dimensional cyclotron resonance lineshape, quantum theory 9-47336
 frequency up-shift for cyclotron-wave instability on a relativistic electron beam 9-22883
 gyrotron efficiency, CW and pulsed power achievements 9-31849
 helical electron beams, extended and intense with space-charge forces, trajectory anal. (Russian) 9-918
 magnetic mirror, cyclotron and betatron oscils. in mag. mirror with RF field, cyclic accelerator theory 9-41051
 maser, theory of solid-state device 9-41361
 maser with high current relativistic electron beam 9-13942
 metal, isotropic Fermi surface, cond. tensor calc., cyclotron waves 9-42528
 metal surface cleaning, by electron cyclotron resonance plasma of H 9-47821
 metals, quantum oscillation effects in weak mag. field (Russian) 9-11105
 model interface in transverse mag. field 9-4726
 plasma, electron beam space charge wave in mag. field, cyclotron damping 9-46459
 PLT Tokamak cyclotron radiation Fourier transform spectral analysis 9-32815
 retardation effects, microwave freqs., electron relaxation time 9-42839
 retarded, effect of electron-phonon coupling (Russian) 9-8051
 semiconductor, phonon-assisted cyclotron reson., single and two-phonon pinning, review 9-15356
 semiconductor submillimetric-wave spectroscopy 9-33221
 semiconductors, cyclotron reson. fine struct. (Russian) 9-4727
 sound transmission by electrons in conditions of resonant interaction (Russian) 9-7774
 surface impedance under nonresonant conditions, background signal in cyclotron resonance 9-38383
 synchrotrons, accelerated particle resonances, perturbation treatment in classical dynamics 9-22506
 Tokamak electron cyclotron emission spectrometry by plasma-scanned Michelson interferometer 9-32814
 transverse dynamic magnetoresistance and cyclotron reson. damping 9-4576
 turbulence effects in the cyclotron resonance of monochromatic whistlers 9-16759
 two dimensional electron-impurity system, theory of transverse dynamic magneto-conductivity 9-38105
 two-dimensional CDWs, pinning and cond. in mag. fields 9-42610
 Bi, hole relaxation time, temp. depend. 9-47108
 n-Bi_{1-x}Sb_x, determ. carrier dispersion relation parameters 9-38107
 Cd, Azbel-Kaner high freq. reson., electron phonon interaction meas. 9-11056
 Cu, metal surface cleaning, by electron cyclotron resonance plasma of hydrogen 9-47822
 n-GaAs tunable far IR Landau emission with subnanosecond rise time 9-32015
 Ge, magnetoplasma reson. spectra, electron-hole drop shape effects 9-1712
 Hg_{1-x}Cd_xTe, far IR cyclotron reson., band edge effective mass and relax. time 9-19781
 In, US wave polarisation plane and ellipticity rot. in mag. field, Doppler shifted acoustic cyclotron reson. (Russian) 9-15335
 n-InSb, frequency shift of combined resonance, influence of plasma oscils. of conduction electrons 9-7850
 p-InSb, oscils. of microwave photocond. and cyclotron reson. of photoelectrons 9-28377
 n-InSb tunable far IR Landau emission with subnanosecond rise time 9-32015
 K, microwave transmission modes at cryogenic temps. 9-42473
 LaAl₂, magnetoresist. and de Haas-van Alphen effect, Fermi surface model 9-15069
 NO₂, electron attachment, ECR obs. (German) 9-10201
 Na, microwave transmission modes at cryogenic temps. 9-42473
 Nb, high frequency cyclotron resonance study 9-11057

cyclotron resonance continued

- Pb, plastically bent, effect of dislocations on electron relax. time, cyclotron reson. 9-24217
 PbI₂ (2H), electronic transport and cyclotron reson. 9-28369
 PbTe, ion implanted, magneto-optical expts. (German) 9-28848
 Rb, Landau Fermi-liquid-theory parameters, conduction-electron spin wave meas. 9-42472
 Rb, microwave transmission modes at cryogenic temps. 9-42473
 Si, inversion layer, magnetoplasma reson. lineshape theory 9-1615
 W, Doppler-shifted cyclotron reson. along nonprincipal cryst. direction (Russian) 9-4725

cyclotrons

- see also microtrons; synchrocyclotrons*
 cyclotron magnet 1:6 model construction and operating experience 9-31261
 fast neutron therapy history 9-20634
 fast neutron therapy with medical cyclotron, clinical results 9-20643
 heavy ion accelerator magnet configuration and construction technology 9-31264
 heavy ion national accelerator Ganil, principle and expected performance (French) 9-696
 ion beam in IPCR cyclotron, turn separation and v_z meas. (Japanese) 9-13566
 isochronous 150 cm cyclotron at I.V. Kurchatov Atomic Energy Institute, principal parameters 9-45488
 isochronous cyclotron, energy variation, microcomputer control 9-13565
 isochronous cyclotron sector magnet field calc., integral eqn. method 9-41053
 neutron radiation therapy, cyclotron biological intercomparisons 9-20589
 neutron radiotherapeutic source developments at Cyclotron Corporation 9-20651
 omegatron, characts. dependences (Czech) 9-41049
 ORIC, Holifield Heavy Ion Research Facility, current status 9-45485
 Oslo University, 35 MeV, nuclear physics prospects (Norwegian) 9-31242
 radioisotope dating with cyclotrons 9-34990
 superconducting cyclotron neutron source for radiotherapy 9-20655
 therapeutic proton and heavy ion source capabilities 9-20629
¹⁴C beam prod. from natural sample, radioactive dating 9-25352
¹⁴C dating of CO₂ sample with accelerator, blind meas. 9-25362
 Mo, activation in cyclotron by p, d, α, ³He 9-30839
 W, activation in cyclotron by p, d, α, ³He 9-30839

Czochralski method *see crystal growth from melt***D-layer** *see D-region***D mesons**

- ¹D₂ level, charmonium model with relativistic corrections calcs. 9-13124
 Cabibbo angle universality and association with K, π and D meson masses 9-12974
 charmed meson prod. from ψ(4.0 to 4.5 GeV) decay 9-17719
 charmed meson spectra from effective quark-quark interaction, D⁰ masses 9-36018
 EM mass differences, one gluon exchange contrib. 9-3024
 hadronic collisions, production of D- and ψ-mesons, QCD calc. (Russian) 9-9348
 heavy quark system prod. in QCD, duality predictions 9-13074
 nonleptonic decay, matrix element computation and iteration 9-384
 nonleptonic decays of charmed mesons and chiral Lagrangians (Russian) 9-30732
 overlapping resonances with variable channel struct., ψ prod. 9-22118
 valance quark distrib. in π, K, D, Regge trajectories, SU(3), SU(4) breaking 9-30703
 D(1285)-δ(975)π D meson spin parity determ. 9-3052
 D-ηππ, D meson spin parity determ. by partial wave analysis 9-3052
 D-KKπ, D meson spin parity determ. 9-3052
 D-πππ, S₃ permutation group approach, charm model test 9-17723
 D⁰-K⁰ρ⁺ strong signal, (C₃)_R current implications 9-36070
 D⁺-π⁺π⁺K⁺, contradiction in uniformly populated Dalitz plot 9-17724
 D⁺-D⁰ mass difference, form factors, SU(4) coupling, vector meson dominance model 9-391
³D₁-charmonium decay into eē and relativistic effects of constituent quarks 9-3017
 D*-D, F*-F, pseudoscalar-vector mass differences, QCD nonrelativistic quark model 9-6339
 DD production in large p_T hadronic collisions, eμ and eK correlation study 9-40772
 pp 12 GeV/c search for D, D* and λ_c charmed particles, charmed pp prod. 9-426
 pp interactions, charmed D⁺ prod., total cross section, D⁺-K⁰π⁰ observation 9-36102
 π-Bc, associative production of D⁰ mesons, with muons 55 GeV/c (Russian) 9-3060
 π⁻Bc-D⁰D⁰X, pair production at 55 GeV/c (Russian) 9-3059
 π⁻p-ηπ⁺π⁻n, axial vector and pseudoscalar resonances near 1.275 GeV D mesons 9-30747
 π⁻p-K⁺K⁺π⁰n, D, E, and δ mesons, obs. at 12 and 15 GeV/c 9-9410
 π⁻p-K⁺K⁺π⁰n, D, E, and δ mesons obs. at 12 and 15 GeV/c 9-3052
 π⁻p-π⁺π⁺π⁺π⁻n, D, E, and δ mesons obs. at 12 and 15 GeV/c 9-3052

D-region

- baylike disturbance of mid-latit. D-region, energetic particles precipitating 9-12333
 electron densities, low- and mid-latitude, derived from ground-based radio data, comparison 9-44302
 electron density and composition, theoretical positive ion chemistry scheme 9-40007
 electron density at Saskatoon, Canada, time vars. compared with winter vars. 9-25389
 electron density during winter anomaly, temp. and NO density vars. effect 9-21087
 electron density profiles from gyrowave interaction expt., error analysis 9-5705
 ion composition models, unified reaction scheme 9-5704
 ionisation effects from cosmic X-ray sources 9-35048
 ionisation measurements, rel. to mesosphere, NO conc. geomag. control 9-8651
 metallic species, chemistry, problems 9-35035
 negative ions, effect on Thomas scatt. in presence of electron heating 9-16739
 observations and chemistry, recent advances 9-8751
 polar electron density profiles during solar proton event, from VLF reflection height vars. 9-8764

D-region continued

recombination coeffs. for normal and winter anomalous days 9-35042
VLF signal phase and amplitude vars. over transequatorial path, Australia-New Delhi 9-5703
winds at Saskatoon, Canada, time vars. compared with electron density vars. 9-25389

D/A conversion *see digital-analogue conversion***damage, radiation** *see radiation effects***damping** *see dams*

damping *see also dislocation damping; internal friction*
accelerometer, piezoelectric impact, effect of damping on dynamic error 9-30435
acoustic waveguides, damping of normal and surface waves, depend. of vel. on losses 9-14135
active damping of vibrations in elastic systems with distributed parameters, active stabilisation (*Russian*) 9-27577
air-water interface, surface waves damping rel. to adsorpt. and spreading films detect. 9-5690
anti-vibration systems, Fick boundary value problem soln. (*Russian*) 9-35540
atom, coherent transients, spherical tensor treatment 9-26940
cello, wolf tone damping (*German*) 9-18633
cellulose film, meas. of shear modulus and damping in a torsion pendulum 9-4989
classical damped motion, role played by trajectory in Fokker-Planck solns. (*French*) 9-30347
coated beam method, error anal. in investig. complex modulus of viscoelastic materials 9-27565
conducting cylinder motion in solenoid field, contactless elec. cond. meas. (*Russian*) 9-214
critical damping of simple-harmonic motion, for teachers 9-17
crossply glass/fibre, cantilever beams, nonlinear damping for nonsinusoidal strain 9-47762
damped linear systems, freely vibrating, eigenvalue lower bounds 9-27569
damped linear systems, vibr. 9-18790
discharge, pulsed, density perturbations, laser beam diagnostics 9-7498
elastic strips, flexural vibrations, active suppression 9-32354
elastic-viscoelastic-elastic beams, compressional damping in vibratory response 9-32323
fibre reinforced silicone rubber composites, interfacial slip and damping 9-5010
force and strain meas., spring-mass-damping system, dynamic errors (*German*) 9-12794
forced vibration of a damped linear system 9-18789
general beam systems, optimal dynamic vibration absorbers 9-23255
Gentalloy, in Fe-W system, damping capacity (*Japanese*) 9-20094
harmonic oscillator, quantization of inequivalent classical Hamiltonians, for teaching 9-35466
Hauger column critical load in presence of damping (*French*) 9-14291
highly excited harmonic oscillator in crystal, damping 9-40408
linear mechanical systems, dynamic vibration absorbers for impulsive excitations 9-23271
linear models of frequency-independent internal friction (*Russian*) 9-18834
loudspeaker units, behaviour of damping materials (*Spanish*) 9-46146
nonlinear dynamic damper, subharmonic oscillation extinction 9-25835
oscillators, with nonlinear damping, first passage failure time anal. 9-6053
paper, meas. of shear modulus and damping in a torsion pendulum 9-4989
passive acoustic antivibrators for vibration absorpt. 9-23269
pendulum, Foucault type, 10 m long, characts. (*Korean*) 9-21541
pendulum oscillation optimal passive suppression (*Russian*) 9-10454
plasma, electron beam space charge wave in mag. field, cyclotron damping 9-46459
plasma filled waveguide, electron beam interaction, spatial evolution of complex EM modes, collision effects 9-14556
plastic material specimens, free oscillation attenuation constant meas. (*Czech*) 9-41634
plates, active vibration suppression 9-23125
polyethylene, low density, meas. of shear modulus and damping in a torsion pendulum 9-4989
polymer, viscoelastic, microrelax. model for moment effects interpret. 9-20098
proportionally damped dynamic systems, eigenvalues (*German*) 9-21540
rubber hydrochloride, meas. of shear modulus and damping in a torsion pendulum 9-4989
shape modes in damped systems 9-44715
shock absorbers, telescopic, dynamical force measurement (*German*) 9-35732
steel, ferritic, MA 956, oxide dispersion strengthened, mech. props. and damping behaviour 9-47702
steel, fully annealed tool, cantilever beams, nonlinear damping for nonsinusoidal strain 9-47762
steel, low C, microplasticity at high and low loading freq. (*Slovak*) 9-38910
structural fatigue life rel. to element uncertainty 9-27593
thin infinite cylindrical shells, active vibration suppression 9-18797
transmission line aeolian vibrations, effect of 4R dampers 9-23259
transmission line vibrations, effects of Stockbridge type dampers 9-14323
turbomachine cascade wing profile oscills., aerodynamic damping, ang. of attack influence 9-37344
vibration absorbing coating, cut constraining layer effectiveness 9-32130
vibration excitation method in damping meas., equipment 9-1928
vibrations in one degree of freedom system (*German*) 9-32369
viscoelastic body eigenfrequency determ., finite element method (*German*) 9-23270
viscoelastic materials, design evaluation of damping treatments 9-18799
Al, cantilever beams, nonlinear damping for nonsinusoidal strain 9-47762
Al, plastically prestrained, dynamic props. 9-15743
Cr, anomalous US damping under hydrostatic press. 9-14890
Fe, damping during and after deformation 9-43344
Mo, anomalous US damping under hydrostatic press. 9-14890
ZN, anomalous US damping under hydrostatic press. 9-14890

dams

see also civil engineering; hydroelectric power stations
dynamic dam utilising ocean and river currents and tidal power 9-20865
Lake Oroville, reservoir-induced pore pressure and seismic activity 9-2190

dark space *see discharges (electric)***data acquisition**

see also CAMAC; data handling; data processing; indicators; recorders
acoustic data buoy, microprocessor controlled, underwater signals processing 9-21024
AES, digital acquisition and processing 9-43698
analogue signals, fast, simultaneous recording using multichannel system 9-26045
application node system image manager subsystem within distributed function laboratory computer system 9-45606
artificial heart experiments with animals, data acquisition and monitoring system (*German*) 9-8582
Auger electron spectrometer, control using HP 9845 desktop computer 9-21726
automated multichannel data and meas. system type MIIS-1, for transducer data 9-2754
BEBEC, performance of external muon identifier, MWPC electronics and data handling 9-730
body surface and epicardial activity, computer-aided meas. system 9-39551
body surface ECG potential mapping, data acquisition system 9-29653
composite materials, thermographic technique, for examining damage extent 9-43540
conference on nuclear power systems, Washington, USA (1978) 9-41045
cytological preparation evaluation, optical preliminary data reduction (*German*) 9-5392
Daresbury Laboratory automated magnet field meas. facility 9-30509
deformation, cyclic, static, meas., recording, automatic system 9-15893
digital, for computerized ultrasound imaging studies 9-39454
dilution refrigerator for low temperature nuclear orientation experiments on line to an isotope separator 9-752
directional wave spectra meas. from fixed platforms 9-16724
discus buoy wave spectra, comparison of buoy-fixed and vertically stabilised accelerometers 9-5678
ECG surface mapping, gradient and potential data acquisition system 9-39555
electron probe anal., energy dispersive/wavelength dispersive combined X-ray system, automated control 9-43705
empirical relationships for random self-avoiding walks on lattices 9-9190
environmental, Geostationary Operational Environmental Satellite 9-29977
environmental data acquisition systems, SMART-I and CLEVER COUNTER 9-48196
environmental obs. from space based systems, present and future 9-5657
event handler, a fast, programmable, CAMAC-coupled data acquisition interface 9-45608
fast event recorder utilizing a CCD analog shift register 9-45578
geophysics, digital signal processing appls. to seismology 9-29915
Global Weather Experiment, communications and data management system 9-5620
Graphic Interactive System for Processing of Electrocardiographic Maps 9-39552
ground data, remotely sensed, developing countries appl. 9-34963
hardness testing, depth of impression meas., automated 9-15892
hodoscope read-out, fast sparse-data-scan system using CAMAC compatible elements 9-45609
hybrid pulse pile-up rejection system, Rutherford backscatt. appl. 9-2884
hydrophones, towed, location, data acquisition system 9-2401
IBM 3630 modular data acquisition and communication system for industrial production (*German*) 9-30438
KEKNET, a high speed on-line network for high energy physics 9-36493
Knudsen cell quadrupole mass spectrometer, high temp., control and data acquisition, system 9-26171
linked controllers and index-tabled techniques for data storage and rapid retrieval 9-9983
Los Alamos P-9 accelerator facility, CAMAC data acquisition system 9-45607
Macsym One, automated measurement and control system based on 'real world' signals 9-17402
magnetic large aperture spectrometer for the study of multibody photoproduction in the incident energy range 1-5 GeV 9-715
marine environment test range semi-automatic data recording and monitoring (SADRAM) system 9-39993
marine waste disposal information reliability 9-12275
micro-based, low cost, system, developed in Vienna 9-44905
microcomputer based ocean observation system 9-16677
microprocessor controlled dual parameter ADC system with CAMAC interface 9-3337
microprocessor-based, programmable laboratory equipment controller and data acquisition system 9-6104
microprocessor-based data acquisition systems, data compression 9-12270
microprocessor-based for surveying data acquisition and processing 9-29913
microscope photometry, on-line data collection and processing for solids, fossils and organic matter (*German*) 9-26101
moire fringe data handling system, industrial lab. appl. 9-30523
Mossbauer CAMAC data acquisition system 9-30439
multi-parameter distributed processing data acquisition, display, and on-line analysis system 9-45612
muscle contraction, time resolved studies using small angle X-ray diffr., design of data collection system 9-12052
MWPC, nondestructive readout system 9-3315
neutron detector, expt. control and data acquisition system 9-45589
nuclear data acquisition real time flexible processing software 9-36495
nuclear physics data acquisition with UNIX time-sharing system 9-41085
nuclear power stations, computer control systems for data acquisition and process control 9-22426
ocean data collection, drifting buoys appl. 9-5668
ocean sediment geotechnical prop. determ. instrumentation problems 9-12304
ocean test structure for wave force meas., improved platform design [Ocean Test Structure] 9-12306
ocean wave directional spectra, from discus buoy, data processing 9-16723
ocean wave directional spectra, routine meas. system, from discus buoys 9-16722
ocean wave directional spectra monitoring horizontal-spar buoy, design 9-21083
ocean waves and currents on Norwegian continental shelf 9-12120

data acquisition continued

- oceanographic buoys, electronics and telemetry developments 9-5659
- oceanographic data acquisition and processing system, microprocessor based, real-time 9-16676
- oceanographic data requirements for coastal and offshore structure study 9-12272
- oceanographic integrated research ship, with data acquisition and processing systems 9-34969
- oceanographic measured data quantification 9-12274
- oceanographic monitoring stations in Arabian Gulf, computer control and data acquisition 9-8728
- oceanography, LANDSAT and SEASAT remote sensing 9-12309
- offshore environmental and platform data processing from Norwegian continental shelf 9-12273
- patient fluid management records system 9-25150
- photoelasticity techniques, extension into IR region 9-30443
- photolysis and radiolysis, kinetic data acquisition, and anal., by computer based system 9-39180
- prototype CCD system for the time projection chamber 9-45575
- pulse height analysers, CAMAC data acquisition interface 9-3336
- pulsed data A-D acquisition system 9-22572
- rapid CAMAC data handling in FORTRAN real time programs 9-45616
- recorders, rack-mounted and portable, state of art and appl. 9-40555
- remote sensing, sensors and detectors in NASA's future mission 9-5656
- satellite Anik 1 data collection development program, environmental data 9-39867
- satellite solar cells radiation damage obs., GaAs and Si 9-48134
- seafloor earthquake meas. system, acoustic telemetry 9-5689
- seismic data, broadband, digital recording and anal. at Graefenberg array 9-25348
- seismological data collection and anal., detect. of possible violations of Nuclear Test Ban Treaty 9-39919
- single-photon fluorimetry, time-correlated, data acquisition rate optimisation 9-20494
- tide gauging network, automated, data acquisition and telemetry 9-5692
- TREAT fast-neutron hodoscope, time and mass resolution of fuel motion, data acquisition system 9-41003
- USSR Hydrometeorological Service, automation of data collection and processing 9-34994
- weight data, computerised acquisition and processing methods' (German) 9-30437
- Woodward polarcardiographic service for ECG diagnosis improvement 9-39583
- X-ray photoelectron spectroscopy, quantitative, parameters, appls. 9-43697

data communication equipment

- see also data transmission equipment*
- IBM 3630 modular data acquisition and communication system for industrial production (German) 9-30438
- optical waveguide data bus system configurations 9-18544

data communication systems

- astronomical balloon-borne equipment, data communications 9-16793
- Farley Nuclear Plant Data Link System 9-9797
- fibre-optic data transmission, principle and methods 9-10393
- Finnish seismic array, data transmission, recording and handling 9-39917
- Global Weather Experiment, communications and data management system 9-5620
- interstellar probes, communications philosophy 9-21133
- multimode fibre communications, electro-optic multiplexer system 9-18510
- ocean bottom refraction seismograph, data telemetry to surface vessel 9-39892
- oceanographic monitoring stations in Arabian Gulf, data telemetering and anal. 9-8728
- offshore oceanographic buoy with new mooring design, antenna for satellite telemetry systems 9-5660
- optical, effect of fibre wall thickness (Spanish) 9-18543
- optical fibre data and telemetry links 9-27390
- Prestel, Post Office viewdata system, Meteorological Office participation 9-16675
- seismological data collection and anal., detect. of possible violations of Nuclear Test Ban Treaty 9-39919
- Seismological Service of Canada, instrumentation and data processing 9-39914
- Spacelab, high rate data handling in space and on ground, multiplexing system 9-21138
- Spacelab, payload data path from user input (on-board) to user output (laboratory) 9-21137
- waverider buoy GOES satellite relay system reporting 9-5663

data compression

- see also information theory*
- data acquisition systems, microprocessor-based, processing technique 9-12270
- ECG real time data compression, realisation techniques (Italian) 9-5389
- rhythm analysis, long-term ECG data storage and multipass scanning 9-39578
- spline approximation, input signal Fourier transform 9-35533

data conversion

- see also analogue-digital conversion; digital-analogue conversion*
- multispectral scanner data principal-axis transformation to colour composite picture 9-29879

data dictionaries *see database management systems***data handling**

- background spectral radiance and contrast in the 1.5 to 13 micrometer region 9-8694
- curve fitting program on KIM-1 using FOCAL 9-35693
- FASTBUS project, development status of high speed standard data bus 9-45605
- high speed top mounted bus, prototype crate and module system 9-45611
- stellar magnitude, colour index and position meas. from astronomical photographs, automated technique 9-21194
- weight data, computerised acquisition and processing methods (German) 9-30437
- Woodward polarcardiographic service for ECG diagnosis improvement 9-39583
- XRF and emission spectrometry, equipment developments 9-20486

data loggers

- cassette data recorder (Spanish) 9-30441
- chart-recorder time markers, using digital clock module 9-30446

data loggers continued

- digital, microprocessor-based, for radiation detectors 9-26848
- high speed photometer of Asiago Observatory, data logger and time base 9-25505
- laser pulse energy digital indicator (Russian) 9-22995
- minicomputerised pressure transducer data logging system (Russian) 9-6102
- noise level digital recording using programmable calculator 9-23130
- ocean digital survey fathometer, providing chart display and digital output 9-5665

data processing

- for computer applications see under relevant applications e.g. administrative data processing; computerised instrumentation; natural science computing*
- see also data handling; data reduction and analysis; management information systems*
- NDT, equipment for production line inspection 9-29320

data reduction and analysis

- see also data acquisition*
- aerodynamic tube, nonsteady heat transfer method 9-37147
- aeromagnetic anomaly from remanently magnetised Precambrian schists, Karnataka, India harmonic inversion 9-44094
- AES, anal. techniques 9-43691
- airborne gamma-ray spectrometry data processing using multivariable statistical analysis 9-35004
- airborne spectroradiometric data, and LANDSAT data, hydrothermal alteration mapping appl. 9-34973
- atmosphere satellite picture anal. 9-8713
- automated microprobe (French) 9-6237
- biomechanical data, mathematical function fitting 9-48278
- biomechanics film data, cost effective method using PLATO system 9-35873
- cardiopathological data reduction 9-39392
- CERN 2m HBC, automatic meas. of 12 GeV/c pp interactions 9-36471
- clouds and atm. phenomena, integrated automatic processing of obs. data 9-29907
- common depth point seismic profiles, arc-shaped line-ups nature analysis (Russian) 9-44134
- crystal nucleation growth rates, on-line meas., data reduction technique 9-38730
- cubic spline interpolation of unequally spaced data points 9-30210
- cytological preparation evaluation, optical preliminary data reduction (German) 9-5392
- data sets with jump discontinuities, interpolation method 9-30211
- Earth conductivities mapping via multifreq. airborne EM system, data interpretation 9-5446
- Earth conductivity, model for quantitative interpretation of towed-bird airborne EM system meas. 9-5447
- Earth crust stress changes, data reduction formulae for in situ monitoring 9-29884
- Earth dipole electrical soundings, perpendicular, numerical procedure for direct interpretation 9-34732
- Earth resistivity sounding, buried electrode data interpretation using layered Earth model 9-29701
- Earth vertical electric sounding curves, computer interpretation (Russian) 9-34741
- ECG, isopotential surface map data reduction 9-39557
- ECG waveform automatic processing using syntactic methods 9-44006
- EEG, centro-occipital power and asymmetry, preprocessing by factor analysis 9-43996
- effluent sampling programme data statistical evaluation 9-13547
- electron energy loss spectroscopy, anal. appl., processing requirements 9-43692
- electron linear accelerator, computer prediction and diagnosis of failure of systems 9-693
- electron microprobe, automation using microcomputer system, anal. appl. 9-43703
- electron probe anal., energy dispersive spectroscopy, quantitative, computer program 9-43689
- electron spectroscopy, deconvolution methods, review 9-26188
- energy dispersive X-ray spectra, anal., computer techniques 9-43690
- environmental samples anal. for U, Th, neutron activation anal. data resolution for high throughput system 9-11848
- experimental curves, information content, deconvolution using apparatus functions 9-40354
- experimental data anal. using digital filter 9-17403
- exponential clipped photon autocorrel. spectra, data anal. 9-2837
- films electrophysical properties meas., using automatic recording and exp. data analysis 9-17446
- fitting data to dimensionless groups 9-40545
- flow, gas-liq., hot-film anemometer signal anal. method 9-32639
- fluidised glass ballotin-packed fixed bed, at low/intermediate Reynolds nos. 9-1244
- gamma-ray spectrometry, data analysis, theoretical foundations 9-233
- gas chromatography-mass spectrometry integrated anal. systems, review 9-1972
- geodesy, systematic errors detect. by hypothesis tests using adjustment in sections (German) 9-44083
- geomagnetic anomalies, spectral anal. of step model total anomalies 9-5450
- geomagnetic anomaly interpretation, bidimensional inhomogeneous problem soln. via Cauchy integrals (Russian) 9-35013
- geomagnetic array data, empirical transfer functions for tectonomagnetic event detect. 9-16374
- geomagnetic measurements and data processing, new methods 9-39988
- geomagnetic $V_{ZZ}(V_{\Delta}, Z_p)$ anomalies over stratified bodies, interpolation, analytic method (Russian) 9-39968
- geophysical acoustic logging, signals limited spectrum rel. to time interval and damping determ. accuracy (Russian) 9-39971
- geophysical data, upward and downward continuation as inverse problem 9-44262
- geophysical dipole soundings data obtained along crooked line, transformation 9-44259
- geophysical fields, props. of linear transform. characts. (Russian) 9-35007
- geophysical fields correl. anal., input conditions (German) 9-35014
- geophysical linear inversion, non-uniqueness resolution via a priori approach 9-44261
- geophysical pot. field anomalies, statistical source models for geodynamical interpretation (German) 9-34782

data reduction and analysis continued

- geophysical potential field data, linear anal. theory (*Russian*) 9-35011
 geophysics, complex exponentiated data digital correl. (*German*) 9-44279
 geophysics, equivalence of mag. and gravit. anomalies extrapolation (*Russian*) 9-39926
 geophysics, interpretation of pulse neutron logging data in inhomogeneous beds (*Russian*) 9-44273
 geophysics, meas. errors anal. in transient EM sounding records computer processing (*Russian*) 9-44269
 geophysics, two-dimensional resistivity and induced-polarisation data inversion 9-16695
 gravimetry, direct and inverse problems soln. for hemispherical bodies (*Russian*) 9-35012
 gravity, prospecting, accuracy, meas. spacings and contour intervals calc. techniques (*Russian*) 9-44272
 gravity anomalies interpretation, computer modelling 9-34971
 gravity anomalies of two idealised bodies, theoretical transforms 9-5441
 gravity complex fields interpretation via minimisation method, automated system appl. (*Russian*) 9-35006
 gravity prospecting, determ. of parameters of low-amplitude struct. with oil (gas) deposits (*Russian*) 9-44271
 gravity $V_m(V_A, Z_A)$ anomalies over stratified bodies, interpretation analytic method (*Russian*) 9-39968
 ground data, remotely sensed, developing countries appl. 9-34963
 homonuclear coupled spin system, inversion-recovery data anal. 9-33554
 hydrometeorological information, optimum conversion to digital form 9-29903
 inland wetland photointerpretation evaluation, cell analytical method 9-29898
 ion microprobe analyser, appl. to cast Fe nodule form. 9-43295
 IR scanning radiometer data interpretation 9-30541
 isotachophoretic analysis, development of data processing system (*Japanese*) 9-24873
 LANDSAT imagery, appl. to hydrographic charts preparation 9-29894
 linked controllers and index-tabled techniques for data storage and rapid retrieval 9-9983
 lunar occultations during 1943-74, anal., rel. to Brown's theory, FK4 right ascension system and Watt's charts corrections 9-48696
 magnetic anomalies interpretation, computer modelling 9-34971
 magnetotelluric study, S.Scotland, fieldwork, data anal. and results 9-29705
 magnetotelluric study, S.Scotland, Monte-Carlo data inversion 9-29706
 mechanical testing of materials in complex stressed condition, automatic unit 9-15898
 meteorology data acquisition and processing test for FGGE 9-16674
 meteorology inverse problems, estimation theory appls. 9-35018
 microearthquake research, methods and computer programs 9-39987
 microscope photometry, on-line data collection and processing for solids, fossils and organic matter (*German*) 9-26101
 minicomputerised pressure transducer data logging system (*Russian*) 9-6102
 multi-parameter distributed processing data acquisition, display, and on-line analysis system 9-45612
 nerve impulse automatic identification and separation 9-16190
 neutron activation and data reduction, flexibility, MULTELMT program 9-11856
 NMR, Fourier transform, resolution enhancement using double exponential function 9-35804
 ocean wave directional spectra, from discus buoy, data processing 9-16723
 oceanographic data acquisition and processing system, microprocessor based, real-time 9-16676
 offshore environmental and platform data processing from Norwegian continental shelf 9-12273
 palaeomagnetic data smoothing, objective method, comments 9-34975
 palaeomagnetic directional data sets, shape 9-39881
 photolysis and radiolysis, kinetic data acquisition, and anal., by computer based system 9-39180
 pneumodynamics, enforced smoothing techniques for recovering dV_A/dQ distribs. 9-43946
 point to line data reduction, computer links and hardware processor test 9-45613
 POL, data analysing interactive system 9-31347
 polymer solns., phase diagrams, pulse-induced critical scatt. 9-1490
 polystyrene solutions, light scatt., mol. parameters, computer anal. assessment 9-1766
 protein data measured on oscillation camera, collection and reduction method 9-29672
 radio astronomy, multidimensional power spectral anal. 9-12406
 radio beacon position calc. from satellite Doppler data using microcomputer 9-12271
 radioassays, automated data processing 9-16299
 radioimmunoassay anal. system 9-25100
 recovery from Utah tar sand deposit, by in situ combustion, use of on-site minicomputer 9-48046
 reflection seismograph data, maximum likelihood filtering 9-5453
 reflection seismology, time fields method for curved interfaces determ. (*Russian*) 9-35010
 reflection seismology, wavefront sythesis for vel. estimation and downward continuation 9-16392
 residual Bouguer anomalies, line masses depth estimation via Backus-Gilbert min. distance criterion 9-44257
 sediments, polymodal, of river-lake system, interpretation 9-25273
 seismic boundary images, reconstruction using numerical models (*Russian*) 9-39923
 seismic common-depth-point stacking, appl. of multirate digital filtering approach to interpolation 9-29876
 seismic data, broadband, digital recording and anal. at Graefenberg array 9-25348
 seismic data, simultaneous inversion methods and resolving power 9-16699
 seismic data analysis, appl. of wavefront curvature expression in layered medium 9-29712
 seismic data processing, Karhunen-Loeve transform. appl. (*French*) 9-44258
 seismic events visual correlation quantitative estimates based on min. average risk criteria (*Russian*) 9-44133
 seismic instrumentation and data analysis, conf., Durham, England (Aug. 1977) 9-39905
 seismic prospecting, inverse kinematic case soln. in layered Earth using reciprocal points (*Russian*) 9-44268

data reduction and analysis continued

- seismic recordings, information quality and data processing techniques efficiency (*Russian*) 9-39666
 seismic records, non-linear stochastic models with appls. in event identification 9-16396
 seismic surface waves analysis, new techniques appl. to Adriatic subplate averaged model 9-44159
 seismic wave path hodographs, imperfect knowledge appl. to seismic shocks location (*Russian*) 9-35009
 seismic waveforms extrapolation, by Fourier methods 9-34978
 seismic wide angle refl. data from expendable sonobuoys, display and processing 9-39896
 seismogram processing, for Rayleigh waves phase vel. investigations in middle Europe 9-44136
 seismological data collection and anal., detect. of possible violations of Nuclear Test Ban Treaty 9-39919
 Seismological Service of Canada, instrumentation and data processing 9-39914
 seismology, inverse problems interpretation (*Russian*) 9-34762
 seismology, transmission synthetic seismograms direct inversion 9-29877
 seismology, wave refl. coeffs. identification from noisy data 9-29718
 SIMS, recording, optimisation 9-43683
 SIMS ion images, multifeature mass analysis utilising digital image processing, Fe anal. appl. 9-43684
 solar X-ray images, quantitative interpretation by filter ratio anal. 9-40085
 solar X-ray photographs anal. and interpretation, filter ratio method 9-40086
 speckle interferometry, image restoration by least squares method 9-25514
 spectrochemical analysis in hydrocarbon flames, computer processed laser Raman spectra 9-43652
 spiral galaxies surface photometry, computerised data reduction system, (appl. to NGC 157) 9-40264
 stellar speckle interferometry data processing method 9-12409
 stereo electron micrographs restitution, approximate soln. 9-26189
 terrestrial electricity, DC resist. meas. interpretation 9-5449
 thermal storage unit, sensible-heat, solid, transient response 9-3892
 thin-layer fluorescence chromatograms, automatic meas. and data processing 9-29424
 toxicity studies, TOXIPAC-300 data processing system (*Japanese*) 9-25172
 underwater camera data correl. and interpretation, systems approach 9-5688
 US evaluation, computer-assisted, review 9-43536
 USSR Hydrometeorological Service, automation of data collection and processing 9-34994
 wind magnitude and persistence models, statistical analysis 9-5583
 X-ray and neutron small angle scattering, recent developments in instrumentation and data anal. 9-10750
 X-ray spectrometry, quantitative, comparison of mathematical models 9-17587
 $Cl^{4+} + Xe(Ar)(N_2)$, 20 MeV, electron loss cross sections, pot. model data anal. 9-27082
 $H(D) + Ar$, differential collision cross sections, diffraction oscills., data anal. 9-22783
 $I^{3+} + Xe(Ar)(N_2)$, 20 MeV, electron loss cross sections, pot. model data anal. 9-27082
 Ni_3Mn , anal. of irradi. disordering data 9-1466
 V, electrical resistivity, 200-2100K 9-33277
- data structures**
 multilevel syntax analysis for geological data compression 9-48569
- data tables** *see collections of physical data*
- data transmission equipment**
see also data communication equipment; telemetering equipment
 FASTBUS project, development status of high speed standard data bus 9-45605
 high speed top mounted bus, prototype crate and module system 9-45611
 industrial fibre-optic data link integrated components 9-10392
 multichannel analog memory, using MOS transistors for data transmission to M6000 computer 9-26043
 photodetectors, highspeed, performance testing 9-26129
 underwater data communication US standing-wave radiator 9-46104
- data transmission systems** *see data communication systems*
- database management systems**
 logical searching of the lunar data, FORTRAN program incorporating Boolean search capabilities 9-2491
 river basin management system 9-25288
 Tennessee Valley Authority occupational radiation exposure data management system 9-9899
- dating, Earth** *see geochronology*
- dating, radioactive** *see radioactive dating*
- Davydov splitting**
 anthracene, triplet exciton absorpt. lines 9-47475
 carboxylic acid dimer, Fermi reson. 9-31501
 chain crystals, interchain correlations and energy spectrum, Davydov splitting 9-28309
 pyrene, triplet exciton absorpt. lines 9-47475
 Br₂, condensed phases, spontaneous and stimulated Raman scatt., weak and strong radiation fields 9-3450
 $FeCl_3 \cdot 2D_2O$, metamagnetic, excitonic Davydov splitting in Raman spectrum 9-33704
 KHF_2 , vibr. spectra, mol. interaction and Davydov splitting 9-8147
 PbI_2 , polype, lattice dynamics, influence of static dipole moments 9-28057
- Davydov states** *see Davydov splitting*
- dawn** *see twilight*
- dawn chorus** *see atmospheric*
- dayglow** *see airglow*
- d.c. amplifiers**
 IC four-channel EEG amplifier 9-39535
 temperature control of electrometer varactor-bridge amplifiers 9-9219
- d.c. motors**
 traction, circuit fault detection by NDT method 9-39097
- d.c. sputtering**
 cylindrical magnetron sputtering sources, substrate heating 9-24435
 plasmatron/magnetron systems, role in physical vapour deposition 9-24436

d.c. sputtering continued

- Al₂O₃ films, DC reactive sputtering prep., IR spectra characterization 9-11513
 Au, DC reactive sputtering, glow discharge mass spectrometry and X-ray diff. 9-38701
 Co, DC reactive sputtering, glow discharge mass spectrometry and X-ray diff. 9-38701
 Cu₂Mo₆S₈, Chevrel phase supercond. prep. and supercond. props. 9-28434
 Mn₄₆Co₅₄, amorphous alloy prep. by high-rate sputtering, struct. and prop. characteris. 9-24462
 Nb₃Ge films, form. of A15 phases by DC sputtering 9-38740
 Nb₃Ge films, prep. by DC sputtering and solid state diffusion, supercond. props. and struct. 9-38212
 Nb₃Si films, form. of A15 phases by DC sputtering 9-38740
 Pb₂Mo₆S₈, Chevrel phase supercond. prep. and supercond. props. 9-28434
 Pt, DC reactive sputtering, glow discharge mass spectrometry and X-ray diff. 9-38701
 Si p-n heterojunction, DC sputtering growth, photocond. and photovoltaic effects 9-33337
 Sn, DC reactive sputtering, glow discharge mass spectrometry and X-ray diff. 9-38701
 Sn₂Mo₆S₈ and (Sn-Al)₂Mo₆S₈, Chevrel phase supercond. prep. and supercond. props. 9-28434

d.c. to a.c. invertors *see invertors*

DDC *see direct digital control*

de Haas-van Alphen effect

- see also diamagnetic properties of substances; diamagnetism*
 electron gas, magnetised, confinement effects 9-28494
 FFT spectral analysis of de Haas-van Alphen oscils. 9-42434
 Hume-Rothery Phases, electronic struct., main features 9-23883
 layered crystals, thermodynamic pot. in quantizing mag. field, conc. depend. (Russian) 9-15071
 metal whiskers, quantum oscils. of mag. moment 9-15280
 noble metals and their dil. alloys, de Haas-van Alphen studies, book 9-37966
 noble metals and their dil. alloys, electronic struct., de Haas-van Alphen studies, book contrib. 9-37967
 Ag, curvature factor, interpretation of de Haas-van Alphen oscillation amplitudes 9-47000
 Ag, Fermi surface and thermoelec. power, de Haas-van Alphen calc. 9-4503
 Ag, spin props. of conduction electrons 9-46999
 Au, curvature factor, interpretation of de Haas-van Alphen oscillation amplitudes 9-47000
 Au, Fermi surface and thermoelec. power, de Haas-van Alphen calc. 9-4503
 Au, spin props. of conduction electrons 9-46999
 Au-Ga dil. alloys, electronic struct. 9-37974
 β -Au-Mg, de Haas-van Alphen effect, relativistic LMTO bandstructure, Fermi surface 9-37959
 Cu, Fermi surface and thermoelec. power, de Haas-van Alphen calc. 9-4503
 Cu, spin props. of conduction electrons 9-46999
 FeGe₂, antiferromagnet, de Haas-van Alphen effect 9-4505
 LaAl₂, magnetoresist. and de Haas-van Alphen effect, Fermi surface model 9-15069
 LiC₆, band struct., density of states and Fermi surface props. 9-37982
 Ni, mag. excitations variation of de Haas-van Alphen frequency 9-8019
 Pb, phase smearing and mag. interaction, de Haas-van Alphen effect 9-37961
 Pd, Fermi surface, extremal cross section, press. derivative, determ. by de Haas-van Alphen meas. 9-11055
 Pd-H, electronic states from de Haas-van Alphen measurements 9-7777
 PdSb, de Haas-van Alphen effect, Fermi surface 9-7773
 Pr, de Haas-van Alphen freq. determ. 9-11054
 ReO₃, Fermi surface, pressure induced anomaly 9-19505
 Ru, Fermi surface energy spectrum, de Haas-van Alphen effect (Russian) 9-37964
 TaS₂ (2H), quantum oscillations and Fermi surface 9-37960
 Zn, oscill. freq., 1-140 bar (Russian) 9-19506
 Zn whiskers, quantum oscils. of mag. moment 9-15280

Debye-Huckel theory

- Coulomb gas, classical, two-dimens., screening props. from sine-Gordon eqn. 9-4524
 crystal growth from solution, presentation of growth curves 9-27936
 double layer, aqueous, at charged plane interface, theories comparison 9-34317
 electrolyte, Debye-Huckel ionic atmosphere, number density of ions 9-29369
 electrolytes, binary solns., nonideality, thermodynamics 9-39155
 polyelectrolytes, model 9-5162

Debye-Scherrer cameras *see cameras; X-ray crystallography apparatus*

Debye temperature

- see also specific heat*
 A15 type compounds, supercond. T_c in terms of Debye temp. and effective and reduced ionisation pots. 9-28435
 alkaline earth chalcogenides, crystal parameters calcs. using repulsive interaction pot. 9-37795
 Chevrel-phase superconductors, lattice dynamical calcs. 9-33056
 methane, solid, probing phase transition with Mossbauer effect in ⁵⁷Fe impurities 9-4751
 Ag (111) plane, specular refl. of He and H₂ beams, Debye-Waller factor and surface Debye temp. 9-47580
 Be, lattice dynamics, phonon dispersion relations and Debye temp. 9-42171
 Ca₅(PO₄)₃F: Cr³⁺, spin-lattice relax. time and Debye temp., EPR obs. 9-28601
 Cd, Lindemann's rule and X-ray Debye temp., anisotropic single crystals. 9-28076
 Co₉₂Fe_{0.08}, phonon dispersion and Debye temp. temp. depend., neutron inelastic scatt. 9-33047
 Cu (100), diatomic mol. scatt., energy transfer and dissociative adsorption 9-46961
 CuBr, specific heat and lattice dynamics 9-37798
 CuI, specific heat and lattice dynamics 9-37798
 D₂, solid, equation of state, at high pressure 9-46781
 D₂, solid, melting curve, meas. of P, V, T. and longitudinal sound velocity 9-37814

Debye temperature continued

- p-H₂, solid, elastic consts., Brillouin scatt. obs. 9-8149
 H₂, solid, melting curve, meas. of P, V, T and longitudinal sound velocity 9-37814
 H₂, solid equation of state, at high pressure 9-46781
 Kr, solid, phonon freqs., lattice heat capacities, and Debye charact. temps. 9-10905
 Li₃N, superionic conductor, cryst. growth and struct., phys. props., book contrib. 9-42308
 Lu, specific heat from 1.6 to 18K, electronic coeff., Debye temp. at OK 9-7700
 Mg, lattice dynamics, phonon dispersion relations and Debye temp. 9-42171
 NaCl structure crystals, Debye characteristic temp. calcs. 9-37796
 NaF, He atom scatt., Debye Waller effects 9-8218
 Nb₃Al_{0.83}Ge_{0.21}, A-15 phase, sp. ht. meas., Debye temp., energy gap and crit. field 9-19689
 Ne, lattice vibrs., heat capacities 9-42169
 Np, ternary oxides, electronic and structural props., ²³⁷Np Mossbauer spectroscopy 9-33570
 Pb, X-ray Debye temp. calc. 9-19348
 PuN, heat capacity, at low temps., Debye temp. determ. 9-24168
 TiN_{0.8}, cubic, thermal expansion coeffs., Ti-Ti bond screening 9-10970
 TiSe, heat capacity, at low temp. and Debye temp. (Russian) 9-10962
 U₃O_{8-x}, depend. of therm. cond. on porosity, phonon mean free path calcs., Debye temps. 9-37886
 Xe, lattice vibrs., heat capacities 9-42169
 Zn, Lindemann's rule and X-ray Debye temp., anisotropic single crystals. 9-28076
 ZnAs₂, thermodynamic functions 9-10961

Debye-Waller factors

see also lattice dynamics

- ethylene oxide clathrate, reorientation, residence times, Debye-Waller factors, activation energy, neutron scatt. study 9-41989
 FCC metal, ¹¹⁹Sn implantation by isotope separator method, Mossbauer spectra, Debye-Waller factors determ. 9-24240
 neutron diffraction absorption corrections 9-27876
 tetrahydrofuran clathrate, reorientation, residence times, Debye-Waller factors, activation energy, neutron scatt. study 9-41989
 X-ray diffuse scattering data, role of Debye-Waller factors in analysis 9-23494
 Ag (111) plane, specular refl. of He and H₂ beams, Debye-Waller factor and surface Debye temp. 9-47580
 BaTiO₃, transform. of cryst. struct., at cubic-to-tetragonal phase transitions 9-37827
 Co-Ga alloys, transition metal partially substituted, elec. resist. anomalies 9-38044
 Cu₃Au, Debye-Waller factor measurement in anal. of diffuse scattering data 9-23494
 Fe, microcrystal, temp. dependent lowering of Debye-Waller factor 9-1736
 KBr, Debye-Waller factors at 4.2 and 295K 9-7667
 metal, FCC, X-ray Debye-Waller factors, CGW vs. DAF models 9-37794
 Mn₂Cr_{3-x}O₄, cubic and tetragonal structs., neutron diff. obs. 9-19369
 NaF, He atom scatt., Debye Waller effects 9-8218
 Nb, Debye-Waller factor and H₂ diffusion, neutron spectroscopy study 9-37881
 Nb₃Sn, Debye-Waller factor temp. depend. 9-14907
 PdD_{0.63}, phonon lineshapes Debye-Waller factors, 80K, inelastic neutron scatt. study 9-42187
 Rb₂ZnBr₄, average struct. determ. from neutron diff. diagrams, Debye-Waller factors 9-32955
 SrCl₂, specific heat anomaly and sublattice disorder, neutron diff. meas. 9-42238
 Ta, Debye-Waller factor and H₂ diffusion, neutron spectroscopy study 9-37881
 V, Debye-Waller exponent, 4.2 to 296K, incoherent elastic neutron scatt. 9-4382
 V, Debye-Waller factor and H₂ diffusion, neutron spectroscopy study 9-37881
 V₂Si, powdered, Debye-Waller factors and lattice consts., 25-1000K, X-ray diff. obs. (German) 9-33060

decay periods (radioactive) *see radioactive decay periods*

decay schemes (radioactive) *see radioactive decay schemes*

decay theory (nuclear) *see nuclear decay theory*

decision theory *see decision theory and analysis*

decision theory and analysis

see also dynamic programming

on-line surveillance of nuclear reactors based on decision theory 9-9775
 plant information measures selection criteria nuclear reactor monitoring appl. 9-41006

visual perception, non-resolvable ambiguities model 9-34567

weather modification, scientific and technological aspects 9-20934

decoding

see also demodulation

wavelength multiplexing for information transmission 9-22906

decomposition

microstructure features and processes only; for other aspects see dissociation and pyrolysis

see also spinodal decomposition

alloy, solid state reactions, effect on microstruct. 9-29015

alloy, ternary, transition of univariant form. equilib. into decomposition equilib. (German) 9-43196

amorphous semiconductors, crystallisation 9-41959

graphite-DNO₃, intercalation cpd., mol. dynamics 9-28631

Metglas 2826A, direct meas. of decomp. on crystn. by X-ray microanal. in STEM 9-48025

solid solution, supersaturated, isomorphous decomp., elastic interaction of dilating particles (Russian) 9-47691

steel, austenite decomposition, controlled rolling rel. to substruct., props. 9-29014

steel, C, structural strength, increase by high temp. mech. treatment with austenite isothermal decomp. 9-24555

steel, Co-W-Mo-V-Ti-C (25.3, 12.8, 6.2, 0.5, 0.5, 0.05 wt.%), martensitically aged, structural transformation, and strengthening mech. (Russian) 9-15676

steel, Cr, and Cr-Mo-Ni, austenite decomposition, deform. effects, ferrite reaction 9-1842

decomposition continued

- steel, Cr-MoV, isothermal decomp. of austenite and carbide precip. 9-38832
- steel, martensitic, Cr-Ni-Co-Mo-Ti, Kh12N8K5M3TYu, ageing of C free martensite (*Russian*) 9-1884
- steel, Mn-Ni-Cr-C, supercooled austenite, influence of constant mag. field on diffusional decomposition. (*Russian*) 9-4964
- steel, Ni, martensite decomposition (*Russian*) 9-1841
- steel, Ni-B, B effect on temperability and microstructure 9-15710
- steel, stainless, δ -ferrite, isothermal decomposition and transform. of heating at 550 to 950°C (*Chinese*) 9-43239
- α - β -Ti alloy, singularities of decomposition of β solid solutions, low temp. range (*Russian*) 9-1867
- Al alloy D16, supersaturated solid soln., decomp. process, electron microscopy obs. and acoustic anal. (*Russian*) 9-15650
- Al-Ge alloy, effect of high press. on phase equilibrium (*Russian*) 9-1844
- Al-Mg-Zn, neutron small angle scatt. study 9-43255
- Al-Pt (2 at.%), sput. cooled, AlPt₂ phase, electron diffr. obs. 9-15657
- Al-Si, neutron small angle scatt. study 9-43255
- Al-Zn, ageing alloy, zonal decomposition stage, new effects in X-ray diffr. anal. (*Russian*) 9-4982
- Al-Zn, neutron small angle scattering from above critical point 9-1840
- Al-Zn, neutron small angle scatt. study 9-43255
- Al-Zn (10 wt.%), solid soln., decomposition meas. by resistivity meas. under isothermal conditions (*French*) 9-20025
- Al-Zn-Mg, solid soln. decomp., 20 to 200°C 9-38830
- Au-Ni (30 at.%), singularities of struct. state, diffuse electron and X-ray scatt. (*Russian*) 9-4945
- BiTeI crystals, eutectic decomp. in transmission electron microscope 9-20024
- (Co_{0.85}Cu_{0.15})₆Ce, cryst. struct. and mag. props., decomp. during ageing (*Russian*) 9-37661
- Co₄CuCe, cryst. struct., mag. characts., ageing and decomposition (*Russian*) 9-4272
- Cu-Cr alloys, isothermal decomp. diagrams 9-38791
- CuSe film, phase transforms. and decomp., electron diffr. obs. 9-42418
- Fe, cast, Mg, high strength bainitic transform. in C-shape diagram (*Russian*) 9-1860
- Fe, rolled sheet, magnetic film form. at metal/calamine interface after ferrous products cooling (*French*) 9-43274
- Fe-C (0.8-4.2 wt.%), eutectoid transform., effect of heat treatment in H₂ (*Russian*) 9-4947
- Fe-C solid solution, martensite, carbide decomposition, electron microscopy and X-ray diffr. obs., review (*Russian*) 9-33998
- Fe-C-Si-Mn (1.5-2.9, 2.4-3.4, 0.54-31.7 wt.%), discontinuous decomp. of supersaturated austenite (*Ukrainian*) 9-37788
- Fe-Ni-Al-Co-Cr-Ti, YuNDK35T5BA, exam. of hypodissociation process (*Russian*) 9-11547
- Fe-Ni-Cr-Ti-Al Elinvar alloys, dispersion-hardened, structural transform. (*Russian*) 9-1872
- Ga₂Se₃MnSe system, peritectic decomp., crystallographic study, phase diagram, DTA and X-ray diffr. determ. (*French*) 9-24506
- Ge_{0.8}(GaAs)_{0.2}, metastable solid solns., decomp. kinetics 9-38789
- (Hf₁Zr_{1-x})₈₀Nb₂₀, influence of Hf additions to Zr₈₀Nb₂₀, beta decomposition anal. 9-8304
- Li-LiH(D)(T), decomposition in (α + β) field 9-15652
- Li-Fe-Co⁺, solid soln. decomp., precip. of new phase, electron microscope expt. 9-11619
- γ -Mn-Cu, metastable, structural aspects of decomposition 9-1871
- MnCu, neutron scatt. near crit. comp., effects of stress and ageing 9-19722
- Pd-Cu-Ga, cold work and annealing-induced hardening, X-ray diffr. anal. and metallographic exam. (*Russian*) 9-38844
- Si₃N₄, porous, reaction sintered, organosilicon infiltrated, decomposition, strength, density 9-29000
- Ti-Bi(Co)(Cr)(Cu)(Fe)(Mn)(Ni)(Pb)(Pd)(Pt), eutectoid decomposition 9-24491
- Ti-Mo-V (8 wt.%, 8 wt.%), FCC phase, decay of β -solid soln., electron microdiffr. 9-15670
- Ti-Nb-Ta-Ge (40,20,0.8 wt.%) foil, dispersion hardening, TEM and electron diffr. obs. (*Russian*) 9-1873
- Ti-Ni, eutectoid decomposition, effect of interphase boundary struct. on mech. 9-4952
- Zr base alloys, formation of phases precipitated from β solid solutions (*Russian*) 9-1869
- Zr-Nb-Fe (13 wt.%, 5 wt.%), struct. changes during decay of BCC β solid solution 9-15669
- Zr-Nb-V-Al (Fe) alloys, decomp. of β solid soln., metastable and equil. phases 9-11632
- Zr-Nb-V-Fe (12 wt.%, 6 wt.%, 4 wt.%), struct. changer during decay of BCC β solid soln. 9-15669

decomposition, spinodal see *spinodal decomposition*

decomposition, thermal see *pyrolysis*

decorative coatings

No entries

deep levels

- Auger emission, photon-induced, deep-hole interferences 9-43098
- Auger transition from excited Coulomb level of deep impurity centre to ground state 9-15116
- crystal with narrow allowed band, elec. field ionisation of deep impurity level 9-15118
- III-V compounds, deep centres exam., review 9-11086
- III-V semiconductors, deep centres, many-electron effects 9-15117
- MOS structure, deep levels in semicond. surface layer, pulsed C-V study method 9-7905
- naphthalene, deep exponential distrib. of traps, long-time decay of surface pot. 9-47041
- Peierls-Frohlich state, electron excitation (*Russian*) 9-23909
- polyethylene, high density, carrier transport 9-33288
- radiative and nonradiative recomb. at metal ions, core struct. effects, review 9-4834
- semiconductor, deep centres, nonradiative de-excitation 9-38644
- semiconductor, diamagnetism of deep impurities 9-23931
- semiconductor, multiphonon recombination processes 9-38643
- semiconductor, multiple-charge impurity states of transition and noble metal ions 9-33259
- semiconductor, overcompensated, p⁺-n diode, capacitance method determ. of activation energy of deep centres 9-11215
- semiconductor, photoluminescence, deep level recombination temp. depend. 9-47497

deep levels continued

- semiconductor, recombination at deep traps, review 9-38100
- semiconductor materials and devices, high power, detection of deep levels 9-28318
- semiconductors, impurities and other point defects, electronic struct., review 9-7803
- semiconductors, impurity electro- and magnetoabsorpt. coeffs., deep levels 9-24340
- semiconductors, multiphonon capture rate 9-38022
- semiconductors, recombination, conference, Southampton, England (Aug.-Sept. 1978) 9-38087
- semiconductors, recombination processes, review 9-38088
- spectroscopic techniques, anal. with STEM for electronic anal. and obs. of defects in semiconductors 9-14812
- TCNQ salt, CS₂(TCNQ)₃, cond. and thermopower meas., deep level acceptor model 9-42529
- n-Si, deep levels in p-n junctions or Schottky barriers determ., hybrid method 9-24067
- AgCl, luminescence, theory and measurement 9-19934
- CdGeAs₂, optical and elec. props. 9-19590
- CdS, deep level transient spectroscopy (*French*) 9-11079
- CdS, hole-capture coeff. of deep charged centres, temp. depend., photocurrent meas. 9-7804
- CdTe, n- and p-type, elec. and galvanomag. props. 9-7830
- CdTe, Schottky diode, capacitance behaviour in terms of deep level model 9-7899
- Cs₂UO₂Cl₄, low-lying excited electronic levels, fluoresc. decay meas. 9-47491
- n-GaAlAs:Sn LED DH donor-level analysis, DLTS obs. 9-47040
- GaAs, boat-grown, deep levels (*Japanese*) 9-47043
- GaAs, deep level, strongly anisotropic field ionisation 9-28317
- GaAs, ideal vacancy, electronic struct., tight-binding calc. 9-4529
- GaAs, LPE, deep levels rel. to growth conditions 9-28314
- GaAs, LPE, residual impurities and deep levels, FET fabrication 9-28964
- GaAs:Cr, current voltage characterisation, deep levels and Fermi level determ. 9-7823
- GaAs:Cr(O), photocapacitance of deep levels obs. 9-38021
- n-GaAs:Cu, electron-phonon interaction in optical transitions between deep impurity level and allowed bands 9-42591
- GaAs:O, deep traps, photocapacitance meas., complementary transition energy threshold determ. 9-19550
- GaAs:O(Cr), relax. semicond., Dember effects meas. 9-28372
- GaAs:S, LPE, and doping characts. 9-33948
- n-GaAs:Sn, photoluminesc. spectra 9-43031
- GaP, deep level profiles at substrate-epitaxial interfaces, photoionisation meas. 9-38025
- GaP, positron annihilation, deep acceptor level props. 9-11485
- GaP, spectral depend. of O photoneutralisation cross-section near threshold, and band gap 9-1788
- GaP:Bi(N), luminesc. decay kinetics 9-38646
- GaP:Cu, deep levels, photoluminesc. and optical cross sections 9-38653
- GaP:N VPE LED, deep level centres, DLTS studies 9-42493
- GaP:N VPE layers, thermal emission energies, trapping, and carrier lifetimes, deep level capacitance spectroscopy 9-42487
- GaP-Ge, compensated, photosensitivity 9-19624
- p-Ge, detector-grade single crystals, impurity background 9-11088
- n-Ge, electron irradiated, energy levels 9-28316
- Ge, ideal vacancy, electronic struct., tight-binding calc. 9-4529
- n-Ge:Sb, fast electron irradi. at 77K, radiation defect changes by annealing at 220K 9-37737
- Ge-GaAs p-n junction, microparameters determ. 9-11216
- InAs:Cr, high-resist., energy positions of deep levels, elec. and optical props. 9-7807
- InP, deep-level traps and cond.-band struct. 9-19542
- InSb:Cr:Zn, magnetic freeze-out electrons at deep Cr level 9-15169
- Pb_{1-x}Sn_xTe, narrow gap solid solns., mag. susceptibility and energy band spectrum 9-28276
- PbTe epitaxial films, carrier recomb. and deep levels, photocond., Hall effect, and luminesc. meas. 9-38024
- S:P, ion implanted, defect annealing 450-800°C, deep-level transient spectroscopy 9-47042
- n-Si, electron-irrad., surface defect distrib., deep-level transient spectroscopy 9-1459
- Si, ideal vacancy, electronic struct., tight-binding calc. 9-4529
- Si MOS diode, bulk traps and interface states determ., deep-level transient spectroscopy appl. (*Japanese*) 9-42645
- Si MOS diodes, P⁺ implanted, DLTS of bulk traps and interface states 9-33350
- Si, neutron-produced defects, deep level transient spectroscopy 9-47047
- Si:Al, thermally stimulated capacitance method fitting anal. 9-47107
- Si:Fe 9-28312
- Si:Ga(Zn), impurity ground states 9-28313
- Si:Pt, deep level, exam. by thermally stimulated current and capacitance techniques 9-1579
- Si:TL, energy level, deep level transient spectroscopy 9-19541
- Si:Zn, P⁺-n-n⁺ struct., deep doubly ionized centres, impedance calc. 9-11202
- Si-SiO₂, intentionally contaminated interface, transient capacitance meas. 9-33349

defect electron energy states

see also *colour centres*; *deep levels*

- alkali halides, U₂ centres, cluster-Bethe lattice calc. for electronic density of states 9-4531
- amorphous semiconductor, defect chemistry and states in gap, models 9-38030
- amorphous semiconductor, tetrahedrally bonded, gap density of states 9-19545
- burst noise, physical sources 9-24033
- charged defects, Holtsmark elec. field sitrbs. and assoc. broadening effects 9-1584
- glasses, electron physics, role of defects (*French*) 9-33225
- halides, vacancy-interstitial pair prod. by electron-hole recomb. 9-4530
- inert gas solid, delocalisation probability of interstitials 9-7801
- ionic solids, lattice and defect props., modified electron gas approx. 9-42054
- metal, nonlinear electron density distribution around point defects, formulation 9-19548
- metal, nonlinear electron density distribution around point defects, applications 9-19549

defect electron energy states continued

- Metal, simple, vacancies and vacancy clusters, electronic struct. 9-11077
- MOS structure, quenched-in bulk defects and interface states, transient capacitance spectroscopy 9-24081
- renormalisation group calculation of defects in solids 9-7802
- screw dislocations, interactions with Wannier-Mott excitons (*Russian*) 9-4513
- semiconductor, electronic struct. of point defects, surfaces and interfaces, Green's function scatt. theoretic method 9-33258
- semiconductor, ionic, ionisation of doubly charged centres 9-11085
- semiconductors, impurities and other point defects, electronic struct., review 9-7803
- semiconductors, recombination enhanced defect reactions 9-38094
- semiconductors forward biased junctions, excess noise sources due to defects 9-38154
- transition metals, electronic structure of interstitials 9-1583
- twin and stacking fault energies 9-38018
- AgCl, irradiated, surface defect center, XPS study 9-28894
- Al, vacancy electron density, local electronic struct. theory 9-1580
- Ba₂CaUO₆, luminescence and energy migration 9-4837
- Be, twin and stacking fault energies 9-38018
- CdS, dislocation effects on radiative recombination processes 9-8186
- n-CdTe, photolum., plastic deform. effects 9-15509
- Cs₂UO₂Cl₄, low-lying excited electronic levels, fluoresc. decay meas. 9-47491
- Fe-C, electronic structure of interstitials 9-1583
- GaAs, electronic states associated with 60° dislocations, tight-binding calc. 9-15114
- GaAs, highly deformed samples, absence of dislocation-induced luminescence 9-4835
- GaAs, ideal vacancy, electronic struct., tight-binding calc. 9-4529
- GaAs, ion-bombarded, energy band struct., electrorefl. obs. 9-19517
- n-GaAs, undoped, proton radiation defect detect. by transient capacitance spectroscopy 9-11089
- GaP, epitaxial layers, dislocation recomb., SEM cathodoluminescence studies 9-42558
- GaP, ion-bombarded, energy band struct., electrorefl. obs. 9-19517
- GaSb:Al overlayer, adatom interactions, photoemission obs. 9-33898
- GaSe, photolum. decay 9-15518
- Ge, electron states below cond. band originating from dissociated 60° dislocations, calc. using effective mass method 9-19546
- Ge, ideal vacancy, electronic struct., tight-binding calc. 9-4529
- Ge, p-type, and n-type converted to p-type by irradiation at 77K, defect form. mechanism 9-23651
- Ge, recombination at dislocations 9-38023
- Ge, trapping defects, deep level transient spectroscopy 9-47045
- Ge-S, Ge-S-Ag, amorphous prop. and origin of paramagnetic defects 9-10801
- Li₂N, defect struct., quartet state paramag. centres, EPR meas. 9-42837
- Mg, twin and stacking fault energies 9-38018
- Mg₂Zn_{1-x}Te, temp. depend. of energy gap, near band gap reflectivity spectra 9-28786
- Mo, localised electronic states near dislocations 9-33257
- Ni:He, defect props., quantum-chemical and lattice-defect hybrid approach 9-4528
- Ni-Ag, thin-film, effect on elec. cond. 9-7911
- NiC, electronic structure of interstitials 9-1583
- Si, amorphous, doping effects on cond. in hopping transport regime 9-28424
- Si, amorphous, spin-pairing at defect centres, mechanism in terms of chem. bonding 9-23928
- Si, deformed, defect states associated with dislocations, capacitance transient spectroscopy 9-42483
- Si, divacancy, hyperfine interactions from ENDOR meas. 9-42868
- n-Si, electron irradi., defect energy levels, energy depend. 9-33262
- Si, ideal vacancy, electronic struct., tight-binding calc. 9-4529
- p-Si, photoabsorpt. associated with divacancies 9-15502
- n-Si, plastically deformed, donor action of dislocations, elec. props. 9-11126
- Si, polycrystalline, neutron transmutation doped, grain boundary zero-bias resistance 9-15153
- Si, recombination at dislocations 9-38023
- Si, spin dependent recomb. at dislocations, EPR and photocond. 9-38095
- Si vacancy, defect electronic energy levels calc., optimisation 9-28315
- Si:In, p-n junction, spin-dependent recomb. at dislocations, revealed at reverse current 9-24062
- Si:O, annealed, minority carrier lifetime 9-23985
- n-Si:P, edge dislocation energy level, differential capacitance meas. 9-23927
- SrF₂, neutron irradi., role of F-centres in thermoluminesc. 9-19941
- ZnO single cryst. with stoichiometry deviations, intrinsic defects, thermodynamic analysis 9-42485
- ZnTe, photoluminesc., donor and acceptor excited states 9-38622
- ZnTe:In(Al), pure and doped, Zn vacancy energy levels, elec. and optical props. 9-4827

defects, crystal *see crystal defects*

defibrillators

see also patient treatment

- electrodes for permanent implantable system, transvenous catheter and subcutaneous plate 9-39599
- quality health care and cost containment, conf., Washington, USA (Mar.-Apr. 1978) 9-39333

deformation

see also bending; cold working; creep; drawing (mechanical); elastic deformation; elongation; ferroelasticity; plastic deformation; shape memory effects; thermomechanical treatment

- amorphous metals, computer simulations of tensile deformation and radiation damage (*Japanese*) 9-42137
- basalt xenoliths in Massif central France, deform. rel. to mantle struct. and geodynamics (*French*) 9-48424
- Bordoni relaxation models, internal friction and microdeformation rel. to dislocations (*French*) 9-37758
- brass, circular plate perforation and deformation by square section punch 9-34100
- butadiene-styrene block copolymer, viscoelastic props. 9-8336
- cantilever plate flexure, variational method (*Russian*) 9-7310
- CG method generalisation, linear and nonlinear problem appl. 9-30243
- coincidence site lattice rotations, permissible angles, effect of strain due to temp. or pressure changes 9-32932

deformation continued

- continuous casting cylindrical ingot, development of elastic-plastic temp. stresses and deformations (*Russian*) 9-29151
- crossply glassfibre, cantilever beams, nonlinear damping for nonsinusoidal strain 9-47762
- Earth, tidal potential multiple expansion 9-12062
- Earth crust, viscoelastic deform. by finite quasi-static sources 9-39686
- Earth strain tides in Great Britain, survey 9-44080
- elastic eqns. of uniform systems, general integral solns., appl. (*Russian*) 9-14272
- elastic-plastic-creep-large strain analysis at elevated temperature by the finite element method 9-37185
- elastohydrodynamically loaded surfaces, interferometric deform. meas. 9-43532
- fission reactor fuel rod geometry changes, mech. interactions calcs. 9-40993
- gauge blocks, contact deformation and corrections 9-26028
- granite in W. Great Kabylia (Algeria), deform. by ductile shear (*French*) 9-39716
- holed plates, stress and deformation, finite quadrilateral elements technique (*Rumanian*) 9-18707
- hydrostatic, meas., photoelasticity and holographic interferometry appl. 9-7353
- ice domes, time dependent deformation 9-37152
- Jamaican blueschists, coaxial pure shear rel. to deform. assoc. with subduction 9-2236
- magnetic field, one-dimensional, force-free, adiabatically slow deform., singular lines (*Russian*) 9-48670
- metal, amorphous, deformation mechanisms (*Japanese*) 9-42136
- metals, strain induced thermal signals, detection 9-1141
- mild steel, circular plate perforation and deformation by square section punch 9-34100
- Mossbauer absorbers, deformation induced texture 9-8074
- one-dimensional crystal subjected to deform., static and dynamic equilib. 9-28037
- pigment dispersion rheology, kinetic model, expt. results 9-7361
- plates, variable thickness annular, axisymmetric bending 9-46193
- polystyrene, atactic, indentation recovery, defect struct. produced by deformation 9-43275
- Pyrex glass, indentation recovery, defect struct. produced by deformation 9-43275
- reactor graphite, stress and strain determ. depend. of mech. characts. on temp. and fluence 9-40998
- rectangular plates, moderately thick, free flexural vibr., effect of geometric nonlinearity 9-3940
- refractory ceramic, heterogeneous, significance of non-elastic deform. in fracture 9-47765
- rock, diagnostic stress-relief curves in stress meas. by overcoring 9-29886
- rock, dry, quantitative model of dilatancy and appl. to Westerly granite 9-16445
- rocks, metamorphic, thermomechanical expts. using shear machine (*French*) 9-5474
- rocks, strained units stratigraphic thickness determ. 9-21034
- rocks, struct.-forming props. of bedded forms. from modelling data (*Russian*) 9-8627
- rocks rotational deformation, reversal of inclusion trails spiral direction in paratectonic porphyroblasts 9-39717
- sandstone, fault development, deformation bands and slip surfaces 9-20819
- sandstone, small faults as deformation bands 9-25235
- sandwich plates, simply supported in shear, critical stresses (*Polish*) 9-32247
- shell, spherical, non-shallow, moderately thick, stresses and deform. 9-32241
- shock tube diaphragm opening process, model for inelastic diaphragm 9-7384
- Signorini's problems, reciprocal variational inequalities soln. 9-41585
- sliding interfaces and impact, numerical treatment 9-41631
- steel, fully annealed tool, cantilever beams, nonlinear damping for nonsinusoidal strain 9-47762
- stellar models, tidally distorted, small oscills., Roche coordinates appl., second-order terms effect 9-44462
- structurally inhomogeneous solid bodies, mechanics (*Russian*) 9-30231
- surface forces power of medium with limited intensity of tangential stresses 9-14278
- symmetry considerations for materials of second grade 9-37161
- triaxial stress condition, modelling (*Russian*) 9-27515
- viscida, buckling and stretching, surface tension effects 9-10512
- viscoelastic deformation, apparent activation energy, creep T-jump expt. 9-37264
- Al, cantilever beams, nonlinear damping for nonsinusoidal strain 9-47762
- Al, circular plate perforation and deformation by square section punch 9-34100
- Al, single crystal, deformation behaviour during cold rolling 9-47751
- CsI:Tl single crystal gamma-optical converting screens, factors influencing relative afterglow intensity 9-8173
- Cu, circular plate perforation and deformation by square section punch 9-34100
- Ge, stressed cryst., props. of strain-confined electron-hole liquid 9-7787
- Pd₇₇Si₁₆Cu₇, amorphous, indentation recovery, defect struct. produced by deformation 9-43275
- Si whiskers, as basis for low-temp. sensors of temp. and deformation 9-5095
- Te, cryst., effect on Hall coeff. and conductivity 9-7847

deformation lines *see Luder's bands*

degenerate semiconductor materials *see degenerate semiconductors*

degenerate semiconductors

- see also heavily doped semiconductors; superconducting semiconductors*
- antiferromagnetic-semiconductor, conduction electron spectrum, influence of nonlinear spin waves 9-28270
- Auger recombination, carrier density depend. 9-38089
- education, Shubnikov-de Haas oscills., InSb degenerate semiconductor, third-year undergraduate expt. 9-9051
- Einstein relation, appl. of empirical approxs. 9-23970
- EM wave absorpt. due to electron-phonon collisions in quantising mag. field 9-7795
- EM wave absorpt. theory 9-33307
- ferromagnetic degenerate semiconductor, magnon spectrum near instability of homogeneous state 9-28516

degenerate semiconductors continued
interval phonon scatt., energy loss rate and momentum relax. time
9-15139
magnetites, cond. mechanisms (*Russian*) 9-42539
Peierls instability in field of strong EM wave 9-15106
photostimulated light absorption in Burnstein-Moss effect (*Russian*)
9-28706
polar semiconductors, electron scattering interaction with coupled plas-
mon-phonon modes 9-42536
valence band semiconductors, polariton effect 9-15102
Cd₃P₂, energy band struct. and electron mobility at low temp. 9-37984
GeTe, degenerate semiconductor, EPR experiments on Mn²⁺ 9-11339
Pb_{1-x}Sn_xTe, displacive phase transition, effect of interband hybridisation
9-33233
Si, (111) surface, electron inversion layers, obs. of sixfold valley degeneracy 9-38176

ekatrons

No entries

delay circuits

see also *delay lines; phase shifters*

CRO time-mark circuit with controlled delay 9-35703

delay-differential systems

distributed parameter system control, conference, Coventry (1977)
9-3897

delay elements (circuits) see *delay circuits*

delay lines

see also *acoustic delay lines*

amorphous ribbon, saturation magnetostriction, and electronically control-
lable delay line 9-1700

bi-dimensional drift chambers with flexible PC balanced delay lines
9-3300

delay line readout for drift chambers 9-3317

digital, for sound recording and reproduction in cinematography (*Russian*)
9-27487

electronic, dynamically variable, for real-time US imaging 9-46142

frequency comparator for generator spectral line width measurements
9-6144

MWPC, multi-delay line cathode readout 9-45573

optical, OLZ-7 seven-frame, using multiple reflections in plane mirrors
9-23080

optical fibre delay line phase discriminator, operating principles 9-18507

position sensitive proportional tube with helical delay line 9-3313

programmable line using microstrip transmission line and temp. compen-
sated ECL gates 9-26845

Fe_{100-x}Be_x, amorphous ribbon, saturation magnetostriction, and electroni-
cally controllable delay line 9-1700

delayed neutrons

delayed fission neutron technique, review 9-1979

fissionable nuclei A=232 to 252, systemization of relative yields of
retarded neutrons 9-40974

^ABr, A=85 to 89, total β -decay energies and atomic masses of neutron-
rich isotopes 9-40889

^ARb, A=96 to 100, half-lives and neutron emission probabilities in neu-
tron rich isotopes 9-17864

U exploration probes, meas. spatial depend. of delayed neutron signals
9-34989

²³⁵U, determ. of amount in urine by delayed-neutron counting 9-25118

delayed protons

²⁴Si, isobaric multiplet mass eqn., test from decay 9-40890

delays

see also *delay circuits; distributed parameter systems*

air breakdown formative time lag rel. to gap geometry, pressure, and
overvoltage 9-18994

air gap corona pulse delay obs. and HV insulation design 9-19117

dissector one-electron current pulse timing, delayed self-coincidence
method 9-26846

Fourier spectroscopy, delay compensation, sampling error reduction
9-30566

nonuniform helical delay system anal. (*Russian*) 9-18336

optical radar pulsed systems using photodetectors with lag, characts.
9-13918

LiTaO₃, rotated Y-cut, SH and Rayleigh surface waves 9-46910

N₂ breakdown formative time lag rel. to gap geometry, pressure, and
overvoltage 9-18994

O₂ breakdown formative time lag rel. to gap geometry, pressure, and
overvoltage 9-18994

demagnetisation

see also *magnetisation*

automatic AF demagnetiser for igneous rock specimens 9-25347

demagnetising field, calc. by FFT 9-38355

ferrites, partially magnetised, diagonal components of permeability tensor
and resonance 9-47306

hard magnetic material, analogue permeameter appl. (*Polish*) 9-5099

permanent magnets review 9-42801

CeCo_{5-x}, Cu and Fe modified, coercive force (*Czech*) 9-42805

(Ce_{1-x}La_x)Be₁₃, mag. intermediate valence behaviour 9-24131

Sm-Co alloy magnets, operational control of residual induction, maximum
mag. energy 9-15324

SmCo₅ magnets, heating effects 9-38357

SmCo_{5-x}, Cu and Fe modified, coercive force, demagnetization curves
(*Czech*) 9-42805

demagnetisation, adiabatic see *magnetic cooling*

Dember effect

double injection into p⁺-n-n⁺ structures 9-42627

semiconductor, theory, allowance for long-range fields of charged impuri-
ties 9-24013

GaAs:O(Cr), relax. semicond., Dember effects meas. 9-28372

demodulation

see also *demodulators; modulation*

differential absorption lidar system sensitivity with heterodyne reception
9-27310

differential heterodyne freq. conversion at 0.4 mm wavelength, Joseph-
son-effect receiver 9-26125

FIR mixing with Josephson junctions 9-26121

heterodyne detection of random gaussian signals, pulse duration optimisa-
tion 9-12848

Josephson mixers for heterodyne reception at submillimetre wavelengths
present expt. status, future developments 9-26120

demodulation continued

laser heterodyne techniques, appl. to interstellar submillimetric lines
detect. 9-44377

optical heterodyning, for light scatt. spectra 9-6186

optical heterodyning at single-photon level 9-26127

underwater acoustic signals, freq. shift arrival time determ. 9-3875

demodulators

see also *demodulation; discriminators; modems*

microprocessor based telemetry demodulation system 9-20738

demonstrations

includes *student experiments*

see also *student laboratory apparatus*

acoustic resonance of violin cavity, reson. modified by He or CO₂
9-35484

acoustics, demonstration cart 9-35481

alkali metal vapour, absorpt. spectra 9-21509

Archibald rubber band heat engine, optimisation 9-5936

arm, lower part, statics and equilb., for 1st yr. medics 9-35505

Bernoulli force, coffee cup demonstration 9-35482

biofeedback, student demonstration 9-44677

biomechanics velocity of sports activities meas., stroboscopic photography,
teaching appl. 9-44679

buoyant bubble 9-30180

Cepheid variable stars, simulated, for introductory astronomy course
9-44664

change of state, of CO₂, syringe expt. 9-40325

chemical equilibrium, machine for teaching statistical basis 9-40337

contact potential difference, for physics course (*Russian*) 9-21508

Coulomb's law, simple demonstration expt. 9-5940

crystal structure, nucl. blocking patterns, crystallography demonstration,
for teachers 9-40328

cylindrical cardboard model for a rotating system in special relativity
9-44661

diffraction grating and interference effects, electronic cct. analogue
9-9052

education, Shubnikov-de Haas oscills., InSb degenerate semiconductor,
third-year undergraduate expt. 9-9051

electron rest energy, using X-ray photoelectron spectrometer, student expt.
9-25802

energy source internal resistance meas. method 9-30176

Fermat's principle, student expts. 9-30178

fovea, human, diameter meas. expt. 9-30

Fraunhofer diffraction and polarisation 9-44666

gas pressure gauge for student expt., mol. weight determ. by law of atm.
9-25795

gravitational acceleration meas. using phonograph turntable 9-44687

gyroscopes, rolling and suspended, ang. momentum demonstration 9-9061

heat of vapourisation of water, lab. meas. method 9-30175

Hubble law, laboratory exercise for students 9-35500

hypodermic syringe, disposable, plastic, physics expts. appls. 9-5935

ice, ionic cond., elec. cond. temp. depend., dielec. props., undergraduate
expts. 9-35503

interference fringe intensity distribution, using vidicon (*Polish*) 9-40340

isotope production, identification, by neutron activation 9-44675

Joule heating, Peltier and Seebeck effects, Cu-Constantan thermocouple
expt. 9-9056

kinetic analysis of rotation with air-cushion apparatus (*Hungarian*)
9-25811

kinetic energy of rotating wheel, expt. using rocket accel. 9-17168

kinetic theory of gases, computer modelling of mol. vel. distribs. 9-30169

light, turning through const. ang. by prism 9-25805

light velocity measurement, Foucault's method modification 9-40327

monolayer, diameter of Styrofoam spheres determ., mol. monolayer experi-
ment appl. 9-44678

musical acoustics, octave synthesizer, teaching appl. 9-44680

nuclear explosion, time distrib. and anal. fallout particles from 1977 Sept.
18 Chinese detonation 9-25796

optical laboratory experiments (*Spanish*) 9-21510

optics, focal length of thin lens under water, determ., teaching appl.
9-44676

parametric spring pendulum, recurrence effects 9-5938

pendulum, string-coupled, normal mode anal. 9-21494

photoconductive recording film demonstrator/processor 9-17551

plasma-laser beam self focusing using paint stripper flame 9-9066

plastics identification by simple qualitative tests 9-5944

precessing spherical pendulum, nonreentrant orbits demonstration 9-5937

psychoacoustical expts. with all pass networks 9-25787

radiation pressure effects, double exposure holographic interferometric
demonstration 9-5943

ray decomposition into circularly polarised components, for physics course
(*Russian*) 9-21508

rigid body dynamics, air table expt. 9-5941

seismic waves, P- and S-wave demonstration with student participation
9-30177

slinky wave demonstrator, folding apparatus 9-44684

soap film in a wedge, expts. for teachers 9-17169

steel rods, longit. impact on plate, contact time meas., student expt.
9-5939

SUPERCHARGE game for student visualis. of equipot. surfaces
9-30179

uniform acceleration, student laboratory expt. 9-40326

velocity of light determ., undergraduate expt. 9-9060

²⁶Al radioisotope source, activation expt. 9-31

I₂, heat of sublimation, laser photometric meas. 9-5942

dendrites

see also *crystal growth*

growth on ion emitters for field desorption mass spectroscopy 9-2873

growth theory, replacement of maximum velocity principle, by stability
criteria 9-11049

growth theory, surface tension effects 9-11051

ice, dendritic growth rates, evidence for a universal law 9-4496

Ivantsov needle crystal model, with zero capillarity and small Peclet
number, stability analysis 9-11050

snow, epitaxial relationship during three dimensional dendrite form.
9-23875

succinonitrile, dendritic growth rates, evidence for a universal law 9-4496

Cu and α -Cu-Zn alloy, whisker growth in Zn reduction, morphological
change to dendrites 9-28261

NH₄Cl-H₂O, binary dendritic system, exam. of solidification 9-11599

dendrites continued

- NbN, Nb₄N₃-NbN, Nb₂N-Nb₄N₃, Nb₂N, cryst. growth parameters and morphology of chem. vapour deposition, X-ray diffr. and SEM study 9-23861
 Ni-Al-Ta (7.5, 2.0 wt.%), dendritic monocrystal, microsegregation and nonhomogenisation 9-37940
 Si dendritic web growth, correlation of solute and interface partition coeffs. 9-24427
 Si, dendritic web growth processes, computer modelling 9-11508
 SiO₂-Al₂O₃-K₂O-Na₂O, exam. of leucite crystal growth 9-19496
 TiN, gaseous phase, crystallisation, effect of temp., vapour-gas mixture conc., and deposition time 9-33910

dendritic crystals *see dendrites***dendritic structure**

- casting in space environment, dendrite remelting and macrosegregation in low-gravity 9-47669
 directional solidification, dendrite growth (*German*) 9-34023
 rare earth metal oxide films, crystallisation, electron microscope obs. 9-15034
 steel, Cr-Ni-Al, intergranular crack investigation by etching (*Chinese*) 9-43457
 Al alloy, weld metal structure and hot cracking susceptibility 9-24595
 Al-Cu (4.5 wt.%), growth structs. with dendrite growth directions differing from heat flow direction during solidification 9-43235
 Al-Cu (5.7wt.%), unidirectionally solidified, dendritic morphology and dendrite arm spacing 9-29043
 Al-Pd, rapidly solidified, new ordered phase, electron microscope obs. 9-11645
 Al-Ti alloys, growth crystallography and morphologies of Al₃Ti primary dendrites 9-43230
 AlZn, homogenization processes, dendritic struct. 9-15700
 Au-Co electrodeposit, struct. and hardness characts. 9-28245
 Bi-Sb, conditions for dendritic crystallisation, accompanying rapid cooling (*Russian*) 9-34020
 Cu, cementation, characterisation of nucleation and growth from aq. soln., TEM and SEM study 9-28972
 Cu-Si-Ni, undercooled, grain refinement 9-34079
 Fe, cast, hypoeutectic, primary crystn. features by means of apparent viscosity meas. in early stages of solidification (*Japanese*) 9-43231
 Fe-Ni (31 wt.%) alloy, Bridgman grown, cellular to dendritic crystn. transition, morphology and microstruct. (*Russian*) 9-14709
 Ni-Al-Cr, IN-100, growth geometry of carbides in dendritic monocrystals, solidification effects 9-11597
 Ni-Cr-Mg alloy, KhN70VMTYu, Mg effect on grain boundary struct., props. 9-19261
 Si, RTR ribbon, impact of defects on photovoltaic potential 9-11186
 SiC, CVD, microstruct. obs., optical and TEM 9-7560
 W dendritic surface anodisation for solar absorbance enhancement 9-34440

dense fluids, theory *see liquid theory***densification**

- see also density; powders; sintering*
 ceramic compact, morphological investigations significance 9-33988
 ceramic powder pressing review 9-47652
 corundum ceramic, high-temp. treatment, powder medium effect on microstruct., comp., strength and dielec. props. 9-33984
 ferrite core, strength improvement method, SiO₂ and Bi₂O₃ additions, mag. characts. 9-24484
 granular materials, density hardening, compacting 9-32283
 hot pressing, reactive, identification of stages 9-11542
 oxide fuels, in-pile densification by vacancy boil-off and vacancy knockout, model 9-8259
 powder compact densification characts., non-isothermal sintering 9-28976
 prefired substrate, acid treatment, improvement in as-fired surface finish 9-24636
 quartz glass-ceramics, atm. influence on sintering rate 9-38784
 steel, austenitic stainless, porous fibre, sintered and compacted, mech. props. 9-15623
 steel, maraging, inert gas atomised, hot isostatic pressing temp. effect 9-24460
 superalloy, hot consolidation of rapidly solidified powders, review 9-33965
 AlN, hot pressed, effect of O₂ content on flexural strength and compact density 9-11668
 Al₂O₃, ceramic compact, morphology 9-33988
 Al₂O₃, crystallite size and lattice distortion, determination using X-ray line broadening analysis, appl. to ceramic powders 9-8261
 β-Al₂O₃, effect of furnace atmosphere on sintering, and densification 9-20010
 Al₂O₃, spray dried agglomerates, compaction response, fracture, deform. 9-43172
 BaO.n Fe₂O₃, magnet, effect of SiO₂ on texture and densification behaviour (*German*) 9-24631
 BaTiO₃-CuO(TiO₂)₂(ZrO₂) mixture, exam. of liquid phase sintering, densification 9-33979
 C, dense hard-type solids prep. from petroleum coke powder by grinding 9-20002
 CdO, effect of compacting pressure on consolidation and elec. cond. 9-29007
 Cu compact, exam. of anisotropic shrinkage as function of pressure 9-8257
 Cu powder, flowability, apparent density and comp., effect of Na, Mg and Al additions 9-28986
 MgO briquets, prep. by shock compaction and characteris. 9-43178
 MgO₂ powder exam. of packing behaviour (*Japanese*) 9-20016
 MnZn ferrite, spray dried agglomerates, compaction response, fracture, deform. 9-43172
 NiO-CaF₂ two-phase material, press. sintering, activation energy and compaction mechanism 9-47651
 SiC, spray dried agglomerates, compaction response, fracture, deform. 9-43172
 Si₃N₄, hot pressing, starting powder requirements, review 9-33987
 Si₃N₄, reaction-bonded, pore struct. variations 9-24480
 Si₃N₄ with Y₂O₃ and Al₂O₃ additions, hot pressed, exam. of mech. props., grain boundary crystallization 9-20009
 SiO₂ glass, densified, enthalpy variation, heat of dissolution obs. (*French*) 9-34015
 W-Ni compacts, optimum conc. of Ni for activated sintering, optical microscopy obs. 9-38758

densification continued

- W-Ni system, grain growth and densification during liquid phase sintering 9-38760
 WC-Co compacts and sintered alloy, fine struct. of carbide phases, pre-forms re-pressing under high press. effect 9-28987
 ZrB₂, hot pressing, applied press. effect (*Japanese*) 9-38780
 ZrO₂, electrolyte cells, sintering 9-24476
 ZrO₂, spray dried agglomerates, compaction response, fracture, deform. 9-43172
 ZrSiO₄-Al₂O₃ mixture, reaction hot pressing 9-38775

densimeters *see densitometry***densitometers** *see densitometry***densitometry**

- see also photometry*
 automatic system 9-26164
 cancellous bone, Compton scatter densitometry meas. 9-39489
 chromatin structure of cell nuclei using scanning microphotometry and TV image anal. 9-34720
 detection threshold and photometry, influence of granularity and light diffr. 9-21839
 dyestuffs in fibres, distortion in microdensitometric determ. of conc. distrib. (*German*) 9-17464
 finite-width line axial optical density prediction 9-27193
 fused xerographic images, optical density model 9-17550
 halftone noise characterisation, meas. technique using scanning microdensitometer 9-26151
 Joyce-Loeb microdensitometer, principle, new appls. (*Czech*) 9-30524
 microdensitometer with computer-controlled scanning table (*Russian*) 9-6197
 microdensitometers, props. effect on photographic emulsion charact. curve 9-43673
 online shade monitor, strip materials 9-30526
 optical density difference measurement on X-ray film by analog measurer 9-39099
 photodensitometry of tracks of highly ionizing particles in the cosmic rays 9-22551
 pseudocolour density encoding of photographic materials, white light processing system 9-18360
 renal diagnosis by blood circulation angiocensitometry (*German*) 9-2127
 scanning microscope stage for microdensitometry, computer-controlled 9-26117
 sensitometers, for radiographic processing quality assurance, performance evaluation 9-29617
 SIMS ion images, multifeature mass analysis utilising digital image processing, Fe anal. appl. 9-43684
 steel, austenitic stainless, deformation induced cavitation, exam. 9-43363
 thoracic X-ray image comparison automation (*Japanese*) 9-29615
 tonal reproduction via unscreened positive printing plates 9-17517
 Vickers M85/M86 microdensitometer, film holder 9-21832
 videodensitometry and image analysis, minimum computer system 9-34664
 X-ray screen-film systems, H and D curves, factors affecting energy dependence 9-39484
 NaNbO₃-SrNb₂O₆, phase diagram, props. meas. 9-11576

density

- see also atmospheric pressure and density; density measurement; density of gases; density of liquids; density of solids*
 early universe, adiabatic density perturbations evolution 9-25769
 early universe, nonlinear primordial fluctuations 9-25773
 Earth, gravity field anomalies sources depths determ. 9-16366
 Earth and crust, Bouguer formula rel. to gravity corrections 9-29692
 Earth crust, Michigan Basin deep borehole gravimetry survey 9-39634
 Earth upper mantle, possible density inversion 9-12099
 galaxies, stars/galaxy density ratio rel. to local gravit. instability in double gaseous discs (*Chinese*) 9-17099
 ocean, two-layer, density stratification and locally generated internal waves (*Russian*) 9-16480
 ocean large-scale density anomalies, non-linear evolution (*Russian*) 9-16479
 solar active region coronal loops, temp. and density struct. 9-8890
 solar wind models, Alfvén effects on density profile 9-16789
 Sun polar coronal hole, temp.-density model from EUV lines 9-5797
 Al₂O₃, sintering behaviour and props. of 24 aluminas (*German*) 9-4932
 α-SiC, sintering, influence of B, C additives on microstructure, SEM exam 9-8262
 UO₂ microspheres, prep. from UO₃(NH₃)₂, exam. of mech. and physical preps. 9-6758

density, atmospheric *see atmospheric pressure and density***density, vapour** *see density of gases***density measurement**

- see also hydrometers*
 analogue device (*French*) 9-17399
 coherent antiStokes Raman scatt. (*German*) 9-27321
 dynamic density measurement of body in a liquid, viscosity effects 9-6097
 Earth crust bulk densities, gravity borehole data accuracy 9-5632
 elastic waveguide slow torsional wave sensors 9-46748
 ethylene, liq., orthobaric density, 105 to 200K 9-35679
 gas shock waves X-ray densitometer with high sensitivity and quantum flux 9-26031
 glass hollow spheres, hydrodynamic method (*Chinese*) 9-12773
 industrial gases, density meas. at melting, boiling points, survey of methods, apparatus (*German*) 9-30421
 irradiated nuclear fuel reprocessing streams, remote anal. techniques 9-13510
 isotopic, of liquids, based on gamma radiation absorption, food industry appl. 9-44903
 liquids, acoustic method for determination as function of pressure 9-12771
 liquids, analytical one panned scales appl. based on solid body density standards (*Croatian*) 9-26033
 magnetic suspension densimeter, orthobaric liquid density, of Ar, 100 to 120K, and ethylene, 105 to 200K 9-35679
 magnetic suspension densitometer for cryogenic meas. 9-12805
 microparticles of cryst. sediment in bubbles in glass, density determ., flotation method 9-24692
 non-metallic materials, flaw detection by tomodesitometry (*French*) 9-20295
 ocean, density fields determ. 9-44195

density measurement continued

rocks, using pulsed gamma-ray method (*Russian*) 9-39956
 seawater density meas., Mediterranean Sea samples 9-5486
 seawater salinity and density from gamma-ray attenuation (*Russian*) 9-39897
 snow, accuracy of water equivalent meas. with standard densitometer 9-29796
 thick inhomogeneity effects on charged particle beams 9-25041
 Ar, meas. of orthobaric liquid density, 100 to 120K 9-35679
 BN, degree of conversion from cubic to hexagonal, determ. method 9-15887

density of gases

CO₂ UV preionised laser discharge, large scale, aero-acoustic effects 9-36875
 UO₂ vapour bubble characts. determ. in LMFBR 9-22390

density of liquids

see also hydrometers
 acoustic method for determination as function of pressure 9-12771
 anormal fluids, saturated liq. densities, four-parameter corresponding state theory 9-33066
 benzene-toluene and benzene-o-xylene mixtures, US vels., compressibility, expsn. coeff. 9-33038
 1,3-buteneglycol, density rel. to temp. and pressure (*Russian*) 9-10890
 chloroform+acetone, isotropic light scattering, excess Gibbs function 9-8150
 ethylene, liq., orthobaric density, 105 to 200K 9-35679
 fatty acids in anhydrous solvents, partial molar volume from density meas. 9-43616
 high pressure refractive index variation with density 9-28712
 interfaces, liq.-cryst. and liq.-rigid wall, Monte Carlo simulation 9-27896
 Lennard-Jones fluid, phase separation by spinodal decomposition, mol. dynamics computer simulation 9-10766
 lysozyme aqueous solutions, viscosity and density 9-48208
 macromolecules in solution, density contrast, cross verification of X-ray scatt. and pycnometry expts. 9-10757
 meas., analytical one panned scales appl. based on solid body density standards (*Croatian*) 9-26033
 microdrop, energy and mol. structure, mol. dynamics method 9-11004
 mixtures, perturbed hard chain theory, thermodynamic props., appls. in chem. technology 9-34343
 multicomponent liquid mixtures, empirical excess volume model, for estimating densities 9-1503
 natural gas, empirical excess volume model, for estimating densities 9-1503
 natural gas-related saturated liquid mixtures, molar vols. 9-1505
 nematic liquid crystals, refractive index, order parameter, density 9-38513
 nematic liquid crystals and mixtures, temp. dependence of density, obs. (*Russian*) 9-14681
 nonelectrolyte aqueous solutions, lattice model approach 9-32876
 octafluorocyclobutane+n-butane mixtures, 233K, surface tension meas., excess vol. 9-19371
 oil, density change meas. at high pressure, using impact viscometer 9-14872
 organic liquids, relation between density and refractive index (*Japanese*) 9-24279
 polyethylene glycols, aq. solns., volumetric props. 9-20460
 potassium oxyacid salts, aq. electrolytes, apparent molar heat capacities and vols. 9-23744
 pyridine, compressed liq., self-diffusion coeffs., viscosity, density, temp. press. depend., NMR spin-echo 9-37862
 sodium oxyacid salts, aq. electrolytes, apparent molar heat capacities and vols. 9-23744
 ternary liquid mixtures, physical props., determ. by density and US vol. meas. 9-37751
 triangular-potential fluid, Zwanzig's perturbation theory, appl. to thermodynamic props. 9-41920
 water, convective heat transfer, free, with density inversion, in confined rectangular vessel (*German*) 9-18671
 water, non-Boussinesq convective struct. near 4°C, nonlinear density profile 9-18886
 water, vertical boundary layer convection, salinity and press. depends. 9-37316
 Al₂O₃-Cr₂O₃ melt, exam. of surface tension and density 9-1541
 Al₂O₃-SiO₂ melt, exam. of surface tension and density 9-1541
 Ar, meas. of orthobaric liquid density, 100 to 120K 9-35679
 Ar, solid-liq. transition and mech. props., modified cell theory 9-23703
 Ar-He(Kr)(Ne), solubility in Ar, and related functions, three-body forces 9-10776
 3Bi₂O₃·5B₂O₃, viscosity, molar volume of melt and enthalpy of fusion 9-10924
 CuInSe₂-CuInS₂, melts, viscosity, elec. cond., density composition prop. graphs 9-14948
³He, A-phase, props. near transition to A₁-phase (*Russian*) 9-7728
 LiCl-NaCl-AlCl₃ ternary melt, density as function of temp. and composition, meas. by macrometric method (*Japanese*) 9-42130
 PbO/PbF₂/B₂O₃ solvent system, density, surface tension and expansivity data, effect of B₂O₃ conc. 9-19985
 UO₂, liquid, eqn. of state 9-14910
 W, density at onset of sharp fall in elec. cond. 9-33026
 YAG solutions, in PbO/PbF₂/B₂O₃ solvent systems, density, surface tension and expansivity data, effect of B₂O₃ conc. 9-19985
 ZnCl₂-LiCl(NaCl)(KCl)(CsCl), molten, density meas. (*Japanese*) 9-19383

density of solids

amorphous metals, struct. imperfections, review of expt. evidence 9-37630
 calcium alginate gels, Raleigh scatt., spectral broadening, density fluctuations 9-1776
 chalcogenide glass, partial values and structure features 9-41969
 concrete, porosity determ. from combined US and gamma absorption meas., mech. props. 9-29295
 diacetate-nitrocellulose, long period struct., 180-265°C, X-ray diffr. obs. (*Russian*) 9-24556
 floc, settling velocity, rel. to permeability 9-43636
 Lexan, optical and phys. parameters 9-32004
 microparticles of cryst. sediment in bubbles in glass, density determ., flotation method 9-24692
 Plexiglas 55, optical and phys. parameters 9-32004

density of solids continued

poly-tetramethyl-p-silphenylene-dimethylsiloxane block copolymers, crystn., morphology, kinetics 9-14695
 polybutyleneterephthalate, drawn annealed, struct. and props., X-ray scattering 9-7552
 polycarbonate film, struct. and mech. props. 9-19160
 PVA carbonisation process and carbonised block props., high temp. resistant materials (*Russian*) 9-8268
 pyrocarbon, low temp., isotropic, permeability study (*French*) 9-7549
 rare earth titanates, R₂Ti₂O₇, synthesis and phys. props. 9-43128
 steel, austenitic stainless, porous fibre, sintered and compacted, mech. props. 9-15623
 steel, Cr-Mo-V, rupture ductility rel. to cavitation, density and SEM obs. 9-34142
 steel, stainless, atomised powder, effect of ultrasonic refining on processing props. 9-33972
 tellurite glasses, binary, struct. and props. (*Japanese*) 9-32917
 triacetate-nitrocellulose, long period struct., 180-265°C, X-ray diffr. obs. (*Russian*) 9-24556
 viscose, long period struct., 180-265°C, X-ray diffr. obs. (*Russian*) 9-24556
 β-Al₂O₃-Na₂O, hot pressing and phys. props. 9-4940
 Ar, solid-liq. transition and mech. props., modified cell theory 9-23703
 As-S-Te, vitrification, density and elec. cond. measurements 9-7645
 As₂Se₃-GeSe_x-SnSe_x (x=1,2), exam. of Sn valency and physical props. 9-4753
 B, tetragonal, X-ray diffr. and C doping obs. (*French*) 9-14731
 BaFe₁₂O₁₉, effect of impurity concentrations, and sintering conditions on grain size (*German*) 9-23630
 BaO-B₂O₃-GeO₂, exam. of glass formation and physicochemical props. 9-4959
 BaTiO₃-Al, 0.05-0.3 wt.%, ceramic dielectric, dielec. and mech. props. 9-809
 BaTiO₃-PbO-B₂O₃, liquid phase sintering, effect on props. (*German*) 9-33980
 C, dense hard-type solids prep. from petroleum coke powder by grinding 9-20002
 CdCr₂S₄-xSe_x(O₄) X=0, 4, and solid solns., imperfect struct. model from cryst.-chem. investigations. 9-42053
 Cd₃(PS₄)₂, synthesis by roasting, and exam. of props. 9-4926
 CoGe, vacancy conc. in B2 phase exhibiting triple defects 9-42058
 CuAl₂, constitutional defect struct., from X-ray and density meas. proposed substitutional-vacancy model 9-37696
 Ge-S-In, chalcogenide glass, determ. of density using hydrostatic method 9-23526
 Li-Na ferrite powders, props. rel. to Fe₂O₃ chem., thermal, mech. historical 9-11539
 LiF-NaF(KF)(CaF₂)(BaF₂), densities of binary molten salts (*Japanese*) 9-7644
 MgAl₂O₄, composition rel. to ceramic microstruct. form., light transmission 9-43188
 MgFeGe₂O₆-Ca(Mg_{0.5}Fe_{0.5})Ge₂O₆, solid solns., phase equilibria, cryst. optical, X-ray struct. characts. 9-11577
 MgO polycrystals, hot-pressed, density changes on annealing 9-34073
 NiGa, vacancy conc. in B2 phase exhibiting triple defects 9-42058
 Se-As₂Se₃ system glasses, vibr. spectra and partial vols. of components 9-42973
 β-SiC, powder, synthesis by chemical vapour phase reaction from methylsilane, exam. of props. (*German*) 9-4938
 Si₂N₄ powders, synthesis, charact. 9-33977
 Si₃N₄, porous, reaction sintered, organosilicon infiltrated, decomposition, strength, density 9-29000
 Si₃N₄, reaction sintered, time depend. strength degradation 9-29235
 SiO₂ glass, densified, enthalpy variation, heat of dissolution obs. (*French*) 9-34015
 TeSe₂₀, vitreous alloy, elec. and thermal cond. during crystallisation 9-7550
 TiBS, synthesis, struct., optical, spectral props. 9-15631
 Y₂O₃, prep. of transparent ceramic, exam. of light transmission props. 9-20013
 ZrH_{1.8}, radiation-induced defects in hydrogen sublattice 9-37739

density of states, electron *see* electronic density of states**deoxyribonucleic acids *see* DNA****deperming *see* demagnetisation****desalination**

cellulose acetate membranes, modified, tensile props., desalination performance 9-11818
 chemical water treatment pH value calc. for district heating power station, computer-aided analysis (*Russian*) 9-43572
 direct contact cooling of crystallising MgCl₂ brine using kerosene drops 9-1053
 direct contact heat transfer, butane drop nucleation in flowing water 9-1099
 electrodialysis desalination plant, boundary layer thickness, effect on plant perform. and design 9-26725
 fluidised bed evaporator, liq.-solid wall to liq. heat transfer 9-1245
 nuclear power station with desalination plant, steam-cycle and optimisation calc. 9-26724
 nuclear reactor near term feasibility 9-31172
 photoelectrochemical model energy conversion systems, evaluation 9-43777
 seawater, heavy water concentration, numerical model calc. 9-26514
 solar photoelectric electrodialysis desalination plant 9-39284

desalting *see* desalination**design aids**

see also design engineering; nomograms
 optical fibre system design charts 9-7200

design engineering

see also project engineering
 computer-aided ship structural design for diploma and undergraduate courses 9-35494
 COS-B satellite, ESA extraterrestrial gamma radiation obs. project (*German*) 9-21151
 Incoloy 800, design codes and lifetime prediction aspects for nuclear and non nuclear appls. 9-47778
 industrial machinery, noise reduction techniques appl. 9-18596
 injector mixing chamber, steam-water flow 9-32635
 jet, free, silencing, operational engineering principle (*French*) 9-32494
 nuclear power stations, applications of multi-directional seismic inputs in the design of components 9-31238

design engineering continued

- numerical design of engineering structures and components, vital role of expt. stress anal. 9-32418
- optical fibre components selection for optical links in 1979 year of fibre optics (*French*) 9-37009
- optical fibre system design charts 9-7200
- photovoltaic systems, all component optimisation, theory and appls. 9-29475
- poloidal field coil design and development of JT-60 Tokamak 9-31204
- ships, hull form evaluation by wake pattern analysis and compilation (*Japanese*) 9-27644
- sl units in permanent magnet calculations 9-30406
- solar electricity generating station design, Themis (*French*) 9-39290
- thermoelastic two-layer cylinder deform., rel. to microelectronic device manufacture 9-41561
- toroidal field coil design and development for JT-60 Tokamak 9-31203

desk calculators see *calculating apparatus; electronic calculators*

desk-top computers see *minicomputers*

desorption

- biological membrane, egg yolk, freezing injuries, membrane destabilisation (*French*) 9-48221
- breakthrough curves for adsorption-desorption, modelling using statistical moments 9-37916
- cluster ions, field desorption, ion form. mechanism 9-15006
- conference on solid-vacuum interface, Amsterdam, Netherlands (June 78) 9-42342
- constructional materials, electron bombarded, gas evaluation obs. (*Russian*) 9-1460
- electron stimulated desorption data, chemisorbed systems, reinterpretation in Auger decay model 9-42375
- epoxy, reinforced, outgassing rate in vacuum, control by pretreatment 9-40583
- graphite, wall and limiter material for Tokamaks, induced desorption diffusion and gas production by 100 eV electrons and ions 9-675
- Inconel 675, wall and limiter material for Tokamaks, induced desorption diffusion and gas production by 100 eV electrons and ions 9-675
- membranes, linear laminated media, permeation, sorpt. 9-1966
- metal surface, kinetics of adsorpt., desorpt. and migration, review 9-46921
- metallic systems, rate equation for desorbing particles 9-46929
- one- and two-step mechanisms of desorption kinetics 9-46958
- polyatomic ions, thermal desorption lifetime and kinetic characts. determ. 9-11018
- polymer, volatile constituents anal. by thermal desorpt., gas chromatography and mass spectrometry 9-43664
- refractory filament, temp. control method for thermal desorpt. expts. 9-9215
- silica gel regeneration by adiabatic desorption mathematical model 9-1967
- silicone rubber, RTV 560, diffusion of outgassing species, kinetics data 9-15010
- steel, stainless, wall and limiter material for Tokamaks, induced desorption diffusion and gas production by 100 eV electrons and ions 9-675
- thermal desorption mass spectrometry, effect of time delays 9-19466
- thermal desorption with small friction constant 9-15012
- WO₃, (100) and (111) layers, electron stimulated desorption of O⁺, LEED obs. 9-23840
- Ag, field desorbed ions, appearance pots. 9-24417
- Ag island films, on W, growth and desorption kinetics, mass spectra obs. (*German*) 9-46978
- Al alloy 6061 9-675
- Au film, on W substrate, chemisorbed N₂ effect on crystallite growth, FEM obs. 9-46976
- B₂O₃, temperature programmed desorption, depend. on P/B ratio 9-23828
- CLi₃, desorption from graphite expt., ionis. pot. 9-34392
- Co (1012), struct. and CO chemisorption obs. 9-4474
- Cu-Ni alloys, surface comp. and catalysis, AES and thermal desorption meas. 9-46898
- Fe, of O₂(N₂), surface anal., XPS appl. 9-24875
- Fe surface, form. and decomp. of nitrides 9-24831
- Fe-Ti, D storage, desorption isotherm and struct. study by neutron diff. 9-1549
- GaAs, adsorption of O₂, adsorption states and Ga depletion, UPS, AES, and thermal desorption meas. 9-46952
- GaAs, oxide film influence on adsorption and electrophys. props. 9-42369
- H adsorption and desorption, self-consistent model calc. 9-46943
- Ir (110), of CO, coverage dependence of kinetic parameters 9-19462
- MgO, catalytic behaviour, rel. to XPS obs. 9-24820
- Mo, of He, Mo-He and He-He interaction pot. 9-19459
- (Na₂O)(Al₂O₃)x(SiO₂), zeolites, thermionic emission of alkali ions, desorption mechanism 9-4887
- Nb, of O₂, electron-stimulated desorption study 9-11017
- Ne, solid, adsorbed ³He, desorption heat capacity 9-4452
- Ni (100) surface, adsorption of H₂, LEED, work function meas. and thermal desorpt. obs. 9-23843
- Ni, H and CO adsorbates, ion impact desorption of atoms and molecules by low energy ion scattering 9-4883
- Ni, of CO, comparison of surface anal. methods 9-8213
- Ni surface, adsorbed CO and H₂ layers, laser induced desorption expt. 9-1548
- Ni surface, polycryst., interaction with O₂, SIMS and flash filament meas. 9-47829
- βNiH, decomposing, α-phase precipitate detection by Bitter powder pattern 9-28104
- Ni(100) and (111), of H, preexponential factors 9-46918
- O adsorbed layer on Cu (100), ejection by ion bombard 9-42373
- O₂ adsorbed layer on Cu (100), ejection by ion bombard, 9-42373
- P, amorphous thin film, room temp. cond. after desorption of moisture on film surface 9-24011
- Pb monolayers on Cu stepped and low index surfaces, LEED, AES and desorption anal. 9-46942
- Pb₉₉Sn_{0.1}Te surfaces, oxidation in air and thermal desorption, XPS and LEED meas. 9-47830
- PbTe surfaces, oxidation in air and thermal desorption, XPS and LEED meas. 9-47830
- Pd-Fe-H, elec. resistivity, 4.2 to 300K, effect of H₂ desorption (*Russian*) 9-7814
- Pd-Ni alloys, surface comp. and catalysis, AES and thermal desorption meas. 9-46898

desorption continued

- Pd(111), of H, preexponential factors 9-46918
 - Pt catalysts, supported, adsorbed CO, temp. programmed desorption 9-46915
 - Pt surfaces, clean and S covered, desorption of CO, binding energy meas. 9-46950
 - Pt-Pd(Au) alloys, surface comp. and catalysis, AES and thermal desorption meas. 9-46898
 - Pt(111), of H, preexponential factors 9-46918
 - Rh, coadsorbed CO and O, desorption spectra, Langmuir-Hinshelwood reaction between O and CO 9-47965
 - Rh, coadsorption of CO and H₂, thermal desorption mass spectroscopy meas. 9-46948
 - Ru (001), chemisorption of CO, electron stimulated desorption ion ang. distrib. bonding geometry and bending vibrs. 9-33189
 - Ru (001) surface, CO desorption 9-15001
 - Si, etching using XeF₂ vapour, adsorption/desorption process 9-43449
 - Si, whisker, amorphous, growth method for field desorption mass spectrometry 9-28262
 - SnTe surfaces, oxidation in air and thermal desorption, XPS and LEED meas. 9-47830
 - V-H, H on polycrystalline V, H detection by SIMS, flash-desorption obs. 9-24405
 - W (001) face, thermal desorption kinetics of Cs atoms and ions 9-28210
 - W (100), adsorpt. of acetylene, room temp., electron spectroscopy obs. 9-7749
 - W (100), coadsorption of CO and H₂, CO/H surface complex obs. 9-4478
 - W (100), formic acid decomp., flash desorption obs. 9-29402
 - W (100), of O₂, electron desorption cross sections 9-46944
 - W (111), adsorption of O₂, AES, LEED and electron stimulated desorption obs. 9-46935
 - W, adsorption and condensation of Fe, meas. by thermal desorption in time-of-flight mass spectra 9-15023
 - W, clean and oxidised, mol. binding states of SiO 9-7750
 - W, desorption of D₂, meas. of fast desorption kinetics by laser heating technique 9-23837
 - W, electron stimulated desorption of O from (100) and (110) surfaces, combined LEED and AES method 9-33181
 - W, H and CO adsorbates, ion impact desorption of atoms and molecules by low energy ion scattering 9-4883
 - W, of Ag, adsorption and desorption kinetics, mass spectra obs. (*German*) 9-46951
 - W surface, of Cs ions, evap. isotherm from single cryst. faces 9-24829
 - ZrC and ZrC-Re alloys, desorption temp., flash temp. and initial sticking factor 9-19467
- detection (demodulation)** see *demodulation*
- detector circuits**
see also *demodulation; demodulators*
gamma-ray spectrometer self-stabilising peak detector (*Russian*) 9-26814
phase-sensitive detector, programmable, for automatic bridge appl. 9-21773
square law detector checking, for Hartshorn and Ward dielectric meas. 9-35777
synchronous, for ESR spectrometer 9-35802
- detectors**
see also *electric sensing devices; hydrophones; infrared detectors; microwave detectors; nonelectric sensing devices; particle detectors; photodetectors; ultraviolet detectors*
crime countermeasures, physical techniques for detection 9-12920
odour detection, instrumental techniques (*Dutch*) 9-16658
semiconductor diode sensors for low temp. thermometry (*German*) 9-35762
snowfall detectors and automatic depth recorder (*Japanese*) 9-8700
- determinants**
see also *matrix algebra*
crystallography, determinantal inequalities, invariant joint probability distrib., heuristic derivation 9-32927
secular equation of the 4th order, L-matrix approx. vs. HLFS methods, mol. force consts. appl. 9-36556
- detonation**
see also *explosions; shock waves*
air, optical detonation threshold, press. depend. rel. to Ar 9-23438
heterogeneous solid explosives, spin detonation 9-14429
LMFBR shock-induced fragmentation and detonating thermal explosions 9-13475
polymorphic detonation 9-42147
spherical detonation waves in media with volumetric viscosity 9-14332
triamino-trinitrobenzene, UV and shock-induced decomp. XPS obs. 9-31595
weak detonation waves 9-41710
Ar gas, supersonic radiation waves generated by CO₂ laser radiation 9-10593
Ar, optical detonation threshold, press. depend., rel. to air 9-23438
- deuterium**
absorption by La-Ni alloys, 500-700°C 9-23736
abundance, Indian radioactive thermal spring water D content, mass spectrometric anal. 9-39765
adsorption on W (001) surface reconstruction and reordering 9-23835
anharmonic spectral density of librons in o-H₂ and p-D₂ 9-14899
atomic beam, superpermeability of Armco iron membrane 9-24830
chemisorbed on W (100), isotope effects obs. by SIMS 9-5234
cosmic abundance rel. to density of matter in open, expanding Universe 9-12548
cosmological formation, inhomogeneity 9-21471
depth distrib. determ. in stainless steel, using D(³He,p)⁴He 9-4326
desorption of D₂ from W, meas. of fast desorption kinetics by laser heating technique 9-23837
discharge plasma, resonant multiphoton optogalvanic spectroscopy, diagnostics appls. 9-23448
DT self-propelling pellets for fusion-reactor refueling 9-677
electromigration measured by resistance method in Nb and V 9-23783
enrichment by CW CO₂ laser induced reaction 9-18300
fusion target, conical, laser irradi., neutron production 9-22467
galactic distribution, radial gradient, from DCN/H¹³CN and DCO⁺/HC¹⁸O⁺ ratios 9-40232
impurity in V, trapping by O interstitials, channelling 9-4316
isotope enrichment by CW CO₂ laser-induced vibr. photochem. 9-36790
liquid ortho-D₂, convertor for ultra cold neutrons 9-45520
melting curve, meas. of P, V, T and longitudinal sound velocity 9-37814

deuterium continued

- molecular solid, eqn. of state, 4.2K isotherm, ortho-para depend. 9-7670
molecule, electron Compton profiles from energy loss spectra 9-7013
molecule, electron impact excitation, transfer of moment impulses, vibration-rotation states (*Russian*) 9-7024
plasma, effect of Ar admixture on plasma temp. 9-37446
plasma, isolated energetic, prod. by CO₂ laser 9-14577
plasma, T-4 tokamak, ion cyclotron heating, obs. (*Russian*) 9-27796
production model limitations based on high-energy neutrino background 9-44328
quadrupole resonance, double transitions, appls. 9-3465
Raman spectra of molecules dissolved in vitreous SiO₂ 9-33707
solid, elastic constants and anisotropic pair correls. 9-33042
solid, equation of state, at high pressure 9-46781
solid, intermolecular pair potential, from solid-state data 9-14727
solid, ordered cubic phase, NMR spin echo responses 9-47356
solid, secondary electron emission, electron and ion induced 9-1803
solid, sp. ht. effect of Ne impurities 9-33099
trapping in ion-bombarded Be 9-19291
Cd(P₁)(P₂)+D₂ reacts., CdH(CdD) yields, quenching cross sections 9-1948
D⁺ polarised ion sources, recent advances 9-45498
D⁺ source, performance improvement, appl. to fusion reactor neutral beam lines 9-22511
D/H ratio and cosmic ray ionization in interstellar clouds 9-17063
D/H ratio in waters from El Tatio geothermal field, N.Chile 9-16525
D/H ratios of natural serpentines, rel. D/H fractionation factors between serpentine and water at 100-500°C 9-34803
D-³He fusion reactor advanced fuel development and confinement 9-13516
D-D fusion reactor advanced fuel development and confinement 9-13516
D-T fusion sources, light water hybrid breeding reactors, source driven 9-13518
D-T plasma, adiabatic heating and fusion energy production by compressible fast liner 9-31182
D-T shell, thin, hollow, laser-driven implosion, ignition problem 9-31183
D+Ar, differential collision cross sections, diffraction oscils., data anal. 9-22783
D+H, excitation transfer, thermal energy, dipole-dipole interaction 9-31666
D+H₂, pot. surface, isotropic part determ. 9-36729
D+He*, Penning and assoc. ionis. with metastable He, 0.01-10 eV beams 9-27074
D+He(2³S), Penning and assoc. ionis. cross sections, vel. depend. 9-22815
D⁺+Ar, electron capture to continuum states, forward ejected electron spectra 9-45831
D₂, elec. quadrupole vibr.-rot. spectrum, 2.8 to 3.9 μ m 9-805
D₂, intermolecular pair potential, from solid-state data 9-14727
D₂ matrix shift, CoM freq., in solid Ar, Kr and Xe 9-6969
p-D₂, order parameter temp. depend. 9-42242
D₂⁺, muonic, three-body Coulomb interaction, adiabatic representation 9-31640
D₂-HCl, vibr. relax. time meas., by coherent Raman-induced IR fluoresce. 9-7038
D₂+H₂O, isotope exchange on Pt, CO poisoning effects 9-11824
D₂+H₂O, isotope exchange on Pt over hydrophobic support 9-11823
D₂+H₂(N₂O)(O₂), Wassiljewa coeffs., thermal condns., 50 and 100°C 9-37437
D₂+He(2³S and 2¹S), Penning, rearrangement and total ionis. cross sections, vel. depend. 9-22816
D₂+Li⁺, vibr. excitation cross sections, 100-1200 eV 9-27077
D₂+N₂, vibr. relax. in liquid phase 9-847
D₂(H₂) Stark broadening in Ar arc plasma 9-36582
D₂⁺(HD⁺), g-factors and related mag. props., calc. theory 9-41124
DT fusion microballoon, Ne seeded, compression by CO₂ laser 9-22466
DT, liquid and solid, collision induced infrared spectra 9-45717
H+H₂(HD)(D₂), exchange reaction rate consts. meas., vibr. effects 9-5134
H₂-D₂ vacuum deposited solid films, struct. study transmission electron diff. obs. (*Russian*) 9-11035
HD, nucl. spin-spin coupling, diamag. contrib. 9-36665
H₂-D₂ separation by Taylor diffusion 9-18303
MgO:D, X-ray stimulated luminesc. 9-28802
Ni:D, diffusion study using D(d,p) reaction 9-5202
Si:D, ion implanted, struct. of impurity centre 9-7623
S²TiO₃:H(D), controlled doping, IR spectra 9-28007
ZnO:Cu, D, and ZnO:Cu, H, D, IR absorpt. line spectra, OH and OD vibr., optical excitation 9-15498
ZnO:Cu,D, OH and OD centres, IR-active absorpt. line spectra 9-15496
- deuterium compounds**
see also heavy water
graphite-DNO₃, intercalation cpd., mol. dynamics 9-28631
DBR, spin-flip Raman laser double-beam spectrum, SFRL multiline output 9-7132
DBR-N₂O mixture, third harmonic generation obs. 9-23018
DBR+DBR, vibr. energy transfer, dissimilar isotopic species 9-27067
DCN, 250 mW continuous discharge laser at 195 μ m 9-31949
DCN, DNC, interstellar strongly deuterated mol. obs. and implications for interstellar chemistry 9-5891
DCN, predissociation, photofragment excitation spectra measurement 9-45777
D(CN)₂⁻, IR spectra, rel. to mol. geom. 9-22702
DCI, IR matrix isolation spectra, N₂ matrix effects 9-36634
DCI, matrix isolated, vibr. relax., IR fluoresc. obs. 9-45749
DCI+DCI, vibr. energy transfer, dissimilar isotopic species 9-27067
DF, IR laser spectra 9-45936
DF pulsed chemical laser, flow technology 9-36934
DF repetitively pulsed chem. laser, scalable fuel/diluent feed system 9-36935
DF(1 \leq n \leq 7)+HF(0), vibr. deactivation calc., 300-3000K 9-31655
DI+Cl₂-DCI+I, thermal rate const., 220-400K, H/D isotope effect 9-47906
DNC in HNC interstellar clouds, temp. effects and D fractionation 9-44578
DNC, vibronic coupling and linear to bent transitions 9-45694
DNCS, ground state spectroscopic constants and elec. dipole moment, from microwave and millimetre wave spectra 9-804
DO₂, IR spectra, config. of ²A' and ²A'' states 9-36636
D₂O₂, lattice dynamics, neutron scatt. study 9-42176

deuterium compounds continued

- D₂S, CO₂ laser pumped, high power far IR superfluorescent emission 9-27243
D₂S, energy levels and mol. vibr., internal coord. model 9-799
D₂SO₄, pure, IR and Raman spectra in liq. state, assignments and cryst. spectra comparison (*French*) 9-33699
HF, low-impedance Blumlein discharge initiated laser, efficient operation 9-36919
H₂O:D₂O, ice Ic, vibr. decoupling, IR spectrum 9-13706
I*+H₂O(D₂O)(HDO), ⁵P_{1/2}, electronic to vibr. energy transfer, quenching and time resolved IR fluoresc. 9-3537
- deuteron effects**
No entries
- deuteron interactions** *see deuteron-nucleus reactions; hadron-deuteron interactions; lepton-deuteron interactions; meson-deuteron interactions; photon-deuteron interactions; proton-deuteron interactions*
- deuteron-nucleus reactions**
for inelastic deuteron-nucleus scattering, see 'deuteron-nucleus scattering'
see also nuclear fusion
0.7-8 GeV, scaling and nonscaling of inclusive π prod. 9-22296
A=3, d+n clustering, D-state effects in (d,t) and (d,³He) 9-22302
(d,n) on Be, C, Al, Ni, Cu, Mo, Ta and Pb, secondary neutron emission characts. 9-30843
emulsion nuclei, g-proton energy and ang. characteristics (*Russian*) 9-40937
high-energy, at Saturne I, five years of expts. (*French*) 9-3262
one-nucleon transfer reactions, high energy, reaction kinetics and struct. determ. (*French*) 9-535
three-body model of deuteron breakup and stripping 9-515
(d,⁶Li), α -clustering and spectroscopic factors, shell effects and deformation correlations 9-6436
(d,⁶Li) reaction, 80 MeV, on ¹⁴N, ¹⁶O, ²⁰Ne, ^{24,25,26}Mg, ⁴⁰Ca targets, resonance-like phenomena 9-13308
(d,n) diagnostic neutron spectra from deuterons 2.5, 3.0, 3.5 MeV on ¹²C, ²⁷Al, ¹⁹F, CH₂, CD₂, Teflon 9-40933
(d,p), 12.08 MeV, ¹³⁴Sm, ¹⁶⁶Er, ¹⁷⁰Yb, final nucleus level struct., DWBA anal. of ang. distrib. 9-30788
(d,p), effects of d deformation and D-state influence, wave functions 9-13201
(d,p), O and N profiles determ. in steel surfaces 9-5216
(d,p) reactions, δ -shell method for approx. finite range DWBA calcs. 9-555
(d, π), 350 MeV, backward π^+ prod., momentum depend., scaling, Monte Carlo calcs. 9-13305
(d,t), 12.08 MeV, ¹⁵⁴Sm, ¹⁶⁶Er, final nucleus, level struct., DWBA anal. of ang. distrib. 9-30788
(d,X), 70, 80 MeV, charged light particle spectra and ang. distrib. excitation model anal. 9-40935
(d,X) on light nuclei, 1.55, 2.89 GeV/c, total and inelastic cross sections 9-6610
d-d neutral beam facility neutron yield meas., shielding and diagnostics 9-9878
(dp) stripping, two-body rearrangement collision, effect of continuum contribution 9-13262
²⁷Al(d,pX), 25.5 MeV, inclusive p spectra and cross sections from d breakup 9-13303
²⁷Al(d,p)²⁸Al, 1.5 to 3.0 MeV, excitation functions 9-40932
⁴⁰Ar(d,p)⁴¹Ar, 1.354 MeV, spectroscopic factor comparison with isobaric analogue reson. 9-30787
Au(d,np), 23 to 26 MeV, diffraction theory calcs. 9-6537
¹⁰B(d,p)¹¹B, appl. to B predeposited Si wafer anal. by combined ion beam techniques and X-ray microanal. 9-5238
¹⁰B(d,p)¹¹B, E_d=0.8 to 2.4 MeV, reaction mechanism 9-17910
¹¹B+d-³He, 3.75 MeV, sequential decay reaction mechanism from ang. distrib. anal. 9-6631
Be+d, 40 MeV, target system neutron spectra 9-9595
⁹Be(d,p)¹⁰Be, appl. to Be determ. in metals using nuclear microprobe anal. 9-5204
¹⁰Be(d,p), 25 MeV, ¹¹Be single neutron strength, levels, spin assignments, spectroscopic factors 9-36156
²¹⁰Bi(m,d,p), 20 MeV, ²¹¹Bi levels, spin assignments and spectroscopic strengths 9-6418
¹²C(d,⁶Li)⁸Be, 54.25 MeV, residual nuclei excited states angular distrib. 9-6624
¹²C(d,p)¹³C, proton polarisation in stripping reaction, obs. and DWBA calc. 9-30816
¹²C(d,p)¹³C, 1.5 to 3.0 MeV, excitation functions 9-40932
¹²C(d,p)¹³C, C depth profiling in solids 9-5212
¹³C(d,X), 13 MeV, cross section, vector and power, optical model parameters, DWBA anal. 9-22301
⁴⁰Ca(d,⁶Li), DWBA anal., angular distrib., spectroscopic factors 9-6625
⁴¹Ca(d, α), 22 MeV, ³⁹K high spin states, J^π assignments, DWBA anal. 9-40851
⁶³Cu(d,pn), 5.8-49.6 MeV, absolute cross sections for ⁶¹Cu prod. 9-36249
⁶³Cu(d,p), 5.8-49.6 MeV, absolute cross sections for ⁶⁴Cu prod. 9-36249
D(d,p), 6.3 GeV, proton momentum spectra 9-6621
D(d,p)T, channelling studies on the trapping of deuterium in vanadium by O-interstitials 9-4316
D(d,p)T, light ion diffusion in solids obs., using nuclear reaction depth profiling 9-5202
¹⁶⁸Er(d,t), 9-15 MeV, ¹⁶⁷Er levels and transitions, spectroscopic factor bombarding energy depend. 9-495
¹H(D,2p)n, 26.5 MeV, 4 dimens. comparison with local S-wave interaction Faddeev calcs. 9-17866
²H(d,³He), differential cross sections at 13.2 MeV, DWBA anal. 9-45276
²H(d,n), 50-85 MeV, ang. distrib., PWBA anal., two body final states 9-6636
²H(d,n), polarised d, <5.5 MeV, comparison of analysing power with ²H(d,p) 9-17911
²H(d,n)³He, neutron polarisation meas. with Mott-Schwinger scatt. polarimeter 9-22571
²H(d,n)³He, struct. and form factor models in mass-3 system 9-45274
²H(d,p), (d,n), 50-85 MeV cross-section meas. 9-13307
²H(d,p), polarised d, <5.5 MeV, comparison of analysing power with ²H(d,n) 9-17911
²H(d,p)³H, struct. and form factor models in mass-3 system 9-45274

deuteron-nucleus reactions continued

- ²H(d,p)³H and ²H(d,n)³He, comparison of analysing powers 2.5 to 11.5 MeV 9-6628
- ²H(d,p)³Ti, differential cross sections at 13.2 MeV, DWBA anal. 9-45276
- ³H(d,n)⁴He, meas. of mean d interaction energy in tritiated Ti layer 9-31281
- ³H(d,n)⁴He, associated particle methods for neutron flux monitoring 9-9977
- ³He(d,α)³H, replacement of implanted ³He by subsequent ⁴He bombardment in Nb, and vice versa 9-4325
- ³He(d,α)³H, depth profile meas. of He in Ni and Nb 9-14839
- ¹⁷⁸Hf(d,2n), 13.5 MeV, ¹⁷⁸Ta level properties, rot. bands, transitions and level lifetimes 9-36158
- ⁴¹K(d,p), 10 MeV, cc ⁴¹K levels and ang. distrib., spectroscopic factors, DWBA anal. 9-17806
- ⁷⁸Kr(d,t), polarised d, 15.95 MeV, ⁷⁷Kr, low lying state J^π assignments, anal. powers 9-45153
- ⁸⁴Kr(d,p), polarised and unpolarised d, ⁸⁵Kr level struct. and spectroscopic factors 9-471
- ⁸⁶Kr(d,p), polarised and unpolarised d, ⁸⁷Kr ground state spin assignment 9-471
- ¹⁶¹(d,α)¹⁶¹C, 50 to 80 MeV, spectroscopic factors energy depend. 9-6622
- ¹⁶¹(d,α)¹⁶¹N, 6.7-12.5 MeV, differential cross sections and anal. power, ¹⁶¹F unnatural parity states 9-3160
- ⁶Li(d,α), polarised d, 5-10 MeV, A_y=1 and A_{yy}=1 points search 9-36223
- ⁶Li(d,α), 21-28 MeV, ⁸Be resonant state, αα* cluster and symplectic model anal. 9-9537
- ⁶Li(d,α), (d,p), simultaneous determ. of p and α particle ang. distrib., cellulose nitrate detector 9-737
- ⁶Li(d,α), cross sections, low energy extrapolation, 3 keV-1 MeV, thermodynamic reaction rate parameter 9-6635
- ⁶Li(d,α)⁶He, light ion diffusion in solids obs., using nuclear reaction depth profiling 9-5202
- ⁶Li(d,n)³He⁴He, absolute and total cross sections 9-40936
- ⁶Li(d,p)³H⁴He, absolute and total cross sections 9-40936
- Mo, activation in cyclotron by p, d, α, ³He 9-30839
- ⁹⁸Mo(d,p), 10 MeV, ⁹⁹Mo first excited state g factor 9-17801
- ¹⁴N(d,α)¹⁴Li, 80 MeV, DWBA calcs. spectroscopic factors 9-6623
- ¹⁵N(d,p), 5.048 MeV, ¹⁶N J^π=1⁻ assignment 9-30786
- ²³Na(d,p)²⁴Na, 1.5 to 3.0 MeV, excitation functions 9-40932
- ⁹³Nb(d,pX), 25.5 MeV, inclusive p spectra and cross sections from d breakup 9-13303
- ⁹³Nb(d,pX), 25.5 MeV, inclusive p spectra and cross sections from d breakup 9-13303
- ⁶⁴Ni(d,³He)⁶³Co, proton pickup strength determ. in ⁶³Co 9-22163
- ²³⁷Np(d,p) 12 MeV, ²³⁸Np energy level scheme determ. by Nilsson model 9-26370
- ¹⁶O(d,³Be)¹¹B, angular distrib., direct five nucleon transfer E_d=80 MeV 9-6627
- ¹⁶O(d,α)¹⁴N, ¹⁶O conc. profiles anal. with high resolution mag. spectrom. 9-5215
- ¹⁶O(d,α)¹⁴N, 0.66 to 1.10 MeV cross section determ. for O₂ profiling 9-45275
- ¹⁶O(d,α)¹⁴N, low conc. ¹⁶O depth profiling by α-particle energy anal. 9-5214
- ¹⁶O(d,p)¹⁷O, ¹⁶O conc. profiles anal. with high resolution mag. spectrom. 9-5215
- ¹⁶O(d,p)¹⁷O, appl. to B predeposited Si wafer anal. by combined ion beam techniques and X-ray microanal. 9-5238
- ¹⁶O(d,p)¹⁷O, O depth profiling in solids 9-5212
- ¹⁶O(d,p)¹⁷O*, channelling studies on the trapping of deuterium in vanadium by O-interstitials 9-4316
- ¹⁹²Os(d,3nγ) 19 to 28 MeV, ¹⁹¹Ir levels, Coriolis coupling model and asymmetric rigid rotor model 9-22164
- ⁴Pb(d,X), A=207.208, E_d=13.6 MeV, isotopic effect in differential cross section 9-9540
- ²⁰⁷Pb(d,p), 26.2 MeV, ²⁰⁸Pb 7064 keV level negative parity, EM deexcitation pattern 9-36148
- Pd+d, 3.6 GeV, emitted proton vel. spectra max. (Russian) 9-9571
- ²¹⁰Po(d,p), 17 MeV, ²¹⁰Po deduced levels, J^π assignments, spectroscopic factors 9-22197
- ²¹⁰Po(d,t), 17 MeV, ²⁰⁹Po deduced levels, J^π assignments, spectroscopic factors 9-22197
- ²³⁹Pu(d,pf), 11-17 MeV, ²⁴⁰Pu, subbarrier resonances and fission probabilities 9-13266
- ²³²(d,p), DWBA anal. converging overlap integrals, stripping to decaying states 9-6530
- ³⁶S(d,α) 3.05-3.26 MeV, α-spectrum, ³⁴P mass and energy levels 9-6632
- ³⁶S(d,p), 3.55 MeV, ³⁷S level scheme and excitation energies (Russian) 9-30790
- ²⁸Si(d,p)²⁹Si, Si-row channelling effect studies in V₃Si single crystal 9-4362
- ⁴Sm(d,³He)⁴Sm, A=144,148,152,52 MeV, strong exhaustion of 1g_{9/2} strength by deeply-bound proton-hole states in Pm isotopes 9-45142
- ⁴Sn(d,³Li)¹⁰⁸Cd, even A=112 to 124 spectra for E_d=33 MeV 9-6626
- ¹¹⁹Sn(d,pX), 25.5 MeV, inclusive p spectra and cross sections from d breakup 9-13303
- ¹⁸¹(d,³Li)¹⁸¹Cd, microscopic description of alpha-transfer reactions 9-6615
- ¹⁸¹Ta(d,pX) 25.5 MeV, inclusive p spectra and cross sections from d breakup 9-13303
- Ta(d,X), 4.2 GeV, c⁻¹, inelastic cross section meas. and multiplicities obs. (Russian) 9-9580
- ⁴⁸Ti(d,³Li), 55 MeV, ⁴⁴Ca 3.59 MeV 0⁺ state config. 9-9472
- ⁴Ti(d,xn) A=203, 205, ²⁰¹Ti, production in neutron therapy cyclotron idle beam using Ti(d,xn) 9-20669
- ²³³U(d,pf), 11-17 MeV, ²³⁴U subbarrier resonances and fission probabilities 9-13266
- ²³³U(d,pf), fission fragment energy-velocity correlation meas. 9-45309
- ²³³U(d,pf), 11-17 MeV, ²³⁶U, subbarrier resonances and fission probabilities 9-13266
- ²³⁸U(d,p), induced fission, subthreshold cross section meas., 2-centre shell model calc. 9-6719
- W, activation in cyclotron by p, d, α, ³He 9-30839
- ¹⁷⁴Yb(d,p), 14 MeV, ¹⁷⁵Yb level structure, band structure and J^π assignments 9-40850
- ¹⁷⁶Yb(d,p), 14 MeV, ¹⁷⁷Yb level structure, band structure and J^π assignments 9-40850
- ¹⁷⁶Yb(d,t), 14 MeV, ¹⁷⁵Yb level structure, band structure and J^π assignments 9-40850

deuteron-nucleus reactions continued

- ⁴Zn(d,³He), 23.3 MeV, A=64-70, p pickup spectroscopic factors, ang. distrib. 9-6422
- ⁶⁴Zn(d,³He)⁶³Cu, proton pickup strength determ. in ⁶³Cu 9-22163
- deuteron-nucleus scattering**
- high-energy elastic and inelastic scatt. by light nuclei, mechanism and struct. determ. (French) 9-534
- light ion scatt., optical pot. and proximity pot. comparison 9-3121
- three-body d+nucleus scatt. model, effects of imaginary pots. 9-9532
- (d,d), folding model modification due to strong Pauli distortion 9-6620
- (d,d) breakup channel contrib. to optical pot. in 3-particle approx. 9-6630
- (d,d) elastic and inelastic, diffraction scatt. theory, d dissociation and stripping reactions 9-6633
- ²⁷Al(d,d), energy depend. of vector analyzing capacity, 1.8 to 3.0 MeV, 120 to 150° scatt. 9-9592
- ⁹Be(d,d'), 12.8 MeV, two stage mechanism described by square Feynman diagrams (Russian) 9-22299
- ¹²C(d,d), 650 MeV, Glauber model calcs. for cross sections 9-13306
- ¹²C(d,d), incident ion binding energy effects on scatt., qualitative anal. 9-9600
- ¹³C(d,d'), 12.8 MeV, two stage mechanism described by square Feynman diagrams (Russian) 9-22299
- ⁵²Cr(d,d), 10 MeV, polarised d elastic scatt., optical model anal. 9-36248
- ¹⁹F(d,d), elastic scatt., 1.2-2.5 MeV, excitation functions, ang. depend., optical model anal. 9-9594
- ⁵⁴Fe(d,d), 10 and 13 MeV, polarised d elastic scatt., optical model anal. 9-36248
- ⁴Ge(d,d) 16 MeV, A=70-74, polarised d, elastic and inelastic, levels and deformation 9-554
- ¹H(d,d), anal. power ang. distrib., d D-state asymptotic normalisation 9-36247
- ¹H(d,d), 10, 20 MeV, 9-13304
- ²H(d,d), 4.3 to 8.9 GeV, momentum spectra at 103 mrad lab. angle 9-6641
- ²H(d,d), 50-85 MeV, ang. distrib., PWBA anal., two body final states 9-6636
- ²H(d,d), 50-85 MeV cross-section meas. 9-13307
- ²H(d,d), 53, 63 GeV, inelastic intermediate state effects, Glauber multiple scatt. theory 9-36104
- ²H(d,d), medium energy, total cross section, optical model calcs. 9-9593
- ²H(d,d), differential cross sections at 13.2 MeV, DWBA anal. 9-45276
- ²H(d,d), noncentral forces, Pauli principle effects on d polarisation, orthogonality condition 9-6614
- ⁴He(d,d), A=92-100, 21.5 MeV, elastic and inelastic cross sections, coupled channel anal., deformation 9-553
- ⁵⁸Ni(d,d), three-body model with adiabatic approx. 9-40934
- ¹⁶O, treatment as three-body problem 9-6618
- ¹⁶O+light ion scatt., exchange Coulomb kernel in resonating group formulation 9-6531
- ²⁸Si(d,d,t), 20 MeV, vector polarised deuteron scatt. from deformed nuclei 9-6629
- ⁴⁶Ti(d,d), 10 and 13 MeV, polarised d elastic scatt., optical model anal. 9-36248
- ⁶²Zn(d,d), 10 and 12 MeV, polarised d elastic scatt., optical model anal. 9-36248
- ⁹⁰Zr(d,d), 10 and 12 MeV, polarised d elastic scatt., optical model anal. 9-36248
- deuteron photodisintegration**
- ²H(γ,p)n, EM properties of πNN system, virtual π reabsorption 9-22109
- deuteron polarisation**
- No entries
- deuteron scattering** see *deuteron-nucleus scattering; hadron-deuteron scattering; lepton-deuteron scattering; meson-deuteron scattering; photon-deuteron scattering; proton-deuteron scattering*
- deuterons**
- see also *cosmic ray deuterons*
- charge form factor falloff at large q² in dispersion approach (Russian) 9-3027
- EM form factors, D-wave admixture in the dispersion approach (Russian) 9-30737
- inclusive quasielastic d prod. in heavy ion collisions, quasiclassical description 9-6695
- migma, localised MeV d⁺ trapping observation, density and confinement time meas. 9-14596
- relativistic description, elastic and inelastic form factors 9-30752
- six-quark state and EM struct., two nucleon bound state model (Russian) 9-13031
- d and d prod. by 200 GeV protons 9-9563
- ²H(d,d), 4.3 to 8.9 GeV, momentum spectra at 103 mrad lab. angle 9-6641
- developers (photographic)** see *photographic materials*
- development, photographic** see *photographic process*
- development management** see *research and development management*
- diagnosis, patient** see *patient diagnosis*
- diagnostics, plasma** see *plasma diagnostics*
- diagrams**
- see also *circuit diagrams; Feynman diagrams; nomograms; phase diagrams*
- No entries
- dialogue programming** see *interactive programming*
- dialogue systems** see *interactive systems*
- diamagnetic properties of substances**
- see also *Haas-van Alphen effect; diamagnetism*
- alkali halide, ionicity trends in diamagnetism and its temp. depend. 9-19717
- alkali metal azides, diamag. susceptibility, rel. to cryst. struct. 9-24127
- alkaline earth transition metal ternary and quaternary oxides, ATO₃, ATi_{1-x}Ti_xO₃, and AZr_{1-x}Ti_xO₃, prep. mag. props. and struct. 9-15277
- bicyclohexanes, nematic liq. crystals, with negative diamag. anisotropy, high resolution NMR spectrometry 9-40596
- III-V semiconductors, calc. using MOLCAO approx. 9-42732
- lyotropic liquid crystals, orientation in mag. field, glass interface effects 9-1390
- lysozyme, anomalous diamag. susceptibility and elec. cond. 9-29498
- metal whiskers, quantum oscils. of mag. moment 9-15280
- organic compounds, diamagnetic susceptibility calcs., extended London theory 9-47228
- solids crystallised from melt, mag. field effect on props. 9-37815

diamagnetic properties of substances continued

- Be, magnetic suscept. anomalous temp. depend. (*Russian*) 9-4650
 Cd alloys, spin and spin-orbit contribs. to mag. susceptibility (*Russian*) 9-11287
 Cu-Cd, exam. of diamagnetic susceptibilities (*Russian*) 9-28504
 CuCl, behaviour under press., possibility of superconductivity 9-38239
 CuCl, high press. phases and anomalous props. 9-7689
 CuCl, possibility of high temp. superconductivity 9-38238
 NH_4N_3 , diamag. susceptibility, rel. to cryst. struct. 9-24127
 Si:Gd, magnetic props. and interaction of impurities 9-11286
 Sn, diamag. moment meas., dislocation supercond. above crit. temp. (*Russian*) 9-4619
 TiN_3 , diamag. susceptibility, rel. to cryst. struct. 9-24127
 $\text{Ti}_2\text{Te}(\text{Se})(\text{S})$, liq., mag. susceptibility 9-24128
 Zn whiskers, quantum oscils. of mag. moment 9-15280
 $\text{ZnS}(\text{Se})$, ionicity trends in diamagnetism and its temp. depend. 9-19717

diamagnetic resonance *see cyclotron resonance***diamagnetism**

- see also cyclotron resonance; de Haas-van Alphen effect; diamagnetic properties of substances*
 electron gas, magnetised, confinement effects 9-28494
 hydrogenic atom in weak mag. field, polarisability, ground-state energy 9-3594
 semiconductor, diamagnetism of deep impurities 9-23931
 superconductivity and magnetism (*Hungarian*) 9-47226
 Rb Rydberg levels in intense mag. field, diamag. struct. 9-26958

diameter measurement

- caliper gauges for meas. outside dia. 9-12766
 FFTF element measuring system 9-9729
 human lung endothelial cell nuclei, estimation of mean caliper diameter using serial section reconstruction models 9-29679
 laser beam diffraction appl., using moire fringes (*Czech*) 9-40530
 laser-beam noncontact gauging systems, advantages and appl. 9-2745
 optical fibre drawing, semi-automatic machine development 9-27449
 optical fibres, single-mode and multimode, automatic geometric meas. 9-36988
 radio sources, ang. dias. meas. errors 9-12534
 rat lung cell nuclei, estimation of mean caliper diameter using serial section models 9-25165
 reactor fuel pin diameter meas., sectioning cutoff saw adaptation 9-9748
 reference ring gauge, precision improvement in meas. internal dia. 9-17388
 Styrofoam spheres, diameter determ., mol. monolayer experiment, teaching appl. 9-44678
 wires, circular cylindrical, interferometric and diffraction methods using He-Ne laser 9-21703

diamond

- anomalous muonium in diamond-struct. crystals, μ^+ meson probe appl. (*Russian*) 9-28665
 anvil, oscillating device for high press. X-ray diffr. 9-4209
 bonding, struct. stability, SCF perturbation theory appl. 9-37658
 cathodoluminescence at dislocations 9-47524
 ceramic, elec. cond., thermal cond. rel. to temp. 9-15140
 ceramic containing diamond, impact hardening 9-15828
 colloidal particles in water, elec. polarisability anisotropy 9-39208
 colloidal suspension in water, dichroism in homogeneous elec. field 9-8122
 diamond: ^{129}Xe , implanted, elec. quadrupole interaction, integral perturbed ang. correlation study 9-11364
 diamond:B, synthetic, current-voltage characteristics, temp. depend. (*Russian*) 9-7825
 diamond:B, synthetic semicond., thermostimulated conductivity (*Russian*) 9-7834
 diamond:Ge(B)(B₂C), doping by diffusion at high temp. and press. 9-19273
 diamond, electric quadrupole sum rules rel. to optical consts. 9-38036
 diamond Ge(B)(B₂C), doping by diffusion at high temp. and press. 9-19273
 dielectric band structure calc. 9-47034
 electroless Ni coating containing diamond, fabrication and props. 9-47795
 electroluminescence, thermoluminesc., photocurrents 9-38675
 electron and neutron irradiated, paramag. centres with $S=5/2$ at room temperature 9-47334
 electron density, bulk and surface atoms, from ab initio model calcs. 9-4590
 elemental concs. and Pb and Sr isotopes in S.African diamonds 9-34775
 epitaxial synthesis by C-ion deposition at low energy, and struct. 9-1559
 film, plasma stream condensation with RF pot., props. 9-15612
 high temp. ion implantation 9-23623
 hydrocarbon dissociation formation, Hugoniot data, high temp. and press. 9-47927
 ion beam analyses in relation to the physical properties of diamond 9-5219
 ion implanted, p-i-n structure, double injection of carriers 9-11214
 irradiated stainless steel tube high-speed slitting machine 9-9210
 isotopically light C, in diamonds from Lesotho kimberlite pipes 9-48487
 lonsdalite-graphite phase transform. mechanism, electron diffr. expts. 9-28099
 metastable metallic form, possibility, summary of research 9-42146
 micromechanical characteristics 9-20190
 nuclear particle detector, transport props 85 to 700K 9-45542
 phonon spectra calc. using dielectric matrix approach 9-4381
 planishing treatment of Al alloy effect of struct. and comp. 9-43237
 Raman spectra, coherent nonlinear two-phonon 9-19878
 refractive index dispersion 9-24280
 Schottky barrier, electronic struct., pseudopotential method, jellium model 9-38162
 self-interstitial, struct. and motion 9-37700
 sintered compact, stress-strain curves using ultrahigh-pressure apparatus 9-43322
 surface (111), relax. and reconstruction using C_4H_9 clusters, MINDO/3 calc. 9-42356
 synthesis from graphite, nucleation rate 9-16032
 synthetic, cryst. growth, review (*German*) 9-33926
 synthetic, history and present status 9-33906
 temperature field dynamics during synthesis 9-38755
 trace elements in diamonds of different types 9-14838
 type I, cryst. defects of platelet nature, TEM study 9-37719
 type Ia, secondary absorpt. edge, optical study 9-19912

diamond continued

- ultradisperse, obtained by high temp. synthesis in explosion, struct. 9-29003
 wear during hard rock drilling, effect of chemomechanically active fluids 9-15802
 wear during hard rock drilling, effect of chemomechanically active fluids 9-15803
 X-ray source for high-resolution lithography 9-21884
- diaphragms**
see also valves
 pressure meas. at solid-lubricant interface, strain and deform. meas. techniques with diaphragms, comparison (*French*) 9-30453
 unity-magnification projection system characteristics 9-27367

dichroism

- see also magnetic circular dichroism; pleochroism*
 alcohols, chiral, circular dichroism, RPA calc. 9-36672
 anthracene in PVC film, photodichroism at 257 and 383 nm 9-31539
 atomic resonant lines, ang. momentum depend. of laser-induced birefr. and dichroism 9-10367
 benzene, excited state props., by electrochromism in polymer matrix 9-22737
 chlorophyll a and protochlorophyll a, optical transitions anisotropy 9-43825
 cholesteryl nonanoate, polymorphism of blue phase, circular dichroism at high-press. 9-37821
 circular, for scattering objects, examination using double-beam spectrophotometer 9-35853
 classical coupled dipole oscillators, optical props., normal mode treatment 9-36611
 colloidal, dichroism in homogeneous elec. field 9-8122
 dichroic colloidal particles, size distrib. determ. by electro-optical method 9-6087
 L- β -3,4-dihydroxyphenyl- α -alanine with L-glutamic acid, polymers and copolymers, synthesis and conform. 9-33996
 dye solution, induced birefringence as result of illumination dichroism 9-28709
 electric circular dichroism in optically active fluid 9-19862
 HOAB-DOBAMBC nonchiral-chiral smectic C mixture, spontaneous polarization and induced circular dichroism 9-27910
 laser-induced optical activity, QED theory of multiphoton processes 9-31794
 1-methylindan, circular dichroism, rot. strengths, CNDO/S calc. 9-3452
 molecule, electric circular dichroism, QED 9-22738
 oxazine dyes, orientation of $S_1 \rightarrow S_0$ transition moments, continuous ps photometry 9-10152
 oxy- and deoxyhaemoglobin, optical spectra, dichroism 9-20514
 planar molecule, oriented in transparent polymer films, dichroism of absorpt. bands (*Russian*) 9-31506
 Polaroid, X-ray optical props. determ. using novel X-ray polarimeter 9-6251
 polypropylene, optical activity rel. to ordered aggregation 9-11899
 pyrylium dye J-aggregate species, circular dichroism spectropolarimetric characts. 9-3456
 ruby, optically-pumped, excited-state Raman processes 9-4798
 sodium uranyl acetate; fluoresc., circ. dichroism 9-38598
 Stokes parameters, of light beam, polarisation modulation meas. 9-21803
 time-dependent birefringence, linear dichroism, and optical rotation resulting from rigid-body rotational diffusion 9-47411
 two-level atom gas, optically induced optical activity 9-18490
 vitamin B₁₂, circular dichroism and birefringence, polarisation modulation meas. 9-21803
 AgCl emulsion, anisotropy induced by two incoherent and perpendicular light vibrs. 9-41428
 AsSeI₃, chalcogenide vitreous semiconductors, reversible photoinduced changes in optical, physicochem. and contact props. 9-24378
 CS₂, excited state props., by electrochromism in polymer matrix 9-22737
 CaF₂:Co, X-irrad., F-centre form., optical absorpt. spectra and dichroism obs. 9-42998
 Co complex, $\Delta(\pi)[\text{Co}(\text{en})_3]^{3+}$, quadrupole transition circ. dichroism, production mechanism 9-3428
 CsI:Na, tunnelling recomb. of electron-hole pair, optical detection of ESR and circ. dichroism 9-47360
 Cu complex, bis-L-tyrosinato copper(II) complex, electronic spectra and dichroism 9-41183
 KBr, F₂ centres triplet state, radiative and nonradiative decay 9-11438
 K₂TI⁺, phosphor, anomalous stress-induced dichroism 9-4828
 LiF:Mg,Ti, optically induced dichroism of Z₂-centres 9-28710
 LiNbO₃, pure and Fe doped, photorefractive kinetics under irradiation and heating 9-42934
 NaF, M-centres, dichroism absorpt., appl. to optical waveguide polariser 9-995
 n-Si, nonlinear birefr. and dichroism at microwave freqs. and intervalley scatt. 9-19602
 ZnP₂, birefringence, circ. dichroism, temp. depend. (*Russian*) 9-1748

dictionaries *see glossaries***dielectric breakdown** *see electric breakdown***dielectric constant** *see permittivity***dielectric depolarisation**

- uniaxial ferroelectrics, domain formation during second order phase transition 9-38505
 GeS_{1.5}:Cu, interpretation of dielectric behaviour 9-33595

dielectric devices

- see also capacitors; ferroelectric devices; insulators; piezoelectric devices; pyroelectric devices; space-charge limited devices*
 No entries

dielectric function

- alkali halides, three-body interactions, effect on electronic polarisabilities and photoelastic behaviour 9-47382
 amino acid, cryst., mol. dielec. function 9-7043
 anisotropic dielectric crystal, EM fluctuations 9-19857
 band structure, dielec., of solids 9-47034
 CDW, one-dimensional, commensurability pinning versus impurity pinning 9-11075
 Coulomb gas, classical, two-dimens., screening props. from sine-Gordon eqn. 9-4524
 Coulomb screening in presence of two EM waves 9-15107
 diamond, electric quadrupole sum rules rel. to optical consts. 9-38036
 dispersion self-energy of an electron in a dielectric 9-42461

dielectric function continued

- dye monolayer coating Ag film, anomalous dispersion of surface plasma oscills. 9-8203
- electron liquid, local field factor freq. depend. 9-38009
- electron liquid, pair correlation function and correlation energy using Tripathy-Mandal dielec. function 9-19536
- glass, undergoing phase separation and homogenisation, light scatt., kinematic theory 9-24326
- glycerol, lq., reflectivity, in VUV region, for optical and dielec. functions 9-15475
- HCP metals, phonon dispersion relations, effect of different dielec. functions on model pseudopot. calc. 9-33055
- highly conducting material, electroreflectance by deep field penetration 9-19864
- III-V semiconductor, energy gap and static dielectric const. 9-11062
- inhomogeneous material, complex permittivity in freq. range 10^2 to 10^7 Hz (*Russian*) 9-8088
- ionic crystal plate, line widths in spectrum of surface vibr. 9-33174
- Josephson junctions, collective excitations in superconductors below T_c , tunnel current fluctuations 9-33403
- metal optics 9-19858
- metal-insulator transition, dielec. function calc., interfacial roughening transition, renormalisation group theory 9-2734
- noble metal, rel. to proton diffusion, config. and activation energies 9-37878
- organic charge transfer complexes, refl. spectra, excitons 9-47477
- PMMA, electron energy loss spectra, optical props. 9-10887
- poly-2-vinylpyridine, electron energy loss spectra, for optical and dielec. props. 9-15569
- polystyrene, electron energy loss spectra, for optical and dielec. props. 9-15569
- semiconductor, electron scattering interaction with coupled plasmon-polar-phonon modes 9-42536
- semiconductor, freq.- and wave-vector-depend. dielec. function 9-33253
- semiconductor, optical properties, equivalence of local field corrections and dynamical screening 9-33250
- semiconductor carrier scattering by ionized impurity potentials incorporating spatially variable dielectric functions 9-42535
- semiconductors, spatially variable dielectric functions, ionized impurity limited mobility 9-42534
- simple metals, optical properties, equivalence of local field corrections and dynamical screening 9-33250
- solid with thermal or static disorder, optical props. 9-42936
- solids, approxs. for treatment of local field effects 9-47033
- surface plasmon dispersion relation in presence of spatial dispersion 9-42612
- TCNQ salts with asymmetric donors, transport props. 9-23953
- TCNQ-TSeF, Drude optical edge, press. depend. 9-19882
- thin film, optical characterisation (*French*) 9-11402
- thiourea, IR reflectivity study of ferroelec. and antiferroelec. phases, dielec. function model 9-33686
- TTF-TCNQ, Drude optical edge, press. depend. 9-19882
- universal dielectric response in condensed matter 9-28674
- water optical constant submillimetric wave meas. 9-33656
- zero-gap semiconductors, dynamic dielec. function in mag. field, appl. to magnetoreflexion spectra 9-15108
- Ag halides, dielectric behaviour and optic mode Gruneisen parameters 9-10907
- Al, dielectric function pseudopot. theory, vol. plasmon dispersion 9-23917
- Al solar black, optical props., microstruct. influence 9-42937
- CrO₂, optical conductivities and dielec. functions in 0.2-eV range, rel. to band struct. 9-42938
- GaAs:Te, amorphous, ion implanted layers, optical refl., 1.5-7.0 eV 9-8152
- Ge, electric quadrupole sum rules rel. to optical const. 9-38036
- HgSe, dielec. function at 2, 95, and 300K, reflectivity spectra meas. 9-15458
- KH₂PO₄, dielec. functions above and below ferroelec. transition 9-33588
- KTaO₃, freq. depend. of soft mode self-energy, for IR dielec. response meas. 9-33632
- MgO microcrystals, IR absorpt. 9-42963
- MnSe₂, IR lattice vibr., dielectric dispersion 9-28735
- MoO₃, optical conductivities and dielec. functions in 0.2-eV range, rel. to band struct. 9-42938
- Na₂WO₃, optical props. 9-38515
- Pb_{1-x}Cd_xS epitaxial layer, metastable, optical props. and electronic struct. 9-15543
- Pb₂GeO₈, dielec. functions above and below ferroelec. transition 9-33588
- Pb₃(PO₄)₂, IR dispersion at room temp. 9-15460
- Si, amorphous, electronic struct. and optical dielec. function, LCAO calc. 9-42478
- Si, electroreflectance, dielec. function, ellipsometric meas. 9-4790
- Si, optical properties of monocrystal by electron energy loss meas. (*German*) 9-24283
- Sn_{1-x}Mn_xTe, IR reflectivity, elec. susceptibility mag. order effects 9-47433
- SnTiO₃, freq. depend. of soft mode self-energy, for IR dielec. response meas. 9-33632
- Ta₂S₅ mixed coordination polytypes, optical props. 0.5-6.0 eV range, dielec. function calcs. 9-15476
- UO₂, localised versus itinerant 5f electrons exam., reflectivity meas. 9-19905
- USb, localised versus itinerant 5f electrons exam., reflectivity meas. 9-19905
- V₂O₃, effect of metal-insulator transition on V K-absorption spectrum 9-19950
- WO₂, optical conductivities and dielec. functions in 0.2-6 eV range, rel. to band struct. 9-42938
- WO₃, optical props. 9-38515
- ZnIn₂S₄, layered semicond., reflectivity spectra 9-8155
- ZnTe, wavelength-modulated reflectance spectrum, electron-phonon and exciton-phonon interactions 9-11434

dielectric hysteresis

- ferroelectric hysteresis cycle computing from a statistical model (*French*) 9-11393
- PLZT ceramics, ferroelec., special props. 9-42916
- TSCC ferroelastic monodomain crystals, dielec. behaviour 9-42888
- BaTiO₃:Mn, ferroelec. domain stabilisation by bulk ordering of defects 9-42925

dielectric hysteresis continued

- BaTiO₃, ferroelec., reduction of hysteresis losses 9-42926
- BaTiO₃, ferroelec. thin films, r.f. sputtering, X-ray and microprobe obs. 9-47627
- BaTiO₃ film, sputtered, elec. props. 9-42676
- Cd₂Nb₂O₇S, pyrochlore struct., ferroelec., dielec. and structural study 9-38488
- CsH₂PO₄, ferroelec., press. induced antiferroelectricity 9-4774
- (NH₄)₂BeF₄, effect of surface layer on spontaneous polarisation 9-38445
- PLZT, reduced, exam. of ageing phenomena, using dielectric hysteresis (*German*) 9-33647
- PLZT type ceramics, calorimetric meas. of energy of electrical polarisation 9-2770
- PbBi₂Nb₂O₉ ceramic, grain oriented, dielectric and piezoelectric props. 9-42896
- PbNb₂Se₂O₃ ceramic, dielec. props. 9-11392
- Pb(Zr,Ti)O₃:Mn ceramics, anomalous dielec. losses 9-42892
- Pb(Zr,Ti)O₃:Nb ceramic, stress effects on ferroelec. hysteresis, macroscopic strain, US vel. 9-4778
- RbLiSO₄, thermal and dielectric props., ferroelectricity 9-28688
- Sr_{0.25}Ba_{0.75}Nb₂O₆ film, growth and electrophys. props. 9-42928
- TiNbO₃, ceramics, hysteresis loops and dielec. props. 9-42885
- TiTaO₃, ceramics, hysteresis loops and dielec. props. 9-42885
- Ti₂Ti₄O₃ ceramics, hysteresis loops and dielec. props. 9-42885
- dielectric-loaded antennas**
- IR and submillimetric-wave antenna design and simulation 9-30552
- microwave Gaussian beam launcher, for selective partial body exposure of biological substances 9-29578
- Schottky-barrier diode monolithic detector dielectric plate antenna 9-30548
- dielectric-loaded waveguides**
- asymmetric gap-dielectric optical waveguide with wall resonances 9-7216
- dielectric loss angle** *see dielectric losses*
- dielectric loss-angle measurement** *see dielectric loss measurement*
- dielectric loss measurement**
- see also dielectric losses*
- microwave freq., rectangular waveguides (*Russian*) 9-2788
- dielectric losses**
- see also loss angle*
- adsorbed layers, Maxwell Wagner and Debye processes, differentiation using temp. depend. of dielec. loss 9-28195
- benzoylacetone, dil. soln. in benzene, dielectric behaviour 9-42886
- benzoylacetones, p-substituted, dil. soln. in benzene, dielectric behaviour 9-42886
- complex dielectric, humidity, temp., density, freq. and granulometric composition effects on elec. characts. (*Russian*) 9-42881
- corundum ceramic, high-temp. treatment, powder medium effect on microstruct., comp. strength and dielec. props. 9-33984
- cyanobiphenyls, physical props., appl. to Kerr cells 9-19142
- EBBA, nematic liq. cryst., RF dielec. props. 9-4238
- elastin, hydrated, dielectric relax. 9-5247
- fatty acids, dielectric meas. at microwave freqs. 9-19827
- N-(p-hexyloxybenzylidene)-p-toluidine, dil. soln. in benzene, dielectric behaviour 9-42893
- photographic composite film with high loading factor, extension of Maxwell-Garnett dielectric loss theory 9-19835
- photographic emulsion layers 9-19836
- polycarbonate, sorption of water and its effect on dielec. behaviour 9-11383
- polyethylene terephthalate, β relax., dynamic mech. and dielectric loss data 9-15399
- polyhydroxyl alcohols, H-bonded solns., microwave dielec. relax. 9-33599
- polymers, effect of stretching (*German*) 9-43446
- polypropylene, effect of corona treatment on dielectric props. for capacitor appl. 9-33607
- polyvinyl acetate, struct. relax., enthalpy and elec. polarisation obs. 9-41978
- polyvinylidene fluoride, γ -phase containing films, thermocurrent spectra 9-42555
- sodium benzoylacetate, dielec. props. and cryst. struct. 9-8099
- solvent, ion migration and frequency-dependent dielectric loss 9-19832
- stibitanalite type structure ferro- and antiferroelectrics, props. and crit. points 9-38460
- TGS, deuterated, undoped and alanine-doped, growth by rotating disc method and elec. props. 9-47611
- TSC technique for nonexponential dielec. response materials 9-47383
- TSCC ferroelastic monodomain crystals, dielec. behaviour 9-42888
- universal dielectric response in condensed matter 9-28674
- viscous liquid, glassy state, effect of fictive temp. on dielec. relax. 9-24256
- vitrified conc. aq. solns., ionic hydration and secondary dielec. relax. and loss 9-24882
- AgBr, ionic cond., dielec. loss meas. 9-23768
- AgBr microcrystals, measurements on photographic emulsions to determine ionic conductivity 9-23778
- β -AgI, ionic cond. and Frenkel pair form., dielec. loss meas. 9-33112
- Al-CdTe-Al thin film VLF dielectric props. (*Slovak*) 9-7907
- As amorphous solid dielectric loss meas. by submillimetric waveguide laser 9-33603
- As₂Se₃:Ag, amorphous, doping effect of gap states and elec. cond., dielec. relax. and DC cond. meas. 9-47098
- B₂O₃-NaKO glass, dielectric relaxation at low temp. 9-11384
- BaO-TiO₂-Nd₂O₃, exam. of compositional and dielectric props. 9-33601
- BaTiO₃ films, ferroelec., effect of elec. field on dielec. props. 9-33642
- BaTiO₃:Nb, ferroelec. and paraelec. phases, props. 9-42919
- BaTiO₃:ZrO₂, dielec. loss tangent and const. 9-4769
- BaTi₄O₉ effect of chemical treatment on loss quality, at microwave wavelengths 9-34159
- Ba₂Ti₂O₂₀, effect of chemical treatment on loss quality, at microwave wavelengths 9-34159
- BaZrO₃-LaAlO₃ systems, sintering conditions, elec. props. 9-43184
- Bi complex oxides, antiferroelec. and ferroelec., pyrochlore struct., dielec. and structural study 9-38488
- CsH₂AsO₄, ferroelec., RF dielec. relax., loss mech. 9-38448
- CsH₂AsO₄, influence of γ -radiation on dielec. props. 9-46703
- EuO, ferromag. reson. and nonlinear phenomena 9-28627
- Ge amorphous solid dielectric loss meas. by submillimetric waveguide laser 9-33603
- KD₂PO₄ attenuation const. meas. by SHF dielec. resonance 9-47406
- KH₂AsO₄, ferroelec., RF dielec. relax., loss mech. 9-38448

dielectric losses continued

- KH₂PO₄, attenuation const. meas. by SHF dielec. resonance 9-47406
 KH₂PO₄, ferroelec., RF dielec. relax., loss mech. 9-38448
 LiNbO₃:3Li₂O.Nb₂O₅ eutectic, dielectric props. 9-1743
 Mg-Cu-Mn-Ni-Fe-O, UHF ferrites, synthesis, physicochem. state, mag. and dielec. parameters 9-11536
 MgO:Li⁺, quenched, elec. polarisation, thermal depolarisation and dielectric loss meas. 9-1738
 (NH₄)₂SiF₆, low-temp. dielec. loss maxima in cubic and trigonal crystals. 9-19831
 NaCl:Ca²⁺, highly doped, aggregation of point defects, NMR and dielec. loss meas. 9-10847
 NaCl:Mn, impurity-vacancy dipole aggregation, role of dimers and trimers, reanal. of dielec. and cond. data 9-1458
 NaNbO₃-SrNb₂O₆, phase diagram, props. meas. 9-11576
 PLZT, fine grained 90° electric domain wall movement, interpretation of dielectric losses (*German*) 9-33646
 Pb₂CrO₅, thermal X-ray and dielec. investigations 9-47403
 PbNb₂O₇:Sb₂O₃, ceramic, dielec. props. 9-11392
 Pb(Zr,Ti)O₃:Mn ceramics, anomalous dielec. losses 9-42892
 PbZrO₃ based ferroelec. ceramic, pressure-temp. phase diagrams 9-24273
 RbCl:Li⁺, new off-centre defect system, studied with dielec. techniques under hydrostatic press. 9-19834
 RbH₂AsO₄, attenuation const. meas. by SHF dielec. resonance 9-47406
 RbH₂PO₄, attenuation const. meas. by SHF dielec. resonance 9-47406
 Sb₂S₃, thin film, dielectric props. 9-15392
 SbSI, single- and poly-domain, complex permitt. and dielec. relax. losses 9-28699
 Se amorphous solid dielectric loss meas. by submillimetric waveguide laser 9-33603
 SrTiO₃ film, behaviour of ferroelects. in strong elec. microwave field 9-42884
 SrTiO₃-Bi₂Ti₂O₇-CaTiO₃ system, solid solns., elec., optical props. 9-11375
 VO₂, elec. cond. and dielec. props. 9-11379
 ZnO, varistor, low temp. AC props. 9-38434

dielectric materials

- see also antiferroelectric materials; dielectric thin films; electrets; ferroelectric materials; glass; insulating materials; insulation; piezoelectric materials*
 Casimir effect in dielectrics using source theory, surface tension and latent heat 9-8109
 Maxwell-Hopkinson dielectric theory electric displacement fields, growth estimates 9-24278
 plastic dielectrics with general work-hardening, phenomenological theory 9-8113

dielectric measurement

- see also dielectric loss measurement; permittivity measurement*
 10-150 GHz frequency range, precise 9-30491
 cylindrical cavities in E₀₁₀ mode relations for dielec. parameter eval. 9-35783
 electric strength determination, equipment and test results for liq. N₂ 9-38451
 film and slab-like materials, open transmission line UHF CW phase technique 9-35778
 Hartshorn and Ward, square law detector checking 9-35777
 hydration kinetics, microwave obs. 9-34255
 liquid crystal, dielectric anisotropy over wide freq. range 9-33594
 millimetre wave frequencies, using inverted strip dielec. waveguides 9-26081
 rapid low-temp. dielectric meas. method 9-12818
 structuring dispersions, dynamic dielectric behaviour, meas. device 9-12816
 structuring dispersions, dynamic dielectric behaviour, reply to comments 9-35785
 thin film properties, student expt. 9-40323
 two layer medium with metallic base, dielectric charact. determ. using reflected electromagnetic wave 9-35688

dielectric phenomena

- see also dielectric hysteresis; dielectric losses; dielectric properties of substances; dielectric relaxation; dielectric resonance; electric strength; ferroelectricity; photodielectric effect; piezoelectricity; solvated electrons*
 holohedral isotropic dielectric concavity arguments and growth estimates for damped linear integrodifferential eqns. 9-28703
 microwave irradiation of dielectric, near-field theory 9-41288
 stress determ. by EM waves (*Ukrainian*) 9-32254
 transition radiation and transition scatt., review 9-27143

dielectric polarisation

- see also Barkhausen effect*
 alkali halide, dielec. const., press. depend. from ionic polarisability and bulk modulus 9-19828
 alkali halides, three-body interactions, effect on electronic polarisabilities and photoelastic behaviour 9-47382
 alkaline earth glasses, 45RO.5Al₂O₃.50P₂O₅, (R=Mg,Ca,Sr,Ba), electron beam irr., temporal change in electric field produced 9-4760
 t-butanol and -d₁, deuteration effect on self-assoc., dielectric polaris. meas. 9-28672
 DOBAMBC, ferroelec. props. 9-32884
 elastic dielectrics, nonlinear compatibility equations and Bianchi-type identities 9-41574
 ester, smectic C phase liq. cryst., ferroelectricity and spontaneous polarisation (*Russian*) 9-8102
 F 9-42913
 ferroelec. crystal, Barkhausen effect study 9-38507
 ferroelectric dipole waves, low temp. sp.h. and spontaneous polarisation calc. 9-33614
 ferroelectric film switching transition meas. instrument, operating principle 9-17443
 ferroelectric liquid crystals, kinetics of spontaneous polarisation (*Russian*) 9-8101
 ferroelectric materials, repolarisation in SEM 9-15424
 ferroelectric models, existence of phase transition near dispersive limit, onset of spontaneous polarisation 9-8104
 ferroelectric powders, origin of memory in echo-phenomena 9-38440
 fluctuation theorems 9-47381
 harmonic generation in piezoelectric crystals under the action of homogeneous external fields 9-32121
 HOAB-DOBAMBC, nonchiral-chiral smectic C mixture, spontaneous polarization and induced circular dichroism 9-27910

dielectric polarisation continued

- ice, polarisation processes, in lattice, Kirkwood's theory rel. to thermodynamics of irreversible processes 9-38447
 ice, polarisation processes, in lattice, thermodynamics of irreversible processes, universal relation 9-38446
 II-VI semiconductors, correlation between electronic dielec. constant and ionic separation 9-4758
 III-V semiconductors, correlation between electronic dielec. constant and ionic separation 9-4758
 ionic polarisability in crystal lattice, quantum mech. model 9-47384
 methylammonium chromium selenate, lattice const. and ferroelec. props. 9-33641
 methylammonium gallium selenate, lattice const. and ferroelec. props. 9-33641
 methylammonium-Ga(SO₄)₂.12H₂O, ferroelec. alum single crystals, dielec. dispersion and charact. 9-15408
 negative currents caused by injection-controlled polarization 9-28675
 nitromethane, shock-induced elec. polarisation (*French*) 9-11381
 nonpolar crystal, temp.-depend. polarisability, anharmonic oscillator anal. 9-8087
 4-n-octyloxy-4'-cyanobiphenyl, liquid cryst., dielect. polarisation and its dispersion 9-1397
 orthovanadates, centrosymmetric exhibiting cooperative Jahn-Teller effect, dielec. props. 9-28694
 piezoceramic planar Poisson ratio variation with poling conditions 9-11391
 PLZT ceramics, ferroelec., special props. 9-42916
 polar molecules, spontaneous surface polarisation during adsorption 9-42381
 poly(2-vinyl pyridine), electronic struct., molecular-ion states and dielectric props. 9-37969
 polyvinyl acetate, struct. relax., enthalpy and elec. polarisation obs. 9-41978
 polyvinylidene fluoride, piezoelec. and pyroelec., rigid dipolar model (*French*) 9-8090
 Rochelle salt, polarisation echo in ferroelec. phase transition region 9-42920
 schultenites, ferroelectric, sp. ht. 9-19853
 TGFBC:Cr³⁺, polarisation reversal and ageing mechanisms, EPR meas. 9-8044
 TGS, correlation between domain struct. and dielec. props. 9-42927
 TGS, ferroelec., spontaneous polarisation, 2.2-20K 9-19849
 TGS, ferroelec. crystal, Barkhausen effect study 9-38507
 TGS, switching induced electrolum. 9-38669
 TGS, temp. depend. of spontaneous polarization near ferroelec. transition 9-33597
 TGS substrate, ferroelec. field effect in Te films 9-42675
 TSC technique for nonexponential dielec. response materials 9-47383
 uniaxial ferroelectrics, microscopic theory, crit. behaviour and anomalous elastic const. 9-38463
 universal dielectric response in condensed matter 9-28674
 vibronic theory of ferroelectricity 9-19854
 Ag halides, correlation between electronic dielec. constant and ionic separation 9-4758
 AgNa(NO₂)₂, ferroelec. transition, ²³Na elec. field gradient tensor, NMR meas. 9-4777
 AgNa(NO₂)₂, ferroelectric phase transition, theory 9-24272
 Ag₂SbS₃, pyrrargyrite, order-disorder phase transition and elec. polarisation 9-38468
 BaCoF₄, low temp. magnon effects on polarisation 9-42905
 BaMgF₄, low temp. phonon effects on polarisation 9-42905
 BaMnF₄, low temp. phonon, and exciton effects on polarisation 9-42905
 BaNiF₄, low temp. magnon effects on polarisation 9-42905
 BaTiO₃, Co substituted, ferroelec., diffuse behaviour 9-38475
 BaTiO₃, ferroelec., X-ray diffr. topographic study of polarisation reversal 9-38442
 BaTiO₃ films, ferroelec., effect of elec. field on dielec. props. 9-33642
 BaTiO₃:Al, 0.05-0.3 wt.%, ceramic dielectric, dielec. and mech. props. 9-8091
 BaTiO₃:Fe, short circuit photocurrent, depend. on polarization 9-38121
 BaTiO₃:Nb, ferroelec. and paraelec. phases, props. 9-42919
 BaZnF₄, low temp. phonon effects on polarisation 9-42905
 CdS crystal growth with strong long-lived polarisation echoes 9-43113
 CdTe-Cl, compensated, Schottky diode, longtime polarisation 9-7899
 CsH₂PO₄, ferroelec., X-ray and dielec. studies on phase transition 9-38477
 Cu halides, correlation between electronic dielec. constant and ionic separation 9-4758
 GaAs powder, RF field depend. of memory echoes 9-8095
 K₄Fe(CN)₆.3H₂O, nature of phase transition 9-38470
 KH₂PO₄, polarisation echo in ferroelec. phase transition region 9-42920
 KH₂PO₄ powder, dynamic polarisation echoes 9-4773
 K₂ZnCl₄, ferroelec. props. 9-4772
 LiH, ionic polarisability in cryst. lattice, quantum mech. model 9-47384
 LiNbO₃ crystals, activated by 3dⁿ ions, enhancement of polarisation echo 9-38439
 LiNbO₃, influence of spontaneous polarisation on photoelec. emission 9-28898
 MgO:Li⁺, quenched, elec. polarisation, thermal depolarisation and dielectric loss meas. 9-1738
 (ND₄)₂D(SeO₄)₂, phase transitions, isotope effect, dielectric and dilatometric meas. 9-38500
 (NH₄)₂BeF₄, effect of surface layer on spontaneous polarisation 9-38445
 NH₄H₂PO₄ crystal, ferroelectricity, spontaneous polarisation obs. 9-28687
 (NH₄)₂SO₄, phase transition theory 9-24275
 Na₉(Al₃Si₆O₂₄)(OH)₂.6H₂O, hydrosodalite, ferroelec. transition, pyro- and piezoelec. activity 9-15421
 NaD₃(SeO₃)₂, ²³Na resonance line temp. depend., of first order quadrupole shift and spontaneous polarisation 9-8069
 NaH₂(SeO₃)₂, ferroelec. crystal, Barkhausen effect study 9-38507
 NaNO₂, ferroelec., X-ray diffr. topographic study of polarisation reversal 9-38441
 NaNO₂, second order phase transition prop. by strain 9-15420
 PLZT ceramics, electro-optical props. (*Korean*) 9-11406
 PLZT ceramics, short circuit photocurrent, depend. on polarization 9-38121
 PLZT, reduced, exam. of ageing phenomena, using dielectric hysteresis (*German*) 9-33647
 PbCo_{0.9}Nb_{0.66}O₃, ferroelectric, exam. of permittivity and dielectric props. 9-1742

dielectric polarisation continued

- PbH(D)PO₄, PbH(D)AsO₄, ferroelectric, sp. ht. 9-19853
 PbHPO₄, single cryst., dielec. props. 9-38426
 Pb₂KNb₅₋₈Ta₂O₁₅, ferroelastic-ferroelectric coupling, dielec. props. 9-38433
 PbMg_{0.33}Ta_{0.66}O₃, ferroelectric, exam. of permittivity and dielectric props. 9-1742
 PbNb_{0.5}Sc_{0.5}O₃, ceramic, dielec. props. 9-11392
 PbTiO₃, mechanical twinning, spontaneous polarisation shielding 9-42930
 PbTiO₃, spontaneous polaris. shielding destruction by polishing and scribing 9-15427
 Pb(Zr,Ti)O₃, ceramic vibrator, resonant freq. temp. stability (*Chinese*) 9-47386
 Pb(Zr,Ti)O₃, polarisation effect on deform. and strength, Curie pt. region 9-42902
 Rb₂Cd₂(SO₄)₃, pyroelectric and dielectric props., ferroelectric transitions 9-38458
 SbSI, ferroelec. semicond., influence of internal fields on polarisation reversal process 9-38443

dielectric properties of gases

- ethyl chloride, second dielec. virial coeffs. (*German*) 9-32729
 methyl halides, second dielec. virial coeffs. (*German*) 9-32729
 orientational correlation functions, for mol. reorientation 9-36798

dielectric properties of liquids and solutions

- amides, in carbon tetrachloride, dielec. relax., time-domain reflectometric obs. 9-4762
 benzoylacetone, dil. soln. in benzene, dielectric behaviour 9-42886
 benzoylacetones, p-substituted, dil. soln. in benzene, dielectric behaviour 9-42886
 4-bromo-m-thiocresol, liq., dielectric relax. mechanisms 9-42891
 t-butanol and -d₁, deuteration effect on self-assoc., dielectric polaris. meas. 9-28672
 4-chloro- α -toluothiol, liq., dielectric relax. mechanisms 9-42891
 chlorobenzene, HF dielec. relax. test for extended Nee-Zwanzig formula 9-33602
 chlorofluoromethanes, liq., NMR spin-lattice and dielec. relax. 9-33604
 cholesteryl linoleate, dielec. props., phase transitions rel. to temp. 9-33592
 critical phenomena isomorphism 9-33649
 critical point and eqn. of state investig. by optothermodynamic method (*Russian*) 9-33068
 cyanobiphenyl nematic homologous series, Kerr const., relax. times, refr. index, dielectric const. 9-19863
 p-n-decyloxybenzoic acid p-n-hexyloxyphenyl ester, dielec. permittivity in nematic and smectic phases 9-32899
 di-(4-n-alkyloxy) benzoic esters, of hydroquinone series, effect of polar substituents on electro optical props. 9-46569
 dielectric kernel, functional differential eqn. 9-32871
 dil. soln., dielectric relax., solid rotator phase 9-42890
 diphenyl ether, dielec. relax. pseudorot. diffusion 9-33600
 EBBA, nematic liq. cryst., RF dielec. props. 9-4238
 fatty acids, dielectric meas. at microwave freqs. 9-19827
 Graphon, in butan-1-ol, colloidal particles, dispersion force interactions calcs. 9-24842
 HBBOP and HBH-HBBOP nematic mixtures, relax. freqs. and dielec. anisotropy, binary system behaviour (*German*) 9-33606
 N-(p-hexyloxybenzylidene)-p-toluidine, dil. soln. in benzene, dielectric behaviour 9-42893
 hydroxy compound dilute solutions, dielec. relax. at 20 to 40°C (*German*) 9-33605
 isopropyl alcohol-carbon tetrachloride, mixture, dielec. const., two-sided estimate 9-42262
 liquid crystal, ferroelec., helicoidal, smectic-C, dynamics 9-1396
 liquid dielectrics, magnetic field effect on breakdown voltage 9-42894
 MBBA, nematic liq. cryst., dielec. relax. under shear 9-10794
 MBBA, pretransitional effects above phase transition temp., nonlinear dielectric meas. 9-15390
 methane + N₂(Ar), compressed-liquid dielectric const., derived excess vol. 9-11377
 methanol-ethanol mixture, dielectric const. composition depend. rel. to struct. effects 9-11378
 methyl chloride, liq., NMR spin-lattice and dielec. relax. 9-33604
 methyl cyanide, liq., NMR spin-lattice and dielec. relax. 9-33604
 methyl isothiocyanate, in benzene (tetrachloromethane), nonlinear dielectric solvent effect 9-28702
 methylene chloride, liq., NMR spin-lattice and dielec. relax. 9-33604
 mineral oil in large gaps, electric strength study 9-38452
 nematic liquid crystals, dielectric characteristics obs. (*Russian*) 9-15400
 nematic liquid crystals, temp. dependent props., twisted nematic displays 9-32901
 nitroethane-cyclohexane, pretransitional effects above phase transition temp., nonlinear dielectric meas. 9-15390
 nitromethane, shock-induced elec. polarisation (*French*) 9-11381
 nitrotoluene-pentane, pretransitional effects above phase transition temp., nonlinear dielectric meas. 9-15390
 4-n-octyloxy-4'-cyanobiphenyl, liquid cryst., dielect. polarisation and its dispersion 9-1397
 organic liquids, complex permittivity in UHF region (*Japanese*) 9-8085
 pentytcyanobiphenyl, nematic, elastic and dielec. props. from capacitance-voltage curve 9-32894
 permittivity, by microwave freq. meas., student expt. 9-40320
 phenyl isothiocyanate, in benzene (tetrachloromethane), nonlinear dielectric solvent effect 9-28702
 polar liq. in nonpolar solvent, dipole moment extrapolation procedure 9-33650
 polar liquids soln., mol. electric dipole moments, extrapolation formula 9-38437
 polar solutes, in o-terphenyl soln., dielec. relax. 9-33598
 polyhydroxyl alcohols, H-bonded solns., microwave dielec. relax. 9-33599
 polymers, flexible, solns., shear flow, dielec. anisotropy, appls. 9-15393
 polystyrene, in butan-1-ol, colloidal particles, dispersion force interactions calcs. 9-24842
 proteins, dimensions, shape, conformational transitions, use of dielectric relaxation method 9-11888
 PTFE, in butan-1-ol, colloidal particles, dispersion force interactions calcs. 9-24842
 smectic A mesophase exhibiting positive and negative dielec. anisotropy 9-10793
 solvent, ion migration and frequency-dependent dielectric loss 9-19832
 tolualdehyde, dil. soln., dielectric relax., solid rotator phase 9-42890

dielectric properties of liquids and solutions continued

- toluene, liq., NMR spin-lattice and dielec. relax. 9-33604
 1,3,5-trifluorobenzene, liq., NMR spin-lattice and dielec. relax. 9-33604
 viscous liquid, glassy state, effect of fictive temp. on dielec. relax. 9-24256
 water-in-dodecane microemulsions, dielec. study of phase transition 9-28668
 water-in-dodecane microemulsions, struct. transitions in liq. cryst. phase, dielec. props. 9-28669
 Ar, fluid, light scatt., collision-induced, line-shape theory and mol. dynamics 9-41921
 CO group, NMR chem. shift, solvent's dielectric const. effect, mag. anisotropy 9-42847
 FeCl₃, nonaq. solns., solvent-solute interactions, Mossbauer investig. of equilb. const. 9-1729
 H-bonded complexes, in polystyrene matrix, mol. relax. processes 9-24259
⁴He, superfluid, quantized vortices and dielec. const. splashes in crossed fields (*Russian*) 9-19410
 N₂, electric strength determination 9-38451

dielectric properties of solids

- alkali halide, dielec. const., press. depend. from ionic polarisability and bulk modulus 9-19828
 alkali halide, divalent metal doped, dipolar relax. induced by AC field in various crystallographic directions 9-19833
 alkali halide crystals, Szigeti effective charge parameter, strain derivative 9-7571
 alkali halides, props. under hydrostatic press. 9-38436
 alkali metal metaphosphate glass, dielec. relax. at medium temp. 9-24257
 alkaline earth glasses, 45RO.5Al₂O₃.50P₂O₅, (R=Mg,Ca,Sr,Ba), electron beam irradi., temporal change in electric field produced 9-4760
 alums, dielec. behaviour and ferroelectricity 9-38431
 band structure, dielectric 9-47034
 barium ternary fluorides, BaXF₃, (X=Mg, Zn, Co, Ni, Mn), polarisation and pyroelec. response 9-42905
 benzaldehyde, in polymer matrix, dielec. absorption, Eyring parameters 9-24761
 benzenes, substituted, cryst., reorientation motion, site models with non-equivalent sites, dielec. relax. 9-11382
 copper formate tetrahydrate, dielec. anisotropy and dimer theory 9-38427
 Corning 7070 glass, relative permittivity at 3 GHz 9-33591
 corundum ceramic, high-temp. treatment, powder medium effect on microstruct., comp., strength and dielec. props. 9-33984
 dicalcium lead propionate, effect of particle size on dielec. behaviour 9-38429
 dicalcium strontium propionate, effect of particle size on dielec. behaviour 9-38429
 dimethylammonium manganese chloride, perovskite-type layer structure submillimetric-wave spectroscopy 9-33540
 ethers, and alkane solid solns., dielec. props. and IR spectra (*French*) 9-4378
 ferroelectricity, conference, Leningrad, USSR (1977) 9-15406
 ferroelectrics, temp. depend. of soft mode freq. and its damping 9-38484
 high polymer physics, conf., Washington, USA (March 1978) 9-11633
 ice, polarisation processes, in lattice, Kirkwood's theory rel. to thermodynamics of irreversible processes 9-38447
 ionic polarisability in crystal lattice, quantum mech. model 9-47384
 low-frequency dispersion, in carrier-dominated dielectrics 9-47380
 metal film, complex permittivity, microwave meas. 9-24253
 methylammonium aluminium sulphate dodecahydrate, ferro to paraelectric transition, low freq. dielectric behaviour 9-4770
 methylammonium gallium sulphate dodecahydrate, dielec. relax. meas. 9-28677
 methylammonium-Ga(SO₄)₂.12H₂O, ferroelec. alum single crystals, dielec. dispersion and charact. 9-15408
 PLZT ceramics, ferroelec., special props. 9-42916
 PMMA, electron energy loss spectra, optical props. 9-10887
 polar molecule, in polymer matrix, dielec. absorption 9-4761
 polycarbonate, sorption of water and its effect on dielec. behaviour 9-11383
 polyethylene, mol. motions, α relax, chain transport 9-15398
 polyethylene terephthalate, β relax., dynamic mech. and dielectric loss data 9-15399
 polyethylene terephthalate sheeting, storage in aqueous media rel. to props. (*German*) 9-29250
 polystyrenes, comparison of head-to-head, head-to-tail, by thermally stimulated discharge 9-15396
 polyvinyl acetate, struct. relax., enthalpy and elec. polarisation obs. 9-41978
 prefired substrate, acid treatment, improvement in as-fired surface finish 9-24636
 protein-methylglyoxal complex, electronic props., energy band cond. 9-24936
 Rochelle salt, polarisation echo in ferroelec. phase transition region 9-42920
 solid dielectrics, surface resistivity meas. and calc. 9-1617
 squaric acid, dielec. const. and PMR near struct. phase transition 9-10946
 stibantalite type structure ferro- and antiferroelectrics, props. and crit. points 9-38460
 TGFB, deuterated, single cryst. growth from soln., dielec. and pyroelec. props. 9-24422
 TGS, correlation between domain struct. and dielec. props. 9-42927
 TGS, with radiation defects, dielec. dispersion 9-42882
 TGS powder, complex dielectric const. temp. depend. 9-47379
 thin ferroelectric layers, permittivity tensor at microwaves 9-42883
 TSC technique for nonexponential dielec. response materials 9-47383
 universal dielectric response in condensed matter 9-28674
 vibronic ferroelectric carriers, dependence of plasma frequency on spontaneous lattice distortion (*Russian*) 9-15410
 Ag₂₆W₄O₁₆, struct. phase transition, dielectric, cond. and Raman obs. 9-19368
 Ag₂Sb₃, pyrraryrite, order-disorder phase transition and elec. polarisation 9-38468
 As₂Ge₁₀Te_{90-x} glass, cond. and dielec. const. from 77 to 383K and from DC freq. to 5 MHz 9-23964
 Au small particles in glass, transition cluster-solid state 9-33593
 BaO-TiO₂-Nd₂O₃, exam. of compositional and dielectric props. 9-33601
 BaTiO₃, Co substituted, ferroelec., diffuse behaviour 9-38475

dielectric properties of solids continued

- BaTiO₃, ferroelec., reduction of hysteresis losses 9-42926
 BaTiO₃, ferroelec., X-ray diffr. topographic study of polarisation reversal 9-38442
 BaTiO₃ film, sputtered, elec. props. 9-42676
 BaTiO₃ films, ferroelec., effect of elec. field on dielec. props. 9-33642
 BaTiO₃, pure, dielec. behaviour at ultralow freq. 9-38425
 BaTiO₃, transform. of cryst. struct., at cubic-to-tetragonal phase transitions 9-37827
 BaTiO₃:Nb, ferroelec. and paraelec. phases, props. 9-42919
 BaTiO₃:PbO-B₂O₃, liquid phase sintering, effect on props. (German) 9-33580
 BaTiO₃, effect of chemical treatment on loss quality, at microwave wavelengths 9-34159
 Ba₂Ti₂O₇, effect of chemical treatment on loss quality, at microwave wavelengths 9-34159
 BaZrO₃-LaAlO₃ systems, sintering conditions, elec. props. 9-43184
 Bi complex oxides, antiferroelec. and ferroelec., pyrochlore struct., dielec. and structural study 9-38488
 Bi₂O₃ layer thermally grown on Bi film, thickness meas. by capacitance method 9-1554
 Bi₂TiO₅F₂, one-layer perovskite-like ferroelec., dielec. study 9-38486
 Bi₂W₂O₆, struct., dielec. props., melting character and thermal stability 9-33572
 CsH₂AsO₄, ferroelec., RF dielec. relax., loss mech. 9-38448
 CsH₂AsO₄, influence of γ -radiation on dielec. props. 9-46703
 CsH₂PO₄, ferroelec., X-ray and dielec. studies on phase transition 9-38477
 FeS₂, dielec. constant meas. 9-15395
 FeSO₄·7H₂O, single cryst., elec. and dielec. props., temp. depend. 9-19826
 GeS_{1.5}Cu, interpretation of dielectric behaviour 9-33595
 Hg₂Cl₂, elec., dielec., and thermophysical props. 9-10989
 KH₂AsO₄, ferroelec., RF dielec. relax., loss mech. 9-38448
 KH₂PO₄, ferroelec., RF dielec. relax., loss mech. 9-38448
 KH₂PO₄, polarisation echo in ferroelec. phase transition region 9-42920
 K₂Mn₂(SO₄)₃, phase transition press. effect, dielectric const. meas. 9-37834
 K₂Nd(MoO₄)₄, dielec. and optical props. 9-33590
 KTaO₃, dielec. nonlinearity and parametric interactions at low temps. 9-38430
 KTaO₃:Li, susceptibility extrinsic peak, dielectric const. meas. 9-11394
 LiH, ionic polarisability in cryst. lattice, quantum mech. model 9-47384
 Li₃N, superionic conductor, cryst. growth and struct., phys. props., book contrib. 9-42308
 LiNbO₃ crystals, activated by 3dⁿ ions, enhancement of polarisation echo 9-38439
 LiNbO₃:3Li₂O·Nb₂O₅ eutectic, dielectric props. 9-1743
 Mg-Cu-Mn-Ni-Fe-O, UHF ferrites, synthesis, physicochem. state, mag. and dielec. parameters 9-11536
 MgO:Li⁺, quenched, elec. polarisation, thermal depolarisation and dielectric loss meas. 9-1738
 (ND₄)₂D(SO₄)₂, phase transitions, isotope effect, dielectric and dilatometric meas. 9-38500
 (NH₄)₂BeF₄, effect of surface layer on spontaneous polarisation 9-38445
 (NH₄)₂SiF₆, low-temp. dielec. loss maxima in cubic and trigonal crystals. 9-19831
 NaCl:Mn, impurity-vacancy dipole aggregation, role of dimers and trimers, reanal. of dielec. and cond. data 9-1458
 Na₂CoGeO₄, single cryst. growth and study of their piezoelec. and elastic props. 9-4906
 Na₂HAsO₄, hydrogen bonded, ⁷⁵As NQR study 9-38399
 Na(H_{1-x}D_x)₂(SeO₃)₂, ferroelectric, dielectric behaviour at RF and microwave freq. 9-33640
 NaNO₂, complex dielectric constant, sinusoidal phase in ferroelectric material 9-11376
 NaNO₂, ferroelec., X-ray diffr. topographic study of polarisation reversal 9-38441
 PLZT, reduced, exam. of ageing phenomena, using dielectric hysteresis (German) 9-33647
 Pb₂CrO₃, thermal X-ray and dielec. investigations 9-47403
 PbHPO₄, single cryst., dielec. props. 9-38426
 PbNb₂O₆, O defects and elec. props. anomalies 9-42898
 Pb₂Nb₂O₇, electric cond. and dielec. props. of cathodic-sputtered films (French) 9-33371
 PbNb₂Se₂O₃, ceramic, dielec. props. 9-11392
 Pb_{1-x}La_xTiO_{3+x(1.5-a)}, R=La or Sm exam. of permittivity as function of temp. 9-33586
 PbTiO₃, mechanical twinning, spontaneous polarisation shielding 9-42930
 Pb_{1.8}Zn_{0.15}Na_{0.05}Nb_{0.95}F_{0.05}, electric cond. and dielec. props. of cathodic-sputtered films (French) 9-33371
 Pb(Zr,Ti)O₃ pyroelectric ceramics 9-47649
 Pb(Zr,Ti)O₃:Mn ceramics, anomalous dielec. losses 9-42892
 PbZrO₃ based ferroelec. ceramic, pressure-temp. phase diagrams 9-24273
 Pd, dielec. screening and phonon frequencies using isotropic noninteracting s-d-band model 9-19343
 Pt, dielec. screening and phonon frequencies using isotropic noninteracting s-d-band model 9-19343
 RbAg₄Se₅, single cryst., dielectric relax. (German) 9-4764
 Rb₂Cd₂(SO₄)₃, pyroelectric and dielectric props., ferroelectric transitions 9-38458
 RbCl:Li⁺, new off-centre defect system, studied with dielec. techniques under hydrostatic press. 9-19834
 RbLiSO₄, thermal and dielectric props., ferroelectricity 9-28688
 Sb_{1-x}Bi_xSI, mixed cryst., ferroelec. phase transition 9-33629
 Sb₂S₃, thin film, dielectric props. 9-15392
 SbSI, central mode, microwave freqs. 9-19852
 SbSI, ferroelec., dielec. props. 9-38428
 SbSI, ferroelec. semicond., influence of internal fields on polarisation reversal process 9-38443
 Sb₂Se₃ single crystals., phys. prop. anomalies, 400-450K (German) 9-38072
 Si_{6-x}Al₂O_{8-x}, x=1.5, 3, 4, Sialon ceramics, elec., thermal cond. 9-33124
 SiO₂ films, thickness and dielectric const., elec. cond. mech. (Japanese) 9-8084
 Sr_{0.8}Ba_{0.2}Nb₂O₆ crystals, ferroelec., dislocation free, pyroelec. props. 9-42907
 SrTiO₃, dielec. nonlinearity and parametric interactions at low temps. 9-38430
 SrTiO₃ film, behaviour of ferroelects. in strong elec. microwave field 9-42884

dielectric properties of solids continued

- SrTiO₃-Bi₂Ti₂O₇-CaTiO₃ system, solid solns., elec., optical props. 9-11375
 TGSe:D,L- α -alanine crystals, with large unipolarity, dielec., piezoelec., elastic props. and internal friction 9-33615
 TeO₂-WO₃ glass, dipole correlations, capacitances and TSC meas. 9-28670
 Ti-Al₂O₃ system mixed films, prep., phase comp., struct. and elec. props. 9-37930
 TiNbO₃, ceramics, hysteresis loops and dielec. props. 9-42885
 TiTaO₃, ceramics, hysteresis loops and dielec. props. 9-42885
 Ti₂Ti₄O₉ ceramics, hysteresis loops and dielec. props. 9-42885
 V, dielec. screening and phonon frequencies using isotropic noninteracting s-d-band model 9-19343
 VO₂, elec. cond. and dielec. props. 9-11379
 ZnO ceramic varistors, trapping by localized states, effect on dielec. and elec. props. (Russian) 9-28671
 ZnO particles, average dielectric const. generalised theory, appl. to IR spectra 9-28667
 ZrF₄ based glass, elec. and dielec. props. in freq. and temp. ranges 5-500 kHz and 130-280°C (French) 9-23772
- dielectric properties of substances**
 see also antiferroelectricity; dielectric depolarisation; dielectric function; dielectric materials; dielectric measurement; dielectric phenomena; dielectric polarisation; dielectric properties of gases; dielectric properties of liquids and solutions; dielectric properties of solids; electric strength; optical susceptibility; permittivity; piezoelectricity; pyroelectricity
 inhomogeneous dielectric, EM wave scatt. and propag., Born approx. 9-41308
- dielectric relaxation**
 see also dielectric resonance
 adsorbed layers, Maxwell Wagner and Debye processes, differentiation using temp. depend. of dielec. loss 9-28195
 alkali halide, divalent metal dopd, dipolar relax. induced by AC field in various crystallographic directions 9-19833
 alkali halides, doped, AC field induced impurity-vacancy dipole relax. 9-11385
 alkali halides, impurity-vacancy dipoles, activation energy 9-33013
 alkali metal metaphosphate glass, dielec. relax. at medium temp. 9-24257
 anilines, substituted, in benzene, dielectric relax. and mutual viscosity, obs. 9-38449
 benzaldehyde, in polymer matrix, dielec. absorption, Eyring parameters 9-4761
 benzenes, substituted, cryst., reorientation motion, site models with non-equivalent sites, dielec. relax. 9-11382
 benzoylacetone, dil. soln. in benzene, dielectric behaviour 9-42886
 benzoylacetones, p-substituted, dil. soln. in benzene, dielectric behaviour 9-42886
 4-bromo-m-thiocresol, liq., dielectric relax. mechanisms 9-42891
 N-t-butylformamide, in carbon tetrachloride, dielec. relax., time-domain reflectometric obs. 9-4762
 4-chloro- α -toluothiol, liq., dielectric relax. mechanisms 9-42891
 chlorobenzene, HF dielec. relax. test for extended Nee-Zwanzig formula 9-33602
 chlorofluoromethanes, liq., NMR spin-lattice and dielec. relax. 9-33604
 Cole-Cole dispersion function isomorphism 9-47385
 dil. soln., dielectric relax., solid rotator phase 9-42890
 diphenyl ether, dielec. relax. pseudorot. diffusion 9-33600
 DOBAMBC, ferroelec. props. 9-32884
 EBBA, nematic liq. cryst., RF dielec. props. 9-4238
 elastin, hydrated, dielectric relax. 9-5247
 N-ethylacetamide, in carbon tetrachloride, dielec. relax., time-domain reflectometric obs. 9-4762
 Gaussian relaxation time distrib., new permittivity formula (French) 9-42880
 HBBB and HBH-HBBB nematic mixtures, relax. freqs. and dielec. anisotropy, binary system behaviour (German) 9-33606
 N-(p-hexyloxybenzylidene)-p-toluidine, dil. soln. in benzene, dielectric behaviour 9-42893
 HOAB, effect of smectic C struct., on dielectric relax. 9-19140
 hydroxy compound dilute solutions, dielec. relax. at 20 to 40°C (German) 9-33605
 inhomogeneous material, complex permittivity in freq. range 10² to 10⁷ Hz (Russian) 9-8088
 liquid crystals, dielectric relaxation at phase transitions 9-28090
 MBBA, nematic liq. cryst., dielec. relax. under shear 9-10794
 methyl chloride, liq., NMR spin-lattice and dielec. relax. 9-33604
 methyl cyanide, liq., NMR spin-lattice and dielec. relax. 9-33604
 methylammonium gallium sulphate dodecahydrate, dielec. relax. meas. 9-28677
 methylammonium-Ga(SO₄)₂·12H₂O, ferroelec. alum single crystals., dielec. dispersion and charact. 9-15408
 methylene chloride, liq., NMR spin-lattice and dielec. relax. 9-33604
 N-methylformamide, in carbon tetrachloride, dielec. relax., time-domain reflectometric obs. 9-4762
 MIM structures, thermal dielec. relax. 9-11237
 N-methylpropionamide, in carbon tetrachloride, dielec. relax., time-domain reflectometric obs. 9-4762
 nematic liquid crystals, dielectric characteristics obs. (Russian) 9-15400
 nitromethane, shock-induced elec. polarisation (French) 9-11381
 4-nitrophenyl 4-octyloxybenzoate, smectic-A and nematic phases, dielectric meas. 9-23516
 NMR and dielectric relaxation, defect diffusion models 9-15375
 octyl-cyano-biphenyl, smectic-A and nematic phases, dielectric meas. 9-23516
 OHMBBA, nematic, dielectric behaviour at RF 9-7548
 PAA, methoxy deuterated, reorientational correl. times, comparison of neutron scatt. and dielec. relax. data 9-7545
 polar solutes, in o-terphenyl soln., dielec. relax. 9-33598
 polyelectrolyte, plasticised, effect of ion placement and struct. on props. 9-7679
 polyethylene, mol. motions, α relax, chain transport 9-15398
 polyethylene terephthalate, β relax., dynamic mech. and dielectric loss data 9-15399
 polyethylene terephthalate, Mylar C film, high field relaxation currents 9-11259
 polyhydroxyl alcohols, H-bonded solns., microwave dielec. relax. 9-33599
 polymer relaxation phenomena, conference, San Francisco, CA, USA (Aug. 1976) 9-4257

dielectric relaxation continued

- polyoxymethylenes, dielec. relax. and IR spectra, 90 to 300K (*Russian*) 9-28678
 population distributions of dielec. relax. times 9-24258
 proteins, dimensions, shape, conformational transitions, use of dielectric relaxation method 9-11888
 restricted rotational diffusion, dipolar autocorrel. function calcs. 9-4763
 semiconducting ferroelectric glass-ceramics, dielectric dispersion (*Russian*) 9-8097
 TGS, low freq. dielec. dispersion near Curie point 9-38432
 tolualdehyde, dil. soln., dielectric relax., solid rotator phase 9-42890
 toluene, liq., NMR spin-lattice and dielec. relax. 9-33604
 1,3,5-trifluorobenzene, liq., NMR spin-lattice and dielec. relax. 9-33604
 viscous liquid, glassy state, effect of fictive temp. on dielec. relax. 9-24256
 vitrified conc. aq. solns., ionic hydration and secondary dielec. relax. 9-24882
 As₂Se₃/Ag, amorphous, doping effect of gap states and elec. cond., dielec. relax. and DC cond. meas. 9-47098
 B₂O₃-Na₂KO glass, dielectric relaxation at low temp. 9-11384
 BaTiO₃/Nb, ferroelec. and paraelec. phases, props. 9-42919
 CsH₂AsO₄, ferroelec., RF dielec. relax., loss mech. 9-38448
 H-bonded complexes, in polystyrene matrix, mol. relax. processes 9-24259
 KH₂AsO₄, ferroelec., RF dielec. relax., loss mech. 9-38448
 KH₂PO₄, dielec. functions above and below ferroelec. transition 9-33588
 KH₂PO₄, ferroelec., RF dielec. relax., loss mech. 9-38448
 Pb₃Ge₃O₁₁, dielec. functions above and below ferroelec. transition 9-33588
 PbHAsO₄, ferroelec., far IR and submillimetre dielec. dispersion 9-38528
 PbHPO₄, ferroelec., far IR and submillimetre dielec. dispersion 9-38528
 RbAg₄I₅, single cryst., dielectric relax. (*German*) 9-4764
 SbSI, single- and poly-domain, complex permitt. and dielec. relax. losses 9-28699
 Se:As, amorphous, pure and doped, photoelectronic preps. in glass transition region 9-4583
 SrF₂:rare earth, electric dipoles, relaxation parameters and dipole-dipole interaction 9-24255
 VO₂, elec. cond. and dielec. props. 9-11379

dielectric resonance

- see also dielectric relaxation; paraelectric resonance*
 Schottky-barrier diode monolithic detector dielectric plate antenna 9-30548
 KD₂PO₄, attenuation const. meas. by SHF dielec. resonance 9-47406
 KH₂PO₄, attenuation const. meas. by SHF dielec. resonance 9-47406
 RbH₂AsO₄, attenuation const. meas. by SHF dielec. resonance 9-47406
 RbH₂PO₄, attenuation const. meas. by SHF dielec. resonance 9-47406

dielectric strength *see electric strength***dielectric susceptibility** *see optical susceptibility***dielectric thin films**

- see also ferroelectric thin films; insulating thin films; optical films; piezoelectric thin films*
 excitation of conductive body, covered with thin dielectric layer, integral equation solution (*Russian*) 9-18322
 measurement technique, for dielectric props., student expt. 9-40323
 optical thin-film waveguides fabrication, review (*Polish*) 9-3775
 plasma anodisation of metals and semiconductors, model 9-28952
 polariton standing wave struct. as test of boundary conditions for spatial dispersion theories 9-4865
 polypropylene, effect of corona treatment on dielectric props. for capacitor appl. 9-33607
 refractive index and structure, deposition temp. depend. 9-4857
 AgCl, on complementary cleavage planes of TGS, morphology, electron microscope obs. 9-15031
 Bi₂O₃, thermally grown on Bi film, thickness meas. by capacitance method 9-1554
 Sb₂S₃, thin film, dielectric props. 9-15392

dielectric triodes *see space-charge limited devices***dielectric waveguides**

- see also optical waveguides*
 coupled thin-film dielectric waveguides with tapered edges, EM surface waves 9-3792
 hollow cylindrical anisotropic dielectric guide, propagation 9-32047
 inverted strip guide, for dielec. prop. meas. at millimetre wave freqs. 9-26081
 nonparallel dielectric waveguides, degenerate mode coupling 9-37006
 planar, interacting discontinuities, anal. 9-27445

dielectrics *see dielectric materials***diesel engines** *see internal combustion engines***difference amplifiers** *see differential amplifiers***difference equations**

- ADI difference of schemes, high order, wave eqn. soln. 9-66
 biocybernetic model of influence of hypnosis on motor response of hemiparetic patients (*Slovenian*) 9-2037
 boundary layer with blowing, numerical exponential box scheme 9-1240
 central difference approximations to the heat transport equation 9-3885
 conformal mappings for curved boundary finite-difference problems 9-3912
 constrained material continua, eqn. formation 9-40360
 convection, forced, turbulent, in square cavity, shear effect 9-1180
 convection, mixed, about sphere with uniform surface heat flux 9-32519
 convection, natural, in confined region between two concentric square ducts 9-23320
 convection, natural, in confined region between two horizontal ducts for variable fluid properties 9-23321
 convective losses in 2-D, differentially heated, inclined cavities (*French*) 9-24906
 crystal surface vibration modes, effective-modulus approx. 9-19446
 cylindrical heat cond. eqn., implicit difference methods 9-41551
 difference analogues to nonlinear partial differential eqns., reducible to linear eqns. 9-25831
 duct, annular, turbulent flow and heat transfer over backward facing step, finite difference soln. 9-1175
 duct flow, laminar, finite element methods compared to Doppler meas. 9-1253
 dynamical grid method for time-dependent simulations of axisymmetric instabilities in tokamaks 9-10702
 estuary, tidal and thermal propag., numerical model 9-12133

difference equations continued

- finite, anal. of vibrs. of rectangular isotropic plate with two opposite edges simply supported 9-18782
 finite difference schemes for heat eqns. 9-37109
 finite difference technique, involving discontinuous derivatives, for flow problems 9-32435
 flow, annulus entrance, heat transfer 9-4013
 flow, fully-developed, in non-circ. passages, prediction method 9-1254
 flow, in channel array with interconnections, finite-difference scheme 9-4012
 flow, multiply connected flow fields, numerically mapped macro-elements 9-1252
 flow, recirculating, numerical prediction 9-1152
 flow, rod cluster with blockage causing recirculation, finite difference method for temp. 9-3200
 flow, turbulent, incompressible, numerical prediction 9-1171
 flow of recirculating type, numerical methods in Navier-Stokes eqns. 9-1202
 fluid flow, finite difference methods 9-9117
 fluid flow, marker and cell technique 9-9121
 fluid flow, numerical methods comparison 9-9123
 frequency anal. of unsupported structures 9-32333
 Galerkin method, fluid flow appl. 9-9118
 general nonlinear differential-difference equations, integrability by inverse scattering method 9-12575
 gravity waves, one-dimens., finite-element and finite-difference techniques comparison 9-18902
 gravity waves, two-dimens., finite-element and finite-difference techniques comparison 9-18903
 gulfs, tides and currents, math. models, finite difference techniques 9-12130
 hard rods and spheres, radial distrib. function, differential difference eqns. in Percus-Yevick approx. 9-18701
 heat transfer finite difference computer programs 9-14221
 heat transfer simultaneous eqns. soln., matrix iterative substructuring 9-10564
 heterogeneous reactor, homogenization, finite difference eqns. of neutron distrib. 9-40992
 hydromagnetic thermal instability of rotating fluid layer, Hall current effects 9-27699
 ion beam source, optical props., convergent iterative numerical procedure 9-3620
 lakes, wind effect eqns., finite difference schemes 9-12163
 laminar unsteady flow past flat plate, finite difference method 9-18864
 large deflection analysis of plates and shells by discrete energy method 9-3918
 Leap Frog scheme, anal. for any number of space variables 9-2616
 MHD stability of laminar boundary layer flow along flat plate with transverse mag. field 9-27709
 micropolar fluids, stability of laminar flows between parallel walls 9-1160
 minicomputerized automatic radiocardiogram analysis (*Japanese*) 9-29614
 Navier-Stokes equations, finite element and finite difference methods, efficiency comparison 9-1148
 Navier-Stokes equations, finite-difference methods 9-1145
 Navier-Stokes equations, Hermitian finite-difference method 9-1144
 neutron diffusion coefficient adjustment using transport theory results 9-22359
 neutron transport, 2D time depend. P₁ eqn., numerical soln. 9-40980
 non-Newtonian flow with moving boundaries 9-23343
 non-Newtonian fluid duct flow, heat transfer 9-1219
 nonlinear differential equation solution, computational accuracy 9-3997
 nonlinear mathematical model of the propagation of tides in interlacing channels 9-39720
 nonlinear modified difference eqns., ALTRAN computer programs 9-9092
 nozzle, heat transfer of transonic air flow 9-1230
 numerical prediction of recirculation flows with free convection encountered in gas-agitated reactors 9-10602
 numerical simulation of fluid motion, conf., Melbourne, Australia (1976) 9-9116
 ordinary differential eqn. extended difference soln. (*German*) 9-21538
 parallel flow stability, numerical calc. 9-32460
 plasma, current-driven drift-wave eigenmodes, stability criteria 9-32769
 plate, optimal design under dead weight and surface loading 9-3915
 plates, thin rectangular elastic, bending, finite difference anal. 9-46181
 Plexiglas, spark energy balance 9-23474
 Poisson's equation, finite difference form, numerical soln., unconditionally stable scheme 9-50
 pulsating turbulent pipe flow, vel. distrib. 9-32666
 rainfall-runoff process identification, Semois river appl. 9-5537
 recirculating flows, review of computing methods 9-10565
 reinforced organic composite, graphite, or C-C, ablation, mathematical modelling 9-41564
 rotating cylinder, source-sink flows, numerical anal. 9-4018
 shaft, circular, with surface traction, perturbation of shear stresses 9-41577
 shell of revolution in acoustic medium, steady state motion 9-18728
 shell wall anal., circular tanks under axisymmetrical pressure 9-46202
 shock wave reflection from concave surface, numerical simulation 9-18913
 sliding interfaces and impact, numerical treatment 9-41631
 Stirling cycle: numerical analysis, computerised, accuracy evaluation 9-48170
 supersonic flow past flat faced cylinders, second order shock capturing finite difference method (*Japanese*) 9-4038
 surface waves, long period, explicit-implicit method 9-4026
 surface waves, over submerged obstacle, finite-difference method 9-4027
 Taylor vortex flow, finite difference transient implicit method, stability 9-14404
 three dimensional laminar flow in curved pipes, Navier-Stokes eqn. numerical soln. technique 9-10611
 tidal flow, interlacing channels, nonlinear computer model 9-34828
 tidal flow, shallow water eqns., semi-implicit approach 9-34829
 tidal model of Corio Bay, Victoria, finite difference approach 9-12131
 tidal propag. equations, finite difference and analytical methods 9-12134
 transonic flow, finite element and finite difference calcs., book contrib. 9-32558
 transonic flows, exact shock-jump conditions, numerical solns. 9-41704
 triangular finite difference scheme for large deflection problems 9-32233

difference equations continued

- tropical cyclone surge model, finite difference method 9-12132
- tube banks in turbulent flow, heat transfer prediction 9-1080
- two dimensional recirculating flow, finite difference grid for non-rectangular flow fields 9-14374
- two or three electrons, interacting with localised mag. moment, wave function determ., Sommerfeld's method, second and modular difference eqn. solns. (*French*) 9-12636
- upper atmosphere neutral gas expansion differential eqns. soln. 9-12325
- vibrating thin rectangular plates, influence of thermal grad. on natural freq. 9-32353
- viscous flow, 3D, finite difference method 9-32447
- vortex sheet, unsteady, self-similar, rolled-up, large scale struct. 9-32531
- wall with one-way heat flow, vertical inclined cavity stack 9-3899
- waves in shallow water, improved finite difference scheme 9-4028
- $\sqrt{2N}$ field theory, asymptotic graphs counting techniques 9-17608
- Na, liq., in fast nucl. reactor outlet plenum, transient flow and heat transfer 9-26472
- Th-PuO₂ kernels, effect of fuel particle size on power excursions, Doppler feedback mechanism 9-30911

differential amplifiers

- photoelectric colorimeter reconditioning methods 9-39618
- transresistance instrumentation amplifier, dosimeter appl. 9-22561

differential calculus *see differentiation***differential equations**

- see also boundary-value problems; difference equations; Green's function methods; integro-differential equations; linear differential equations; Navier-Stokes equations; nonlinear differential equations; partial differential equations*
- asymptotic solution of a class of singularly perturbed nonlinear boundary value problems via differential inequalities 9-5970
- Bochner curvature tensors, Kahler manifolds (*Japanese*) 9-12663
- Bubnov-Halyorkin method, stability for one-order differential equations (*Russian*) 9-9081
- canonical systems of differential eqns. in resonant case, periodic solns. 9-44345
- completely integrable systems and symplectic actions 9-44712
- convection, natural, in confined region between two concentric square ducts 9-23320
- coupled second-order differential equations, Weyl's theory appls. 9-30375
- delta wing equations, high freq. solns. 9-46337
- dielectric kernel, functional differential eqn. 9-32871
- diffusion-reaction equations systems, existence, stability 9-20365
- elastic lateral torsional buckling of unbraced and braced planar frames 9-46236
- ELMO bumpy torus, macroscopic MHD stability and beta limit 9-31186
- energy conversion, intuitive thermodynamics (*German*) 9-14225
- finite element analysis of cylindrical shell, with end plate subjected to centrifugal force (*Japanese*) 9-1104
- flow, stratified, environmental, finite element analysis, book contrib. 9-34875
- fluid, cold, displacement by hot fluid in porous medium, stability 9-27691
- fluid flow, model eqn. of Lagerstrom 9-12612
- gas turbines, temperature gradient along cooling channel surface, heat transfer in initial hydrodynamic section, effects 9-18892
- global element method, appl. in discontinuous nuclear pot. calc. 9-3089
- Hamilton equations, n distinct periodic solns. on each energy level (*French*) 9-44710
- Hamilton-Jacobi equation, symmetry and separation of variables, normal parabolic equation (*Russian*) 9-6292
- Hamilton-Jacobi equation, symmetry and separation of variables, nonparabolic equation (*Russian*) 9-6291
- heat conduction solution, generalised differential operator appl. (*Hungarian*) 9-14202
- high-current electron-optical systems, asymptotic synthesis 9-7067
- initial value equations soln. in dynamical astronomy, new Runge-Kutta algorithms 9-12387
- integrable evolution equations, general struct. 9-30201
- integrable in generalised hypergeometric functions (*Russian*) 9-12572
- interactive buckling analysis of box sections using dynamic relaxation 9-7304
- irrotational shearfree motion of perfect fluid in general relativity 9-27715
- linear physical systems analysis, with periodic inputs, with aid of computer 9-51
- magnetic-bubble material, struct. of 180° ferromag. domain wall 9-24205
- material particles movement, numerical solution (*Croatian*) 9-25983
- mathematical modelling of highly parametrised integral or differential equations 9-35492
- micropolar fluid boundary layer flow past circular cylinder 9-41658
- modified, finite difference soln. 9-9092
- modulated normal wave interaction 9-21563
- MOS transmission line models, differential eqn. solns. generalised to lossy cases 9-38182
- nonlinear transformation-operators, appl. in explicitly solving differential eqns. 9-12568
- nonparametric identification for diffusion processes 9-30374
- ordinary, suppression of inherent instabilities in initial value methods 9-9090
- ordinary, with numerous discontinuities, numerical anal. 9-21535
- ordinary differential eqn. extended difference soln. (*German*) 9-21538
- plasma, current-driven drift-wave eigenmodes, stability criteria 9-32769
- plastic hardening medium, equations of steady-state motion 9-12597
- Plexiglas, spark energy balance 9-23474
- Poincare-Chetaev's equations, integration (*Russian*) 9-35547
- potential operators and the inverse problem of classical mechanics, differential eqns. 9-2618
- real ray tracing when ray direction is complex 9-9126
- rectangular plates, semi-analytic solution for free vibr. 9-18778
- relay systems, bifurcation and stability from third order differential equation (*Russian*) 9-46247
- scattering, inelastic, of ats. and molcs., coupled eqns. soln. method in adiabatic approx. 9-3524
- Schrodinger, roundoff error anal. by Numerov method 9-2643
- semiconductor, math. simulation of zone melting process (*German*) 9-28913
- shell, spherical, non-shallow, moderately thick, stresses and deform. 9-32241
- shell wall anal., circular tanks under axisymmetrical pressure 9-46202

differential equations continued

- single-rotor corrected gyrocompass motion subject to random parametric disturbance (*Russian*) 9-10456
- singularly perturbed boundary value problem with turning point 9-5972
- smooth profile in perfect incompressible fluid in irrotational motion, periodic solns. to eqns. of motion (*French*) 9-41703
- solution using imbedding techniques 9-21536
- stiff, soln. method 9-15960
- stiffness matrix for sandwich beams with thick anisotropic laminated faces 9-46182
- stochastic, with non-Markov processes 9-25989
- stochastic differential equations, diffusion approx. corrections 9-40466
- stress analysis of cylindrical shell with rigid circular inclusion 9-14267
- temperature pulsation balance in turbulent streams 9-14385
- ternary system isothermal Gibbs-Duhem eqn., direct numerical soln. 9-1511
- third order, conditions for asymptotic stability of trivial soln. 9-2599
- two-fluid stratified layers in trapezoidal channel, nonuniform steady flow (*Rumanian*) 9-14452
- two-level spin system, mag. moment dynamics in mutually perpendicular mag. fields, of arbitrary freq. 9-3415
- upper atmosphere neutral gas expansion, numerical soln. 9-12325
- variational inequality related to elasticity operator, soln., dual problem 9-9109
- ventilation, human, twin exponential model fitting process development 9-48284
- water drops deformational breakup in wet-steam stream, particular solutions 9-14462
- water transport through unsaturated soil, conservation laws derived from statistical mechanical methods 9-16540
- He, afterglow, intermediate press., plasma discharge parameter time depend. calc. 9-19102
- He, supercritical, laminar free convection heat transfer, analytical study 9-23311

differential scanning calorimetry *see thermal analysis***differential thermal analysis** *see thermal analysis***differentiating circuits**

- L.F. signals, applications to biological expts. 9-12044
- neutron radiography edge enhancer 9-24706

diffraction

- see also diffraction equations*
- elasticity equations transformation 9-2630
- generalized calculus and its applications, review 9-35527

diffraction

- see also acoustic wave diffraction; diffraction gratings; diffractometers; electromagnetic wave diffraction; electron diffraction; neutron diffraction*
- Kelvin wave diffraction from rotating channel with infinite and semi-infinite barrier 9-46331
- seismic waves, diffr. wave features on seismograms in faults prospecting by diffr. method (*Chinese*) 9-12286
- seismic waves, refl. refr. and diffr. in media with elliptical vel. depend. 9-5454

diffraction gratings

- see also holographic gratings*
- alignment monitoring by diffr. from superimposed dual gratings 9-41447
- astigmatism compensation for concave grating, comparative characts. 9-32067
- asymmetric grating formation on glass waveguide surface, ion etching method 9-10418
- blazed dielectric gratings, Bragg-reflection approach 9-1013
- Brewster affect analogues 9-13901
- chirp-grating lens for guided-wave optics 9-7232
- colour filtering, zero diffr. order microimage system 9-18503
- conical and classical diffraction mountings, for XUV gratings 9-3780
- corrugated dielectric waveguide, radiation loss calcs. 9-41461
- cross-hatched grating replica for calibration of electron microscope 9-2893
- crossed (doubly-periodic) gratings, finite-difference method 9-1002
- crossed gratings, EM theory of diffraction and absorption 9-18337
- crossed gratings, finely conducting, appl. to solar absorpt. of metallic mirror 9-23057
- crossed-beam diffraction gratings theory 9-23071
- dielectric, plane wave scatt., numerical anal. 9-886
- education, diffraction grating and interference effects, electronic cct. analogue 9-9052
- far IR polarising metallic cloth with periodic slits 9-14112
- generation by microcomputer, appls. to human visual system 9-2172
- grating equation, Hilbert's independence integral 9-899
- grating mirrors, periodic mode losses and optimal geom. characts. (*Russian*) 9-27434
- grazing incidence grating efficiencies, rel. to dye laser tuning 9-36990
- integrated optical mixer in waveguide based on phase diffr. gratings, for multichannel optical communication lines 9-18554
- integrated optics, double diffraction grating coupler with high efficiency 9-3812
- integrated optics demultiplexer with matrix of Si waveguide photodetectors 9-32095
- interference diffraction gratings, holographic hallmarks 9-911
- IR multidetector spectrometer for atm. temp. sounding 9-25365
- IR spectrophotometers using double blazed grating (*Japanese*) 9-40633
- jump in grating period, anomalous wave scatt. 9-18548
- lamellar grating, reson. anomalies, analytical and numerical study using modal expansion technique 9-31791
- laser grating method appl., strain distrib. meas. in plane, opaque surface 9-32407
- laser-induced gratings, method for study of optically excited solids, forced light scatt. 9-41408
- long-wavelength IR optical filter development status 9-27423
- moire pattern detection by solid-state dynamic self-scanned photocell array 9-32084
- multicolour image storage on black and white film, using crossed grating 9-31813
- optical integrated circuits, SEM written gratings in chalcogenide films 9-32087
- periodic media diffr., equiv. of multiwave coupled-wave and modal theories 9-41331
- phase reflection gratings, theory 9-27417
- phase-frequency response of diffraction coupling between two optical waveguides (*Russian*) 9-3778

diffraction gratings continued

- photomixer with spatially periodic photodetectors, characts., appls. 9-12852
- plane metallic gratings, EM wave diffr. 9-10245
- PMMA, optical waveguide, direct writing of gratings by electron beam 9-46091
- polarisation characteristics, concave gratings mounted in Seya-Namioka monochromator 9-18526
- position monitoring technique using double diffraction phenomenon 9-17389
- projected, use in direct determ. of bending strain in plates 9-32420
- projection, shape testing appl. (*German*) 9-29322
- reflection from ideal grating, reson. phenomena 9-3787
- reflection grating polariser for IR 9-1001
- reflection gratings, perfectly blazed with rectangular grooves, EM reflection characts. 9-10246
- shadow-moire fringes, interpretation, grating rot., translation effects, surface topography appls. 9-20304
- sinusoidal interface light diffraction 9-13900
- SISAM, diffracted light from grating affecting modulation 9-6187
- tandem Wadsworth mount for high resolution UV spectrography appl. 9-25520
- thin absorption and transmittance gratings, diffr. efficiencies 9-27166
- thin-film waveguide, with plane diffr. grating, radiation fields and spectrosc. characts. 9-3790
- transmission grating efficiencies for wavelengths between 5.4 Å and 44.8 Å 9-40077
- transmission phase with deep rectangular grooves, light diffr. theory 9-10257
- two-dimensional waveguide analysis with misaligned or curved gratings 9-23092
- UV space instrumentation, comprehensive analysis of gratings 9-8839
- vacuum UV region, use of diffr. gratings, review 9-46029
- wavelength tuning of SISAMs 9-26143
- X-ray transmission gratings, aberrations, testing, astronomical appl. 9-25508
- X-ray transmission gratings, expt. and theoretical props., astronomical appl. 9-25509
- XUV spectroscopy, grazing incidence spectrograph-monochromator, 5-900 Å region 9-17506
- zero order diffraction microimage reproduction from surface relief gratings 9-17518
- As₂S₃ thin films for integrated optics, photodetector elements, relief-type diffraction gratings 9-32094
- GaAs, (110) oriented, preferential chemical etching of blazed gratings 9-37067
- n-GaAs, surface recomb. vel. meas., diffr. from transient optical grating 9-1604
- GaAs:Zn waveguide, light coupling at fundamental absorption edge 9-23082
- InP, n- and p-type, surface recomb. vel. meas., diffr. from transient optical grating 9-1604
- LiNbO₃, acousto-optic interaction, phase grating production 9-41454

diffraction instruments *see diffractometers***diffraction model**

- Deck model of diffraction dissociation, rescattering effects, analytic treatment 9-22080
- diffractive bumps, gluonic excitation Regge trajectories from bag and dual models 9-2978
- diffractive scatt., field theoretic model with quark field operators 9-26318
- Drell-Hiida-Deck model and diffractive dissociation, review (*Russian*) 9-3007
- eikonal model of hadronic matter distribution of particles and nuclei 9-26317
- hadron diffractive dissociation in the quark model (*Russian*) 9-2994
- hadron parton struct. and diffraction scatt. for soft processes 9-344
- hadron-hadron diffraction scatt., convergent polynomial expansion, scaling 9-45096
- hadron-nucleon forward amplitudes, Reggeon exchange absorptive corrections 9-40765
- high-energy diffractive production mechanisms, review 9-36052
- high-mass diffraction in the supercritical region 9-22081
- inelastic diffraction, compatibility of D peripherality with nondiffractive two component struct. 9-13092
- low mass diffractive dissociation in a simple t-depend. dual bootstrap model 9-13089
- low mass diffractive dissociation in a simple t-dependent dual bootstrap model 9-36042
- pomeron and f exchange in elastic and inelastic scattering 9-36049
- pp inelastic scatt. diffractive many-channel problem, absorptive s-channel unitarisation 9-17700
- recoil nuclei registration in particle coherent diffractive prod. (*Russian*) 9-30810
- slope of forward diffraction peaks in K⁻p, and π⁻p elastic scatt. 9-36103
- t-channel diffractive scatt., elastic peak and hadron size 9-45083
- three particle systems, diffractive prod. and relativistic rescatt. 9-12988
- Kp-Qp, diffractive production, unitary analytic coupled channel model 9-36051
- n-pp̄ π⁰, diffractive dissociation induced by 12 GeV K⁻ 9-40805
- N-πN, diffraction dissociation, two-component model 9-3037
- nd-(pp̄)⁻d, 26.6 GeV/c coherent interaction, peripherality of nucleon diffr. dissoc. 9-45108
- np-π⁺+p, neutron dissociation reaction, 50 to 300 GeV/c 9-17765
- pp-pp̄, 19 GeV/c, neutron dissociation 9-36106
- pp diffraction elastic scatt., 200-2000 GeV/c total cross section, energy depend. 9-30753
- pp diffraction scattering, convergent polynomial expansion and scaling 9-40797
- pp total cross section and small angle elastic scatt. 23.5-62.5 GeV, diffraction peak 9-424
- φπ prod. in e⁺e⁻ annihilation and diffractive photoprod., 4 quark state signature 9-6324
- π⁺p, 200 GeV/c, inelastic diffractive-dissociation cross section 9-22151
- π⁺p, 16 GeV/c, narrow mass enhancement at 1.36 GeV in diffractive (πN) systems 9-45109

diffractometers

- see also X-ray diffractometers*
- θ-θ diffractometer with monochromator (*French*) 9-32058

diffractometers continued

- electron, electronometric method of meas. intensities, efficiency 9-27881
 - Harwell, neutron diffractometers, spectrometers and ancillary equipment 9-45527
 - neutron diffractometer, converging beam small-angle, calculated resolution 9-10761
 - neutron diffractometer, time of flight small-angle, for a pulsed neutron source, design study 9-10762
 - neutron diffractometry, automatic, development, review 9-27879
 - optical, attachment to electron microscope for immediate image analysis 9-6225
 - optical diffractometer, for anal. scanning electron micrographs, review 9-21864
- diffusion**
- see also bioidiffusion; diffusion in gases; diffusion in liquids; diffusion in solids; electromigration; membranes; osmosis; permeability; self-diffusion; surface diffusion; thermal diffusion; turbulent diffusion*
 - Aerosol, diffusion coeffs. and characterisation by photon correl. spectrosc. (*German*) 9-29418
 - atmospheric aerosol, produced by α-particles, evolution of <0.02 micron particles (*French*) 9-43640
 - boundary layer with blowing, numerical exponential box scheme 9-1240
 - branching diffusion and Markov processes (*Russian*) 9-26009
 - Brownian motion in Bogolyubov's method of abbreviated description 9-21669
 - Brownian motion in periodic potential, correlation functions, Fokker-Planck eqn. method 9-165
 - Brownian particle mobility in periodic pot. 9-35632
 - Brownian particles, treated as many boson problem 9-164
 - Brownian rotation in external fields, Fokker-Planck eqn. 9-30372
 - Brownian rotational diffusion in n-fold periodic pot., time correlation functions 9-21668
 - chemical diffusion-reaction equations, semilinear parabolic systems, soln. existence and stability 9-47889
 - chemical instabilities model, role of diffusion 9-16027
 - Cole-Hopf transformation for nonlinear parabolic and hyperbolic equations, diffusion and turbulence 9-41680
 - colloid coagulation, 1st-order diffusion effects 9-39213
 - cosmic ray diffusion coefficients, calcs. from diurnal intensity var. 9-29952
 - cosmic rays from 1972, August 7 solar flare, interplanetary diffusion coeffs. 9-12360
 - dechanneling theory, axial and planar conditions, anal. methods for dechannelled fraction calc. 9-4359
 - dielectric relaxation, by restricted rot. diffusion, dipolar autocorrel. function calcs. 9-4763
 - diffusion-reaction equations systems, existence, stability 9-20365
 - diffusive motion in periodic potentials, low friction nonlinear mobility 9-35645
 - dioctyl phthalate, polydisperse, spectrophotometer studies 9-21797
 - droplets, kinetics of processes controlled by diffusion 9-11828
 - early universe, photon and neutrino diffusion rel. to nonlinear primordial fluctuations 9-25773
 - electric analogies (*Hungarian*) 9-17361
 - equation, numerical integration using time level schemes 9-2609
 - equation, sols. by Picard's method 9-7273
 - equations, Galilean invariance, rel. to Lorentz invariance of wave eqns. 9-17276
 - escape probability calc. for diffusion controlled reactions 9-1934
 - Fick's second law, soln. for non-isothermal conditions with external forces (*German*) 9-46826
 - fluids, atomic and molecular, collision induced light scatt. (*German*) 9-27057
 - Fokker-Planck equation, formal soln. using operator approach 9-35647
 - function space entropy density, diffusion induced, Onsager-Machlup function 9-17375
 - galactic cosmic rays, semiannual flux var. origin and mag. field perpendicular diffusion coeff. 9-16777
 - Galerkin finite element and finite difference anal. (*Japanese*) 9-30391
 - internal diffusivity, meas. by pulse gas chromatography in packed bed 9-48002
 - interplanetary recurrent proton streams, 1.3 to 2.3 MeV protons radial diffusion coeff. 9-16774
 - kinetic fluctuations of Brownian motion 9-25984
 - liquid-gas interface, Stefan flow of binary mixture, with evap. or condensation 9-37381
 - magnetosphere, electron pitch angle diffusion instabilities rel. to pulsating aurora 3 Hz modulation 9-25391
 - mass or heat transfer across plane membrane in the way of a flowing stream (*German*) 9-41557
 - memory function approach to the dynamics of interacting Brownian particles 9-25979
 - mixtures, motion of, generalized diffusion theory 9-17233
 - most probable path for diffusion processes, path integral technique 9-9196
 - nonlinear diffusion eqns., evolution of stable profile 9-17363
 - nonlinear diffusion-process, appl. of Onsager-Machlup function 9-44888
 - nonlinear reaction-diffusion eqns., large time behaviour of solns. 9-12741
 - nonparametric identification for diffusion processes 9-30374
 - nonuniform multicomponent system with multidimensional regions (*Russian*) 9-12743
 - one-dimensional diffusion, soluble model potentials 9-35649
 - Onsager-Machlup Lagrangian for general diffusion processes, Fourier series anal. 9-6060
 - pair configuration space diffusion eqn., thermal fluctuations, kinetic theory 9-17362
 - particulate materials, cohesionless, mixing and segregation, microscopic mechanisms 9-37848
 - passive scalar, effective long-time diffusivity in Gaussian model fluid flow 9-32439
 - path integrals for diffusion processes in Riemannian space 9-17370
 - polystyrene in cyclohexane photon-correlation spectroscopy obs. 9-41255
 - random chain, low-energy density of states and long-time behaviour, scaling approach 9-25994
 - random heat eqn. soln. by iterative scheme 9-9195
 - reaction-diffusion equation solutions, Lotka scheme 9-34280
 - reaction-diffusion problem, nonlinear, dissipative structures, stability anal. 9-1938
 - rolled vortex sheets, viscous diffusion 9-46325
 - semiclassical bosons and fermions 9-40446

diffusion continued

statistical system unknowns optimal evaluation (*French*) 9-9194
 steel-V interface, diffusion above 500°C (*German*) 9-28156
 Stefan multi-phase problems, similarity solns. 9-12742
 stratosphere transport, one-dimensional parametrisation using ⁹⁵Zr data from Chinese thermonuclear explosions 9-2342
 subsea permafrost heat and mass transport processes, mol. diffusion and consequences anal. 9-2302
 tidal propagation in shallow rivers, diffusive model 9-2303
 time-dependent birefringence, linear dichroism, and optical rotation resulting from rigid-body rotational diffusion 9-47411
 transmission line modelling of diffusion 9-26011
 two-level system, kinetics at diffusion modulated local interactions (*Russian*) 9-2716
 C membrane, graphitised, adsorption meas. in situ using steady state flows and time lags 9-33183
 He-proton diffusion coeff. in stars 9-16811
 SiO₂ hydrosols, diffusion coeffs. and characterisation by photon correl. spectrosc. (*German*) 9-29418
 V-Ni(Fe) interface, diffusion above 500°C (*German*) 9-28156

diffusion coefficient *see* **diffusion**

diffusion creep

grain boundaries, as point defect sources or sinks 9-37757
 grain boundary sliding, containing particles, during diffusional creep, dislocation bowing 9-37712
 metal, radiation stimulated diffusional flow, neutron irradi. (*Russian*) 9-29132
 oxides, nonstoichiometry influence on plasticity (*German*) 9-24592
 silicates, nonstoichiometry influence on plasticity (*German*) 9-24592
 slip band theory, model for creep based on dislocation climb at grain boundaries 9-37756
 threshold stress in particle inhibited diffusive creep 9-38922
 Fe₂SiO₄, nonstoichiometry influence on plasticity (*German*) 9-24592
 Pb film, thermal strain, strain relax. mech. 9-42427
 UO₂, fine grained, low-stress creep study, metallographic obs. 9-43312

diffusion in gases

see also self-diffusion in gases; thermal diffusion in gases
 atmosphere, turbopause eddy diffusion coeff. semi-theoretical global models 9-21086
 benzene-H₂N₂ gas ternary diffusion coefficient obs. (*Japanese*) 9-10626
 binary mixtures, use of diffusion and second virial coeffs. to predict viscosities 9-14506
 dibutylphthalate, supersaturated vapour, aerosol form, by mixing of flows 9-39212
 Fick's diffusion coefficients, of pseudobinary gas-steam mixtures rel. to mag. tapes prod. (*German*) 9-27735
 kinetic theory of vaporisation and condensation, physical-mathematical problems (*Italian*) 9-40505
 molecular dynamics studies of the role of diffusion in chemical models with absorbing boundary states 9-8424
 molecular gas, diffusion coeff. and mean free path, higher order approx. calcs. 9-27734
 reactive atom diffusion, by reson. ionis. spectrosc. 9-18984
 solar nebula, diffusion and physicochemical mechanism of planetary system form. 9-8857
 supersonic jet, diffusion of gas 9-32604
 upper atmosphere enhanced diffusion, study via O₂(¹Σ) airglow, theory 9-29918
 vapours and gases, high-temp. characterisation, conf., Gaithersburg, USA (Sept. 1978) 9-40579
 Ar, electron drift and diffusion, Monte Carlo simulation 9-7441
 CS₂ gas binary diffusion coeff. obs. in H₂, He, N₂, air and Ar (*Japanese*) 9-10627
 Cs in Ar-methane, by reson. ionis. spectrosc. 9-18984
 Cs vapour, optically pumped, transverse relax. times and diffusion coeff., spin echo meas. 9-10062
 H₂, lateral diffusion to electron mobility ratio 9-1284
 H₂¹⁶O, HD¹⁶O, H₂¹⁸O, mol. diffusivities in N₂, isotope effects 9-1282
 H₂-D₂, separation by Taylor diffusion 9-18303
 He+Cs(Rb), interatomic pots., hyperfine shifts, diffusion coeffs., perturbation exchange theory 9-41220
¹³¹I₂, CH₃¹³¹I, radioactive, airborne, diffusion coeffs. 9-2142
 N₂, lateral diffusion to electron mobility ratio 9-1284
 N₂-chloromethane mixture, binary diffusivities, 25-110°C 9-23391
 N₂-methane mixture, binary diffusivities, 25-110°C 9-23391
 Na vapour, in Ar(He), diffusion coeffs. meas. by Stefan method 9-41785
 O₂, rotational collision number, diffusion coeffs. 9-1281
 RPO₄+3PBr₃, exam. of diffusion coefficients of gas mixture resulting, using chemical transport theory 9-1945
 Rb⁺ in Kr(Xe), longit. diffusion and generalised Einstein relation 9-10625
 Si, CVD, gas phase diffusion and surface reactions 9-15614
²³⁵U enrichment by pulse gas diffusion 9-36380

diffusion in liquids

see also electromigration; self-diffusion in liquids; thermal diffusion in liquids
 4-aminomethylphthalimide-decalin-n-propanol, electronic spectra of 3-component solns., temp. depend. 9-4822
 bimolecular reaction, partly diffusion-controlled, physical and chem. kinetics competition 9-43567
 bimolecular reaction, partly diffusion-controlled, physical and chem. kinetics competition 9-43566
 binary liquid mixture, diffusivity from simple kinetic model 9-23752
 cavity flows, two and three dims., multistep technique with implicit difference schemes 9-37398
 chemical surface reaction with orientational selectivity, diffusion controlled effective reaction rate 9-16040
 convective diffusion to drop, large Peclet no., finite Reynolds no., asymptotic soln. 9-41742
 diphenyl ether, dielec. relax. pseudorot. diffusion 9-33600
 dye in Baltic Sea, expt. 9-2276
 electrochemical solutions, diffusion coeff. determ. using pipe wall electrode 9-14947
 electrolyte solution, tracer and mutual diffusion, open-end capillary method 9-28119
 Erdogan-Chatwin nonlinear diffusion eqn., asymptotic solns., pipe flow solute dispersion 9-2673
 fluorescence, long-range energy transfer combined with isotropic or anisotropic diffusion 9-11461
 hinged rods, exception to Einstein relation 9-2736

diffusion in liquids continued

holographic interferometric meas. 9-37861
 latex particles in ionic solution, in aq. soln., hindered diffusion through small pores 9-43622
 low-conductivity fluids, dark currents, forced diffusion model 9-15182
 macromolecules, interacting, spherical, light scatt., conc. fluctuations, transport eqn. 9-1775
 metal, entropy of fusion and activation energy for self-diffusion 9-28121
 multicomponent mixtures, mass transfer, penetration depths 9-42286
 nonelectrolytes in dil. soln., diffusion coeff., Hammond-Stokes plot 9-42287
 nonlinear thermosolutal convection 9-10557
 ocean, admixture diffusion in vortex flow 9-2277
 ocean benthic boundary layer, diffusion-controlled model for deep-sea Mn nodules growth 9-2212
 oceanic fronts cabbelling and double diffusion rel. to frontal circulation 9-2263
 one dimensional isothermal diffusion in two layer medium (*Russian*) 9-28117
 particle in hard sphere liquid, translational theory, mol. theory 9-42288
 PMMA soln. in toluene, diffusion, viscosity rel. to temp. (*German*) 9-42289
 polyacrylamide, aq. solns., conform. changes, intermol. interactions, optical mixing spectroscopy 9-10770
 polyethylene, diffusion of long chain molecules 9-23784
 polymer solutions, mol. diffusion coeff. meas. using impedance meas. technique 9-23328
 polystyrene-fluorescent conjugates in melt, local diffusion (*Japanese*) 9-23757
 polystyrenes, in toluene 9-1773
 reacting substances counterdiffusion, conditions for stationary boundary 9-1933
 rhodamine 6G, micellar soln., aq., fluoresc. decay for rot. diffusion const. 9-11826
 silicophosphate melts, diffusion 9-46824
 space environment, transport processes in fluids 9-46825
 suspension of rod-like molecular particles, rot. diffusion coeff. from decay rate of birefr. 9-38520
 Al-Sn(Ag)(Cu)(Au), liquid alloys, exam. of Si diffusion (*Russian*) 9-28118
 Cu, molten, diffusion of H₂, stationary method determ. (*German*) 9-10974
 In, diffusion coeff. determ. of P, mathematical model, numerical method 9-23754

diffusion in plasma *see* **plasma transport processes**

diffusion in solids

see also electromigration; ionic conduction in solids; self-diffusion in solids; surface diffusion
 A-15 compounds, models for growth kinetics, solid state diffusion 9-46847
 alloy, coarsening by temp. cycling 9-29111
 alloy, solid soln., grain boundary mobility 9-46676
 alloys, impurity diffusion and distrib. 9-33118
 annealing, struct. and grain boundary mobility 9-47728
 binary solids, preferential sputtering, diffusion enhancement effects on comp. changes 9-47574
 butadiene copolymers, diffusion and solubility of S and 2,2'-dioxo-3,3'-di-(α -methylcyclohexyl)-5,5'-dimethylidiphenylmethane (*Russian*) 9-33092
 calcium alginate gels, dextran fractions, globular protein diffusion coeffs., heterodyne beat spectrum 9-1776
 carburizing in glow discharge methane plasma 9-11724
 chalcogenide glass film, drift and thermal diffusion of Au electrodes, α -particle backscatt. meas. 9-4434
 chemical reaction 9-33120
 clusters of diffusing substances, formation on matrix defects (*Russian*) 9-1519
 compound semiconductor-metal reactions, book contrib. 9-1622
 concentration variations, diff. studies 9-42322
 concentration-dependent diffusion in a finite slab with and without chemical reaction 9-30389
 constant coefficients model, appl. to diffusion in solids (*Russian*) 9-4424
 crowndons, prop. anal. using Frenkel-Kontorova model 9-42056
 defective crystals, diffusion processes and multistate diffusion 9-19389
 depth profiling techniques for thin film interdiffusion and interfacial reactions, book contrib. 9-1564
 diamond, structure and motion of self-interstitials 9-37700
 diamond Ge(B)(B₄C), doping by diffusion at high temp. and press. 9-19273
 diffusion coefficient measurement in solid materials, geometry factor from variational principles 9-42290
 dislocation creep, diffusion controlled 9-46745
 dislocation creep, diffusion controlled 9-46744
 disordered system, particle diffusion in Anderson model 9-33273
 education, solid state diffusion, atomistic model, pedagogical use of Monte Carlo method 9-25797
 δ -Fe-Zn layer formed during hot dip galvanizing, texture 9-29287
 ferromagnets, sintering theory and diffusion flow 9-28977
 film, interdiffusion and reactions, book 9-1561
 film, interdiffusion and reactions, book contrib. 9-1562
 film systems, grain boundary diffusion, book contrib. 9-1526
 glass, permeability of He (*Japanese*) 9-7715
 glass, Tl ion thermal migration formed optical waveguide, props. 9-46031
 Gorsky effect for low interstitial conc., theory 9-10896
 graded index materials, optical props. meas., ion diffusion effect on refr. index 9-9237
 grain boundary migration, effect of solute atoms 9-28124
 graphite, Br₂ intercalation, oxidation and residual Br effects 9-43565
 graphite, of Br₂, HNO₃ and PdCl₂, 9-42310
 H₂ diffusivity and solubility, in He, H₂ and heavy ion bombardment, to simulate microstruct. damage from fission or fusion neutrons 9-46723
 high diffusivity paths, new interpretation of diffusion, continuum approach 9-42291
 hopping among inequivalent octahedral sites in body-centred tetragonal lattice 9-1520
 impurities, interaction and diffusion, near structural phase transition of matrix 9-42083
 impurity diffusion, correl. factor, computer simulation 9-19404
 Incoloy 800, mechanisms of corrosion in He, solid state diffusion 9-47843

diffusion in solids continued

interacting particle diffusion in periodic pots., two particle model, random motion 9-46828
 irradiation enhanced diffusional mass transport 9-14844
 lamellar systems, mol. diffusion, incoherent neutron scatt. function 9-23501
 linear elastic solid, gas diffusion 9-14967
 lunar fires, rare gas diffusion as bubbles 9-48695
 measurement in presence of background mag. field gradients, pulsed-gradient multiple-spin-echo NMR technique 9-30517
 membranes, linear laminated media, permeation, sorpt. 9-1966
 metal, BCC, small-polaronic diffusion of light interstitials 9-42315
 metal, positive muon diffusion 9-19388
 metal film interdiffusion and reactions, effect on Si device technology, book contrib. 9-1620
 metal-metal system, interdiffusion, book contrib. 9-1529
 metals, carburising in fluidised bed of C-graphite materials 9-20276
 metals, light interstitials, self-trapped, quantum diffusion 9-19405
 metals, of H₂, neutron scatt. studies 9-42316
 metals in gaseous oxidative medium, reaction diffusion theory 9-20463
 mica, Pb diffusion rel. to Po haloes 9-44186
 microstructural phenomena, physical chemistry 9-11550
 MNOS structures, high temp. H anneal, effects of fast surface states 9-38178
 molecular crystals long-range energy transfer combined with isotropic or anisotropic diffusion 9-11461
 muon, diffusion in presence of traps, spin depolarisation, stochastic theory 9-28666
 Nb-O, effect of O₂ on penetration of Li at 400°C 9-11719
 NMR and dielectric relaxation, defect diffusion models 9-15375
 noble metal alloy, dil., solute segregation and subsequent film growth in corrosive environment, model 9-24649
 non-metals, low-temperature strong enhancement of diffusion and defect generation 9-28149
 optical fibres, water diffusion, measured changes with time in OH absorpt. 9-46082
 ordering alloys, BCC lattice, diffusion of interstitial atoms (Russian) 9-19400
 oxide fuel, of fission produce Ba 9-19373
 PET film, crystallised by nonreactive liquids and vapours, exam. of diffusion of liquids and vapours 9-42314
 photographic treatment processes, diffusion kinetics 9-20447
 polycarbonate, amorphous morphology, from NMR obs. of swelling penetrant mol. motion 9-27929
 polyethylene, diffusion of long chain molecules 9-23784
 polyethylene, migration and solubility of antioxidants (French) 9-46839
 polymer, Fickian diffusion of a solvent, and organic penetrant in a polymer 9-42292
 polyvinyl fluoride, glass transitions, Ar permeability and diffusion obs. 9-32919
 polyvinylidene fluoride, glass transitions, Ar permeability and diffusion obs. 9-32919
 pore shrinkage 9-28131
 PVC powder, quinoline diffusion, microdiffusion technique 9-7713
 PVC-poly-ε-caprolactone blends, gas permeation and compatibility 9-4433
 pyrocarbon coated particles, influence of fast neutrons on transport behaviour of solid fission products (German) 9-13427
 radiation-stimulated dissociative diffusion, model 9-23785
 rate processes in condensed media, anharmonicity effects 9-19349
 recrystallisation nucleation, model for strain induced grain boundary migration 9-46675
 semi-infinite medium containing one or more phases of different solubility, model calc. (German) 9-28126
 semiconductor, apparent ageing, caused by defect migration, dark and photocond. 9-11169
 semiconductor doping, impurity distribution, calc., using multicomponent diffusion theory 9-1456
 semiconductors, atomic diffusion, review 9-4423
 Si, diffusion coeff. of Se, by sheet Hall coeff. meas. 9-46843
 silicone rubber, RTV 560, diffusion of outgassing species, kinetics data 9-15010
 Silumin, CsSi phase form. due to Cs diffusion 9-38798
 sintering, cold, under high pressures, correlation to plastic props. and diffusion 9-38757
 sintering, final stage, steady state diffusion models, testing of models by numerical simulation 9-4428
 solid-solid interface, chemistry and physics, book contrib. 9-1551
 steel, alloy, diffusion modelling of carburization 9-24657
 steel, austenitic, containing Ti, nitriding and nitride composition 9-20278
 steel, austenitic 18KhGT, carburising in vac., rate, austenite grain size, C distrib. 9-20277
 steel, C, carbide deposition on surface, exam. (Russian) 9-34200
 steel, high speed tool, diffusion wear model 9-29230
 steel, low C, kinetic aspects of diffusion zone and compound layer formed during ion-softrinitriding (Japanese) 9-15866
 steel, Ni, maraging, H₂ diffusion, diffusivity and solubility (Japanese) 9-42311
 steel, quenched, tempered, intergranular failure during fatigue crack growth 9-8357
 steel, Si, commercial, O₂ diffusion coeff. determ. (Slovak) 9-39040
 steel, stainless, diffusive crack growth under plastic deform. 9-20182
 steel, stainless/Nb interaction in vacuum percussion welding, Ni interlayer effect 9-29061
 steel, surface deposit of ZrC, exam. of composition (Russian) 9-34201
 steel cold plastically deformed, exam. of structure of diffusion layers after borating (Russian) 9-34054
 steel-bronze bimetal mech. props., diffusional interlayer effects 9-29169
 technical superconductor requirements and main properties 9-30511
 TFR vacuum vessel, T permeation and wall loading 9-45412
 thick film solution, least-squares anal. to the diffusion eqn. 9-33107
 transition metals, group IV, diffusion mech. based on geometric configuration, analogous to chemical compound omega phase (Russian) 9-14956
 two-phase diffusion controlled dissolution in planar finite multilayer couples 9-42293
 two-spin system in FCC cryst. and third-nearest-neighbour jumps on a SC lattice 9-15127
 void-point defect reactions, conc. depend. of rate const. for diffusion or reaction controlled reactions 9-7625
 β-Zircaloy, creep charact. 9-8317
 Zircaloy, O diffusion during UO₂-Zircaloy interaction 9-10986

diffusion in solids continued

Zircaloy-4, interdiffusion with Ni 9-42320
 Zircaloy-4/stainless steel, diffusion bonding in presence of Fe intermediate layer 9-10987
 Ag halides, impurity ion migration 9-19406
 Ag, of H, using membrane permeability method 9-37879
 Ag, proton diffusion, config. and activation energies 9-37878
 Ag-Au thin film couples, polycrystalline, low temp. diffusion, resist. obs. 9-4435
 Ag-Zn, interdiffusion coeff. in ε phase (Japanese) 9-14969
 AgBr, migration entropy of Na⁺ diffusion 9-14965
 Al bimetal film with Cu, Ti(V,Ni) and alloy MLT(RS-3710), struct. and macroscopic defects (Russian) 9-1555
 Al, of Hg, Ti, Pb (Japanese) 9-19403
 Al, plastically deformed by pulsed mag. field, mobility of Fe atoms, radiotracer profiles 9-28584
 Al/Ge/Al sandwich structs., interdiffusion effect on Ge film conductivity 9-23788
 Al-Cu alloys, positive muons diffusion and trapping 9-11372
 Al-Cu-Mg (2.0, 1.1 wt.%), Ostwald ripening of S' precipitates (Korean) 9-38831
 Al-Li, diffusion coeff. determ. during hydriding (German) 9-29288
 Al-Ni, interdiffusion and intrinsic diffusion in NiAl δ phase 9-10988
 Al₂O₃, Ti³⁺, corundum, point defect diffusion and interaction with impurity, Ti³⁺ to Ti⁴⁺ reaction 9-10985
 Au, proton diffusion, config. and activation energies 9-37878
 Au/Pb thin film couple, room temp. interdiffusion study 9-28154
 Au/Pt/Cr films, of Si, depth anal., optical and Rutherford backscatt. meas. 9-10981
 Au/Sn evaporated film, interdiffusion, X-ray diffr. and ion backscatt. obs. 9-33121
 Au-Si contacts, of O, determ. by SIMS, nuclear reaction and Rutherford backscatt. anal. 9-4482
 BaO, CO₂ transport kinetics following BaCO₃ decomp. 9-23780
 BaTiO₃, chemically precipitated, exam. of sintering behaviour by isothermal shrinkage (German) 9-4935
 Be:Li, ion-implanted, interstitial props. 9-37876
 Bi, thin film, oxidation process rel. to X-ray diffraction (Japanese) 9-29273
 Bi₂Te₃-Sb₂Te₃ solid solns., plastically deformed by hot extrusion, diffusion meas. using micro-X-ray spectrum anal. 9-14954
 CaAl₂O₆, form by interdiffusion of CaO and Al₂O₃ 9-28998
 CaAl₂O₆, form by solid state reaction of CaO and Al₂O₃, electric field effects 9-28997
 CaO, CO₂ transport kinetics following CaCO₃ decomp. 9-23780
 CdSe, of Cu, effect of laser radiation on diffusion 9-10983
 CdTe, diffusion of Sn and intrinsic defects role 9-33116
 Co₂La₂O₃, ceramic, thermal stability, sintering, deform., effect of La₂O₃ 9-11532
 Co-Cr-Al, protective coating, exam. of interdiffusion kinetics, development of analysing procedure 9-5085
 CoAl, compositional depend. of oxidation rates 9-8393
 Cr/Au layered films, microstruct. and interdiffusion during ageing, 423 to 573K 9-46965
 Cr-Pt thin film couple, diffusion, new Cr-Pt phases obs. 9-42319
 Cs₂FeF₄HF, HF molecule activation energy and spatial symmetry of arrangement 9-42313
 Cs₂SnF₆4HF, HF molecule, activation energy, and spatial symmetry of arrangement 9-42313
 Cu, Ag impurity diffusion coeff., 759 to 1081°C 9-10982
 Cu, of Be, 800 to 1016°C, Be determ. using ⁹Be(d,p) and ⁹Be(d,n) 9-5204
 Cu, proton diffusion, config. and activation energies 9-37878
 Cu, solid, solubility and diffusivity of F, electrochem. meas. 9-46808
 Cu/Ni film counter, surface counting method for diffusion study 9-42321
 Cu-Ni, bimetallic film, exam. of diffusion by electrical resistivity meas. (Russian) 9-14970
 Cu-Ni bicrystals, epitaxial growth, chemical interdiffusion, X-ray diffr. line profile anal. 9-1527
 Cu₃Sb, formed by saturation of Cu grains with Sb, electron diffraction exam. of diffusion layer (Russian) 9-33119
 Er₂O₃, of Hf, vol. and grain boundary diffusion coeffs., tracer sectioning technique 9-7712
 Fe alloys, H₂ trapping, electrical analogue model 9-46841
 γ-Fe, grain boundary diffusion of Ni 9-23787
 Fe, plastically deformed by pulsed mag. field, mobility of Fe atoms, radiotracer profiles 9-28584
 Fe-Al (1 to 4 wt.%), effect of nitriding on surface structure and props., and on diffusion layer (Russian) 9-34197
 Fe-Al-C alloys, C migration and mag. aftereffect, mag. permeab. disaccommodation and long-range order meas. 9-8020
 Fe-Cr diffusion couple, tracer diffusion meas. using tracer anal. 9-7716
 Fe-Ni, ferro-nickel oxidation, appl. of mag., thermomag. methods (French) 9-20318
 Fe-Ni alloys, diffusivity of N₂ 9-46845
 Fe-Si (3 wt.%), temp. depend. of migration rate of secondary recrystallisation grain boundaries (Russian) 9-1436
 Fe-Zn compound form. after hot galvanising Fe with liquid Zn and by diffusion (French) 9-20275
 GaAs:Cd, temp. depend. of Cd diffusion from gaseous phase 9-46844
 GaAs:Si,Cr, under layer of SiO₂, effect of annealing, on electron concentration and mobility, and impurity distrib. 9-4323
 n-GaAs:Sn(Te), pure and doped, diffusion of Sn, radiotracer profiles 9-23782
 p-GaAs-Al interface, produced by diffusion method using heavily doped GaAs, rectifying props. 9-28409
 Ge, of ⁶Li, diffusion coeff. calc. from depth profile meas. using ⁶Li(p,α) 9-5202
 H depth profiles in solids, using neutron time of flight meas. in H(t, n) 9-5198
 H diffusion in electrolytic Ni, coeff. determ. (Russian) 9-8441
 H trapping mechanisms, by permeation techniques 9-37880
 InSb:Cd, diffusion props. of Cd, modified C-V technique meas. 9-19401
 n-InSb:Zn, Zn diffusion out of implanted layers 9-10984
 KCl:H, migration and stabilisation of H atoms, ESR and thermolum. study 9-1430
 K₂SnF₆4HF, HF molecule, activation and spatial symmetry of arrangement 9-42313
 LiNbO₃, of Ti, optical waveguide construction (Czech) 9-41452
 LiNbO₃, Ti diffusion and characts. of graded-index lightguide 9-27433

diffusion in solids continued

LiNbO₃, Y-cut, waveguide form. by Ti diffusion, refr. index and electrooptic coeffs. 9-14114
Mg-Ce, diffusion coeff. determ. during hydriding (*German*) 9-29288
MgCr₂O₄ spinel, exam. of expansion during synthesis 9-20012
MgF₂, optical absorption following pulsed electron irradi., 100-500K 9-8164
Mo and Mo alloy TZM, solid-state bonding, tensile strength of bond (*German*) 9-47756
Mo, of H, penetration of Mo cathode in glow discharge, point defect depend. 9-41903
Mo-Zr, interaction with MoSi₂ diffusion coating, at elevated temps. (*Russian*) 9-28150
NaCl:OH⁻, additively coloured, form. and decay of defect clusters and elec. double layers, Au decoration obs. 9-10850
Nb, Debye-Waller factor and H₂ diffusion, neutron spectroscopy study 9-37881
Nb, of H, D, electromigration measured by resistance method 9-23783
Nb, resistivity studies of interstitial H mobility 9-14800
Nb-Ge system, reaction diffusion, electron probe anal. 9-28152
Nb-W-Mo-Zr (5, 2, 1 wt.%), surface-layer struct. and mech. props., effect of O₂ diffusion saturation 9-5087
Nb₃Au, supercond. diffusion layer prep. 9-1834
NbFe₂ layers form. by diffusion during Nb wire drawing 9-28153
Nb₃Ge films, prep. by DC sputtering and solid state diffusion, supercond. props. and struct. 9-38212
Nb₃Sn supercond. tape substrate structural changes 9-33373
Nb₃Sn, superconducting formed from Cu-Sn alloy, Sn diffusion in Cu 9-42709
Nb₃Sn superconductors, Kirkendall voids, effects on mech. and supercond. props. 9-33429
Ni, of D, diffusion coeff. calc. from depth profile meas., using D(d,p) 9-5202
Ni, self-diffusion and vol. diffusion coeffs. of Co and W, 1050 to 1400°C (*Russian*) 9-28147
Ni/Fe layers, interdiffusion, Auger sputter profiling obs. 9-46848
Ni-Cr-Al, protective coating, exam. of interdiffusion kinetics, development of analysing procedure 9-5085
Ni-Cr-TaC eutectic-like composite, obs. of interfacial diffusion by high resolution TEM 9-4432
Pd-Ag (25 at.%) H₂ permeability and solubility, comparison with other Pd solid soln. alloys 9-23738
Pd-Ce (5.75 at.%), H₂ permeability and solubility, comparison with other Pd solid soln. alloys 9-23738
Pd-H, solid soln., excess entropies, variation of H solubility with pressure 9-46846
Pd-Y (8 at.%), H₂ permeability and solubility, comparison with other Pd solid soln. alloys 9-23738
Pd₃Si, form. by laser irradi. of Pd film on Si substrate, Rutherford backscatt. obs. 9-42317
Pt electroplated film, Schottky barrier metallisation, Au diffusion, AES obs. 9-14968
Pt-Al (22 wt.%), elec. props. of growing alumina scales 9-20282
p-Si, monocryst., diffusion of As, Henry const., temp. depend., 1448 to 1523K 9-42399
Si, open-tube P diffusion kinetics 9-33117
Si, radiation-stimulated dissociative diffusion of Au, model 9-23785
p-Si, self-interstitials, influence of white light on annealing process (*German*) 9-19245
Si, thin sheet, Sb impurity profile eval. in p-n diffusion junction by anodisation and resist. meas. 9-46695
Si wafer, stresses generated by thermomigration of liquid inclusions 9-37875
Si:As, ion implanted, anomalous diffusion of As 9-14842
Si:As(P), oxidation-enhanced diffusion of impurities 9-46840
Si:Au, diffusion of Au anal. 9-23786
Si:B, annealing mechanism of radiation change and dopants in pulsed laser irradi. ion implanted layers 9-46691
Si:B, diffusion for very shallow defect free p⁺-n junc. for solar cells 9-15218
Si:B, diffusion of B atoms and growth kinetics of oxidation induced stacking faults, correlation 9-37720
Si:B, ion implanted, SOS device struct., nonlinear impurity redistrib. 9-1625
Si:B, P, high temp. diffusion, effects of laser irradi. on diffused layer 9-14834
Si:Co, substitutional Co and Co precipitates, identification by Mossbauer spectroscopy 9-11631
Si:Ga, heavily damaged, channelling investigation of diffusion behaviour 9-37877
Si:P, diffusional doping, diffusion-induced strain and dislocation effects 9-42084
Si:P,B, wafer, long range enhancement of B diffusivity induced by high surface conc. P diffusion 9-46687
Si:Pb, diffusion behaviour of Pb in high dose implanted Si layers during isothermal annealing 9-1525
Si:Se, diffusion coeff., solubility and energy level determ. 9-35825
Si:Se,B(Ga)(Al)(In), diffusion of Se, solubility and ionization levels, Hall effect and photocond. meas. 9-42486
Si:Zn, implanted atom diffusion during laser annealing 9-37725
Si-transition metal interface, silicide formation, book contrib. 9-1530
Si₃N₄, film, H₂ concentration profile, chem. bonding 9-33205
Si₃N₄, reaction-bonded, internal oxidation processes role in high-temp. mech. props. 9-38915
Si₃N₄, solid-solid reactions with Fe, Ni and Mo alloys 9-28151
β-Sn, dissociative diffusion of ⁵⁷Fe, Mossbauer expts., 90-462K 9-7714
Ta, Debye-Waller factor and H₂ diffusion, neutron spectroscopy study 9-37881
Ta, thermo EMF, effect of H diffusion 9-23950
Th, of Ni, Fe, Fe-Ni-Cr, at 500 to 800 °C (*German*) 9-28157
Ti alloy, H₂ embrittlement, directional diffusion of H₂ (*Russian*) 9-15763
α-Ti, O₂ diffusion from oxide surface layer, chem. anal. by nucl. reaction (*French*) 9-7710
Ti, of Fe, under plastic deformation (*Russian*) 9-28146
Ti, thermo EMF, effect of H diffusion 9-23950
β Ti-Fe (1 to 6 wt.%) alloys, H diffusion (*Korean*) 9-42312
Ti-W/Au, metallisation on Al, temp. stability, barrier props., barrier props. 9-23868
TiO₂-SiO₂, submicron dispersion of impurity, chem. diffusivity and elec. cond. 9-1528

diffusion in solids continued

TiCl₄+KI, solid state displacement reaction, kinetics and mechanism 9-11788
UO₂, diffusion of Kr and Xe fission gas atoms 9-6746
UO₂ irradiated, grain edge porosity growth 9-19285
UO₂, of P 9-7711
UO₂-PuO₂ powder compacts, homogenization kinetics using modified Barer's model to diffusion 9-37883
V, Debye-Waller factor and H₂ diffusion, neutron spectroscopy study 9-37881
V, of H, D, electromigration measured by resistance method 9-23783
W, diffusion barrier between Ni-Cr-Al coatings and Ni eutectic alloys in gas turbines 9-24673
W, ion implantation, ⁴He⁺ range profile and ⁴He diffusivity meas. 9-33022
W siliciding, in vacuum, diffusion saturation, effect of NaCl, kinetics 9-15859
Zn/Cu film system, UPS during atomic diffusion 9-43097
ZnS, electrolum. phosphors, surface phenomena occurring during ageing (*Russian*) 9-33842
α-Zr, diffusion of C, 620 to 830°C (*Russian*) 9-46842
Zr, interaction kinetics with graphite, reactive diffusion 9-42318
Zr, thermo EMF, effect of H diffusion 9-23950
Zr-Al₂O₃ couple, diffusion welding, 1000 to 1300°C (*German*) 9-28155
Zr-Al-O system, diffusion welding, 1000 to 1300°C, Al₂O₃-(Zr-Al) alloy, ZrO₂-(Zr-Al) alloy, Al₂O₃-ZrO₂ couples (*German*) 9-33122

diffusion pumps

integrated, with backing/roughing valve, features 9-26063
mass spectrometer leak detector, increasing sensitivity by selective gas accumulation 9-6215
operation and maintenance, contamination minimization 9-44913

diffusivity see diffusion

diffusivity, thermal see thermal diffusivity

digital-analogue conversion

see also analogue-digital conversion
CRO with digital storage, OS4000, features (*Spanish*) 9-6116
PQR line shape, digital-analogue interface for data processing 9-45615

digital arithmetic

decimal/residue/decimal optical converters 9-22905
holographic, image digital reconstruction with limited-length arithmetic register (*Russian*) 9-22910
optical computation using residue arithmetic 9-31808
optical residue arithmetic, correlation approach 9-31809

digital circuits

see also digital integrated circuits; pulse circuits
automatic digital circuit for selecting information bearing components of output voltage of electromagnet transducer 9-2760
electron microscope spherical aberration effects, digital circuit corrector, spiral scanning attachment 9-2889
X-ray tube anode voltage compensation under dropping power condition, digital compensation system (*Bulgarian*) 9-35902

digital communication systems

ECG analogue and digital transmission 9-39564
fibre, multilevel signals theory 9-22900
laber level-control circuit for high-bit-rate system using slope detector 9-18430
matched electromagnetic pulse transmission, for good conducting media 9-36823
optical, development problems 9-3806
optical cabling technology, recent trends 9-3781
optical fibre communications, PAM-PPM signalling format 9-27190
optical pulse high-speed transmission at 1.29μm, using low-loss single mode fibres 9-23067
optical systems characts., and state of development (*German*) 9-999
SpaceLab, high rate data handling in space and on ground, multiplexing system 9-21138

digital computers

for computer applications see under relevant applications e.g. administrative data processing; computerised control; natural sciences computing see also digital systems; electronic calculators; microcomputers; minicomputers; satellite computers; special purpose computers
signal detection, optical vs digital Fourier transform computers 9-27181

digital control

see also numerical control
BWR nuclear plant nonlinear digital simulator, optimal digital control methods appl. 9-9826
co-evaporation prep. of two component alloys, control system 9-24457
HWR dynamics modelling for digital control system design 9-9829
Large Azimuthal Telescope program control system 9-16829
light chopper with digital control circuit (*Japanese*) 9-3784
scanning Auger electron microscopy, synchronous modulation technique 9-17570
signal amplitude digital automatic control system, instrumental realisation algorithm (*Russian*) 9-39924

digital filters

see also multidimensional digital filters; signal processing
astronomical plate processing, two-dimensional digital filtering techniques 9-16835
Butterworth low-pass filter, oceanographic data appl. 9-16704
composite filter in spectral analyser, frequency overlap requirements and detectability 9-1032
computer contouring method using digital filter, bathymetry appl. 9-39894
distorted image convolution deblurring by Fourier-Bessel transform holograms (*Russian*) 9-22897
experimental data anal. appl. 9-17403
foetal heart rate variability monitoring by digital filtering 9-48353
lung compliance loop recovery eliminating cardiac interference 9-20570
seismic data, broadband, digital recording and anal. at Graefenberg array 9-25348
vectorcardiogram parameter sensitivity to digital filtering 9-39576
He speech unscrambling by nonlinear power spectrum conversion 9-46134

digital instrumentation

see also digital readout; digital voltmeters
automatic digital magnetic recording system in Tihany Observatory 9-39989
auxiliary information recording with B3-15 digital printers 9-26044

digital instrumentation continued

- biofeedback thermometer, low-cost research-oriented, with digital readout 9-29673
- blood pulse wave velocity meter (*Japanese*) 9-39546
- capacitance meter, utilising CR discharge 9-12819
- dosimeter, neutron, portable battery-operated, design details 9-18052
- laser pulse energy digital indicator (*Russian*) 9-22995
- light rangefinder principle, construction and test results 9-27427
- magnet tester, automatic, with incompletely closed mag. system 9-9226
- microdensitometer with computer-controlled scanning table (*Russian*) 9-6197
- microprocessor based digital scan generator, interface to image processing computer 9-12902
- multimeter, control functions performed using 4 bit, microprocessor chip (*Slovenian*) 9-181
- multimeter, LCD based on Intersil ICL ICs (*German*) 9-6138
- multimeters, comparison of analogue and digital instruments (*German*) 9-44917
- ocean digital survey fathometer, providing chart display and digital output 9-5665
- optical fibre transmission characteristic meas. by digital processing oscilloscope 9-12787
- psychrometer, ventilated, for direct reading of relative humidity 9-35763
- psychrometer, ventilated direct reading relative humidity meter using thermistors 9-2777
- SEM image processing systems, summary of useful techniques and anal. 9-12901
- sonic digitiser method for biomechanical spatial data collection 9-39441
- sound vel. meas. instrum. using pulse-echo overlap method 9-37097
- stack release radioactivity monitoring with digital processing 9-3253
- tachometer, for meas. steady-state shaft speed 9-6101
- thermometer, using a thermistor bead 9-21741
- thermometer using LSI ADC 9-44907
- thermometer with seven-segment display 9-21746
- time-interval meter for CRO 9-35702
- timer, IC, high accuracy and repeatability, photographic appl. 9-35683
- total exposure error meas. instrument for cameras with or without built in exposure meter 9-6208
- US propagation velocity, and attenuation factor in solid materials, instrument for direct meas. 9-14179

digital instruments *see* digital instrumentation**digital integrated circuits**

- see also* integrated logic circuits; integrated memory circuits; microprocessor chips
- clock using MM5315 IC and CMOS ICs (*Spanish*) 9-8841
- digital phase shift for meter calibration 9-44898

digital readout*see also* digital instrumentation

- camera character-forming display, based on LEDs and internal or external timing circuits 9-9251
- capacitance meter, utilising CR discharge 9-12819
- darkroom exposure control circuit (*German*) 9-6198
- electrophotographic spectrographs with electronic pulse readout 9-26147
- flash chambers of polypropylene sheets 9-26833
- modular 125 ps resolution time interval digitizer for 10 MHz stop burst rates and 33 ms range 9-45591
- MWPC, multi-delay line cathode readout 9-45573
- MWPC compact chambers and electronics for crystal ball detector 9-45534
- proportional counter data acquisition providing max. spatial resolution at high rates 9-45572
- prototype CCD system for the time projection chamber 9-45575
- time projection chamber multichannel ADC and readout system 9-45590

digital signals

- CRO used for accurate time measurement (*German*) 9-30423
- image processing, book 9-910
- NMR spectroscopy, Fourier, S/N ratio optimisation, influence of receiver circuit and digital processing (*Czech*) 9-17461
- wandering in turbulent atm., error probability in binary signal reception 9-10337

digital simulation

- acoustic transmission system with radiation, finite element simulation 9-3862
- aggregation simplifying simulation, neural net appl. 9-8497
- alloy, FCC, binary, on Ising system, sublattice magnetisation, tricrit. point, simulation 9-33491
- amorphous metals, computer simulations of tensile deformation and radiation damage (*Japanese*) 9-42137
- amorphous thin film on crystalline substrate, computer simulation 9-15045
- astronomical optics, computer modelling 9-8836
- automated simulation of direct school/society interaction 9-35487
- axial channelling, in monatomic and diatomic cryst., multistring model computer simulation, foreign atom location appl. 9-42128
- backscattering of low energy noble gas ions from single cryst. surface, computer simulation of ang. depend. 9-19961
- biological research, math. modelling, role of computers (*Chinese*) 9-1996
- block iterative finite element preprocessed scheme, large nonlinear problem simulation 9-53
- brain cortices large-scale simulation via BOSS system 9-2039
- BWR nuclear plant nonlinear digital simulator, optimal digital control methods appl. 9-9826
- cardiovascular modelling to study effects of pressure regulation: hypertension 9-25027
- cell membrane particles, max. density of random placing 9-44862
- cerebellar Golgi-granular system simulation (*Japanese*) 9-29522
- cermet film, as solar selective absorbers, production, struct. and optical props. 9-29485
- chemiluminescence, electron transfer reaction zone, simulation techniques 9-8200
- colliding particles in gravitational field, numerical simulations 9-16802
- computer simulated patients for teaching students of speech and hearing 9-17162
- core operating limit supervisory system stochastic simulation 9-630
- crystal defects and disorders, computer simulation of electron dynamical diffuse scattering 9-23505
- dendritic membranes, active vs. passive effects on simulated neuron transfer properties 9-24976
- dense gases and liqs., three-body nonadditive interactions, thermodynamics props., mol. dynamics simulation 9-7435

digital simulation continued

- diesel-driven chiller system, with multi-tank thermal storage system, for large commercial buildings appl. 9-48187
- direction sensitivity in visual cortex, neural net model 9-48248
- disturbed cell renewal control system modelling and simulation 9-29510
- disturbed cell renewal systems simulation via microprocessor system 9-48227
- DNA hydrodynamic shearing model 9-39337
- ductile fracture, computer model based on plastic strain, fracture toughness prediction, comparison with steel data 9-32383
- dye laser, energy transfer, computer simulation 9-13964
- edge dislocation thermally activated motion, appl. to KCl-KBr solid soln., computer simulation 9-19249
- education, variable star, digitally synthesized, diagram 9-9067
- electrochemical surface processes, kinetics simulation 9-16004
- electron density, bulk and surface atoms, from ab initio model calcs. 9-4590
- electron diffraction patterns, and optical transforms of atomic aggregates symmetry aspects using computer simulation 9-7525
- electron microscope imaging of isolated individual sheets of graphitic carbon 9-2890
- enzyme kinetics simulation 9-15961
- EPR of free radicals, simulated spectra, compensation for integerisation errors 9-33537
- EPR of $S=1/2$, $I=3/2$ system, quadrupole effects 9-42827
- ESR spectra, simulation by FFT 9-19763
- fatigue testing, computer controlled system, simulated service loading 9-15885
- FCC/BCC partial coherent, boundaries, computer modelling 9-46669
- field effect transistors, computer simulation, student lab. exp. 9-44673
- flow, new viscous-inviscid interaction method 9-1154
- gas stripping column, periodically cycled, feedback control, simulations 9-1231
- gas/solid surface collisions, vel. depend. of ang. distrib., interaction pot. effect 9-11491
- geothermal binary cycle calc., hydrocarbon working fluid selection 9-48091
- grain density, determ. in space filling geometries from measurable 2D parameters, computer simulated model verification 9-38838
- grain growth, steady-state and dynamic, computer simulation 9-38836
- ground surface profile, crest and trough height distrib., Monte Carlo simulation (*Japanese*) 9-34180
- ground surface profile power spectrum, Monte Carlo simulations (*Japanese*) 9-34179
- holographic, image digital reconstruction with limited-length arithmetic register (*Russian*) 9-22910
- hydrodynamic numerical modelling of tidal basins, Lagoon of Venice appl. 9-34832
- interfaces, liq.-cryst. and liq.-rigid wall, Monte Carlo simulation 9-27896
- intracranial pressure dynamics modelling 9-25026
- ion-solid interactions ion motion computer simulation 9-43088
- large network models using the brain organisation simulation system 9-8496
- laser plasma compression, computer simulation of implosion struct. (*Japanese*) 9-14587
- lattice model chain dynamics, simulation (*Russian*) 9-22876
- Lennard-Jones fluid, phase separation by spinodal decomposition, mol. dynamics computer simulation 9-10766
- macromolecules in solution, US degradation simulation program 9-14148
- magnetic hysteresis model, of dipole element, use of cubic spline functions (*German*) 9-4706
- materials normal grain growth 9-11546
- metal hydride, computer simulation of H reflection and scattering 9-1806
- metals, FCC, twist boundaries, high-angle (001) CSL, struct. by computer simulation 9-46677
- molecular dynamics studies of the role of diffusion in chemical models with absorbing boundary states 9-8424
- monatomic liquids, short wavelength collective density excitations, computer simulation 9-46540
- motor unit action potential study using computer simulation 9-11914
- multiple Markov sequences of interpoint intervals, inverse density modulation, rel. to removal spike trains 9-20529
- multispectral scanning sensor system, Fourier transform method 9-29997
- neural nets (*Polish*) 9-16189
- neuromuscular response to ankle rotation, human, simulation with segmental reflex model 9-8500
- neuromuscular system deterministic neuron models 9-29523
- nuclear safeguard systems effectiveness, SNAP network analysis technique 9-26658
- numerical solutions of three dimensional dynamic crack problems and simulation of dynamic fracture phenomena by a 'non-standard' finite difference method 9-41613
- ocean tides mapping with satellites, computer simulation 9-39880
- one-dimensional crystal subjected to deform., static and dynamic equilib. 9-28037
- pericardial potential simulation and mapping in dog 9-39399
- permittivity meas. through ponderomotive forces determ., computer-aided field analysis 9-215
- photoreceptor models, vertebrate, response waveforms 9-43894
- pole pieces with cavities, correction effect modelling (*Czech*) 9-45879
- polymer, conformational transitions; Brownian dynamics, simulation 9-45873
- polymer solutions, coil dimensions, Monte Carlo calc., computer simulation (*Polish*) 9-3606
- positron lifetime spectra, of metals, lifetimes and intensities 9-33858
- proton dynamics in linear accelerator with variable phase focusing, space charge effect, simulation 9-13561
- pulmonary gas exchange function model (*Russian*) 9-2092
- radar image simulation, point scatt. model, remote sensing appl. 9-12296
- radioisotope thermoelectric generator, selenide, power degradation predictions 9-48148
- rainfall runoff from multiple watersheds system 9-29805
- reinforced organic composite, graphite, or C-C, ablation, mathematical modelling 9-41564
- relativistic electron beams simulation 9-26789
- river basin, Monongahela, acid mine drainage problems treatment via QUAL II simulation 9-29806
- rocket attitude measurement using laser system 9-12763
- room acoustics and subjective sound perception (*Polish*) 9-7258
- rough surfaces computer simulation of contact 9-19470

digital simulation continued

- round notch tension test, computer simulation 9-24705
SEM voltage state prediction 9-40644
semiconductor, bulk, negative-cond., transverse spreading of high-field domain, two-dimens. simulation and equivalent cct. model 9-1602
shock wave reflection from concave surface, numerical simulation 9-18913
simulation of the infrared astronomical satellite (IRAS) telescope system 9-29976
Skylab, anticipated attitude motion for revisit mission, digital computer simulation 9-16794
solar energy simulations, typical weather determination 9-16614
solar energy thermal processes 9-24890
solar radiative heating, in presence of aerosols 9-16665
solid, mol. dynamic simulation of shock wave propagation, kinetic energy and temp. profile 9-14882
solid laser, CW, actively mode locked, picosecond pulse form., computer simulation 9-36939
sound amplifying systems in halls, model (French) 9-37090
steel, alloy, tension test, computer simulation of deform. to fracture 9-11667
Stirling cycle, numerical methods accuracy evaluation 9-48170
Stirling cycle machines optimisation, free piston design 9-48172
Stirling engine, research, JPL laboratory 9-48171
strong ground motion representation and simulation 9-16388
surface diffusion, influence on surface anal., model calc. 9-15016
thalamic ventrobasal neurone discharges during sleep and wakefulness 9-20533
thermodynamic activity of C in austenite, computer simulation 9-37852
transition metal, amorphous and liq. state, simulated model 9-14733
transonic flow simulation by finite element method via optimal control, book contrib. 9-32557
two-dimensional MHD turbulence, small-scale struct., singularities form. 9-46396
two-phase flow through porous media, simulation by finite elements 9-41752
upper atmosphere neutral gas expansion, numerical soln. 9-12325
visual and nervous systems, straight line recognition algorithm 9-34562
visual cortex neural circuitry model for orientation sensitivity 9-11927
wind energy conversion system control, on-line, performance in turbulent wind environment 9-48069
X-ray topography, computer simulation methods 9-23484
Al, tilt boundaries (110), computer simulation, struct. and symmetry 9-37713
 α - Al_2O_3 , axial-to-planar channelling transition computer simulation 9-4367
Ar, fluid, light scatt., collision-induced, line-shape theory and mol. dynamics 9-41921
 ^{60}Co irradiation sterilisation processing, nonstandard double carton simulation 9-26760
Cu, electron radiated, formation of Frenkel pairs 9-23598
Cu, neutron irrad., replacement sequences, calcs. using ADDES and COMMENT codes 9-46714
 Cu_2Mn , atomic short-range order, TOF neutron diffraction 9-10831
 H^+ beam, 0.5 TW pulses, production with spherically focusing mag. insulated diode 9-31288
Mo, localised electronic states near dislocations 9-33257
 $(\text{NH}_4)_2\text{H}_2\text{PO}_4$, single cryst., X-ray diffr. contrast at twin boundaries, computer simulation 9-33000
NaCl, edge dislocation dissoc., computer simulation of core struct. 9-37703
Si, ion-implanted, laser annealing at 1.06 μm , computer simulation 9-47556
Si, perfect cryst., X-ray acoustic reson. 9-27873
 $\text{Ti}_{1+x}\text{S}_2$, polytypic struct., Ti ordering, two-dimensional model, X-ray diffuse scatt. intensity, computer simulation 9-14776

digital storage

- see also *cryoelectronic stores; cryotrons; optical stores; random-access storage; read-only storage; semiconductor storage systems*
CRO with digital storage, OS4000, features (Spanish) 9-6116

digital systems

- see also *computer networks; digital computers; multiprocessing systems; real-time systems; sampled data systems*
cinematography, sound recording and reproduction systems (Russian) 9-27487
SEM image processing systems, summary of useful techniques and anal. 9-12901

digital voltmeters

- amplitude digital voltmeter for periodic or pulsed signals 9-26073
dual scale, using MOS IC, description (Italian) 9-6150
microprocessor controlled, calibration and averaging 9-40550
microprocessor controlled, with automatic calibration and meas. uncertainty readout 9-35787
precision DC and AC digital voltmeter tester (Russian) 9-26080
Rubin-1 linear voltmeter, improved version using FET 9-21781
thermometer sensor nonlinearity correction (Russian) 9-26054

digitisers see *analogue-digital conversion***digraphs** see *directed graphs***dilatometers** see *extensometers***dilute alloys**

- see also *impurity electron states; Kondo effect; magnetic properties of dilute systems*
electrical resistivity, low temps., Matthiessen's rule deviations (Croatian) 9-11099
impurity electron states, method of orthogonal operators 9-33254
liquid, binary, partial interference functions, short range chem. order effects 9-7541
liquid, partial interference functions of solutes 9-19139
liquid, ternary, heteroatomic solid, thermodynamic partial pair struct. factor, sticky hard sphere 9-32867
magnetic, configuration fluctuations 9-33449
magnetic impurities and Kondo effect, theoretical model 9-33455
noble metal, solute segregation and subsequent film growth in corrosive environment, model 9-24649
noble metal based, disordered, virtual bound states, reson. model pot. theory 9-23934
noble metal electronic struct., de Haas-van Alphen studies, book contrib. 9-37967
radiation induced solute segregation and precipitation study by means of Johnson-Lam kinetic model 9-43252

dilute alloys continued

- solid solution, dilute, residual resistance, pseudopotential calc. (Russian) 9-33276
surface segregation, time of flight atom-probe FIM exam. 9-19437
thermoelectric effects, near cancellation of electron-phonon corrections 9-33283
thermoelectric effects 9-38054
transition metal magnetic alloys, dilute, props., review of theory 9-15282
Ag, cryst. growth from melt, distrib. of growth directions 9-33924
Ag-Cd, dil., DPAD meas. on ^{107}Cd and ^{108}Cd , nucl. Larmor precession meas., role of hyperfine interactions 9-47363
Ag-Dy, EPR linewidth anisotropy and mag. field depend., internal stress effects 9-33532
Ag-Mn, dilute spin glass, AC susceptibility and ESR meas. 9-7968
Al alloy, dil., recrystallisation during hot rolling 9-47732
Al-3d transition metal, dil., localisation of additional screening charge 9-47051
Al-Ag, dil., radiation damage by channelled and random He^+ ion beams 9-46719
Al-Ag(Ga)(Ge) dil. alloys, Hall coeff., residual resist., and relax. times 9-11107
Al-Ag(Mg)(Zn)(Ga)(Ge), dil., deviations from Matthiessen's rule, 4-OPW approx. calc. 9-19574
Al-Cr, dilute, morphological stabilities of planar solid-liquid interfaces during unidirectional solidification 9-4960
Al-Cu, dil., anisotropic scattering of conduction electrons on dilute Cu impurities 9-47082
Al-Fe (1 wt.%), depth resolved ^{57}Fe conversion electron Mossbauer spectra 9-38413
Al-Fe dil., magnetisation, 2-0.01K 9-4652
Al-Fe dil. alloy, bamboo struct., grain boundary internal friction peak 9-43306
Al-Ge(Mg)(Zn)(Ga), dil., electronic transport coeffs. for point defect scatt., 4-OPW calc. 9-42531
Al-Mg, dil., form of distortion field produced by Mg substitution, elastic neutron scatt. meas. (German) 9-42092
Al-Mn, dil., magnetisation, 2-0.01K 9-4652
Al-Si, dil., mechanism of dissolution of Si 9-19375
Al-Ti, dilute, morphological stabilities of planar solid-liquid interfaces during unidirectional solidification 9-4960
Al-Ti dilute alloys, solute distrib. during unidirectional solidification 9-4961
Al-Zn (0.14 at.%), nuclear acoustic reson., 20-80K 9-8058
Au-Fe, dil. alloys, spin glasses, modified bond model calcs. 9-33489
Au-Fe (1-7 at.%), extraordinary Hall effect, near ferromag. percolation limit 9-19575
Au-Ga dil. alloys, electronic struct. 9-37974
Cd-Mg, dil. alloy, single cryst., electrical resistivity and deviations from Matthiessen's rule 9-23943
Co-Mn, dil., hexagonal hyperfine field at ^{54}Mn , nucl. orientation meas. 9-8057
Co-Sn, dil., ferromag., temp. anomalies of Sn mag. hyperfine field and thermal expansion 9-33270
Cr-Fe-Co dilute alloys, Neel temp., thermal expansion rel. to Co content 9-47281
Cr-Ge, phase diagram of spin density wave states 9-24158
Cr-Rh, dil., hyperfine fields meas. 9-47056
Cu-Al alloy, dil., lattice expansion and localised vibr. mode 9-37789
Cu-Al dil. alloys, dislocation etch pit obs. on [111] surfaces 9-10861
Cu-Au, dil., thermal neutron irradiated, isochronal resist. recovery, 30-400K 9-19287
Cu-Cd (0.03 at.%), single cryst., deformed, dislocation arrangement 9-10856
Cu-Fe, dil. alloy, spin relaxation rates, neutron scatt. study 9-47235
Cu-Mn, dil., spin density magnetisation near magnetic atoms 9-33545
Cu-Sb solid solution, dil., FCC, intergranular solid shortness mechanism (Russian) 9-5032
Cu-transition metal dil. alloy, virtual bound states 9-37975
Cu+3d alloying impurities, solid soln., exam. of thermoelectricity (Russian) 9-28339
Fe-C, dil. alloys, softening, conventional and in situ expt. 9-47744
Fe-C, dilute alloys, softening, conventional and in situ expt., HVEM obs. 9-47743
Fe-C, Hall-field electrotransport of C, effective valence numbers 9-28148
Fe-Co, dil., Mossbauer source, self-absorption effects (French) 9-24246
Fe-Cr, mag. props. of Fe, local coupling with spin modulation of matrix 9-15299
Fe-Mn, dil. alloy, mag. moment distrib., temp. depend., diffuse polarised neutron scatt. study 9-47250
Fe-Sn, dil., ferromag., temp. anomalies of Sn mag. hyperfine field and thermal expansion 9-33270
 $\text{Fe}_{1-x}\text{P}_x$, electronic struct., mag., elec. and struct. props. 9-37971
Gd-Ta, dil., mag. hyperfine field and elec. field gradient at ^{181}Ta impurities, TDPAC meas. 9-47361
Gd-Yb(Ir), dil., ferromag., mag. hyperfine fields of ^{170}Yb and ^{193}Ir , Mossbauer effect meas. 9-24242
In-Mn, dil., supercond. film, H_{c2} meas., mag. impurity effects, pair breaking theory 9-42708
In-Gd film, dil., fluctuation induced cond. above supercond. transition temp. 9-47196
(La,Gd) Al_3 , very dil., resist. 9-23958
 LaSn_3 , containing light rare earth impurities, press. depend. of supercond. transition temp. 9-47184
Mg-Fe alloy film, quench-condensed, resistance meas. 9-15235
Mo-C-Zr-B (0.004, 0.12, 0.002 wt.%) effect of grain size, cellular dislocation structure, on mech. props. (Russian) 9-34105
Ni alloys, dilute, near surface composition, effect of irradiation and sputtering 9-33168
Ni-Sn(Sb), dilute ferromagnetic alloy, resistivity and magnetoresist. anisotropy 9-11106
 $\text{Ni}_{0.97}\text{Ru}_{0.03}$, mag. moment distrib. polarised neutron study 9-42738
Pb-Mn, dil., supercond. film, H_{c2} meas., mag. impurity effects, pair breaking theory 9-42708
Pb-Sn, dil., dislocation inertial effects, internal-friction meas. on normal and superconducting states 9-38883
Pd-Fe, dil., anomalous lattice parameters and H_2 solubilities 9-33091
Pd-Gd (1 at.%), lattice distortion around impurities determ. by polarised neutron method 9-1372
 $\text{Pd}_{1-x}\text{Pr}_x$ ($x=0.02$ and 0.03), dil. alloy, min. resist. around 20K 9-19583
 $\text{Pd}_{0.97}\text{Sm}_{0.03}$ dil. alloy, assist. meas. 9-19583
 $\text{Pd}_{0.97}\text{Tm}_{0.03}$ dil. alloy, elec. resist. meas. 9-19583

dilute alloys continued

- Sn-In, dil., intermediate state, US attenuation 9-42694
- Sn-Zn(Hg)(Ti)(Bi) dilute alloys, thermo EMF (*Russian*) 9-33285
- Ti-Pd, ion implanted, corrosion rate and electrochemical props. 9-43467
- TiD₂, α - and β -phases, D-site occupancy, neutron diffr. study 9-42014
- Zn-Al, isotherm of internal adsorption at dislocations 9-37733
- Zn-Al(Cu), dil. alloy, creep ductility 9-38899
- Zr-Cu, dil. martensites, struct. and strength 9-29077
- Zr-Dy dil. alloys, plastically deformed, mech. props. and microstruct. (*Russian*) 9-20112

dimensions

- linear and angular dimensions, classification and symbols for means of meas. 9-6081

dimers *see molecules***dineutrons** *see neutrons***Dingle temperature**

- de Haas-van Alphen effect, FFT anal. 9-42434
- noble metals and their dil. alloys, electronic struct., de Haas-van Alphen studies, book contrib. 9-37967
- Au-Ga dil. alloys, electronic struct. 9-37974
- Pd-H, electronic states from de Haas-van Alphen measurements 9-7777

diode lasers *see semiconductor junction lasers***diode sputtering**

- coating techniques, for SEM and X-ray microanalysis 9-12783
- cylindrical magnetron sputtering sources, substrate heating 9-24435
- fusion reactor first wall, reduction of effective sputtering yield by honeycomb structures 9-23440
- plasma/magnetron systems, role in physical vapour deposition 9-24436
- Al metallization of semiconductor devices by high rate magnetron/plasma sputtering 9-28919
- Si, amorphous hydrogenated, manufacture of Schottky-barrier and MIS tunnel solar cells (*French*) 9-24897

diode tubes *see diodes***diodes**

- see also plasma diodes; rectifier tubes; semiconductor diodes*
- No entries

dipole antennas

- in electron plasma, isotropic, dipole radiation of longitudinal waves in infinite plasma 9-4153
- EM near field power density meas. (*Polish*) 9-21721
- random linear electrostatic waves, cross spectrum measurement in isotropic Maxwellian plasma 9-46450
- Schottky-barrier diode monolithic detector dielectric plate antenna 9-30548

dipole moment, electric *see electric moments***dipole moments, magnetic** *see magnetic moments***Dirac electron theory** *see Dirac equation; electron theory***Dirac equation**

- see also electron theory*
- causal independence in local relativistic free quantum fields 9-21894
- classical Lagrangian theory with radiative reaction, monopoles and positrons in Rohrlich formalism 9-72
- conformally covariant spinor field equations 9-22004
- Coulomb pot. exact bound w.r.t. Dirac operator 9-21988
- derivation, inhomogeneous media electrodynamics refraction (*German*) 9-13005
- diffusion model for the Dirac equation 9-30277
- Dirac's extended electron model 9-26269
- Dirac Hamiltonian in presence of instanton and meron fields, fermion zero modes and level crossing 9-21927
- Dirac singletons, equivalence with massless particle 9-21903
- Dirac-Coulomb functions, asymptotic expansions of radial integrals 9-308
- Einstein's field theory with teleparallelism and Dirac's electrodynamics (*German*) 9-40418
- Einstein unitary field theory with tele-parallelism, Dirac's classical theory of electrons 9-12685
- electron inertial mass, asymptotic soln. of Dirac eqn. 9-2961
- equivalence principle test for spin- $1/2$ particles 9-12707
- exact scatt. soln. of eqn. with short range pot. 9-17268
- fermion-meron interactions in Minkowski space-time, classical Yang Mills fields 9-2913
- fermions, massless, isospin 3/2, coupled to N-particle field 9-6298
- fermions and vortex solutions in Abelian and non-Abelian gauge theories 9-12959
- fibre bundles, Poincare group canonical representation, Lagrangian formalism 9-30678
- general relativity, the Dirac equation, and higher symmetries 9-25931
- hadronic atoms in momentum space, Dirac, Schrodinger and Klein-Gordon eqn. eigenvalues 9-872
- holonomic quantum fields, deformation model 9-25907
- infinitesimal symplectic relations and generalized Hamiltonian dynamics 9-25878
- inverse scattering method, massive Dirac system soln. using connection with matrix Schrodinger eqn. 9-2655
- ion, highly-stripped, quantum defects 9-41147
- ion+atom collision, electron spin coupling in rot. frame, X-ray emission 9-36724
- Klein paradox and the mass spectra of the neutral vector mesons 9-26299
- Levinson's formula, inverse problem of scattering theory (*Russian*) 9-9315
- massive Dirac system, nonlinear evolution eqns., inverse scatt. method soln. 9-2654
- muonic atom energy levels, computer calc. codes 9-31743
- nonlocal properties of fermionic matter in strong gravitational fields 9-26210
- operators, distinguished self adjoint extensions 9-25880
- particle bound by short-range forces in electric field 9-2963
- potential model, Dirac eqn. with linear confining pot., symmetric model 9-364
- potential model based on Dirac eqn. with linear confining pot., asymmetric model 9-363
- relativistic theory, quantum defect phase shift relationship 9-771
- relativistic wave eqn. of electron (*Hungarian*) 9-12928
- scalar relativistic approximation 9-26899
- SU₂ monopole harmonics 9-17646
- supersymmetry and position operators 9-6305

Dirac equation continued

- topological methods for gauge theories, winding numbers, euclidean Dirac eqn. 9-26206
- topological setting for axial anomalies and index theorems on open spaces 9-303
- two-component first-order equations for the quantum-relativistic electron 9-17649
- unification of Maxwell, Dirac and Yang-Mills eqns., octave algebra 9-2967
- unification with electromagnetism, Einstein-Maxwell, field theory with teleparallelism and Dirac electron (*German*) 9-9168
- vacuum with spin in the ECSK-theory of gravitation 9-44830
- WKB approximation at $Z > 137$ 9-17650
- Bi, at. polarisability, oscillator strength and radial integral 9-22620
- Pb at. polarisability, oscillator strength and radial integral 9-22620
- Tl, at. polarisability, oscillator strength and radial integral 9-22620

direct coupled amplifiers *see d.c. amplifiers***direct current amplifiers** *see d.c. amplifiers***direct current motors** *see d.c. motors***direct digital control**

- see also control systems*
- gas stripping column, periodically cycled, feedback control, simulations 9-1231
- LMFBR, computer control system for Na test loops 9-26550
- nuclear power plant, CANDU, DDC, dual redundant minicomputer system max. utilisation 9-36375

direct energy conversion

- see also cells (electric); magnetohydrodynamic conversion; photothermal conversion; plasma diodes; solar energy conversion; thermionic conversion; thermoelectric conversion*
- bimorph vibrator pump characts., using ferroelectric crystals 9-48182
- Canadian R and D program for energy storage and conversion, review 9-29457
- fusion reactors, light nuclei fusion of charged particles 9-18032
- fusion reactors, open system, AC direct energy converter 9-4197
- marine structures for energy conversion 9-43712
- solar energy conversion and alternative working fluids, book 9-42428
- steam power plants, energy conversion by alternative working fluids, book contrib. 9-43783
- Stirling free-piston engine/linear alternator system, 1978 development status 9-48178
- Stirling isotope power system, 1 kWe 9-48176
- water-nitrobenzene interface, mechano-electrical energy conversion using interfacial tension changes 9-14982

direct nuclear reactions and scattering

- see also pick-up reactions; stripping reactions*
- A(p,p')X, inclusive reaction cluster emission models 9-6441
- clustering studies, ang. correl. anal. 9-6547
- deuteron breakup and stripping, three-body model 9-515
- electroproduction of light fragments on nuclei, quasielastic knockout by electrons, general theory (*Russian*) 9-13276
- first order optical pot., knockout cross section approx. to total cross section 9-22254
- fragmentation, clustering and absorption mechanisms in p and π induced reactions 9-6546
- fusion, power prod. in reactors, and astrophys. appl. (*Norwegian*) 9-30872
- multiple scattering with rearrangement 9-504
- nuclear continuum spectrum from disintegration by high energy particles, direct and resonant mechanisms (*Russian*) 9-30803
- (p, α) direct reactions on light nuclei, alpha cluster breakup effects 9-6550
- quasifree cluster knockout reactions, cluster spectroscopic factors, medium and high energies, review 9-6440
- relativistic nuclei disintegration, spectator fragments distrib. 9-22261
- three body sequential decay processes, α -transfer reaction studies 9-6526
- (α , 2 α) 700 MeV, cross section, effective cluster number from PWIA, momentum distrib. 9-40940
- (α , 2 α) comparison with (p, α) reactions, antisymmetrisation effects 9-6575
- (α , N), DWBA finite range calc. 9-9541
- d and t quasifree knockout at 62 mrad, differential cross sections (*Russian*) 9-30819
- (e, α), Z=29-79, direct and statistical effects, cross sections and ang. distrib. 9-530
- (γ , p) 60-100 MeV, single particle knock-out using shell model wavefunctions, mass depend. 9-13273
- (p,2p), distorted momentum distrib., and pp collisions, geometry choice for independent study 9-6597
- (p,2p), off shell effects using optimum geometrical conditions 9-6598
- (p,2p) high-energy knockout reactions, factorisation corrections 9-17885
- (p, α), polarised p, anal. power, direct 3-nucleon transfer reactions, microscopic approach review 9-6545
- p+ nucleus reactions, 400 MeV, multi-nucleon removal, p- γ coincidence spectra 9-6549
- (π , π d) 115 MeV, light emulsion nuclei, integral reaction and differential cross sections (*Russian*) 9-13351
- (π , π He) 115 MeV, light emulsion nuclei, integral reaction and differential cross sections (*Russian*) 9-13351
- (π , π N) knockout reaction, nonanalogue nucleon charge exchange transitions 9-22336
- A(α , ax)B, optimum kinematic conditions for quasi-free knock-out reactions 9-6548
- ²⁷Al(²Ne, ¹²C), 120 MeV, anal. of continuous spectra by multi-step direct reaction theory 9-45287
- ²⁷Al(²⁰Ne, ¹⁶O), 120 MeV, anal. of continuous spectra by multi-step direct reaction theory 9-45287
- ²⁷Al(p, α), 600 MeV, α -cluster quasielastic knockout, expt. methods, separation energy spectra 9-13275
- ²⁷Al(p, α), 600 MeV, quasi-electric knockout reaction, PWIA calcs. 9-6581
- ²⁷Al(π , π), gamma ray coincidence spectra, nuclear surface clustering evidence 9-6707
- ²⁷Al(π^- , p π), 300 MeV, proton-gamma ray coincidence spectra 9-6704
- ²⁷Al(π^+ , π^+), 300 MeV, pion-gamma coincidence spectra 9-6705
- ²⁷Al(π^+ , π), 300 MeV, gamma-ray coincidence spectra, clustering evidence 9-6706
- Au+¹⁴C, 25 GeV, momentum transfer to target fragmentation products 9-6691

direct nuclear reactions and scattering continued

- ¹⁹⁷Au(p,x), 197-800 MeV, ²⁴Na fragment emission excitation functions cascade-evaporation anal. 9-6553
- ⁹Be(p,pn)⁸Be, 10-24 MeV, cross section, reaction mechanism, ⁹Be level excitation 9-22284
- ¹²C+p, 4.3 GeV/c, search for d knockout 9-6580
- ¹²C(⁶Li,d), ¹⁶O level configuration mixing anal., α -spectroscopic strengths 9-6683
- ¹²C(e,d), electroproduction cross section, Born approx. (Russian) 9-26427
- ¹²C(p, α)⁹B_{gs}, 45.2 MeV comparison to ¹²C(p, α *)⁹B_{gs} 9-6586
- ¹²C(p,d), 4.3 GeV, deuteron knockout search (Russian) 9-3158
- ¹²C(p,p α), 600 MeV, α -cluster quasielastic knockout, expt. methods, separation energy spectra 9-13275
- ⁴⁰Ca+ π^{\pm} , multinucleon removal, prompt de-excitation γ -spectra. obs. 9-6708
- ⁴⁰Ca(e,e'), quasi-elastic scatt., scaling law test, knockout process contribution 9-22274
- ⁴⁰Ca(n, γ)⁴¹Ca, 6 to 13 MeV quadrupole radiation, direct-semidirect model calcs. 9-545
- ⁴⁰Ca(p,p), 200 MeV, cross section and asymmetry meas. 9-6583
- ⁴⁰Ca(p,p α), 600 MeV, α -cluster quasielastic knockout, expt. methods, separation energy spectra 9-13275
- ⁵⁹Co(π^{-} , xn), single and correlated n spectroscopy, nuclear temp. 9-6713
- ⁵²Cr+¹³C, 105 MeV, ⁵¹V, ⁵¹Cr, ⁵³Mn, level scheme, DWBA and optical model anal. 9-36159
- ⁵⁶Fe(e,e' α), 60 and 120 MeV, evidence for α -clusters 9-6569
- ²H(α ,an)¹H, 27.2 MeV, absolute differential cross sections 9-9599
- ²H(e, ep)n, spectator momentum distrib., quasielastic knockout mechanism (Russian) 9-30817
- ³He(τ ,p)d, 120 MeV, coincident energy spectra, quasi-free scatt. 9-22303
- ⁶Li(d,n)⁷He*⁴He, absolute and total cross sections 9-40936
- ⁶Li(d,p)⁷H*⁴He, absolute and total cross sections 9-40936
- ⁶Li(p,p α), A=6.7, 600 MeV, α -cluster quasielastic knockout, expt. methods, separation energy spectra 9-13275
- ²⁴Mg(p,p α), 600 MeV, α -cluster quasielastic knockout, expt. methods, separation energy spectra 9-13275
- ⁹⁴Mo, analogue resonances, direct neutron decay, anal. of ⁹³Nb(p,n)⁹³Mo data (Russian) 9-3128
- Ni mass region, α transfer reactions, pairing vibr. model anal. 9-13272
- ⁴Ni, A=64, 58, level ang. momentum and spin values, DWBA anal. from (t,d) polarised t 9-36163
- ⁵⁸Ni(¹⁶O,¹⁸O, α)⁵⁸Ni, 9-6676
- ¹⁶O+p fragmentation reaction, 2 GeV, three-stage model anal. 9-6551
- ²⁰⁸Pb(¹⁶O,¹⁸N), 104-312 MeV, fragment emission at high energies, Q value effects 9-6653
- Sn mass region, α transfer reactions, pairing vibr. model anal. 9-13272
- ¹³⁶Xe(n, γ), thermal, Lane-Lynn theory of direct neutron capture verification 9-36218

directed graphs

- multirouted directed graphs, percolation theory 9-44701

direction finders, radio see radio direction-finding

directional antennas see directive antennas

directional couplers

- fibre or integrated optics appls., accuracy of directional coupler theory 9-3810
- multimode fibre directional coupler 9-37002
- narrowband optical wave filter with stacked directional coupler 9-7226
- optical coupling length adjustment by loading a metal film 9-23055
- optical coupler, made from plane gyroscopic, anisotropic light guides 9-18547
- optical directional coupling device of two glass prisms, geometrical optics (German) 9-18524
- optical fibre communication devices, directional couplers, attenuators, switches development 9-3782
- optical waveguide directional couplers, parameter meas. using radiation patterns 9-3771
- optical waveguides, codirectionally coupled, with weighted coupling, filter characs. 9-23068
- single mode grating coupling between thin-film and fibre optical waveguides 9-1012
- As-Se-S-Ge chalcogenide glass films, appls. to passive optical waveguide components 9-37048

directional patterns see antenna radiation patterns

directive antennas

see also loop antennas

- miniature, design, for geophys. probing from boreholes 9-12297

dirty superconductors

- EPR relaxation time, thermal behaviour, slightly dirty superconds. 9-47195
- microjunction phonon spectroscopy in dirty limit (Russian) 9-11272
- mode propagation in superconductors near T_c 9-19682
- third harmonic response to weak EM field near transition temp. 9-38249
- type II, fluctuation induced elec. cond. 9-38251

discharge lamps

- see also arc lamps; flash lamps; fluorescent lamps; metal vapour lamps
- electrodeless discharge lamps, pulsed RF excited, for at. absorpt. and at. fluoresc. spectrosc. 9-21816
- flow lamp light source for ionised and neutral metal spectra 9-27355
- halogen lamps, KIM 9-75, relative spectral distrib. determ. 9-7189
- microwave power source for electrodeless discharge lamps 9-36969
- UV, high intensity, for angle resolved photoemission spectroscopy 9-12870
- UV light source, pulsed high-power 9-18496
- waveguide mount for 60 to 90 GHz range, rectangular to circular waveguide transition 9-26074
- Kr, resonance lamp in vac. UV, new developments 9-32017
- Xe, resonance lamp in vac. UV, new developments 9-32017
- Xe, tubular, with short discharge, characs. (Russian) 9-32019

discharge lasers see gas lasers

discharge tubes see gas discharge tubes

discharges (electric)

- see also arcs (electric); electric breakdown; flashover; glow discharges; high-frequency discharges; lightning; partial discharges; positive column; sparks; surface discharges; Townsend discharge
- air, dry, HV diffuse discharge, gas stream temp. influence 9-32842
- beam-plasma discharge for plasmicochemical reactions (Russian) 9-37508

discharges (electric) continued

- breakdown phenomena in short point-plane electrode systems, critical survey 9-4206
- coaxial cylindrical discharge tube, diffusion plasma column density and pot. distribs. 9-41797
- composite discharge plasma, rate of heating of dry air as function of volume and density (Russian) 9-37513
- contaminated cathodes in UHV discharge 9-41889
- cross-sectional shock shape meas. using columnar and plane discharges 9-27666
- detonation products in discharge gap, electric breakdown 9-10736
- discharge-flow systems, noise reduction in EPR studies 9-39256
- distributed spark discharge for volume photoionization laser appls. 9-14634
- electrolyte, pulsed discharge, gasdynamic model 9-10732
- electron beam prod. by cold cathode, effects of discharge gases (Korean) 9-27848
- electron cyclotron resonance plasma, for metal surface cleaning 9-47821
- externally maintained discharge with gasdynamic window for low energy electron beam 9-32843
- fast electron beam, transition from non-self-maintained volume discharge to spark discharge (Russian) 9-23466
- gas discharge positive column plasma, absolute and convective instabilities of helical waves (Russian) 9-37478
- gas lasers, use of surface discharge for gas preionisation 9-46504
- gas space discharge, non-self-maintained, asymptotic analysis of structure (Russian) 9-14635
- gas-dynamic pulsation effects on turbulent gas flow discharges (Russian) 9-7500
- high press. gas discharge prebreakdown processes, electrode surface inhomogeneity effects 9-14628
- high-current evaporating wall discharge, pulsed press. 9-27838
- high-pressure discharge, Hg line profile and shift at 546.1 nm (French) 9-785
- hollow cathode discharge, laser induced impedance change, U cathode 9-46500
- hollow cathode discharge, particle diagnostics with mass spectrometer 9-46476
- hollow cathode discharge plasma, entry of Co, Ni, Ti, V, Cr, Fe and Mn 9-41891
- impulse discharge cathode streamer, emitted photons estimation (Japanese) 9-32845
- impulse high voltage discharge, effect of mag. field (Russian) 9-19099
- inert gas, formation of fast radiating Z-pinch at medium press. (Russian) 9-37526
- ion magnetron scaling law 9-27855
- ion source discharge, stable, theory 9-31278
- ion sources, elementary discharge theory, discharge equilibrium problem, single-valued soln. 9-26801
- lasers, high-power, model for stable high-density discharges 9-13943
- Lichtenberg figures 9-44693
- low-pressure gas discharges, model 9-37560
- molecular gas heating in electron beam maintained discharge 9-27804
- molecular gas ionisation instability, suppressed by varying elec. field 9-23476
- non-self-sustained discharge due to electron beam, chem. reactions 9-7502
- optical discharge, continuous, in focused laser beam numerical study 9-14632
- oscillatory discharges in magnetron-type cold cathode ion gun for sputter etching apparatus 9-34170
- Penning, study of hot plasma obtained (Rumanian) 9-7504
- Penning discharge, Hall crit. mag. fields 9-27146
- Penning discharges, high-pressure, low-frequency instabilities, role of temp. gradient 9-37567
- Penning pulsed high voltage discharge, column plasma parameter determ. (Russian) 9-7485
- pinched discharges, runaway electron model for X-ray emission 9-46497
- plasma discharge, second harmonic generation by surface waves 9-1306
- pulse, characs. w.r.t. IR spectra (Russian) 9-32826
- pulsed discharge, in long tube, discharge struct. 9-10734
- RF plasma etching, ion energy (French) 9-46495
- simulation of axially symmetric narrow discharge at high overvoltage 9-19101
- Skynt system-generated EM pulse response, spontaneous discharges, electron charging effect 9-25432
- superluminescence polarisation obs. of high-current pulsed discharge in gas with anisotropic gain 9-14515
- temperature measurement of heavy particles in gas discharges by contact methods 9-30476
- underwater, compression wave calc. and obs. (Russian) 9-1354
- vacuum conductivity in high voltage gaps, emission mechs. 9-41905
- velocity meas. using photomultipliers 9-19086
- volume discharge, instability with electron beam at front of accelerating pulse 9-10739
- volume discharge excited by electron beam, mag. field influence 9-27241
- weakly ionised gas, relaxing, negative cond., kinetic eqn. anal. (Russian) 9-4101
- wire explosion plasma production, diagnostics by Bartels method 9-10686
- Al, cylindrical foil, elec. explosion, current distrib. in high current shunting discharge 9-41855
- Al, spectral anal. in HV impulse discharge sensitivity limit 9-29420
- Ar DC discharge plasma parametric instabilities near lower hybrid frequency (Japanese) 9-7450
- Ar discharge, pulsed, weakly ionised, neutrals effect, interferometric obs. 9-27854
- Ar, discharge sudden contraction, effect of gas heating 9-27859
- Ar low pressure gas, Z-discharge, formation of current layer (Japanese) 9-37570
- CO₂, decaying discharge plasma, contraction in const. elec. field (Russian) 9-37447
- CdGa₂, excimer visible emission spectra in RF discharge, vibr. struct. 9-18201
- Cl₂, electron-attachment rate const., room temp. and 250°C, in Ar(N₂) discharges 9-45841
- Cs-N₂ discharge, Cs₂⁺ form. rate, mass spectra obs., N₂ press. depend. 9-27853
- CsI-Hg-Ar discharge, high-press., temp. and plasma comp. determ. 9-10709
- CuCl/Ne discharge, extrema of electron density and output pulse energy 9-10283

discharges (electric) continued

- H, determs. in fast flow discharge systems, titration methods 9-34393
 H, light source, Doppler effects (*German*) 9-44946
 H-He, light source, Doppler effects (*German*) 9-44946
 HCN CW laser, auxiliary DC discharge effects 9-31925
 He discharge, atmospheric press., for microwave plasma spectrometry 9-16052
 He I 4^3D , $3F$ - 2^3P line struct., in low-pressure linear discharge 9-14523
 He plasma, ion state and electron temperature in high-current pulsed discharge (*Russian*) 9-27844
 He, synchrotron and laboratory discharge light sources comparison 9-10371
 He- CO_2 -Xe plasma discharge electron conc. and temp., optical diagnostics method 9-41871
 He-Cs, turbulent plasma, characts., electron energy balance (*Russian*) 9-27779
 He- H_2 DC discharge, H Balmer- α fine struct. lines, anomalous shifts 9-45677
 KCL, spark channel in solid, plasma light absorpt. coeffs. 9-7501
 ^{83}Kr aerosol discharge devices, fabrication and use 9-1969
 N_2 discharge, effect of Cs additive on I-V characts. 9-32813
 N_2 , discharge, elec. and optical props. calcs. (*Russian*) 9-10741
 N_2 discharge, flowing, electron-beam maintained, cathode shape effects 9-27850
 N_2 , HV diffuse discharge, gas stream temp. influence 9-32842
 N_2 , homogeneous overvolted discharge, electron density evolution 9-1359
 N_2 plasma discharge stream, rarefied, diagnostics using sounding and UHF interferometry 9-41872
 N_2F_2 mixture, fast Blumlein discharge excited, intense 3371 Å laser emission 9-41365
 $NO+N$ $^4(S)$ state reaction rate, discharge flow and photolysis reson. fluoresc. method 9-5142
 NaCl-oil boundary, formation of discharge in system of electrodes (*Russian*) 9-8089
 Ne, high current discharge, short light pulse form. (*Russian*) 9-27846
 Ne, numerical study 9-32838
 Ne + H_2O , hollow-cathode discharge, Ne spectral intensity 9-4202
 O_2 yield, rel. to discharge field strength and gas pressure 9-19116
 $OH+HO_2 \rightarrow H_2O+O_2$ gas flow reaction, upper bound and probable value of rate const. 9-24730
 Rb_2^+ , form. by electron impact in elec. discharge, low-pressure. vap. 9-10738
 SF_6 , expt. (*German*) 9-10726
 $Se-Br_2$ discharge, atomic state density determ. 9-36573
 $ZnGa_2$, excimer visible emission spectra in RF discharge, vibr. struct. 9-18201

discharges (partial) see partial discharges**disclinations**

- cholesteric, Grandjean lines, optical study (*French*) 9-46560
 elastic interaction with dislocations and dispiration elastic energy 9-19248
 gauge transformations admitted by the equations of defect dynamics 9-27981
 liquid crystal, cholesteric defect struct. near smectic A transition 9-46559
 liquid crystal, lyotropic, parabolic focal conic struct., disclination/dislocation relation 9-27909
 liquid crystals, defects, struct., optical, electron microscopy (*French*) 9-46567
 mesomorphic phases, disclinations (*French*) 9-41947
 microcrack formation, disclination mech. 9-23674
 nematic liquid cryst. soln., thermodynamic treatment 9-32903
 nematic liquid crystal, critical radius for homeotropic domain 9-19148
 nematic liquid crystal, parallel and cross-like domains due to DC and LF electric fields 9-46557
 nematic liquid crystals, AC Josephson effect, phase slippage 9-46565
 random anisotropy and random field models, textural singularities and frustration 9-24182
 rectangular twist disclination loops, elastic energy and stresses 9-27987
 smectic phases, cofocal conics 9-1395
 twist disclinations, differential geom. 9-14805

discontinuous control systems see sampled data systems**discontinuous metallic thin films**

- electroluminescence mechanism (*Russian*) 9-47523
 granular two-dimensional film subjected to elec. field, metallic grain polarisability 9-4859
 island film, two-dimens. distrib. system, optical refl. and transmission calcs. 9-4862
 luminescence, electron beam excited (*Russian*) 9-47526
 thickness measurement, electron mode microanalyser 9-2744
 Ag, granular film, anomalous light absorpt., oblique incidence 9-6205
 Ag island films, on W, growth and desorption kinetics, mass spectra obs. (*German*) 9-46978
 Al film, condensation from partially ionised vapour flow, peculiarities of form. and struct. 9-28252
 Au, condensation kinetics on KCl substrate, evolution of size distrib. function 9-28243
 Au, degradation under MeV heavy ion bombard., Rutherford scatt. and TEM obs. 9-24397
 Au film, multiple attenuated total reflection spectroscopy, initial growth process 9-19490
 Au island films, forming process, I-V characts., and switching 9-11242
 Au islands, role in oriented crystallisation of Ag on active a-C 9-7762
 Au, mobility of small crystallites on KBr cleavage planes 9-23857
 Au, vac. deposited films, surface pot. and work function rel. to thickness 9-42672
 Cr island film nonlinear I-V characteristics, 20 Hz to 15 GHz 9-7910
 Cu, ageing effect on elec. cond. 9-24084
 Cu film growth on amorphous C, energy characts., in situ electron microscop. determ. 9-11027
 Fe granular deposits, plasma reson., rel. to interstellar dust extinction curve 9-21387
 In, island film, melting and crystn. kinetics, dark field electron microscopy 9-11026
 Pd particle array, on amorphous SiO_2 substrate, model catalyst, electron microscopy and UPS expts. 9-4899
 Sn, globular film, interf. and diff., solar selective props. 9-4860
 Sn globular film, solar selective props., effect of dielec. layer addition 9-4861

discontinuous metallic thin films continued

- Ti, chemisorption of O_2 and CO , quartz cryst. microbalance obs. of O/Ti and CO/Ti atom ratios 9-4475
 Zn island films, effect of surface press. on lattice spacings 9-11045
- discrete symmetries**
see also C invariance; CP invariance; CPT invariance; P invariance; parity; T invariance
 quaternion model, quark mass matrix, CP violation and Cabbibo angle (*Russian*) 9-40751
 $Sp(4) \times U(1)$ theory of weak and EM interactions, little groups and discrete symmetry 9-26283
- discrete systems**
see also discrete time systems; sampled data systems
 periodic systems, optimisation by analytic construction of control 9-21543
- discrete time systems**
see also sampled data systems
 neural net discrete-time model and applications (*Russian*) 9-2020
 nonlinear field eqns., time discretisation and mixed finite element methods 9-40384
- discriminators**
see also demodulators
 high-speed broadband amplitude discriminator that does not change pulse duration 9-26842
 microprocessor based telemetry demodulation system 9-20738
 multiunit spike train sampling control by peak discriminator 9-34717
 optical fibre delay line phase discriminator, operating principles 9-18507
 optical interference discriminator, for laser freq. stabilisation, optimisation 9-31962
 stabilized differential discriminator with automatic threshold control 9-26841
 time clamping to nuclear particle detector signals, discriminator employing ICs 9-3323
- disinclinations see disclinations**
- disintegration (radioactive) see radioactivity**
- disintegration energies see radioactivity**
- dislocation anchoring see dislocation pinning**
- dislocation arrays**
 anisotropic media, stress fields of dislocation arrays (*German*) 9-23615
 sapphire ribbon crystals, grown by edge-defined film-fed growth technique, X-ray topography study of dislocations 9-4305
 steel, low alloy, 10KhN1M, heat treated, effect of holding temp. on characts. of dislocation arrays 9-15788
 Fe-C-Si (0.62, 2.0 wt.%), interfacial struct. of broad faces of ferrite plates 9-46660
 MgO, etchant for revealing dislocations in (100) surface 9-19252
 Nb single crystals, growth by pulling from a melt on a pedestal, charact. arrangement of dislocations 9-4911
 NiO, single crystals, annealed, dislocation arrays in low angle tilt boundaries, TEM study 9-37707
 Sn, single crystal, dislocation walls consisting of double arrays 9-46664
- dislocation breakdown, pinned see dislocation damping**
- dislocation climb**
 grain boundary sliding, containing particles, during diffusional creep, dislocation bowing 9-37712
 incubation period following stress reduction during creep 9-7603
 irradiation creep due to stress induced preferred absorption of point defects, anisotropic dislocation struct. effects 9-42140
 recrystallisation nucleation, model for strain induced grain boundary migration 9-46675
 slip band theory, model for creep based on dislocation climb at grain boundaries 9-37756
 spinels, mass transport by dislocation climb 9-32996
 steel austenitic stainless, Cr-Ni 316 type, electron irradiated, void swelling 9-42104
 Zircaloy-4 cladding, steady-state creep, 940 to 1873K 9-15759
 Ag, surfaces, dislocation climbing, etch pit investig. 9-19260
 $(Al_2O_3)_xMgO$, spinel composition, dislocation climb, mass transport 9-32996
 GaAs, point defect generation by electron-hole recombination at dislocations 9-37699
 GaAs- $Al_xGa_{1-x}As$ double heterojunctions, dark-line defects and recomb. centres, scanning photocurrent microscopy 9-35822
 3He , BCC, plastic flow 9-46880
 $MgAl_2O_4$, dislocations, sessile disloc. 9-46663
 NiO, single crystals, annealed, dislocation arrays in low angle tilt boundaries, TEM study 9-37707
 ZnSe, electron irradi., dislocation climb, TEM obs. 9-1461
 Zr-Nb (2.5 wt.%), annealed, irradiation growth at 353K 9-46710
- dislocation damping**
see also Bordoni effect
 steel, maraging, Cr-Ni-Ti, effect of Ti addition on hardness and energy scatt. 9-15687
 C, heat-treatment and neutron irradi. effects on US atten. and Young's modulus 9-11644
 Cu-Au, (0.02-5 at.%), cold worked, internal friction peaks 9-11652
 Fe, internal friction near Curie point 9-24567
 Fe, pure, deformed, internal friction, dislocation relax. and dislocation-defect interactions 9-29125
 NaCl, reduction of dislocation density during isothermal annealing (*Russian*) 9-4303
 Nb, cold-worked, Snoek-Koster relaxation transient period, comparison with Schoeck's theory 9-34086
 Nb, high purity, dislocation relaxation by internal friction meas. over wide freq. range 9-38876
 Pb, superconducting and normal, electronic damping of dislocation, US meas. 9-27997
- dislocation density**
 continuous distributed dislocations, transport eqns. (*Russian*) 9-32997
 defect dynamics, closure of governing eqns., plastic state theory 9-37702
 diamond, ultradisperse, obtained by high temp. synthesis in explosion, struct. 9-29003
 gauge transformations admitted by the equations of defect dynamics 9-27981
 III-V semiconductor, epitaxial layers, dislocations nature, origin and effects 9-28232
 isotropic polycrystalline plasticity, dislocation theory 9-14875
 Kapitza conductance, dislocation depend. near acoustic mismatch 9-33172

dislocation density continued

- low-angle grain boundary dislocations, periodic clustering, TEM 9-46681
 metal, cold worked, grain size depend. of dislocation density 9-7614
 metal, dislocation dynamics study by current noise measurements 9-14813
 metals, BCC and FCC, dislocation dynamics method appl. to plastic flow 9-47745
 metals, point defect and microstruct. behaviour during irradi., appl. to fusion reactors 9-23638
 metals irradiated general rate theory model of void swelling 9-23655
 mobile dislocation density determ. from sound velocity 9-19258
 mobile dislocations, theory 9-7604
 plastic deformation instability, effects of physical parameters 9-47758
 ruby, single crystal surface disruption after polishing investigation by chemical etching (*Russian*) 9-38995
 steel, 12Kh1MF, influence of preferred dislocation orientation on high-temp. strength (*Russian*) 9-4999
 steel, C, wear, struct. changes in centres of galling 9-38985
 steel, Cr-Mo-(V), ductility and heat resistant prop. prediction rel. to fine struct. and solid soln. state 9-15751
 steel, Mn-Mo-Nb-C, transform. charact. and struct. during continuous cooling 9-29057
 stress-intensity factors calculated by dislocation theory (*Chinese*) 9-42063
 X-ray diffraction, line broadening of crysts. containing dislocation distrib. 9-37578
 Al, fracture mechanism, plastic strain rate 9-38977
 Al, ion-implanted, dechannelling by dislocations, backscatt. expts. 9-7642
 Al, mobile dislocation density determ. from sound velocity 9-19258
 Al-Al₃Fe, fibre reinforced eutectic, deformation behaviour by rolling, TEM and SEM study 9-29129
 Al-Mg (5.5 at.%), stress change expt. on creep 9-24584
 Al-Mg-Si, effect of quenching on recrystn. after hot working, dislocation density as function of time 9-43289
 C, heat-treatment and neutron irradi. effects on US atten. and Young's modulus 9-11644
 Cd films, vacuum deposited, microstruct. exam., X-ray diffr. profile anal. 9-46973
 Cr-GaAs, metal-nn⁺ Schottky diode, I-V characts., inverse branch, effect of dislocation defects (*Russian*) 9-15217
 Cr-Si, metal-nn⁺ Schottky diode, I-V characts., inverse branch, effect of dislocation defects (*Russian*) 9-15217
 Cu electrocrystallisation from CuSO₄ solns., exptl. methods (*Russian*) 9-8235
 Cu, polycrystn., cold worked, calc. of dislocation density as function of plastic strain 9-38924
 Cu, single cryst., deform. process, effect of surface layer 9-8315
 Cu superfluid ⁴He interface, Kapitza conductance, depend. on dislocation density near interface 9-33170
 Cu-Ag, deformed, recrystallization nucleation at second phase particles, electron microscope obs. 9-34059
 Cu-Al(Si), single crystals., latent hardening study by meas. of flow stress on secondary systems (*Japanese*) 9-24538
 Cu-Ni alloy, dislocation density during deform., comparison of electron microscopy and X-ray diffr. (*Russian*) 9-5002
 Cu-Sn, deformed, martensitic transformation (*Russian*) 9-15668
 α -Fe, deformed, changes in dislocation density, mech. props., dependence on deformation temp. (*Russian*) 9-20130
 Fe, strengthening in H₂SO₄, H₂ hardening rel. to struct., anodic behaviour (*Russian*) 9-15855
 Fe-Mo (4.1 wt.%), substructs. developed during steady state creep at 1100-1200K, TEM obs. (*Japanese*) 9-38900
 Fe-Ni-C, HVEM study of strain induced martensite 9-20047
 (GaAl)As-GaAs, double heterostructure laser, TEM study of dark line defect growth from dislocation clusters 9-33206
 Ge-GaAs, p-nn⁺ junction, I-V characts., inverse branch, effect of dislocation defects (*Russian*) 9-15217
 InGaAsP, LPE growth on InP, influence of lattice mismatch on surface morphology 9-1553
 LiF, viscous drag of dislocations exam., using mobility of individual dislocations 9-14814
 MgO, slip line struct. using replica electron microscope technique 9-7605
 NaCl, reduction of dislocation density during isothermal annealing (*Russian*) 9-4303
 NiO, single crystals., TEM of dislocations 9-4306
 Pb, plastically bent, effect of dislocations on electron relax. time, cyclotron reson. 9-24217
 PbS, epitaxial layer, structural nonuniformities and dislocation struct. 9-23852
 Si crystal limited topogram technique for investigation of dislocation distrib. 9-23496
 Si, diode, high dislocation density effect on charact. (*German*) 9-33336
 Si, dislocation dynamics during plastic deform., stress-strain characts. 9-27996
 Si, dislocations, depth distrib. planar channelling anal. with 2 MeV He backscattering 9-7640
 Si epitaxial layers, X-ray topographic study using Berg-Barrett techniques 9-28221
 Si, with various dislocation densities, ang. depend. of X-ray polarisation of curve of 111 Bragg reflection 9-46509
 Si_{0.8}Ge_{0.2}-GaAs, p-nn⁺ junction, I-V characts., inverse branch, effect of dislocation defects (*Russian*) 9-15217
 Te, deformed and annealed crystal, dislocation multiplication, effect on Hall coeff. and conductivity 9-7847
 W fibres, dependence of fine struct., on processing parameters 9-34082
 W, high purity, zone-refining growth, radial distrib. of structural defects (*Russian*) 9-19250
 WC-Co compacts and sintered alloy, fine struct. of carbide phases, pre-forms re-pressing under high press. effect 9-28987
 YIG, Ga and Al substituted, single cryst. growth by the travelling solvent float zone technique, dislocation density meas. 9-43138
 Zn, isothermal annealing effect at 400-410°C, on dislocation struct. in monocrystals (*Russian*) 9-20082
 Zn, vacancy concentration meas., lattice parameter and length changes, form. parameters 9-37697

dislocation dipoles

- alkali halides, charged dislocations for case of saturated region 9-46657
 (GaAl)As-GaAs, double heterostructure laser, TEM study of dark line defect growth from dislocation clusters 9-33206
 GaAs, point defect generation by electron-hole recombination at dislocations 9-37699

dislocation dipoles continued

- V₂Si, lattice defect, high voltage electron microscopy (*French*) 9-27993
 ZnS, glide plane of dislocations 9-46667
- dislocation drag**
 α -brass, single crystal, deform. and ductility at elev. temps. (*Japanese*) 9-5012
 Al, creep and rupture, in torsion, mech. (*Russian*) 9-5030
 LiF, viscous drag of dislocations exam., using mobility of individual dislocations 9-14814
 Pb-2n, work hardening in mixed state (*Russian*) 9-42707
 Ti, cold worked, annealed, internal friction meas. of H degassing (*French*) 9-43304
- dislocation energy**
 anthracene, slip systems in deformed crystals, dislocation elastic energy 9-42138
 dissociation, effect on dislocation energy and line tension 9-27985
 metals, BCC, dislocations, anisotropic elasticity theory (*Japanese*) 9-10853
 metals, stacking fault energy meas. by electron microscopy (*French*) 9-42079
 muscovite, exam. of dislocations and props. using elasticity theory (*German*) 9-10854
 Peierls model, dislocation core energies 9-27984
 quartz, dislocations, elastic energy (*French*) 9-14807
 stacking fault, antiphase boundary energies, investig. methods, review, appls. to FCC metals (*French*) 9-42080
 Ag, dislocation core energy, core tension, Peierls model 9-27984
 Al₂Be₃(Si₆O₁₈), beryl single crystals., dislocations obs., X-ray topography (*French*) 9-37709
 As, rhombohedral crystals, slip dislocations and slip systems 9-23617
 Bi, rhombohedral crystals, slip dislocations and slip systems 9-23617
 Cu, dislocation core energy, core tension, Peierls model 9-27984
 Cu-Al, dislocation core energy, core tension, Peierls model 9-27984
 Hg, rhombohedral crystals, slip dislocations and slip systems 9-23617
 NaCl, edge dislocation dissociation, computer simulation of core struct. 9-37703
 Ni, dislocation core energy, core tension, Peierls model 9-27984
 Sb, rhombohedral crystals, slip dislocations and slip systems 9-23617
- dislocation etching**
 C GaP on GaAs substrate, heteroepitaxial layers, struct. defects (*German*) 9-23865
 ruby, single crystal surface disruption after polishing investigation by chemical etching (*Russian*) 9-38995
 sapphire substrate, Czochralski grown, etch pits and dislocations 9-37708
 Ag, surfaces, dislocation climbing, etch pit invest. 9-19260
 Cu, well annealed crystal, etch pit technique refinement, dislocation config. study (*Japanese*) 9-4307
 Cu-Al dil. alloys, dislocation etch pit obs. on {111} surfaces 9-10861
 EuS, defect struct., etch pitting and electron microscopic obs. 9-27989
 InBi, single cryst. zone melting growth and etching 9-34189
 InP, synthesis solute diffusion grown, elec. props., photoluminesc., etch pit profiles 9-4914
 MgO, etchant for revealing dislocations in (100) surface 9-19252
 Mg₂SiO₄, etch pits in cleaved faces, revealing low angle boundaries 9-14818
 NaClO₃, cryst. growth from soln., selective etching technique for observation of dislocations 9-19251
 PbNb₂O₆, surface (001), microstruct. obs. by optical, etching, and interferometric techniques 9-11399
 PbS, epitaxial layer, structural nonuniformities and dislocation struct. 9-23852
 Si, dislocation dynamics during plastic deform., stress-strain characts. 9-27996
 Si, lattice damage, influence of laser annealing 9-23608
 Si single-crystal grown-in structural defects 9-10860
 Si, swirl type defects in float-zone and Czochralski single crystals. 9-27992
 Si:As, ion-implanted, dislocation loops and etch pits, X-ray diffr. and TEM obs. 9-42068
 Sn, single crystal, dislocation walls consisting of double arrays 9-46664
 YIG, single cryst., high temp. dislocation mobility 9-19255
 Zn, dislocation mobility under action of current pulses, selective etching meas. 9-19259
 Zn, vacancy concentration meas., lattice parameter and length changes, form. parameters 9-37697
 ZnSe, growth centres, crystallographic parameters and etching patterns study (*French*) 9-41998
- dislocation glide** *see* slip
- dislocation interactions**
see also impurity-dislocation interactions; vacancy-dislocation interactions
 alkali halide, low temp. radiation hardening mechanism, dislocation-interstitial elastic interaction 9-23636
 alkali halide conc. solid solns., hardening theory, dislocations, stress effects 9-32994
 Bordoni relaxation models, internal friction and microdeformation rel. to dislocations (*French*) 9-37758
 with coherent, stress-free, ordered particles 9-27988
 elastically nonlinear medium, dislocation interactions (*Russian*) 9-42064
 grain boundary sliding, containing particles, during diffusional creep, dislocation bowing 9-37712
 III-V semiconductor, epitaxial layers, dislocations nature, origin and effects 9-28232
 irradiation creep and stress-induced interaction between point defects and dislocations 9-19313
 loops, elastic fields near stress-free surface, loop-point defect interaction 9-4301
 metal, electroplastic effect 9-24589
 metals, BCC, dislocations, anisotropic elasticity theory (*Japanese*) 9-10853
 screw dislocation interactions with Wannier-Mott excitons (*Russian*) 9-4513
 smectic A-nematic transition, smectic dislocations, elastic interaction 9-14916
 solid solution hardening, dynamic simulation 9-11635
 structural defects, interaction effects, review (*Russian*) 9-42098
 Al, polycryst. in annealed and creep conds., dislocation interactions with grain boundaries 9-42067
 Al, superconducting, yield stress increase by destruction of Cooper pairs by dislocations 9-43313

dislocation interactions continued

- Al-Mg, superconducting, yield stress increase by destruction of Cooper pairs by dislocations 9-43313
- Al-Mg (5 wt.%), static strain ageing at low temp. 9-29116
- Cu-Au, (0.02-5 at.%), cold worked, internal friction peaks 9-11652
- Fe, pure, deformed, internal friction, dislocation relax. and dislocation-defect interactions 9-29125
- KBr:Li, low temp. radiation hardening mechanism, dislocation-halogen interstitial interaction 9-23635
- Ni, creep, effect of AC mag. field, 1.5-4.2K (*Russian*) 9-11657
- Si:P, diffusional doping, diffusion-induced strain and dislocation effects 9-42084

dislocation jog motion *see* **dislocation jogs****dislocation jogs**

- Al, creep and rupture, 77 to 273K (*Russian*) 9-43386
- Al, creep and rupture, in torsion, mech. (*Russian*) 9-5030
- α -Fe, creep and fracture, jogged screw dislocations, thermally activated motion 9-7649

dislocation locking*see also* **Cottrell atmospheres**

No entries

dislocation loops*see also* **vacancy condensation loops**

- dechanneling by dislocation loop, energy depend. 9-42127
- dechanneling due to dislocation loops 9-19299
- dislocation motion, thermal activation through random point obstacles 9-1434
- elastic fields near stress-free surface, loop-point defect interaction 9-4301
- elastically nonlinear medium, self action force of dislocation loops (*Russian*) 9-27979
- grain boundary sliding, containing particles, during diffusional creep, dislocation bowing 9-37712
- interstitial loop finite, modelling of growth under irradi. 9-23607
- metals, point defect and microstruct. behaviour during irradi., appl. to fusion reactors 9-23638
- nucleation of defect clusters in crystalline solids 9-42051
- Pierls model, dislocation core energies 9-27984
- n-Si:B, ion implanted, rapid identification of faulted loops 9-19254
- slip system, self-energy effects on choice 9-27982
- smectic A-nematic transition, breakup of order by smectic dislocation loops, defect model 9-14916
- sound emission, pile-up formation by Frank-Read source, emission of sound 9-37705
- stacking fault, antiphase boundary energies, investig. methods, review, appls. to FCC metals (*French*) 9-42080
- steel, austenitic stainless, type 800, tensile creep props. rel. to intergranular microstruct. at 800°C, TEM study 9-38885
- steel, stainless, solution treated, irradiated to low doses with 22 MeV C^{2+} and 46.5 MeV Ni^{8+} ions, interstitial loops 9-14855
- steel, stainless, type 304L, neutron irradi., rel. to ferrite formation 9-42112
- TEM image black-white contrast figure vector 9-7609
- thin plate, behaviour of circular prismatic dislocation loops, using linear theory of elasticity (*Japanese*) 9-4302
- Udimet 520, γ' distribution in slip plane, dislocation loop form. during creep (*Japanese*) 9-42075
- Zircaloy-2, interstitial/vacancy nature of neutron induced dislocation loops, TEM study 9-42110
- Al alloy D16, supersaturated solid soln., decomp. process, electron microscope obs. and acoustic anal. (*Russian*) 9-15650
- Al-Mg 0.1 at.%, neutron-irradiated, dislocation loop characterisation by TEM 9-23614
- Cd, single cryst., Burgers vector determ. of perfect dislocations obs. by X-ray topography 9-37711
- CdI₂, polytypes, defect struct., electron microscopy 9-14809
- EuS, defect struct., etch pitting and electron microscopic obs. 9-27989
- α -Fe, dislocation loops, equilib. shape under shear stress 9-7608
- α -Fe, neutron irradiated, low temp. mag. relax. 9-8022
- Fe-Cu (0.34 wt.%), neutron irradiated, field-ion microscope detection of ultra-fine defects 9-42116
- Fe-N, neutron irradi. effects on mech. props. 9-4338
- Ga_{1-x}Al_xAs LPE crystals for DH laser, LEDs, TEM obs. of Ge, Si-doped epitaxial layers 9-1556
- GaAs, point defect generation by electron-hole recombination at dislocations 9-37699
- GaAs:Te, preferential precipitation on dislocation loops 9-7612
- Mg, neutron irradi. damage, TEM obs. 9-46713
- MgO, defect aggregation and thermal-electric breakdown, TEM obs. 9-42069
- Mo, 29 MeV α -particle irradi. in He, micropore and dislocation loops form. 9-14859
- Mo, neutron irradiated, small angle X-ray scatt. and TEM study of voids 9-14849
- Mo, temp. depend. at crack tip, of fractured single cryst. 9-29210
- NaCl cleaved surface structure, electron microscope 9-7735
- NaCl whiskers, X-irrad., stress oriented dislocation loop nucleation 9-33213
- Nb, neutron irradiated, TEM obs. of interstitial clusters 9-19288
- Ni-Al alloys, effects of electron irradiation in precipitation, nucleation and dislocation loop growth, TEM study 9-42106
- Si, critical resolved shear stress, 800 to 1050°C indentation dislocation rosettes 9-24577
- Si, electron-hole droplets nucleation at swirl defects 9-15095
- Si, X-ray channeling technique anomalous transmission, appl. to microdefects induced by heat treatment 9-19124
- Si:As, ion-implanted, dislocation loops and etch pits, X-ray diffr. and TEM obs. 9-42068
- Si:Ni, low temp. annealing effect on behaviour of Ni 9-10862
- Si:O, annealed, minority carrier lifetime 9-23985
- n-Si:P, secondary defects produced by high-temp. electron irradi. 9-33017
- Ti-Al (14.4 at.%), void form. and solute segregation under Ni ion irradiation 9-42122
- UO₂, neutron and electron irradiated, imperfect dislocation loops (*French*) 9-7606
- Zn, single cryst., Burgers vector determ. of perfect dislocations obs. by X-ray topography 9-37711
- ZnSe, electron irradi., dislocation climb, TEM obs. 9-1461

dislocation motion*for* **dislocation relaxation** *see* **dislocation damping***see also* **dislocation climb**; **slip**

- alkali halide conc. solid solns., hardening theory, dislocations, stress effects 9-32994
- alloy, ordered, with Li₂ superstructure, plastic deform. with mobile and immobile dislocations, phenomenological theory 9-7602
- α -brass, acoustic harmonic generation by long-range dislocation motion 9-42150
- coherent, stress-free, ordered particles, dislocation interactions 9-27988
- continuous distributed dislocations, transport eqns. (*Russian*) 9-32997
- core struct., dislocation mobility by electron microscopy, review (*French*) 9-42071
- defect dynamics, closure of governing eqns., plastic state theory 9-37702
- density of mobile dislocations 9-7604
- edge dislocation, displacement field, in elastic strip, Fourier transform technique 9-46658
- edge dislocation thermally activated motion, appl. to KCl-KBr solid soln. computer simulation 9-19249
- elastically nonlinear medium, dislocation interactions (*Russian*) 9-42064
- electron microscopy, conf., Nancy, France (May 1978) (*French*) 9-41915
- ferromagnet, dynamic slowing down of dislocations near Curie point (*Russian*) 9-8036
- gauge transformations admitted by the equations of defect dynamics 9-27981
- Incoloy 800, review of mech. props. up to 600°C 9-43368
- incubation period following stress reduction during creep 9-7603
- isotropic polycrystalline plasticity, dislocation theory 9-14875
- metal, annealing, struct. and grain boundary mobility 9-47728
- metal, thermo-inertial mechanism of plasticity enhancements normal to superconducting transition (*Russian*) 9-47183
- metals, BCC and FCC, dislocation dynamics method appl. to plastic flow 9-47745
- mobile dislocation density determ. from sound velocity 9-19258
- normal metals and superconductors, effect of conduction electrons on dislocation mobility 9-7932
- plastic deformation instability, effects of physical parameters 9-47758
- semiconductors, II-VI cpds., dislocation motion obs. by SEM in cathodolum. (*Japanese*) 9-46666
- solid soln., ductility, comp. effect (*Japanese*) 9-43334
- solid soln., flow stress, temp. plateau 9-14877
- solid solution, influence of diffusion on dislocation motion 9-27983
- solid solution hardening, dynamic simulation 9-11635
- static flow stress, decrease, by superimposition of ultrasonics 9-7652
- steel, Cr-Mo, annealed, interaction solid soln. hardening, precipitation effects on creep 9-4974
- steel, low C, effective stress determ. during the loading cycle 9-38879
- steel, stainless, 316, creep and rupture, 525 to 900°C, creep rate 9-11678
- steel, stainless 304, deformation twins contribution to yield stress, Hall-Petch law for inter-twin spacing 9-24588
- thermal activation through random point obstacles 9-1434
- Udimet 520, γ' distribution in slip plane, dislocation loop form. during creep (*Japanese*) 9-42075
- Al, dislocation velocity, from amplitude-dependent internal friction 9-11653
- Al, mobile dislocation density determ. from sound velocity 9-19258
- Al-Ag, thin-layered laminates, yield strength rel. to dislocation generation and motion 9-20137
- Al-Cu, thin-layered laminates, yield strength rel. to dislocation generation and motion 9-20137
- α -brass, serrated yielding, tensile tests and TEM obs. 9-34110
- α -brass, solid soln., ductility, comp. effect (*Japanese*) 9-43334
- C, heat-treatment and neutron irradi. effects on US atten. and Young's modulus 9-11644
- CaO-MgO, doloma, composition effect on creep, impurity effects 9-43318
- Cu, dislocation mechanism of luminescence during fracture 9-24376
- α -Fe, crack initiation study at low-cycle fatigue using slip bands (*Slovak*) 9-38949
- α -Fe, creep and fracture between 77 and 673K 9-7649
- Fe, deformation, influence of crystallographic lattice type (*Russian*) 9-34106
- Ga_{1-x}Al_xAs_{1-y}P_yGaAs heterojunctions, light-induced misfit dislocation motion, photoluminesc. and X-ray diffr. meas. 9-11200
- GaAs:Si, single crystals, asymmetric deform., dislocation vel., mobilities 9-23616
- ³He, BCC, plastic flow 9-46880
- III-V semiconductors (*Japanese*) 9-42074
- InGaP-GaAs junction, effect of elastic strain on energy band gap and lattice parameters 9-24057
- KBr:Li(Na), low temp. radiation hardening mechanism, single halogen interstitials as hardening agent, Ha annealing 9-23634
- KCl-KBr solid solution, thermally activated edge dislocation motion, computer simulation 9-19249
- LiF, viscous drag of dislocations exam., using mobility of individual dislocations 9-14814
- MgO, dislocation motion 9-4309
- NaCl:Sr deformation control by thermally activated processes 195 to 300K 9-24570
- NbC_{0.98} single crystals, rel. to creep, 1800-2700°C (*Russian*) 9-5005
- Ni, creep, single crystals, 1.5-50K, orientation effects (*Russian*) 9-15757
- Ni, deformation twins contribution to yield stress, Hall-Petch law for inter-twin spacing 9-24588
- Si, dislocation dynamics in plastic deform., theoretical anal. 9-42077
- Ti, acoustic harmonic generation by long-range dislocation motion 9-42150
- YIG, single cryst., high temp. dislocation mobility 9-19255
- Zn, dislocation mobility under action of current pulses, selective etching meas. 9-19259
- ZnSe, dislocation motion, influence on elec. cond. 9-15149

dislocation motion, nonconservative *see* **dislocation climb****dislocation motion hindrance** *see* **dislocation drag****dislocation multiplication**

- metal, dislocation dynamics study by current noise measurements 9-14813
- Fe, pure, strain ageing and fatigue (*Japanese*) 9-20161
- GaAs:Si, single crystals, asymmetric deform., Gilman Johnston model appl. 9-23616
- Ge-GaAs inter faces, heteroepitaxial, misfit dislocations, TEM obs. 9-23610

isolation multiplication continued

- Si, dislocation dynamics during plastic deform., stress-strain characts. 9-27996
 Te, deformed and annealed cryst., elec. props., directional depend. 9-7847
 Zn, dislocation mobility under action of current pulses, selective etching meas. 9-19259

isolation nucleation

- brass, two-phase α/β bicrystal, diffusion induced twins in α -phase 9-46967
 gliding dislocations, flexible, model of passage through plane dislocation accumulations 9-42066
 III-V semiconductor, epitaxial layers, dislocations nature, origin and effects 9-28232
 steel, austenitic stainless, V alloyed, creep inhibition at grain boundaries, dislocation struct., TEM study 9-43346
 Ag epitaxial film, twin boundaries of recrystn. type, electron microscope obs. (*Russian*) 9-4484
 Al-Ag, thin-layered laminates, yield strength rel. to dislocation generation and motion 9-20137
 Al-Cu, thin-layered laminates, yield strength rel. to dislocation generation and motion 9-20137
 NaCl whiskers, X-irrad., stress oriented dislocation loop nucleation 9-33213
 Si, dislocation generation, influence of film stress and thermal oxidation 9-23609

isolation pile-ups

- formation, by Frank-Read source, emission of sound 9-37705
 hydrostatically compressed crystals, crack nucleation mechanism 9-10893
 isotropic limit in anisotropic dislocation theory, Green's functions 9-46656
 plane, elastic displacements, electron microscope contrast 9-27986
 void initiation in random distrib. of spherical particles 9-46650
 Ni₃Al, noncoherent second phase particle effect on strain-hardening parameters (*Russian*) 9-47703

isolation pinning

- see also dislocation damping*
 steel, maraging, Cr-Ni-Ti, effect of Ti addition on hardness and energy scatt. 9-15687
 Al, positron annihilation momentum spectra, specific trapping rate of dislocations 9-19948
 Al-transition metal alloys, anomalous sp. ht. and nuclear spin-lattice relax. 9-46814
 Cu, ultrasonic velocity response to stepwise change of stress (*Japanese*) 9-38905
 Pb, US oscillations and dislocation unpinning in supercond. and normal states (*Russian*) 9-11648

isolation relaxation *see dislocation damping***isolation scattering**

- used for carrier scattering by dislocations*
 electron slowing down of dislocations in the ultraquantum limit (*Russian*) 9-4545
 semiconductor and semimetallic thin films, dislocation superstructures and conduction electron kinetics (*Russian*) 9-19678
 simple metals, mech. for transverse linear magnetoresist. 9-23949
 p-InSb, influence of plastic bending on galvanomagn. props. 9-28349
 n-Si, plastically deformed, donor action of dislocations, elec. props. 9-11126
 ZnSe, dislocation motion, influence on elec. cond. 9-15149

isolation sources

- see also Frank-Read sources*
 surface, calc. of critical phases and stresses 9-46659
 Al-CuAl₂ lamellar composite, creep, microstruct. obs. 9-8331
 Cu high purity, grain boundaries as dislocation sources in premacroyield strain region 9-34096
 Cu, polycrystalline, friction stress meas. during high temp. creep 9-1898

isolation structure

- alloys, L₁₂-type superstruct., anomalous temp. depend. of deform. characts. (*Russian*) 9-20109
 Bormann topograms, diff. effects obs. during X-ray transmission through a cryst. with dislocations in slip planes 9-4310
 core, thickness periodicity of atomic-resolution images 9-27995
 creep, dislocation struct. and stress/strain relations, thermodynamic theory (*Russian*) 9-43319
 dissociated dislocations, weak-beam technique, appl. to quartz, Al₂MgO₄ (*French*) 9-42070
 elastically-anisotropic cubic crystals, image contrast of inclined dislocations, electron microscopy 9-27991
 electron microscopy, conf., Nancy, France (May 1978) (*French*) 9-41915
 epitaxial islands, equilibrium struct., one-dimens. model 9-15035
 geometry, electron microscopy (*French*) 9-42072
 III-V compounds, lattice constant determ. of epitaxial layers and effect of misfit dislocations 9-19479
 irradiation creep due to stress induced preferred absorption of point defects, anisotropic dislocation struct. effects 9-42140
 metal, FCC and BCC, high temp. creep, influence of dislocation splitting width (*Russian*) 9-5004
 mobility, core struct. by electron microscopy (*French*) 9-42071
 solid-solid interface, chemistry and physics, book contrib. 9-1551
 steel, austenitic stainless, type 800, tensile creep props., coherent twin boundaries, TEM obs. 9-38885
 steel, austenitic stainless, V alloyed, creep inhibition at grain boundaries, dislocation struct., TEM study 9-43346
 steel, low C, weldable, precipitation hardening rel. to low cycle fatigue (*Czech*) 9-15686
 steel, quenched, exam. of phenomena taking place during tempering by positron annihilation (*Russian*) 9-24543
 steel, stainless, dislocation structure, of $\Sigma=9$ related coincidence boundary 9-27994
 steel, stainless, Kh25T, impact strength and substructure produced by deform. during cold rolling (*Russian*) 9-24535
 Zircaloy-4-O alloys, rapidly heated and quenched, transform. charact. 9-20041
 Ag, deformed at room temp., glide on {001} planes, TEM obs. 9-19257
 Ag, rolled, dislocation struct. and recovery during annealing (*Russian*) 9-29084
 Al alloy, two phase, strength contribution of particles and dislocations (*German*) 9-29080
 Al binary alloys, exam. of dislocation structure, using diffraction electron microscopy (*Russian*) 9-10857

dislocation structure continued

- Al, creep and rupture, in torsion, mech. (*Russian*) 9-5030
 Al-Zn-Mg alloy, thermomech. treatment, precipitation and strengthening 9-24527
 Al₂Be₃(Si₂O₁₈), beryl single crystals, dislocations obs., X-ray topography (*French*) 9-37709
 Al₂Be₄(Si₂O₁₈), beryl single crystals, growth defects study using X-ray topography (*French*) 9-37710
 α -Al₂O₃, radiation damage in HVEM, at high temp. and high dose 9-46707
 BaTiO₃, single crystals, electron microscope study of domain and defect structs. 9-15425
 Bi-Sb, bicrystal rearrangement of grid of nonconformity dislocations on (111) interface during heating 9-28215
 Cd-Zn single crystal, plasticity, 4 to 50K 9-43362
 CdI₂ polytypes, defect struct., electron microscopy 9-14809
 CdTe, single crystals, plastic deformation and dislocation struct. 9-8321
 Co-transition metal, transition metal additives influence on struct., specific resistance, microhardness, mech. props., magnetic props. 9-29078
 Cu, deformed at room temp., glide on {001} planes, TEM obs. 9-19257
 Cu, dislocation structure, around tips of propagating fatigue cracks 9-29211
 Cu, polycrystalline, friction stress meas. during high temp. creep 9-1898
 Cu, rolled, dislocation struct. and recovery during annealing (*Russian*) 9-29084
 Cu, tension deformed single crystal, dynamic recrystallisation 9-47716
 Cu-Cd (0.03 at%), single cryst., deformed, dislocation arrangement 9-10856
 Fe, single crystals, effect of hydrostatic pressure on plastic flow props., dislocation distrib. 9-38887
 Fe whiskers, cryst. morphology and dislocation struct. study using optical and SEM, X-ray diff. topography 9-23876
 Fe-Ni, alloy 20N24, martensitic, exam. of structure after laser treatment, and recrystallisation (*Russian*) 9-11608
 Ga_{1-x}Al_xAs LPE crystals for DH laser, LEDs, TEM obs. of Ge, Si-doped epitaxial layers 9-1556
 Ga_{1-x}Al_xAs-GaAs, injection lasers, defects, TEM anal. 9-23866
 GaAs, dissociation of dislocations 9-46665
 GaAs-GaAsSb_{1-x}, heteroepitaxial structs., mismatch dislocation nets 9-10855
 GaAs_{1-x}P_x, heteroepitaxial solid soln., defects of struct 9-28223
 GaAsSb_{1-x}GaAs epitaxial films and multilayer heterostruct., SEM obs. under cathodolum. conditions 9-11023
 GaInAsP-InP DH layers, lattice deform. and misfit dislocations 9-19473
 GaP single crystal, direct obs. of dislocations by birefringence 9-14810
 III-V semiconductors (*Japanese*) 9-42074
 MgO single crystal, dislocation struct. of slip lines, TEM 9-27990
 Mo, atomic structure of grain boundaries 9-33003
 Mo, cellular structure, initial stages of formation in rolled single crystals 9-23611
 Mo cold worked, dislocation struct. change during postdeform. at 493K 9-43271
 Mo, mag. field effect on mech. props. and dislocation struct. (*Russian*) 9-42818
 Mo, temp. depend. at crack tip, of fractured single cryst. 9-29210
 Mo-Re alloy MR47-VP, dislocation struct. and fatigue damage during room temp. deform. (*Russian*) 9-20111
 Mo-Zr-C (0.63, 0.06 wt.%), quenched and deformed, structural changes during heating to ageing temp. (*Russian*) 9-1879
 Nb, mag. field effect on mech. props. and dislocation struct. (*Russian*) 9-42818
 Nb, plastically deformed single crystal, low temp. thermal cond. 9-28336
 Nb-Zr-C alloy, long term loading at high temps. effect on struct. and morphology of carbide phase 9-15754
 Ni, deformed at room temp., glide on {001} planes, TEM obs. 9-19257
 Ni, rolled, dislocation struct. and recovery during annealing (*Russian*) 9-29084
 Ni-Al-Cr, strain hardening, participation of various slip systems (*Russian*) 9-24536
 Ni-Fe(Co) alloys, fatigued, struct. and cyclic stress strain, influence of stacking fault energy and atomic size-module-interactions (*German*) 9-42082
 Ni₃Ga, with L₁₂ struct., dissociated struct. of superlattice dislocations 9-37706
 NiO, single crystals, TEM of dislocations 9-4306
 PbS, epitaxial layer, structural nonuniformities and dislocation struct. 9-23852
 Sb₂S₃, film, defect struct., electron microscope mode 9-28224
 Si film, polycryst., substruct. 9-23848
 Si:Ne(Ar)(Kr), ion implantation damage, annealing, comparative study 9-10867
 Si-Ge heteroepitaxial system, imperfections and morphology, electron microscope and electron diff. obs. 9-42420
 SiC-B eutectic alloys, struct. of crystallising graphite 9-38829
 Ti-M-V-Cr-Mo, RMI 38644, shock loaded, age hardening 9-29112
 Ti-transition metal, transition metal additive effect on struct., specific resistance, microhardness, mech. props. 9-29078
 W-Th, atomic structure of grain boundaries 9-33003
 Zn, isothermal annealing effect at 400-410°C, on dislocation struct. in monocystals (*Russian*) 9-20082
 ZnTe:Cu, voltage depend. on precip. contrast 9-1433

dislocation translation *see slip***dislocations**

- For pipe diffusion, see diffusion in solids. See also dislocation see also Bordoni effect; Cottrell atmospheres; disclinations; edge dislocations; grain boundaries; screw dislocations*
 adsorbed monolayers, dislocation geometry 9-23604
 amorphous structure model (*Japanese*) 9-42065
 α - β brass, interface struct. of two-phase bicrystals, made by solid state diffusion couple method, X-ray Laue and TEM study 9-28214
 computer simulation, of dislocations, methods in X-ray topography 9-23484
 corundum, packing errors in structure, X-ray diff. obs., charact. features 9-46655
 creep, dislocation, diffusion controlled 9-46745
 creep, dislocations, diffusion controlled 9-46744
 crystals and dislocations, spontaneous breakdown of spatial translation invariance (*German*) 9-7653
 diamond cathodoluminesc. at dislocations 9-47524
 discrete models (*Polish*) 9-14808

dislocations continued

- elastic half-space, dislocations and extended sources 9-35562
 elastic interaction with disclinations and dispiration elastic energy 9-19248
 gauge invariance in field theory formulation 9-27980
 gauge transformations admitted by the equations of defect dynamics 9-27981
 grain boundaries, energy and fine struct., surface dislocation model 9-28002
 grain boundary unified theory, dislocation content 9-7616
 kinetics of continuously distributed dislocations in SCF approx. (*Russian*) 9-14806
 liquid crystal, lyotropic, parabolic focal conic struct., disclination/dislocation relation 9-27909
 melting in two dimensions, Kosterlitz-Thouless dislocation model 9-7677
 metals, FCC, slip dislocation reactions at coherent twin boundaries, effect on work-hardening 9-1431
 microscopic derivation of theory of extended objects in crystals 9-37704
 quantum field theory of crystals and extended objects, review 9-42164
 quartz, Brazil twins, twinning prod. by successive shears 9-19263
 semiconductor, SEM charge-collection images of dislocations, contrast and resolution 9-46662
 semiconductors, recombination, conference, Southampton, England (Aug-Sept. 1978) 9-38087
 SIPA irradiation creep, material with preferred direction for dislocation Burgers vector, cold worked 9-20118
 spectroscopic techniques, with STEM for electronic props. of defects and impurities in semiconductors 9-14812
 stacking fault energy calc. from diff. pairs, threefold extended nodes (*French*) 9-42081
 steel, austenitic stainless, creep deform. effect on struct. of twin boundaries 9-8332
 steel, low C, 10Kh2G3M, development of plastic deform., slip and dislocation struct. (*Russian*) 9-15722
 thermal vibrations, mean-square displacement, double-time Green function technique 9-19345
 thermomechanical treatment on struct. and props. 9-29109
 transition metal, d-series, distance separating dislocation, determ. by positron-electron annihilation method 9-14811
 void swelling, effect of recombination of sink strengths in rate theory 9-14851
 X-ray, and neutron small-angle scattering, structural defect studies, review 9-10752
 X-ray projection topograph, residual contrast of dislocation, depend-on sign of Burgers vector 9-14638
 X-ray reflections, broadening, from cryst. containing excess of dislocation walls of same sign (*Russian*) 9-7509
 X-ray topography, contrib. of diff. to the contrast of dislocations 9-23485
 Al alloy D16, supersaturated solid soln., decomp. process, electron microscope obs. and acoustic anal. (*Russian*) 9-15650
 Al-Zn-Mg (3.87, 1.79 wt.%) TEM exam. of early stage precipitation, on dislocation lines 9-4972
 AlGaAs-GaAs lasers, defects and degradation (*Japanese*) 9-31899
 Bi, polycrystn., cold worked, plastic deformation and stored energy, dislocation characts. 9-43348
 Cd, single cryst., Burgers vector determ. of perfect dislocations obs. by X-ray topography 9-37711
 CdCr₂Se₄ film, electron irradiated, struct. 9-15032
 CdS, dislocation effects on radiative recombination processes 9-8186
 n-CdTe, photolum., plastic deform. effects 9-15509
 Cd_{0.9}Zn_{0.1}S-Cu₂S, heterojunction interface double layer, dislocation field, charge compensation 9-7855
 Co-Ni-Cr-C, carbide precipitation 9-29065
 Cr, specific heat of strained and annealed samples 9-38331
 Cu, cementation, characterisation of nucleation and growth from aq. soln., TEM and SEM study 9-28972
 Cu/Ni double layer evaporated film, misfit dislocation effect on strength (*Japanese*) 9-42425
 Cu-In, thermally cycled, effect on mech. props. and microstruct. 9-4987
 α -Cu-Zn(Al) fracture behaviour, effect of deform. temp. and alloying content (*Japanese*) 9-20159
 CuAu, exam. of streaming due to intrinsic fluctuations 9-11602
 Fe(CuNi)Zn alloys, effect of normal stress on {112} {111} slip 9-47760
 Fe-S, defect struct., etch pitting and electron microscopic obs. 9-27989
 Fe, annealed, and deformed, exam. of immobile dislocation distrib. (*Russian*) 9-32995
 Fe-Co(V) alloys, neutron irradiated, influence of dislocation doping on recovery 9-46715
 Fe-Ni-C (24, 0.5 wt.%), struct. of burst and isothermal martensites 9-38825
 Fe-Ni-(Cr)(Ti)(Al) austenite, high N content, cryst. struct. electron diff. and electron microscope anal. (*Russian*) 9-24490
 Fe-Si (3.5 wt.%) plastic deform., slip initiation, X-ray topography study 9-47750
 Ga single crystals, rate equations for dislocation-free and dislocation-assisted growth 9-4262
 GaAs, electronic states associated with 60° dislocations, tight-binding calc. 9-15114
 GaAs, highly deformed samples, absence of dislocation-induced luminescence 9-4835
 GaAs:Te, microcathodoluminesc. of effect of struct. defects on radiative recomb. 9-11475
 GaP, epitaxial layers, dislocation recomb., SEM cathodoluminescence studies 9-42558
 Ge, electron states below cond. band originating from dissociated 60° dislocations, calc. using effective mass method 9-19546
 Ge epitaxial film, misfit dislocations, determination of Burgers vector (*Russian*) 9-33207
 Ge, recombination at dislocations 9-38023
 Ge-GaAs inter faces, heteroepitaxial, misfit dislocations, TEM obs. 9-23610
 (Hf,Zr_{1-x})₉₀Nb₂₀, β -decomposition, effect of Hf additions 9-8304
 In, dislocation obs. by X-ray topography (*French*) 9-46661
 LiF, charged dislocations, comprehensive deform. effects on charge, elec. field 9-14815
 MgO, cathodoluminesc. at dislocations 9-47524
 Mo, localised electronic states near dislocations 9-33257
 NH₄ClO₄, photothermochemical process, influence of phase transition 9-24770

dislocations continued

- NaCl, single cryst. in vac., influence of dislocations on evaporation 9-10935
 Na₂CoGeO₄ hydrothermal single crystals, X-ray topographic study of growth defects rel. to growth conds. 9-19166
 Nb, bicrystal, parrelastic interaction between grain boundary dislocations and flux line lattice 9-24114
 Ni, electrodeposit, linear defect obs., TEM study 9-4304
 Ni electrodeposits on (001)Cu films, growth and mag. anisotropy 9-42810
 PLZT, fine grained 90° electric domain wall movement, interpretation of dielectric losses (*German*) 9-33646
 Pb, dislocation inertial effects, internal-friction meas. on normal and superconducting states 9-38883
 Pb-Sn, dil., dislocation inertial effects, internal-friction meas. on normal and superconducting states 9-38883
 Si, deformed, defect states associated with dislocations, capacitance transient spectroscopy 9-42483
 Si, dislocations, stacking faults, swirl defects, production and mechanisms (*Chinese*) 9-46684
 Si, heat treated, spin-depend. recomb. at dislocations 9-47122
 Si, photoelectret effect, plastic strain induced dislocation relax. time enhancement (*Russian*) 9-15397
 Si, recombination at dislocations 9-38023
 Si wafers, Czochralski grown, crystal defects, photoluminesc. topographic obs. 9-1432
 Si:In, p-n junction, spin-dependent recomb. at dislocations, revealed at reverse current 9-24062
 SmCo₅, single cryst., grown-in dislocations and stacking faults, TEM investigation 9-19253
 Sn, diamag. moment meas., dislocation supercond. above crit. temp. (*Russian*) 9-4619
 V, zone-refined, deform. behaviour, stress relax. and slip plane patterns 9-29163
 Zn, single crystals, Burgers vector determ. of perfect dislocations obs. by X-ray topography 9-37711
 ZnS, polymorphic transition, (β - α) effect of mech. deformation 9-1858
 ZrC-TaC solid solns., high-temp. creep 9-11661

disordered systems, vibrational states *see* vibrational states in disordered systems

disperse systems

- see also aerosols; Brownian motion; colloids; dust; emulsions; foams; fog; gels; powders; smoke; sols; suspensions*
 asymmetric skinned synthetic polymeric membranes struct. 9-29417
 bimodal systems, particle size distrib. meas., forward scatt. techniques 9-21699
 binary liquid mixtures, dispersion interactions, struct. effects 9-46535
 biporous media, influence of double layer on dynamics of ion adsorption 9-11827
 brightening of disperse media, role of laser fluctuations 9-41405
 butadiene-styrene block copolymer, viscoelastic props. 9-8336
 coagulation theory, new aspects (*Russian*) 9-8453
 colliding gas-slurry jets, dispersed material motion, numerical anal. (*Russian*) 9-32653
 DNA, calf thymus, flexible polyelectrolyte, elec. birefr. meas. 9-16126
 droplet, EHD produced, specific charge and size 9-32696
 droplets, kinetics of processes controlled by diffusion 9-11828
 electrochemical reaction kinetics, in presence of surface-active substances, eqn. selection 9-34322
 floc, settling velocity, rel. to permeability 9-43636
 gas bubble boundary surfaces in turbulent liq. flow, equivalence of photographic, chem. determs. (*German*) 9-32630
 glass, particle size influence on force moving particle in inhomogeneous elec. field, influence of field frequency 9-11795
 glycerine-water mixture, boundary surface velocity of rising air bubbles (*German*) 9-32631
 heat transfer between a dispersed system and a vertical heating or cooling surface 9-1069
 heterosteric stabilization and selective flocculation 9-24836
 inverse scattering in Rayleigh-Debye approx., diameter distrib. for thin circular discs 9-24840
 inverse scattering in Rayleigh-Debye approx., length distrib. for thin cylinders 9-24839
 laser scattering, log-normal size distrib. 9-6079
 light scattering, polydisperse system of coarse spherical particles 9-3633
 lipid bilayer, of dipalmitoyl-lecithin, NMR dispersion of layers dispersed in D₂O 9-48223
 material particles movement, differential equation, numerical solution (*Croatian*) 9-25983
 particle analysis, using laser-Raman microprobe 9-43696
 particle size determ. using conductometric method 9-35664
 particulate systems, dynamic eqn., numerical soln., finite element anal. 9-5185
 phase boundaries and multiphase systems, conf., Tokyo, Japan (Sept. 1977) 9-29415
 planar particle aggregates, sampling by quadrats 9-17485
 polydispersion, moments determ. of size distrib. function in scatt. 9-18347
 polyethylene, mol. wt. averages determ. by temp. drop turbidimetry 9-39207
 polymer lattices, particle size control 9-38785
 polystyrene latex, particle size determ. by electron microscopy 9-21698
 propag. in bodies with initial strains (*Ukrainian*) 9-30258
 pseudospectral dispersion model, inter grid sources representation 9-12259
 soluble matter initial dispersion in three-dimensional flow 9-37387
 sprays, blast wave propag. 9-34367
 structuring dispersions, dynamic dielectric behaviour, meas. device 9-12816
 structuring dispersions, dynamic dielectric behaviour, reply to comments 9-35785
 thermodynamic theory of nucleation on charged particles 9-39216
 warm fog and steam clouds, emission spectra variations, evidence for clusters in vapour phase 9-39849
 NaCl, with dispersed Au particles, age hardening of surface, double decoration obs. 9-11634
 SiO₂, nonaqueous dispersions stabilised by terminally-grafted polystyrene chains 9-39219
 TiO₂-SiO₂, submicron dispersion of impurity, chem. diffusivity and elec. cond. 9-1528

- dispersion (wave)**
see also acoustic dispersion; optical dispersion
 Bleustein-Gulyaev waves, propag. and amplification in materials with strain depend. dielec. const. 9-41469
 EM wave propagation in inhomogeneous media, strong and weak inhomogeneities 9-31774
 gravitationally unstable propagation, rot. and streaming effects 9-37293
 gravity-acoustic waves, self-localisation, non-linear effect in non-uniform atmosphere 9-8761
 hydromagnetic surface waves, dispersion relations, spatial extent and gas compression 9-25462
 magnetosonic waves in solar wind due to alpha particle beams, EM dispersion relation 9-35089
 mesosphere internal gravity waves, dispersion relation and propag. range (Russian) 9-16575
 nonlinear interaction between strongly dispersive wave and weakly dispersive one 9-17242
 plasma, lower hybrid waves in inhomogeneous mag. fields, propag. and mode conversion 9-37489
 plasma, moving, covariant dispersion eqns. 9-37538
 plasma, parametric excitation of backward ion cyclotron wave with a pump in the lower hybrid range 9-37490
 plasma, stimulated Raman backscattering of circ. polarised EM waves 9-37465
 seismic surface wave dispersion, resolving power of data simultaneous inversion 9-16699
 seismic surface waves dispersion curves, partial derivatives calc. (Russian) 9-34764
 seismic waves higher mode dispersion, meas. technique 9-39974
 whistlers observed at Sofia during decreasing solar activity period, dispersion characts. 9-8779
 YIG film waveguide, with periodic mag. struct., dispersion characts. anal. (Japanese) 9-42809
- dispersion hardening**
see also precipitation hardening
 alloy, dispersion hardened, particle size effect on fracture 9-43418
 bronze casting, graphite dispersed, graphite particle size effect on wear (Japanese) 9-15804
 earth reentry exposure, simulated, effect on mech. props., oxidation of TiO_2 dispersion hardened alloys 9-5086
 ferromagnets, hardening by non-mag. inclusions, meas. of coercivity 9-38841
 Nimonic PE 16, γ' particle dispersion rel. to yield stress 9-29153
 particle dispersed composite, fatigue life anal., reliability concept (Japanese) 9-29200
 steel, austenitic, metastable, hardening by cycling of martensitic transform. during rapid heating, in 30N24M4 and 50N21M3 (Russian) 9-20074
 steel, dispersion strengthened with Al_2O_3 or ZrO_2 , by spray method into molten stream, exam. of mech. props. 9-11636
 steel, ferritic, MA 956, oxide dispersion strengthened, mech. props. and damping behaviour 9-47702
 steel, heat resisting, type 15Kh1M1F, exam. of structural stability and props. (Russian) 9-29104
 steel, hypoeutectoid, C22, recrystn., influence of carbides distrib., mech. props. meas. (German) 9-38850
 steel, Ni-Mn-Al-V, nonmagnetic, ageing, dispersion hardening, microstruct., phase comp., mech. props. (Russian) 9-34046
 steel, stainless, Cr-Ni (20, 25 wt.%), TiN dispersion effect on oxidation 9-20279
 steel, tool, maraging, based on N12M10, exam. of hardening, crack resistance and wear (Russian) 9-34047
 Ag-MgO, dispersion hardened, exam. of ductile fracture 9-34144
 Al alloy, two phase, strength contribution of particles and dislocations (German) 9-29080
 Al-Si (1.2 and 0.6 wt.%), single crystal, dispersion hardened with SiC, Bauschinger effect and work hardening 9-43360
 Al_2O_3 -TiC system, elastic and fracture charact. at elev. temp. (German) 9-43299
 Au-Cu alloy, internal oxidation, calorimetric meas. 9-43258
 Au-Mg alloy, internal oxidation, calorimetric meas. 9-43258
 Co-Cr-Ta(Al) alloy, high temperature wear resistant coatings, CrO_2 hardened 9-24677
 Cr-La-V-Nb-Ta, La, V, Nb Ta effect on hardness and strength (Russian) 9-34050
 Cr-V-Ce-N, (2.4 to 2.6, 1.7 to 2.3, 0.005 to 0.23 wt.%) V effect on hardness, and ductile to brittle transition temp. (Russian) 9-34138
 CsI:Na $^+$ (K $^+$), (Cu $^{2+}$), (Ti $^{3+}$), (Eu $^{3+}$), crystals, influence of impurities on yield stress 9-15748
 Cu- Al_2O_3 coatings, electrodeposited, dispersion hardened, exam. of props. 9-34181
 Cu- Al_2O_3 composite coating, electrodeposited, exam. of particle-cathode adhesion during formation 9-33954
 Cu- Al_2O_3 electrodeposits, dispersion hardened, props. 9-28258
 Cu- Al_2O_3 (SiO $_2$) dispersion hardening single crystal, cyclic deform. (French) 9-1893
 Cu-Cu $_2$ O crystallisation from melt, influence of crystn. conditions on struct. (Russian) 9-38814
 Fe-Cr, high temp. oxidation, internal stable nitride and oxide dispersion 9-39017
 Fe-Ni-Cr-Ti-Al Elinvar alloys, dispersion-hardened, structural transform. (Russian) 9-1872
 KCl:Ba(Ca)(Sr), microstruct. and hardness, impurity distrib. effects 9-24529
 Mg-Ga (6 wt.%), precipitation, lattice const., ageing effects (Chinese) 9-43279
 MgO-ZrO $_2$, dispersion hardened, fracture strength and texture, rel. to temp. (German) 9-43378
 Mo-Nb-Ti-N, dispersion hardened with strong interface, fracture mechanism 9-5058
 Mo-W-Mo (4.74, 2.17 wt.%), creep resistance in ultrahigh vacuum 9-5027
 Nb-Zr-C alloy, strengthening phase, particle distrib. anal. (Russian) 9-15685
 Ni alloy Ehl867, effect of structural state on fatigue and heat resistance (Russian) 9-34140
 Ni- Al_2O_3 , composite coating, electrodeposited, exam. of particle-cathode adhesion during formation 9-33954
 Ni-SiC(WC), dispersion hardened coating, chemically deposited using electroless baths, exam. of protection props. 9-34208
- dispersion hardening continued**
 Ni-SiO $_2$ composite film, influence of hardening phase on yield stress (Russian) 9-5001
 Ni-ThO $_2$ (2.51 wt.%), dispersion hardened, high temp.-strength, deform. method and annealing effects 9-1882
 Ni-WC, dispersion hardened, centrifugally cast metallurgical coatings for wear resistance in plastics molding machines 9-29285
 Ti- Al_2O_3 system mixed films, prep., phase comp., struct. and elec. props. 9-37930
 Ti-Nb-Ta-Ge (40,20,0.8 wt.%) foil, dispersion hardening, TEM and electron diffr. obs. (Russian) 9-1873
 Ti-Y(Er), dispersoid effect on deform. 9-24530
 V-Nb-Ti-N alloy, dispersion hardened, fracture characts. 9-15794
 Zr-Dy dil. alloys, plastically deformed, mech. props. and microstruct. (Russian) 9-20112
- dispersion power, rotatory** *see optical rotation*
- dispersion relations**
see also dispersion (wave); Kramers-Kronig relations; Mandelstam representation; N/D method; phonon dispersion relations; phonons; plasma instability; plasma waves; S-matrix theory
 $\Delta\epsilon_1$ (pp) between 400 and 600 MeV 9-45097
 ϕ^4 Grinzberg Landau Wilson model, dispersion theory and ϵ expansion for $T > T_c$ 9-12753
 amorphous ferromagnets, dispersion rels. and spin-wave spectroscopy (Russian) 9-7983
 analytic bounds on Pomeron trajectory from dispersion inequalities 9-361
 baryon resonances and electromagnetic couplings 9-9384
 charge-density waves, lock-in transition, effect of thermal fluctuations on harmonics 9-19338
 crystal electronic spectrum, EM wave influence, parabolic and spherical dispersion relations 9-33218
 dielectric film, reflectivity, polariton standing-wave struct. as test of boundary conditions for spatial dispersion theories 9-4865
 directional wind wave spectrum meas., role of dispersion reln. 9-20860
 Drell ratio and the existence of a second heavy lepton 9-13048
 drift wave instability, due to nonuniform density gradient in sheared mag. field 9-23415
 electron gas, multipole surface plasmons, bulk-selvedge coupling theory 9-28394
 Erdogan-Chatwin nonlinear diffusion eqn., asymptotic solns., pipe flow solute dispersion 9-32673
 galaxy disc, Lin-Shu dispersion relation appl. to axisymmetric disturbances 9-21410
 generalised optical theorem and dispersion reln. for 3 \rightarrow 3 forward amplitude 9-22079
 multichannel partial-wave dispersion relations, coincident thresholds, pole approx. 9-9293
 proton Compton scattering, dispersion relation anal. 9-36084
 scattering amplitude zeros 9-21983
 skin impedance parameter dispersion and correlation 9-29518
 surface plasmon dispersion relation in presence of spatial dispersion 9-42612
 three gluon exchange contribution to forward high energy scattering 9-26310
 transition metal spectral emissivity variation with temp. (Japanese) 9-1517
 ultrashort laser pulses, interaction with condensed matter (German) 9-27335
 d, charge form factor falloff at large q^2 in dispersion approach (Russian) 9-3027
 e^+e^- annihilation, charged energy fraction data, Drell ratio and second heavy lepton 9-13097
 f(1514) \rightarrow 2 π , decay amplitudes, OZI rule, dispersion relations, intermediate states contribs. 9-383
 γ p elastic scatt., <450 MeV, dispersive anal. 9-396
 γ p interactions, Thomson limit calc. using rising total cross sections 9-22103
 K form factor and charge radii, isovector part using dispersion relations 9-22096
 Kp total cross-sections, new tabulation suitable for dispersion relations 9-417
 Nd S-wave scatt., dispersion relation approach to three-body systems, unitarity approx. 9-506
 np system, dispersion approach to the inverse scattering problem (Russian) 9-22128
 $\phi(1020)\rightarrow$ 3 π , decay amplitudes, OZI rule, dispersion relations, intermediate states contribs. 9-383
 π dispersion relation in nuclear matter using ν +nucleus reactions 9-488
 π photoproduction on N, multipole $E_{1+}^{(3/2)}$ and its double zero at reson. $\Delta(1232)$ 9-40790
 π N coupling constant determ. using forward dispersion relations 9-45098
 π NN form factors for one off-shell nucleon, dispersion relation calc. 9-9373
 $\pi\pi\rightarrow$ KK amplitude in the unphysical region, hyperbolic dispersion curves 9-9407
 π phase shift analysis, imposed analyticity effects 9-418
 ψ/J hadronic decays, dynamics, SU(3) violation, dispersion relations, mass splitting 9-382
 n-Bi $_{1-x}$ Sb $_x$, determ. carrier dispersion relation parameters 9-38107
- dispersions** *see disperse systems*
- dispersoids** *see disperse systems*
- displacement measurement**
 absolute retardation accurate meas. using holography 9-27201
 coordimeter, two-dimens. for displacement meas. in rock masses 9-35016
 deformation anal. with additional degrees of freedom during reconstruction by holographic interferometry 9-32411
 diffuse surfaces moving with high vel., interferometric method 9-6092
 epoxy resins, strain anal. by fluorese. meas. (French) 9-47846
 extrapolation of strain and stress from holographically measured surface displacement 9-32410
 holographic displacement analysis using image plane technique 9-44901
 holographic interferometry techniques 9-17397
 holographic method displacement field eval., 3 dimensional, exact general theory (German) 9-32409
 holographic technique, double exposure 9-40537
 holographic-moire technique, extension to 3D, to separate patterns corresponding to components of displacement 9-35661
 impulsive displacement, capacitive contactless meas. transducer 9-6111
 induction extensometer, temp. compensated, features 9-17394

displacement measurement continued
 inductive magnetic transducer for ferromag./nonferromag. object displacement meas. 9-6154
 IR probe, for internal interfacial wave motion meas. 9-18981
 laser beams, position-sensitive photodetectors, selection of parameters 9-17490
 laser interferometer, two-frequency, small displacement meas. in LF range 9-30533
 laser interferometer appl. 9-6094
 laser interferometry measurement system 9-6171
 linear and angular microdisplacement instrument (*Japanese*) 9-21728
 linear/angular, automatic method by simultaneous use of primary transducers, computer appl. 9-6084
 magnetic displacement sensor (*Japanese*) 9-12761
 noncontact material testing using laser energy deposition and interferometry 9-34258
 optical methods for determining strain and displacement, book 9-20331
 physiological movements, microwave interferometer appl. 9-25137
 pipe under internal press., lens holographic moiré technique for displacement component determ. 9-44900
 polarisation interferometer, for small dynamic deform. meas. (*Russian*) 9-9205
 potentiometric displacement transducers, standards for specification and tests, book 9-2763
 reflective object displacement and vibration meas. (*Russian*) 9-21695
 speckle interferometry, displacement meas. errors rel. to camera displacements during exposure 9-17479
 speckle pattern interferometer for measurement of displacements and surface tilt, book contrib. 9-20334
 speckle shearing interferometry, fringe parameters 9-220
 three dimensional anal. from image-plane hologram 9-17385
 tuned equipment-structure systems, response spectra design methods 9-3952
 ultrasmall displacements measurement, nonoscillatory and oscillatory motions 9-2748
 vibrating plate like struct., displacement and strain meas. using time average holography 9-46272

dissipative transformations
 see also *martensitic transformations; polymorphic transformations; soft modes*
 alkaline earth feldspars, homogeneous and heterogeneous polymorphic transformations 9-15659
 doped displacive ferroelectrics, sound attenuation constant, Green's function technique 9-11397
 electron spin-lattice relaxation, role of soft phonon modes 9-28590
 ferroelectricity, vibronic theory 9-38492
 ferroelectrics, model, fluctuation effects 9-33063
 ferroelectrics and antiferroelectrics, polaron state of electron near structural instability 9-33245
 incommensurate structural phase transformations, recent neutron scatt. studies, review 9-42205
 kinks in one-dimens. model, statistical mechanical treatment 9-42203
 pinning of virtual domain walls and central peak 9-28074
 soft optical phonon mode, discontinuous freezing-out of local order 9-42204
 TCNQ salt, K-TCNQ, spin-Peierls system, paramag. susceptibility, Heisenberg chains 9-38299
 AlPO_4 , α - β cristobalite phase transition, Raman meas. 9-4799
 K_2ReCl_6 , structural phase transition, soft rotary mode, obs. by triple-axis neutron scatt. 9-1483
 K_2SeO_4 , incommensurate phase transition, stress depend. of T_c 9-4391
 LiND_4SO_4 , ^7Li and ^2D NMR exam. of high-pressure phase 9-11396
 MnAs, relation between displacive and first order ferromagnetic-paramagnetic transition 9-10908
 $\text{Pb}_3(\text{PO}_4)_2$, phase transition at 180°C, dielectric meas. 9-37831
 $\text{Pb}_{1-x}\text{Sn}_x\text{Te}$, effect of interband hybridisation 9-33233
 PbTiO_3 , single crystals, lattice parameters and birefringence as function of temp. 9-38517
 Rb_2ZnBr_4 , incommensurate phase transition, neutron-scatt. obs. 9-4390
 Rb_2ZnCl_4 , phase transitions, soft mode, Raman scatt. meas. 9-4389
 SrTiO_3 , thermal motion at room temp., anharmonic or disordered 9-37805
 SrTiO_3 , Fe^{3+} , displacive struct. transition, order-disorder behaviour, phonon softening, EPR obs. 9-23695
 TiSe_2 (1T), phonons and CDWs, inelastic neutron scatt. meas. 9-28059
 TiMnCl_3 , perovskite cryst., antiferrodistortion transition, transition temp., variation with press. 9-7694
 Zn-Nb, stacking solitons in ω -phase systems and quasielastic scatt. 9-38822

display devices
 camera character-forming display, based on LEDs and internal or external timing circuits 9-9251
 liquid crystal, mol. orientation, effect of deposition of SiO_2 films (*French*) 9-10789
 liquid crystal screen VHF field thermooindication, linearity (*Russian*) 9-1391
 $S-(+)-4,2$ -methylbutyl phenol, cholesteric derivatives, appl. in display devices 9-19145
 nematic liquid crystal display, thin film process to improve off axis viewing 9-4239
 units and terminology used in light meas. rel. to photometry and displays 9-21691
 Ag halide complexes electrodeposited on $\text{In}_{2-x}\text{Sn}_x\text{O}_{3-y}$ contacts, appl. to display struct. 9-15435
 $\text{H}_3\text{PO}_4(\text{WO}_3)_2$, electrochromic cells 9-15436
 IrO₂ anodic films, electrochromism, on transparent substrates 9-19861

display equipment see *display instrumentation*

display instrumentation
 see also *cathode-ray tube displays; display devices; radar displays; screens (display)*
 3-D displays, autostereoscopic image synthesis from binocular stereoscopic images (*Japanese*) 9-31812
 binocular magnifier design for display system viewing 9-27361
 blood velocity waveform display by spectrum analysers, direction Doppler signal preprocessing 9-34611
 Braille display cassette tape recording for text reproduction (*Spanish*) 9-39612
 colour, image overlay with single projection lens 9-36973
 colour meas. techniques, using colorimeters and spectroradiometers 9-40605

display instrumentation continued
 constant-display frequency meter 9-21718
 Doppler US system, for internal organs imaging 9-5332
 echo display equipment for US testing, nonlinearity (*German*) 9-34222
 gated cardiac studies, data processing system 9-25091
 information display technology, symposium, San Francisco (1978) 9-9209
 Large Azimuthal Telescope program control system 9-16829
 large format, generation of generalised psychophysical stimuli 9-44072
 light column display of sound pressure levels 9-41536
 microprocessor based interactive radiographic image display 9-25092
 neutron detector, expt. control and data acquisition system 9-45589
 nuclear medicine display systems 9-16298
 ocean digital survey fathometer, providing chart display and digital output 9-5665
 optical data processing application examples 9-27183
 polycardiography, triaxiacardiometry and other displays 9-39581
 seismic wide angle refl. data from expendable sonobuoys, display and processing 9-39896
 thermometer, acoustic, cct. and operation (*French*) 9-35739
 US display system, using colour TV, tissue disease diagnosis appl. 9-29576
 X-ray spectrometry, quantitative, comparison of mathematical models 9-17587

display instruments see *display instrumentation*

display systems see *display instrumentation*

display tubes, television see *television picture tubes*

displays, radar see *radar displays*

disruptive voltage see *electric breakdown*

dissemination of information see *information dissemination*

dissipation (heat) see *cooling*

dissociation
 see also *electrolytic dissociation; heat of dissociation; ionisation; molecular dissociation; molecular dissociation energies; photodissociation*
 air flows in triple point shock configurations, anal. thermodynamics (*Russian*) 9-32569
 biopolymers, assoc.-dissoc. phenomena, review 9-11884
 crystalline solid, decomposition, kinetic parameters 9-15984
 di(alkylbenzylthio)ethane, oil additive, thermal stability determ. by chromatography, colorimetry 9-15969
 endothermic solid-gas decompositions, activation energy, interpretation (*French*) 9-15981
 hydrocarbon dissociation, diamond formation, Hugoniot data, high temp. and press. 9-47927
 polyurethane foam, rigid, gaseous thermal decomposition products, IR anal. (*German*) 9-29348
 PVC, gaseous thermal decomposition products, IR anal. (*German*) 9-29348
 solution ionisation, induced ion pair separation, Coulomb cage pair 9-11811
 sphalerite, dissolution in ferric chloride soln. 9-47919
 triamino-trinitrobenzene, UV and shock-induced decomp. XPS obs. 9-31595
 tripotassium, probability of decomposition into an electron and a photon (*Russian*) 9-22866
 $\text{BP} + \text{N}_2(\text{NH}_3)$ 9-43627
 Fe, cast, Mg, isothermal dissociation of supercooled austenite, exam. of kinetics (*Russian*) 9-29013
 Fe surface, form. and decomp. of nitrides 9-24831
 $\text{Gd}_2\text{Ga}_2\text{O}_{12}$, cryst. growth by Czochralski technique, dissociation products calcs. 9-47615
 $\text{K}_2\text{Ca}(\text{SO}_4)_2 \cdot \text{H}_2\text{O}$, thermal dehydration, isothermal kinetics 9-15982
 $\text{K}_2\text{Mg}_4\text{Mo}_4\text{O}_{16}(\text{OH})_2(\text{H}_2\text{O})_2$, dehydration processes rel. to stoichiometry (*French*) 9-24734
 K_2O , under vacuum, exam. of thermal behaviour (*French*) 9-19365
 $\text{K}_2\text{S}_2\text{O}_8$, thermal transitions, catalytic effects of CuO and ZnO 9-15983
 $\text{MgCr}_2\text{O}_7 \cdot 6\text{H}_2\text{O}$, dehydration, thermal decomposition, kinetics 9-11777
 NH_3 , decomposition, on supported Fe catalyst, kinetics, IR obs. 9-11792
 $\text{N}_2\text{O} \rightleftharpoons 2\text{NO} + \text{O}_2$ dissociating system, behaviour with BaO (*Russian*) 9-20363
 $\text{Na}_2\text{S}_2\text{O}_8$, thermal transitions, catalytic effects of CuO and ZnO 9-15983
 Ni (100), chemisorption and decomp. of formic acid-d₁ 9-34361
 NiSi, dissociation in presence of Ni film 9-47892
 $\text{Pb}(\text{HPO}_4)_2 \cdot \text{H}_2\text{O}$, thermal stability, 20-1000°C, decomposition prod. struct. 9-11775
 PdGe, dissociation in presence of Pd film 9-47892
 PtSi, dissociation in presence of Pt film 9-47892
 Si, reactions with metal oxides, general features, glass form. 9-11819
 $\text{SnS}(\text{Se})(\text{Te})(\text{S}_2)(\text{Se}_2)$, oxidation, thermal decomp., Mossbauer spectra 9-11713
 $\text{Ti}(\text{Al}, \text{B}_{1-x})_2$ (B=Cr, Mn, Fe, Co), $0 < x < 0.4$, influence of Al on H sorption props. X-ray cryst. struct. determ. 9-28198
 $\text{U}(\text{H}_2\text{P}_2\text{O}_5)_2$, prep., identification, thermal stability 9-15970
 $\text{U}(\text{HPO}_3)_2 \cdot 2\text{H}_2\text{O}$, prep., identification, thermal stability 9-15970
 $\text{U}(\text{H}_2\text{PO}_3)_4 \cdot 2\text{H}_2\text{O}$, prep., identification, thermal stability 9-15970

dissolution see *dissolving*

dissolving
 see also *solubility; solutions; solvation*
 calcium oxalate trihydrate and monohydrate, dissolution kinetics charact. by SEM 9-42250
 mineral, dissolution under Earth surface conditions, rate control 9-20817
 scalloping by flowing water, sizes rel. to eddy effects 9-27628
 soluble matter initial dispersion in three-dimensional flow 9-37387
 sphalerite, dissolution in ferric chloride soln. 9-47919
 Ag-As-Se system glasses, soln. rate 9-43456
 Al, sacrificial anode dissolution, Hg effect study using ion implantation 9-39016
 Al-Si, dil., mechanism of dissolution of Si 9-19375
 Al-Zn (11.8 at.%), growth and dissolution of metastable precipitates, neutron scatt. study 9-15671
 AlZn, homogenization processes, dendritic struct. 9-15700
 Cu, dissolution rate in $\text{CaO-Al}_2\text{O}_3$ molten binary slag (*Japanese*) 9-23739
 Cu, matte, thermodynamics of converting, distrib. of Au, Ag, Pb, Zn, Ni, Se, Te, Bi, Sb, As, Noranda process 9-47648
 Cu single crystal spheres, dissolution, formation of etch pits, surface structure study using SEM 9-23735
 CuFeS_2 , exam. of dissolution kinetics, for dissolution in $\text{FeCl}_3\text{-HCl}$ and $\text{Fe}_2(\text{SO}_4)_3\text{-H}_2\text{SO}_4$ solns. 9-11790
 Fe, exam. of graphite and cast Fe dissolution during sintering 9-33969
 Fe_xO_y crystal dissolution, electrical potential effect, review 9-46809

dissolving continued

- MgO, dissolution, surface roughening effects and mechanism distinction 9-47975
 N₂ absorption at high temps., Cr-N phase diagram, solubility-temp. relation (*Japanese*) 9-43201
 Ni corrosion in 0.1 N HClO₄, Cl⁻ effect 9-39020
 O₂ bubbles in H₂O, mass transfer coeffs. for rising bubbles 9-41737

distance measurement

- coincident gamma-ray technique using positron lifetime spectrometer 9-12765
 electronic tachymetry, ten years of Zeiss equipment (*German*) 9-34999
 electrooptical instruments, Zeiss ELDI 2 type, error anal. (*German*) 9-21081
 extragalactic distance scale, nearest groups and field galaxies distances from secondary indicators 9-8987
 extragalactic distance scale, tertiary distance indicators 9-25708
 laser location for lunar ranging (*Polish*) 9-27311
 laser rangefinder, with improved accuracy 9-17384
 laser rangefinder radiometric efficiency, optomechanical tolerance analysis 9-21705
 light rangefinder principle, construction and test results 9-27427
 ocean digital survey fathometer, providing chart display and digital output 9-5665
 photographic contact copying process, film material gap meas. 9-26166
 phototachymeter, amplitude-time characteristics of photomultiplier 9-12850
 CO₂ laser multiwavelength interferometry, absolute distance meas. 9-31974

distillation

- see also isotope separation*
 fluidised bed evaporator, liq.-solid wall to liq. heat transfer 9-1245
 liquid mixtures, decomposition into components by thermal action of continuous laser irradiation 9-19362
 oil prerefining, shale, in situ, hydrotreatment at 1500 and 2200 psig 9-48047
 PVC-THF-H₂O, precipitation fractionation, influence of stereoregularity 9-7046
 seawater, heavy water concentration, numerical model calc. 9-26514
 solar still, industrial, stepped oblique type, annual operating data 9-39318
²¹⁰Pb determination in lake and marine sediments 9-48582
 Te, pure, prep. by combined method, vacuum distillation and double condensation 9-33956

distortion, electric *see electric distortion***distortive transformations** *see solid-state phase transformations***distributed Bragg reflector lasers**

- corrugated dielectric waveguide, radiation loss calcs. 9-41461
 holographic interference lithography for integrated optics 9-14116
 hybrid modes in distributed feedback structures 9-27441
 radiating distributed feedback structures, calc. and optimisation of parameters 9-27438
 saturable optical resonator with distributed Bragg reflectors, transient behaviour 9-23029
 semiconductor laser, single mode criteria at high speed pulse modulation 9-10305
 semiconductor laser, single-wavelength oscillation at high speed pulse modulation 9-7129
 two-dimensional waveguide analysis with misaligned or curved gratings 9-23092
 GaAs-Al_xGa_{1-x}As, film waveguide, heterojunction lasers with Bragg mirrors, threshold characs. 9-23095

distributed feedback lasers

- corrugated dielectric waveguide, radiation loss calcs. 9-41461
 dye laser, cholesteric liquid crystal as resonator, theory 9-31956
 dye lasers, thin film, dichromatic switching effect 9-10331
 holographic interference lithography for integrated optics 9-14116
 radiating distributed feedback structures, calc. and optimisation of parameters 9-27438
 rhodamine B activated waveguide, amplification of narrow-band signal 9-36930
 semiconductor laser, single mode criteria at high speed pulse modulation 9-10305
 semiconductor laser, single-wavelength oscillation at high speed pulse modulation 9-7129
 sinusoidal interface light diffraction 9-13900

distributed parameter networks

- acoustic wave propagation in composite thin-plates, equivalent microwave network analysis 9-3820

distributed parameter systems

- control, conference, Coventry (1977) 9-3897
 heat exchangers, parallel and counter-flow, weighted residuals method and modal control 9-3898
 laminar boundary layer, optimal control, group theoretic approach 9-32452
 seismic inverse problem appl. of control theory 9-2402

distributed processing

- see also computer networks; multiprocessing systems*
 microprocessor based system, for LMFBR subassembly fault detection (*Japanese*) 9-41002

distributions, statistical *see statistical analysis; statistics***district heating**

- air pollution reduced in urban built-up area, Japan 9-21006
 heat-electric power station for Cologne (*German*) 9-20999
 nuclear district heating schemes, heat transport and storage 9-39321
 powerstation, chemical water treatment pH value calc., computer-aided analysis (*Russian*) 9-43572
 SO₂ air pollution, Helsinki study of district heating effect 9-21010

dividers, frequency *see frequency dividers***dividing circuits**

- digital phase shift for meter calibration 9-44898

DNA

- B-configuration double helix, interaction with H₂O, isoenergy contour maps 9-20504
 bacterial spores, thermorestitution of mutagenic radiation damage 9-20524
 bacteriophage S shape determ. from small-angle X-ray scatt. 9-39347
 base damage detection method, UV induced pyrimidine dimers in human cells 9-44067

DNA continued

- bases, polarised fluoresc. and estimated lifetimes, room temp. and in -125°C soln. 9-39352
 bases, selective ps laser excitation in condensed phases 9-48217
 benzo[a]pyrene-DNA complex, triplet state props., optically detected zero-field mag. reson. obs. 9-18222
 calf thymus, flexible polyelectrolyte, elec. birefr. meas. 9-16126
 Chinese hamster cells, DNA replication after X-irradiation 9-11986
 Chinese hamster ovary cells, DNA damage on X-irradiation after preheating 9-34493
 chromatin, DNA-protein complexes, electron microscope visualisation, book contrib. 9-5434
 chromatin, neutron scatt. rel. to higher order struct. 9-11894
 and chromatin molecule preparation for electron microscopy 9-25171
 chromatin subunits, in glycerol/sucrose solns. containing various D₂O/H₂O mixtures, neutron scatt. study 9-11893
 closed duplex DNA, struct., reactions, book contrib. 9-5248
 DNA solution, thermodynamic props., phase transition, one-dimens. Ising model study 9-16125
 DNA-acridine orange complexes, energy transfer after dye laser excitation 9-2005
 double helical fragment intercalator complex, molecular struct. 9-16140
 E. coli, DNA repair in radiation resistant and radiation sensitive strains 9-34489
 E. coli, relative rates of repair of single-strand breaks and postirradiation DNA degradation 9-16149
 E. coli, UV-irradiated, double-strand breaks from single photochemical events 9-16151
 E. coli, UV-irradiated, single-strand breakds and alkali-labile bonds 9-16152
 helix-coil transition, thermodynamics 9-11883
 hydrodynamic shearing model 9-39337
 ion beam effects, review (*German*) 9-43968
 kidney cells, hamster, photodynamic induction of oncogenic virus 9-25029
 mammalian cells, replication sites estimated by X-ray plus bromodeoxyuridine photolysis method 9-16353
 mammalian cells, UV-irradiated, DNA repair kinetics 9-20513
 mitochondrial DNA, nucleotide sequence in human, replication origin identification 9-29502
 mutation theory, physical model of genetic stability 9-8486
 native Hela, shear breakage, expt. determ. 9-16121
 natural storage of information, comparison with digital mag. recording 9-2009
 repair mechanisms, damage from ionising radiation 9-11987
 repeated, homology between humans and simians 9-8474
 strand breaks, lymphoma cells, detected by hydroxyapatite chromatographic technique 9-43819
 structure, evidence from electron microscopy 9-24948
 synthesis by DNA-membrane complexes from electron irradiated E. coli 9-16167
 thermodynamics and decoding of long molecules 9-31757
 thymus, rat, DNA and chromosomal proteins syntheses after whole-body X-irradiation 9-34492
 UV and X-ray damage, interaction in Chinese hamster cells 9-11977
 X-irradiation, differential absorption in micro-organisms 9-11969
 X-irradiation production of alkali-labile lesions 9-43820
 HeLa cell chromatin, effects of hyperthermia on protein-to-DNA ratio 9-11905
 HeLa cells, synchronised, DNA damage from UV irradiation 9-25034

document retrieval *see information retrieval***domain boundaries**

- for boundaries between magnetic domains and electric domains see magnetic domain walls and electric domains walls respectively*
see also antiphase boundaries
 brownian motion of a domain wall and the diffusion constants 9-37775
 Au₄Mn, fully ordered, microstruct., high resolution electron microscopy 9-1439
 Fe, oxidation and domain structure, electron microscope exam. (*Russian*) 9-1437
 Fe-Co (33 wt.%), oxidation and domain structure, electron microscope exam. (*Russian*) 9-1437

domains

- see also antiphase domains; crystal microstructure; domain boundaries; electric domains; magnetic domains*
 coherent domain structures from crystal transitions with related space groups 9-42002
 MBBA-cholesteryl chloride mixture, liq. cryst., bubble domain texture, obs. of interference fringes 9-23520
 nematic liquid crystal, critical radius for homeotropic domain 9-19148
 nematic liquid crystal, parallel and cross-like domains due to DC and LF electric fields 9-46557
 nematic liquid crystal layer, twisted, elastic deform. energies and reverse twist domains 9-37617
 smectic C liquid crystal, storage effect, memorisation of oriented picture of EHD instability 9-37615
 solid electrolytes with structural disorder, domain states, thermodynamic study 9-42307
 BaCl₂·2H₂O, ferroelastic effect obs. 9-28033
 β-Ca₂SiO₄, stabilisation, IR and Raman spectra 9-42265
 Cd, thin film, vac.-deposited, X-ray diffr. struct. obs., props. 9-37937
 Cr₂Si type phases, A-15, crystallographic interpretation of atomic volumes 9-10833
 Cu₃Ga, interpretation of diffuse contours in electron diffr. (*French*) 9-19377
 CuPt, quenched, state of local order 9-47722
³He, superfluid A₁-phase, domain wall exam. 9-42332
 Na₂WO₃, domain struct., optical microscope obs. 9-19436
 Pb₃(PO₄)₂, ferroelastic phase, structure domains, electron microscope obs. 9-42078
 RbCaF₃, influence of domains on struct. phase transition 9-28097
 YAG, interrelationship between mech. props. and elec. relief on surface layer 9-23821

domestic appliances

- see also ovens; refrigerators*
 sound rooms for noise measurements 9-18604
 vacuum cleaners sound power level measurement 9-18647

doping, semiconductors *see semiconductor doping*

doping profiles

- diffusion layer, method for determining dopant and defect distrib. using polishing agent 9-37727
- inhomogeneous media, ion implantation range distrib. 9-23625
- ion implantation depth distrib., calc. in path-length approx. 9-23626
- MOS diode, impurity profile effect on density of interface states 9-33359
- semiconductor, multilayer spreading resistance anal., high-speed implementation and expt. evaluation 9-4324
- semiconductors, ion implantation, recent progress 9-14831
- CdTe, anodic oxidation as thin-layer removal technique for impurity distrib. profile determ. 9-34169
- GaAs MBE physical characteristics and applications (*German*) 9-7618
- GaAs, qualitative anal. of oxygen in thin epitaxial layers by SIMS 9-5233
- n-GaAs:O film, influence of O on elec. props. 9-11252
- GaAs:Se depth profiles, Cs⁺ SIMS anal. appl. 9-39265
- GaAs:Si, encapsulated by SiO₂ and Si₃N₄, ion-implanted As profiles 9-4319
- GaAs:Sn films, MBE grown, doping profiles, carrier mobilities, RHEED and AES obs. 9-1447
- n-GaAs:Sn(Te), pure and doped, diffusion of Sn, radiotracer profiles 9-23782
- GaAs_{1-x}P_x-SiO₂:N,Zn ion-implanted multiple layers, ion range distrib., secondary ion microprobe meas. 9-42129
- GaP:N, N doping profiles in GaP grown by LPE, cathodoluminesc. data 9-23631
- In₂O₃:Sn films, doping profiles and elec. props., appl. to optoelectronic devices 9-38203
- p-InP:Cd(Zn), single cryst. growth by temp. gradient method 9-28907
- Nb, of He, replacement of implanted ³He by subsequent ⁴He bombardment, and vice versa, using ³He(d, α) 9-4325
- Ne depth profiling with resonant ²⁰Ne 9-7621
- Ni-Si:As(Sb), implanted dopant redistrib. after silicide form., appl. to ohmic contacts 9-37729
- PbZrO₃:TiO₂ ceramics, of ABO₃ type, dopant distrib. between A and B sites 9-42093
- Pd-Si:As(Sb), implanted dopant redistrib. after silicide form., appl. to ohmic contacts 9-37729
- Pt-Si:As(Sb), implanted dopant redistrib. after silicide form., appl. to ohmic contacts 9-37729
- Si, heavily doped, doping density striation effects in metal-nonmetal transitions studies 9-28383
- Si layers, carrier profiling using four-point probe method 9-37732
- Si, O content and depth profiling, ¹⁶O(α , α')¹⁶O reaction method obs. 9-34408
- Si wafer, B predeposited, B anal. by combined ion beam techniques and X-ray microanal. 9-5238
- Si:As, implanted As redistrib. during annealing in oxidising ambient, carrier distrib. meas. 9-19275
- Si:As, ion implanted, anomalous diffusion of As 9-14842
- Si:As(P), oxidation-enhanced diffusion of impurities 9-46840
- Si:B, ion implantation using B₂O₃-B mixture, Auger spectra, channelling anal. 9-4317
- Si:B, sputtering influence on distrib. profile of ion-implanted impurities 9-42091
- Si:B(P), profile determ. by anodic oxidation 9-28010
- Si:B(P)(As)(Sb), ion implanted, redistrib. of dopants by pulsed laser annealing 9-7620
- Si:D, ion implanted, struct. of impurity centre 9-7623
- Si:H, ion implanted, anal. of methods used for H profiling in materials using ion beams 9-5197
- Si:O₂, in-depth distrib., Cs⁺ SIMS anal. appl. 9-39265
- Si:P, As, chem. etching, thick epitaxial layers prod. for dopant conc. investigations by neutron activation anal. 9-37728
- Si:Pt, deep level, exam. by thermally stimulated current and capacitance techniques 9-1579
- n-Si:Sb, arbitrary doping profiles produced by MBE 9-7617
- Si:Sb, in solar cell struct., heavily doped, dopant striation, SEM 9-39312
- Si:Sb, vacuum deposition combined with ion implantation (*Japanese*) 9-28005
- Si-Au-P system, partition coeff. of P, temp. depend. 9-43158
- Si₃N₄-SiO₂:N,Zn ion-implanted multiple layers, ion range distrib., secondary ion microprobe meas. 9-42129

Doppler broadening *see Doppler effect*

Doppler effect

- see also atomic spectra; red shift; spectral line breadth*
- alkali halide, gamma irradiated, positron annihilation 9-23643
- alkali halides, cryst., positron lifetime and Doppler broadening spectra 9-8208
- biomedical noninvasive pressure meas. appl., ventricular pressure in heart 9-5384
- blood velocity waveform display by spectrum analysers, direction Doppler signal preprocessing 9-34611
- cyclotron-wave instability freq. up-shift, on a relativistic electron beam 9-22883
- DSA meas., ion-atom interaction 9-749
- dynamically focused array imaging systems, induced Doppler distortions 9-46117
- excited nuclear states, 10⁻¹⁸ to 10⁻⁶ s, lifetimes, direct meas. 9-30804
- frequency standards using divergent beams, stability limits 9-26037
- GCFR simulation central Doppler worth evaluation 9-9814
- heavy ion collisions, Doppler shift of continuum X-rays from quasimols. 9-22808
- Langmuir soliton weak EM wave scatt., Doppler shift and reflection coeff. calc. (*Russian*) 9-7467
- laser anemometry, commercial LDA instruments (*Czech*) 9-46409
- laser anemometry of high-temp. industrial gas flow (*German*) 9-10618
- laser bulk absorption homogeneity, Doppler interferometric meas. 9-14010
- laser Doppler anemometry, practical considerations 9-27725
- laser Doppler velocimeter signal analysis for pulsatile arterial flow meas. (*Japanese*) 9-2156
- laser Doppler vibrometer, reflecting surfaces appl. 9-6117
- laser spectroscopy, Doppler shifts and recoil effects 9-35846
- laser velocimeter appl. (*Czech*) 9-23388
- linear velocity meas. by YAG laser 9-26039
- many-level atoms, Raman scatt. resons. in separated fields 9-31449
- metals, Doppler broadening of positron annihilation line 9-43057

Doppler effect continued

- methane, high-resolution coherent Stokes Raman scattering, of ν_1 and ν_3 bands 9-31981
- PWR core Doppler spatial weight factor 9-9713
- radiowave propagation in ionosphere, satellite expt. in presence of wave perturb., modelling 9-8744
- reflection from a corner reflector moving at high velocity 9-30228
- refracting medium, classical and quantum interpretations (*Russian*) 9-13002
- resonance fluorescence, Doppler-free obs., fluorescence-line-narrowing method and improvement 9-13840
- satellite Doppler techniques, geocentric positioning of triangulation of Great Britain 9-29695
- satellite line shape, classical broadening theory including Doppler effect, pot. effect 9-22764
- spatial and temporal variation meas., differential Doppler technique using satellite 9-12311
- spermatozoa motility meas. by light scatt., appl. to reproduction immunology (*French*) 9-34628
- stimulated EM shock radiation, book contrib. 9-27149
- Tokamak plasma-wall interaction, appl. of fluoresc. spectroscopy 9-23451
- tracking of spacecraft, gravit. radiation detect. possibility 9-30345
- two level model theory, extended, appl. to Doppler-, laser and collision-broadened bound-bound multiphoton absorption 9-3423
- US Doppler blood flowmeter modulation (*Japanese*) 9-2115
- US probes for blood stream meas. using Doppler technique (*German*) 9-2113
- US system for internal organs imaging 9-5332
- Venus, CO₂ line Doppler shift rel. to retrograde winds possible periodic vars. 9-25530
- wave in time-varying inhomogeneous anisotropic medium 9-40016
- Al, positron annihilation momentum spectra, two-detector Doppler broadening technique 9-19948
- H₂O, D₂O, electron impact disoc. excitation, Balmer- α emission obs., Doppler profile meas. 9-31706
- H α -line, direct obs. of the transversal Doppler-shift 9-18151
- In, US wave polarisation plane and ellipticity rot. in mag. field, Doppler shifted acoustic cyclotron reson. (*Russian*) 9-15335
- NO, mol. beam tunable diode laser sub-Doppler spectra, ² $\Pi_{1/2,3/2}$ Λ splittings 9-41180
- Na + Ne(Ar)(Kr)(Xe)(N₂)(CO₂), fine struct. changing collisions, vel. depend. 9-22803
- Ni + Ni(Nb), Doppler shift of continuum X-rays from quasimols. 9-22808
- ³¹P, precision Doppler-shift attenuation lifetime meas. from γ -ray line-shapes 9-36195
- Pb, positron annihilation, Doppler broadening, 4.2 to 600K 9-47540
- ²⁸Si, precision Doppler-shift attenuation lifetime meas. from γ -ray line-shapes 9-36195
- ²³⁸U Doppler effect obs. in advanced fuels critical assemblies 9-9739
- W, Doppler-shifted cyclotron reson. along nonprincipal cryst. directions (*Russian*) 9-4725
- Xe, AC Stark effect, on saturated absorption line shape in partially Doppler-compensated system 9-45669

Doppler shift *see Doppler effect*

dopplers

- Cd, electron and hole doppleron oscills., temp. depend. 9-7822
- In, US wave polarisation plane and ellipticity rot. in mag. field, doppleron interactions (*Russian*) 9-15335
- Mo, electron-electron scatt., doppleron damping meas. 9-37963
- Mo, RF surface impedance, new type of oscills. 9-15070
- W, RF surface impedance, new type of oscills. 9-15070
- W, rot. of polarisation plane and ellipticity of US waves near doppleron-phonon reson. (*Russian*) 9-19325

dosimeters

- see also dosimetry; thermoluminescent dosimeters*
- acetylene, ionisation meas. and W_n derivation for neutron irradiation 9-36430
- audio noise dosimeters, comparison of available equipment, ANSI standards, use in mines 9-1026
- calibration uncertainties, estimation of confidence levels 9-3247
- cellulose nitrate, effect of high γ -doses on etching characts., dosimetry appl. 9-31224
- dose intensity meter NRG 302 (*Czech*) 9-22538
- exoemissive, automation of testing 9-6770
- Farmer type 2502/3, electronic timer for use with, in radiotherapy units 9-25114
- fibre optic dosimeter on Navigational Technology Satellite 2 9-22487
- gamma, energy relationship of effectiveness and error estimation 9-31225
- gamma effect of air scattered radiation on exposure dose rate measurements 9-6774
- gamma photon energy spectra estimation based on 34 \times 34 matrix 9-41059
- integrating radiation dosimeter, using polyethylene and Pirani vacuum gauge for range 10⁴ to 10⁸ rad. 9-747
- ionisation chamber, Baldwin-Farmer, C_B, C_A and effective wall material 9-22555
- ionisation chamber, C called CO₂ filled, neutron sensitivity 9-22557
- ionisation chambers, wall correction factors, ⁶⁰Co γ -ray beam standardisation, Monte Carlo calcs. 9-3288
- Kodak Type II film badges, gamma dose meas. in presence of thermal neutrons 9-39517
- metal-nitride-oxide-semiconductor transistor as a radiation dosimeter detector 9-22486
- MOS, series configuration, sensitivity increase (*Czech*) 9-36425
- MOS dosimetry unit development for use in space 9-22485
- moving electrode instrum. for radiation dosimetry and control 9-3244
- neutron, digital portable battery-operated, design details 9-18052
- neutron dose meas. with B-doped cellulose nitrate film 9-31321
- neutron dosimeter based on ²³⁷Np fission, for personnel 9-13539
- noise dosimeter response to impulsive noise, meas. errors 9-18646
- nuclear accident dosimetry systems, comparison 9-22496
- nuclear reactor criticality incident detect. with γ dose rate alarm 9-36423
- personal dosimeters, comparative evaluation 9-41042
- personal dosimetry methods introduced in the Czechoslovak National Laboratory (*Czech*) 9-36426
- personal monitoring for radiological protection, current status and developments, review 9-22490
- photons, 6-7 MeV, exposure rate and absorbed dose meas. 9-26766

dosimeters continued

- polymer sheets, calibration via differential calorimeter for electron radiation 9-6795
- radiation therapy, exposure timer for use with tele Co units 9-20684
- radiophotoluminescent, with miniature detectors, for clinical use 9-8543
- sewage sludge irradiation plant, dose and irradiation homogeneity 9-22489
- stack gas monitor, β scintillation detector+Ge(Li) detector system, environmental γ dose (*Japanese*) 9-3246
- survey meters for low γ -ray dose rate meas. 9-41081
- thoron content in exhaled air, meas. apparatus 9-34672
- transresistance instrumentation differential amplifier 9-22561
- wall-less tissue equivalent counters, performance evaluation in microdosimetric work 9-13599
- walled tissue equivalent counters, performance evaluation in microdosimetric work 9-13599
- BaTiO₃, rare earth doped ceramics, thermolum. and microwave induced thermolum. fading 9-1792
- CO₂ ionisation meas. and \dot{W}_a derivation for neutron irradiation 9-36430
- CdTe photovoltaic mode γ - and X-radiation dosimeters 9-13594
- ³He-filled proportional counter, for sensitive dose or dose equivalent meter 9-45427
- LiF, response to high energy electrons, application of cavity theory 9-22493

dosimetry

- see also dosimeters; radiation detection and measurement; radiation monitoring
- A-bomb survivors radiation dose chromosome aberrations relationship 9-43835
- absorbed dose calibration of high-energy X-rays, comparison of plastic and water phantoms 9-8548
- absorbed-dose computations for inhomogeneous media in radiation-treatment planning using differential scatter-air ratios 9-25115
- accumulation dose factor for scattered γ -radiation in two-layer cylindrical shielding blocks 9-18058
- adrenal imaging, radiopharmaceutical distribution and dosimetry 9-29632
- airport cargo workers, radiation exposure meas. 9-8544
- alpha particles in N₂, CO₂, methane, Ar, H₂ and tissue equiv. gases, energy depend. of \dot{W} 9-6999
- alpha-dose rates, upper limit calc. method for aquatic organisms, re ²³⁹Pu, plankton 9-2133
- astronaut dosages, Apollo 7 to 14 and Soyuz 3 to 9 missions, TL meas. (*Hungarian*) 9-29639
- betatron, radiation protection meas. 9-29636
- betatron electron beam, characterisation for dosimetry calcs. 9-39519
- biological specimens, reduction of radiation damage in electron microscopic exam. 9-34718
- biomaterial microwave complex permittivity meas., noninvasive selective exposure 9-20729
- blood vessels, X-irradiation induced damage, mouse, dose-effect time relationship 9-34603
- bluegill ²²²Rn, ²²⁶Ra fractional retention 9-39506
- bone, surface and volume distribution of ²³⁹Pu 9-8550
- bone-ZZ 9-25113
- bremstrahlung influence on γ dose buildup factors rel. to penetration depth (*Russian*) 9-13542
- BWR, shutdown dose rate of primary cooling system, prediction by empirical formula 9-22408
- calibration uncertainties, estimation of confidence levels 9-3247
- CANDU 600 MW(e) station, man-rem expenditures 9-13493
- carcinogenesis, stochastic model, obs. from chemical and radiation dose-response data 9-2110
- cell lethality computation, dose-time relationship, fractionated radiation therapy 9-20598
- cellulose nitrate, effect of high γ -doses on etching charact., dosimetry appl. 9-31224
- cellulose-nitrate plastic track detectors, high-LET pion dose contours 9-39513
- cervical spinal cord, radiation myelopathy, time, dose and volume factors 9-20658
- chromosome aberrations of peripheral lymphocytes in rabbits exposed to whole body X-irradiation 9-43834
- Clinac-18, electron-beam energy charact. using magnetic anal. method 9-39514
- clinical nuclear medicine, internal dosimetry of ^{99m}Tc labelled radiopharmaceuticals 9-12007
- collective dose commitments from nuclear power programmes 9-26772
- computerised tomography, dose specification philosophy 9-16309
- computerised tomography scan dose, meas. using pencil shaped ionisation chamber 9-20683
- concrete, gamma-ray buildup factors, Tchebycheff-fitted Berger coeffs. 9-31226
- conference on nuclear power systems, Washington, USA (1978) 9-41045
- corneas, canine, γ and negative pion irradiation of microvasculature 9-43964
- cranial structure model exposed to microwaves, heat potential distrib. 9-2105
- cutaneous human tumours, selective RF heating at 27.12 MHz 9-2123
- dental radiography, reduction of patient exposure 9-25106
- dental radiological safety, pilot survey 9-43993
- depth-dose curves of linear accelerator, improvement, Monte Carlo calcs. 9-20681
- dichromate solutions for low-level dosimetry 9-29633
- digital data logger, microprocessor-based, for radiation detectors 9-26848
- dominant lethality in spermatogonia of mice after acute and chronic gamma-irradiation 9-25039
- dose assignment criteria, beagles, bilateral exposure to ⁶⁰Co γ -rays 9-16305
- dose calculation system, ¹⁹²Ir interstitial radiation therapy 9-16268
- dose distribution, effect on induction of expt. lung cancer in Syrian hamster by α -radiation 9-16254
- dose distribution studies, partial body irradiation of small animals 9-20670
- dose rate, risk factors, natural and man-made radiation, Germany, (1974) (*German*) 9-9897
- dose-equivalent index, application to natural radiation background 9-5374
- Drosophila melanogaster, repair of electron irradiation damage 9-11983
- EM waves, biological effects and medical appls. 9-48288

dosimetry continued

- environmental effects from nuclear energy, effects of small radiation doses 9-2312
- environmental pollution, biophysical aspects of ²⁴¹Am, ²⁴¹Pu 9-39530
- environmental protection, radioactive waste from power plants in USSR 9-26601
- environmental radioactivity, meas. of water, soil, and foodstuffs 9-5378
- environmental radioactivity, methods for determ. of radionuclides in environmental samples 9-48202
- fallout at Chilton, Oxon. (1951-1977) 9-6775
- fast neutron beam, computer generation of dose distrib. 9-39510
- fast neutron dosimetry techniques 9-20677
- fast neutron sealed-tube radiotherapeutic installations, characteristics 9-20650
- fast neutron therapeutic dosage schedule development 9-20678
- fast reactor dosimetry using zero-power facility ZEBRA 9-3219
- fetuses, mouse, obs. after 2.45 GHz irradiation of mothers 9-20578
- fission neutron spectra degraded through low Z shields, depth-dose distrib. 9-39516
- foetus, human, effect of a high gamma dose from ²²⁶Ra 9-25104
- French nuclear power plant occupational radiation exposure meas. and prediction 9-9900
- gamma irradiation, human whole body, fluence and exposure-to-dose conversion 9-5371
- gamma-ray dose rate conversion and buildup factors 9-34671
- gamma-rays albedo, number and energy calcs., Monte-Carlo calcs. 9-31221
- gas-chemical dosimetry, limitations of use of strong pulse electron beams 9-31231
- global collective dose commitments, long lived radionuclide release 9-26780
- head and neck, advanced cancers, low dose rate irradiation 9-34649
- heavy ion and He dosimetry and instrumentation 9-20675
- heavy ion beam linear energy transfer distribution calc. 9-20630
- heavy particles, stopping in gases, W-values expt. results 9-7000
- heritable lesions, radiation induced, in proliferating mammalian cells, review 9-20602
- hip dysplasia studies, infant, using image intensifier fluorography 9-48343
- hyperthermia induced by microwaves, dose definition 9-2135
- ICRP new concept of person dose, related to film badge exposure 9-29631
- ICRU phantom neutron fluence to dose index conversion factors 9-9909
- ilium, exteriorised upper segment in rat, effects of X-irradiation on glucose, proline uptake 9-11984
- indoor natural radiation environment and dose distribution in man, multi-compartment models 9-12015
- inhalation doses, airborne releases, estimation using gross monitors 9-13532
- inhalation exposure of miniature swine 9-11976
- integrator for use in bombardment experiments 9-18092
- intermediate-energy secondary spectrum system, determ. of neutron characteristics, $\Sigma\Sigma$ -ITN (*Rumanian*) 9-22355
- intestinal tolerance in mice, effect of dose rate, implications in radiotherapy 9-29568
- ionisation chamber dosimetry, Ar/propane, mixed X-ray/neutron fields 9-20682
- Kodak Type II film badges, gamma dose meas. in presence of thermal neutrons 9-39517
- leukemia risk from neutron exposure 9-39509
- life-expired LWR, neutron activation product density and dose rate calc. 9-9908
- liquid acoustic dosimetry for ionizing radiation 9-18060
- LMFBR, determ. of ¹³⁷Cs conc. in Na heat carrier 9-41043
- lung, ²¹⁸Po, ²¹⁴Po, dosimetry in Syrian golden hamster 9-16304
- lung burdens of low-energy photon-emitters, interlaboratory comparison of meas. techniques 9-20671
- LWR, design meas. to reduce radiation dose to reactor personnel 9-3199
- LWR pressure vessels, radiation embrittlement, role of ASTM 9-22435
- lymphocytes, human, chromosome aberrations induced by ²⁵²Cf neutron radiation 9-16169
- lyoluminescent, of ionising radiation 9-6769
- malignant melanoma, relationship between total dose, fraction number, fraction size 9-5341
- mammalian cells, Chinese hamster, human kidney, radiation studies with modulated C ion beam 9-11978
- mammary gland cells, rat, survival after X-irradiation under different endocrinological conditions 9-34513
- mannose, increased lyoluminescence response on storage 9-25112
- medical examination dose, from X-ray and radioisotopes, children 9-16308
- medical neutron dosimetry, standards 9-12013
- microdosimetry, energy deposition distrib. patterns, biological effects of ionising radiations 9-20600
- microwave, applic. of thermoluminesc. fading in BaTiO₃ ceramics 9-1792
- microwave and radiofrequency radiations exposure limits proposed, in Canada 9-5375
- microwave radiation of biologically active microorganisms, coherent elec. vibrs. 9-2106
- monkey mortality, X-ray and neutron exposure, effect of autologous bone marrow transplantation 9-29572
- natural radioactivity in underground cavities, gas conc. and exposure levels (*Spanish*) 9-39322
- neutron, above 10 MeV, standards 9-13544
- neutron, fast pulse reactor, standardisation 9-13543
- neutron, international intercomparisons 9-12014
- neutron, standardization, 0.001-14 MeV, description of sources 9-9919
- neutron, standardized techniques for appl. beyond reactor core 9-9920
- neutron dose calc., using analytical function, health physics appl. (*Slovak*) 9-25111
- neutron dose distributions in pion⁻ irradiated tissue, Monte Carlo calc. 9-16310
- neutron dose meas. with B-doped cellulose nitrate film 9-31321
- neutron dosimetry, appl. of thermoluminescent materials 9-22497
- neutron dosimetry, basic constants and meas. principles 9-20676
- neutron dosimetry, international intercomparisons 9-20636
- neutron dosimetry techniques for accelerator-based irradiation facilities 9-41041
- neutron flux density for irradiation of human tissue, max. permissible dose calc. 9-43992
- neutron personnel dosimetry, need for improved standards 9-12012

dosimetry continued

- neutron radiation therapy, cyclotron biological intercomparisons 9-20589
- neutron radiation therapy, treatment planning corrections 9-20637
- neutron skyshine from nucl. facilities (*Japanese*) 9-18054
- neutron source engineering problems and dose distributions 9-20635
- neutron standards and appl., conference, Gaithersburg, MD, USA (March 1977) 9-9581
- neutron therapy, dosimetric props. of d(80)+Be and d(80)+(Be+Ta) neutrons 9-12009
- neutron therapy beam, dosimetry and radiation protection 9-48342
- neutron therapy dose changes due to inhomogeneities, correction factor calc. technique 9-39511
- neutrons, fast, calcs. of charged particle recoils, slowing down spectra, LET, event-size distrib. 9-25040
- noise exposure meas. of varying levels by noise records 9-23141
- nuclear accident dosimetry systems, comparison 9-22496
- nuclear accident dosimetry systems, Czechoslovak-Hungarian comparison 9-45437
- nuclear and atomic data sources 9-25081
- nuclear and space radiation effects, conf., Albuquerque, USA (Jul. 78) 9-19276
- nuclear medicine, intrainstitutional mobile, health physics considerations 9-8546
- nuclear power reactor accidental release, isopleth method for population reaction 9-13533
- nuclear power stations, ambient radiology, equipment and methods, review (*Spanish*) 9-45425
- nuclear reactor accident, dosimetry calcs., comparison with expt. data 9-36422
- nuclear reactors, underwater repair for workers protection 9-3226
- nuclear-dockyard workers, radiation-induced chromosome aberrations 9-34606
- occupational exposure, problems raised by International Commission on Radiological Protection recommendations (*French*) 9-26771
- ocular hazard of short pulse Ar laser irradiation, primates 9-25030
- organ dose from external γ -radiation, relation to exposure, nuclear lab. environment 9-12010
- paired LiF TLD 600, 700 technique, γ -dose in mixed n- γ radiation fields 9-45432
- parabiont rat pairs, late effects of successive massive radiation doses 9-85473
- particle radiation therapy, low linear energy transfer alternatives 9-20648
- particles and radiation therapy, conference, Berkeley, USA (1976) 9-20619
- patient dose from EMI brain and body scanners 9-48341
- patient exposure to diagnostic X-rays, anal. of 1972-1975 NEXT data 9-39505
- PEP IR hall scale model, neutron and photon dose equivalents meas. 9-31227
- person dose, ICRP concept, related to exposure in industrial radiography 9-5370
- personal dosimeters, comparative evaluation 9-41042
- personnel dosimetry methods introduced in the Czechoslovak National Laboratory (*Czech*) 9-36426
- personnel exposure during cardiac catheterisation, calc. technique using time-lapse photography 9-39504
- personnel monitoring for radiological protection, current status and developments, review 9-22490
- phantom, perspex, for assessment of nuclear medicine imaging equipment 9-25089
- Phenix LMFBR, radioactive effluent release, operating team irradi. results (*French*) 9-31163
- phosphorescent detectors and X-ray converters, Symposium, Riga, USSR (Oct. 1966) 9-6243
- photochemotherapy, absolute radiation dosimetry 9-12008
- photographic emulsions, supralinear, radiobiological aspects of X-ray exposure 9-8549
- photographic film dosimetry by low energy photon transmission 9-45433
- photons, 6-7 MeV, exposure rate and absorbed dose meas. 9-26766
- pion⁻ radiation therapy, dosimetry and treatment planning 9-20646
- pion⁻ radiation therapy dosimetry 9-20679
- pion beam therapy, meas. of effect of inhomogeneities and compensating bolus 9-39512
- pion dose contours, high-LET, in cellulose-nitrate plastic track detectors 9-39513
- Pollen, Pinus Silvestris, effect of X, UV irradiation on NAD(P), NAD(P)H, hydroxyproline levels 9-20582
- population exposure doses from USSR power plants, evaluation, prediction, regulation (*Russian*) 9-26776
- population exposure standards, determination problems (*Russian*) 9-26778
- population radiation exposure, radioactive effluent from nuclear facilities in West Germany 9-26781
- proton and heavy-ion fractionated radiation therapy experience 9-20631
- quartz, natural, dosimetric props., possibility of thermolum. dating of geological objects 9-12288
- radiation exposure limits, establishment bases 9-26770
- radiation exposure meas. in aircraft from transported radioactive goods 9-22488
- radiation exposure near nuclear power plants, remote monitoring system 9-18055
- radiation exposure resulting from radioactive gases released near the NRI Rez (*Russian*) 9-36427
- radiation field measurements, Vermont Yankee Nuclear Power Station 9-9893
- radiation therapy, chamber factor reliability review, United States institutions 9-20685
- radiation therapy, compensation for inhomogeneities using computerized tomography 9-25065
- radiation therapy, computer control 9-25099
- radiation therapy, dose calculations from computerised tomography data 9-25062
- radiation therapy, dose distributions, wedge-shaped, computer-controlled collimator motion 9-5358
- radiation therapy, electron beam dose distributions, magnetic field modification 9-5376
- radiation therapy, electron-dose distrib. in tissue, lung phantoms, magnetic modification 9-5377
- radiation therapy, external beam, three-dimensional dose distrib. 9-25064

dosimetry continued

- radiation therapy, fractionation in ^{60}Co teletherapy, weekly intervals 9-34650
- radiation therapy, tissue-maximum ratios/scatter-maximum ratios, indirectly ionising beams 9-39515
- radiation therapy, tolerance dose, treatment field size relationship 9-5359
- radiation therapy, treatment planning system using computerised tomography 9-29588
- radiation therapy machines, calibration discrepancies, US institutions, data anal. 9-20686
- radiation therapy mantle fields, dose compensator for lymph bearing areas 9-43991
- radiation therapy of lymphomas, depth-dose factors using a 4 MV linear accelerator 9-25066
- radioactive effluent release reduction, Japanese LWRs 9-31078
- radioactive release into environment, limits, new derivation approaches 9-26773
- radioactive releases from nuclear installations, eval. of accidental atmos. discharges 9-39529
- radiogenic cancer, estimate of life shortening per rem absorbed dose 9-11967
- radiographic exposure, influence of cassette front 9-25105
- radiography, exposure and working procedure with paediatric chest stand 9-48337
- radioisotope dose rates to human thorax, low energy photon attenuation theory-expt. discrepancies 9-5373
- radionucleid concentrations in food products, FOOD II interactive code calc. 9-48348
- radionuclide intake by man through terrestrial pathways, TERMOD II interactive code analysis 9-48349
- radiopharmaceutical patient diagnosis, absorbed dose derivation techniques 9-12006
- reactor core dosimetry standards 9-9824
- real time offsite dose calc. 9-45429
- risk assessment from radiation 9-25116
- seed radiosensitivity of winter hexaploid triticale 9-20583
- sewage sludge irradiation plant, dose and irradiation homogeneity 9-22489
- skin, α -irradiation, possibility of late effects, U miners 9-20584
- skin γ and neutron responses, dose fractionation effects 9-20593
- skin acute response, human, pion⁻ relative biological effectiveness 9-20596
- skin growth regulation, mouse, after X-irradiation, possible role of chalones 9-16168
- skin injury, pig, relationship of acute to late injury in fractionated radiation doses 9-34604
- skin injury, pig, relative biological effectiveness of neutrons and γ -rays 9-34605
- skin nodules, comparative effects of pion and X-irradiation 9-20659
- skin tumour, rat, following proton irradiation 9-11982
- skyshine dose due to gamma-rays from nucl. power plant (*Japanese*) 9-29917
- small intestinal cryptogenic cells in W/W^v mutant mice, survival curves after X-irradiation 9-11980
- solar flare, dose at Earth's surface 9-25109
- somatic dose index, human, diagnostic X-ray procedures 9-16306
- spectral parameter measurement for γ -rays using overtake effect 9-45436
- statistical errors of dose estimation in personnel neutron monitoring with albedo dosimeters 9-48344
- sugarcane, evaluation of mathematical methods for optimum γ -dose prediction 9-29630
- surface contamination meter 9-22494
- surface dose product meas., for official ionising radiation practice (*German*) 9-2137
- teletherapy installations, ^{60}Co source, US national evaluation 9-5360
- testes, morphological changes after long term γ -irradiation in mice (*Russian*) 9-20601
- Therac 6 linear accelerator, computer controlled evaluation for X-ray therapy 9-5363
- Therac 6 linear accelerator, field elongation effects on depth-dose curves, central-axis output of X-rays 9-5361
- thick inhomogeneity effects on charged particle beams 9-25041
- thoracic inlet tumours, near irradiation technique 9-34651
- thyroid, high dose associated with adrenal scanning using ^{131}I 9-29629
- thyroid, microscopic dose distrib. due to I isotopes 9-39522
- thyroid, volume and dose estimation by ^{131}I scintigraphy 9-16302
- tissue absorbed fractions for very low energy photons 9-39508
- tissue heterodensity meas. for charged particle radiotherapy 9-20623
- tissue section imaging by α and thermal neutrons 9-29591
- tissue substitutes in experimental radiation physics 9-20680
- tongue carcinoma, dose and dose rate in ^{192}Ir interstitial irradiation 9-16267
- tritiated water intake, calc. of committed dose equiv. 9-16311
- VIPER reactor, neutron leakage spectrum and dose meas. 9-3243
- W-value determ. for α -particles in Ar and methane 9-39518
- waste management policies, OECD countries 9-26596
- working level months, uncertainties, statistical procedure 9-41044
- X-radiation therapy, computer simulation of central axis dose distributions 9-8531
- X-ray beam characteristics, 25 MV, from a 35 MeV linear accelerator 9-25110
- X-ray dose enhancement at material interfaces, Monte Carlo calc. verification 9-22484
- X-ray equipment, scattered-radiation exposure 9-34670
- X-ray radiation, long wavelength, dosimetry by thermoluminescent method 9-6768
- X-ray radiation output constancy during diagnostic exposures 9-5340
- xeroradiography, reduction of patient dose 9-16303
- γ radiation dose rate calc. in building materials 9-18057
- Am-Be, neutron fluence-to-dose conversion factors 9-6771
- ^{24}Am , gastrointestinal absorpt. in hamster 9-39520
- Au/Si interface, X-irradiated, dose profiles 9-24388
- ^{14}C , ^{14}C animal exhalation meas. by liquid scintillation counting (*French*) 9-48384
- ^{14}C , metabolism of low energy β -emitters 9-8551
- ^{14}C , intravenous injection, wound site absorption, comparison of metabolic behaviours in rats 9-8545
- ^{60}Co beams, appl. of a single model 9-39521
- ^{60}Co irradiation sterilisation processing unequal mass interchange model verification 9-26759

dosimetry continued

- ⁶⁰Co irradiation sterilisation processing, unequal mass interchange model 9-26758
- ⁶⁰Co irradiation sterilisation processing, nonstandard double carton simulation 9-26760
- ⁶⁰Co, teletherapy dosimetry, USA survey (1974-77) 9-12011
- ¹³⁷Cs, uptake by cotton rats inhabiting banks of radioactive liquid waste pond 9-25121
- FeSO₄ dosimetry by NH₄CNS method 9-2136
- HTO incorporation in maize and barley 9-25107
- He ion beam therapy expts. and prospects 9-20633
- ³He-filled proportional counter, for sensitive dose or dose equivalent meter 9-45427
- ¹³¹I thyroid activity meas., improvement in precision 9-29635
- ^{115m}In specific activity determination, for nuclear accident dosimetry 9-3248
- ¹⁹²Ir, specific γ -ray constant and exposure rate constant 9-36187
- ^{81m}Kr radiation, internal conversion electrons, error in previous work 9-12005
- LiF, dosimeter material, thermolum. non-linear. response to sequential irradiat. at different dose rates 9-1793
- LiF:Mg dosimetric cryst., light-sum storage during linear stage 9-8194
- LiF-Teflon disc TLD, determ. of neutron fluence and γ -dose distrib. 9-45434
- ⁹⁹Mo, generation of ^{99m}Tc, influence of radiation dose on elution yield 9-29624
- Pu assay, in vivo methods for humans 9-20674
- ²³⁶Pu, ²³⁹Pu, ²⁴²Pu, ²⁴⁴Pu, distrib. in mice after injection 9-12001
- ²³⁷Pu, intracardially injected in channel catfish, distrib. kinetics 9-20673
- ²³⁸Pu, factors affecting particle mobility in rats 9-12003
- ²³⁸Pu, cancer risk from ²³⁹PuO₂, max. permissible conc. in air 9-25108
- ²³⁹Pu, distribution in mouse skeleton 9-12002
- ²³⁹Pu, gastrointestinal absorpt. in hamster 9-39520
- ²³⁹Pu, influence of administered mass of cross-placental transfer in mice 9-20672
- ²³⁹Pu, lung burden, assessment of tissue substitutes for calibration purposes 9-16307
- ²³⁹Pu, study of non-uniform distrib. in mouse testis 9-39507
- ²⁴¹Pu, uptake and redistribution within the gonads, hamster, rabbit 9-12004
- Rn, moisture insensitive monitoring using solid detectors 9-31228
- Ru, hazards and control in nuclear fuel cycle, review 9-36392
- Si dosimetry diode, irradi. by γ -rays and fast neutrons, lattice defect annealing (*Czech*) 9-45570
- Si/Au interface, X-ray dose enhancement, Monte Carlo calcs. 9-22484
- ^{99m}Tc, atmospheric release, dose evaluation 9-25119
- ^{99m}Tc, generation from ⁹⁹Mo, influence of radiation dose on elution yield 9-29624
- ²³²Th, Thorotrast kinetics and radiation dose 9-39523

double nuclear magnetic resonance

- see also *INDOR*
- cross relaxation, theory (*Rumanian*) 9-8072
- ice Ih, NQR of ¹⁷O, double NMR for ¹H tunnelling, 1.3 and 4.2K 9-47353
- nonintegral spin systems, appl. of nucl. double reson. interference spectroscopy 9-4745
- resonant transfer of nucl. spin dipolar order in rotating frame 9-33564
- solids, detections of low abundance nuclear isotopes, review (*Rumanian*) 9-15380
- spectrometer for nuclear quadrupole double resonance with programmable calculator control 9-12830
- TBBA, smectic VI and H phases, orientational order, temp. depend. 9-46555
- trifluorobenzene, symmetrical ¹H and ¹⁹F NMR, cross relax. 9-38406
- KH₂PO₄, ³⁹K spin-lattice relax. time double NMR meas. 9-47358
- LiF, dilute paramagnet, ⁶Li-⁷Li cross relaxation (*Russian*) 9-4747
- NH₄Cl, solid phase, resonant transfer of nucl. spin dipolar order in rotating frame 9-33564
- NH₄NO₃, solid, nuclear double reson. cross-relax. 9-15379

double refraction see birefringence

double refraction, electric see electro-optical effects

double refraction, magnetic see magneto-optical effects

double resonance, electron nuclear see ENDOR

doublet antennas see dipole antennas

DPPH, diphenylpicrylhydrazyl see organic compounds

drag reduction

- cylinder, perforated, circ., finite-aspect-ratio, drag coeff. 9-23360
- gas-solid turbulent suspension flow, frictional pressure drop Prandtl's mixing length anal. 9-14458
- polymer injection at high Reynolds number boundary layer flow (*Chinese*) 9-32582
- polymer solution, laminar wake, behind cylindrical body 9-37355
- polymer solutions, in U-tube 9-1217
- polymer solutions, turbulent, mass transfer rate, frictional force (*French*) 9-37357
- polystyrenes, toluene soln., turbulent drag reduction, mol. wt. and struct. influence 9-7373
- shockless near free molecular flow, drag reduction calc., profile optimisation 9-14435
- toluene in polymers, drag reduction 9-32591
- tube flow, drag reducing additives and sudden enlargement of diam. 9-37397
- turbulent drag reduction by fibre injection 9-37298
- turbulent drag reduction in pipe flow due to nonuniform polymer conc. 9-27672
- uniqueness and drag for fluids of second grade in steady motion 9-32584

drawability see ductility

drawing (mechanical)

- deep-drawing curves, cryst. microstruct. during deform. (*French*) 9-20066
- fibres, optical, from compound glasses, using double-crucible and glass-plastic methods 9-3815
- flange, rigid-plastic deformation in deep drawing process, finite element anal. 9-18735
- glass fibres, stresses induced by draw force 9-47737
- metal, fibres, cubic struct., texture form. in uniaxial deform. theory 9-24532
- Nylon 6, small-angle X-ray scatt. struct. changes w.r.t. thermal and mech. history 9-41976
- optical fibre drawing, semi-automatic machine development 9-27449

drawing (mechanical) continued

- optical fibre drawing techniques for plastic-clad and doped-deposited silica fibres 9-37066
- optical fibre drawing using laser, galvanometer beam-scanning rotating lens system 9-41463
- optical fibre fabrication techniques 9-18557
- optical fibre geometry specifications rel. to measured fibre statistics 9-27371
- optical-fibre loss for high-speed drawing 9-14095
- plastic deformation incompatibilities, resulting from moderate cold drawing, X-ray line broadening determ. (*French*) 9-43265
- polybutyleneterephthalate, drawn annealed, struct. and props., X-ray scattering 9-7552
- polyethylene, hot drawn, low density, stress relaxation 9-29121
- polyethylene, linear, bulk-crystallised, morphology study 9-32918
- polyethylene, linear, films, elec. cond. rel. to drawing, annealing (*Japanese*) 9-15817
- polyethylene, ultradrawn linear, kink bands by compression, interfibrillar motion 9-24581
- polyethylene terephthalate, stretching, heat effects, struct. transforms. 9-15735
- polymers, crystalline, oriented, drawing, load elongation behaviour, fibre composite model 9-15691
- polyoxymethylene, ultra-high modulus, prod. by high temp. tensile drawing 9-43352
- polypropylene, metallic glass filled, mech. props. rel. to temp., strain rate filler content (*Japanese*) 9-15742
- polypropylene monofilaments, draw rate effect on long period 9-47726
- shell, fracture behaviour, forming severity and metal flow in deep drawing 9-38975
- steel, C, microplastic deform. of drawn and undrawn samples (*French*) 9-1894
- steel, C, X-ray line fitting by Gram-Charlier distrib., appl. to tension test (*French*) 9-15689
- steel, low-C, preliminary thermomech. treatment, cold deform. effect on struct. and props. 9-38847
- steel, stainless, austenitic, Cr-Ni-Mn-Si-Mo-C alloy, 13Kh18Ni9G3S2M2, elastic moduli exam. after thermomechanical treatment (*Russian*) 9-24558
- steel, stainless, ferritic, high CR penny shaped central bursting defect in cold drawing 9-20071
- steel, stainless, filament produced by glass coated melt spinning, new metastable tetragonal struct. 9-20072
- steel, stainless, sheet, deformation charact. determ. test (*German*) 9-24569
- steel, stainless electroplastic drawing 9-20142
- steel 42NKhTYuA wire, hysteresis loop and differential permeab. after US and conventional drawing 9-15818
- steels, C, H₂ embrittlement after patenting and cold deform. (*Russian*) 9-29175
- Al-Al₂O₃, recrystallisation nucleation in drawn wires, optical and TEM obs. 9-47709
- Cu, recrystallised, inhomogeneous deform. due to texture changes (*German*) 9-29158
- Cu, stress-strain behaviour over large strain range 9-15745
- Cu wire, electroplastic drawing X-ray diff. anal. and mech. props. exam. (*Russian*) 9-29138
- Fe, Armco, sleeve, deformed by cold drawing, exam. of surface and texture (*Russian*) 9-34057
- Fe-Nb(Ta)-Co, Recalloys, semihard mag. alloys, mag. and elec. props., hardness, thermal expansion (*Japanese*) 9-5066
- GeO₂-B₂O₃-SiO₂ optical fibres, optical transmission loss as function of drawing conditions 9-32038
- Mo, US working effect on single cryst. during deform., strengthening effect, plasticity resource (*Russian*) 9-34107
- Nb wire drawing, NbFe, layers form. by diffusion 9-28153
- Nb-Ti, wire drawn and hydrostatically extruded supercond., crit. current density 9-38275
- Nb₃Sn-Cu superconducting composite with submicrometer filaments, fabrication and props. 9-38282
- SiO₂-Al₂O₃-B₂O₃-CaO-Na₂O-K₂O system glasses, relax. of struct. stresses rel. to forming process 9-34088
- U/(Zr-Cu-Mo alloy) welded joints, mech. characts. determ. 20 to 750°C 9-29113
- U/Ti welded joints, mech. characts. determ. 20 to 750°C 9-29113
- W, US working effect on single cryst. during deform., strengthening effect, plasticity resource (*Russian*) 9-34107

drives

- artificial heart operation and monitoring system (*German*) 9-8583

drop model (nuclear) see nuclear liquid drop model

droplets see drops

drops

- acoustic levitation technique appl. 9-44906
- adsorbed layers, clustering, bulk vapour pressure behaviour 9-4473
- aerosol drop, submicron size evap. in continuum and non-continuum regimes 9-43639
- aerosol particle capture by drops, thermodiffusionphoresis and Brownian motion effects (*Russian*) 9-39791
- aerosols, particle-droplet inertial collisions 9-47989
- air-atomised water mixture, high temp. surface impact, heat transfer (*French*) 9-4015
- air-water mist flows, uniform heat flux wedge, heat transfer 9-23352
- blood droplet deformation in Couette flow suspension, expt. (*German*) 9-16227
- bubble and droplet-type contactors, wake shedding 9-4060
- burning droplet, finite reaction rate model rel. to flame sheet model 9-34306
- butane drops, nucleation in flowing water 9-1099
- capillary condensation, Kelvin eqn. direct exptl. verification 9-33159
- cloud droplets, 8-12 μ m radiant energy transfer effects on mass and heat budget 9-5571
- clouds, drop size distrib., Kelly probe assessment for ground-based meas. 9-12317
- clouds, electrical charges fate in evaporating droplets 9-48559
- coagulation theory, new aspects (*Russian*) 9-8453
- column, vertical, approaching interface, shape 9-32725
- convective diffusion to drop, large Peclet no., finite Reynolds no., asymptotic soln. 9-41742
- cooling tower drift deposition, modelling and monitoring 9-20992
- deformation and burst of drop in extensional flow 9-32645

drops continued

- deformational breakup in wet-steam stream, differential eqns. 9-14462
 drift droplets deposition estimation from natural draught cooling tower 9-16647
 droplet-vapour flow, normal shock waves 9-32651
 dynamics in diffusion cloud chamber, growth stabilization 9-47996
 EHD produced droplets, specific charge and size 9-32696
 emulsion, relative drop-drop and drop-wall motions, slow 9-32641
 evaporating droplets in immiscible liq., theoretical anal. 9-23193
 evaporating drops, in vert. hot air tunnel, heat radiation effect 9-46400
 flow of centrally-located drop with thin jet in infinite viscous fluid 9-32614
 fragmentation by laser beam 9-7169
 fuel droplet, burning anal., quasisteady model (*Japanese*) 9-32712
 fuel droplets, mathematical models of transient heat flow 9-18673
 gas-liquid two-phase bubbles in immiscible liq. media, configs. 9-4068
 growth in atmosphere by condensation, cloud physics appl. 9-44216
 heat pipe wick, liq. evaporation, drop carry-over phenomena in capillary struct., obs. 9-18948
 heat transfer between a dispersed system and a vertical heating or cooling surface 9-1069
 high speed interaction of drop with solid surface, apparatus design (*Russian*) 9-27605
 holographic method of small particle analysis 9-13924
 hydrocarbons, levitated in water, acoustically forced shape oscill. 9-47987
 internal boiling and superheating in vaporizing multicomponent droplets 9-3906
 Ising cluster size and shape, Whitney polynomial 9-33080
 isobutene, droplet nucleation from crit. gas-phase + positive ions 9-39222
 jet, liq., breakup, 3rd perturbation Cosserat soln. 9-32615
 jet drops from bubbles bursting in seawater, ejection height rel. to organic material 9-39727
 kerosene drops, direct contact cooling of crystallising brine 9-1053
 kinetics of processes controlled by diffusion 9-11828
 laminar condensation heat and mass transfer at stagnation point of droplet in ternary mixture 9-14227
 Landau-Ginsburg model, droplets free energy, Jost function 9-40469
 large, volatile binary solution, theory of evaporation 9-10931
 laser particle size analyser, size estimated from diffraction pattern 9-6091
 liquid drops moving in single file in liquid continuum, heat transfer 9-46367
 liquid metallic thin film, supercooling, electron diffraction study (*French*) 9-7676
 magnetic fluid drops in homogeneous magnetic field, shape (*Russian*) 9-877
 marine advection fog, water distrib. rel. to droplet size, salt particle nuclei 9-5570
 microdrop, energy and mol. structure, mol. dynamics method 9-11004
 microdrop, pressure tensor and surface tension, mol. dynamics method 9-11005
 microemulsion, struct. description of liq. particle dispersion, ultracentrifugation and small ang. neutron scatt. obs. 9-5184
 oil drop spreading and wetting on submerged solid substrate, dynamics 9-46885
 oil drop spreading and wetting on submerged solid substrate, forced spreading 9-46887
 oil drop spreading and wetting on submerged solid substrate, static profiles 9-46884
 oil drop spreading and wetting on submerged solid substrate, drop dynamics 9-46886
 profile area as useful pendent drop parameter 9-23806
 raindrop, single, growth by condensation and droplet capture, props. 9-12208
 raindrop growth physics, for teaching 9-35502
 raindrop size distrib. shapes 9-20949
 raindrop size distrib. with collision breakup in axisymmetric warm cloud model 9-34918
 raindrop size distrib. from attenuation meas. at 94 GHz 9-16632
 raindrop sizes in mm radio attenuation, lognormal distribution 9-16635
 raindrops, spreading of ellipsoidal raindrops orientation during intense rainfall, expt. results 9-16634
 rime growth, splintering mechanism 9-39788
 spherical drop in infinite viscous fluid 9-1234
 spherical particles, line of centre motion 9-4067
 spray cooling, characts. and minicomputer control (*French*) 9-3889
 spray from nozzle, drop size distrib. 9-32633
 steam, dropwise condensation on electroplated Au layer, thickness depend. 9-46791
 steam droplets growth in Laval nozzle 9-32648
 Stokes flow, Faxen relations generalisation 9-32438
 surface and interfacial tension determ., pendent-drop method 9-46891
 transient heat-mass exchange 9-7276
 ultrasonically produced aerosol droplet size rel. to liquid viscosity 9-47998
 viscosity of drop falling through liquid, for teachers 9-40331
 viscous fluid stream, nonstationary mass transfer (*Russian*) 9-10561
 water droplet forced convection and heat transfer rel. to vapour conc. (*Chinese*) 9-23185
 water droplet growth rel. to condensation coeff. (*Russian*) 9-34901
 water droplet spectra formation, numerical model for advection fogs at sea 9-34916
 water droplets, small, weakly absorbing, motion in bounded laser beam 9-12269
 water droplets in hot gas flow, transient cooling 9-1063
 water droplets in stratoscumulus cloud, humid plume interaction (*French*) 9-16605
 Ar jet, supersonic, electron beam-excited, continuous VUV emission spectrum origins 9-6964
 Fe, adsorption on W foil, multilayer film, contraction into drops 9-15023
 He, dense gas, positive ion excess, ion-induced droplets 9-14925
 He charged drops in cryogenic vap., He⁺ mobility, 1.3-2.0K 9-32734
 Na droplet, preignition oxidation process, rel. to LMFBR accident 9-30996

drying

- clays and ceramics, plasticity determ. using drying process and shrinkage 9-20307
 dryout in an SGHWR rod bundle, exptl. and calc. comparison 9-3192
 freeze-drying of food models, heat and mass transfer 9-1098
 multirow dry or wet heat exchangers, simulation 9-191

drying continued

- paints and varnishes, stress anal. during drying 9-34183
 PCA, dehydration effect on carbonisation process, high temp. resistant materials (*Russian*) 9-8269
 polyolefine, deep drying, internal mass transfer 9-14239
 porous medium, drying, evaporation characteristics determ. (*Russian*) 9-37134
 pressure generation during the drying of a porous half-space 9-23187
 SEM, critical point drying, semi-automatic method 9-17406
 silica gel regeneration by adiabatic desorption mathematical model 9-1967
 unified representation of molecular heat and mass transport (*German*) 9-32219
 Pb(Zr,Ti)O₃, synthesis from cryochem. mixtures, chem. reacts. in sublimation drying 9-11538

dual resonance model see duality and dual models

duality (mathematics)

- Abelian and non-Abelian models, dual transforms., phase transition points (*Russian*) 9-2735
 EM field equilibrium equations and duality 9-879
 incompressible flow fields, finite element dual variational anal. 9-40375
 Ising models, blocked, duality 9-12735
 plasticity, dual extremum principles in rate boundary value problems 9-25845
 variational inequality related to elasticity operator, soln., dual problem 9-9109

duality and dual models

see also Veneziano model

- 1/N dual unitarisation convergence due to SU(4) breaking, charm and strangeness implications 9-6321
 baryon models and the planar bootstrap condition 9-3005
 Bloom-Gilman duality and pion form factor 9-9352
 charge-monopole duality in spontaneously broken gauge theories 9-267
 charmonium potential models, testing Q² duality 9-45082
 classical Euclidean Yang-Mills theory, self dual SU(2) solutions 9-2945
 classically massless string, quark confinement 9-22041
 coloured dual diagrams 9-22072
 compact group gauge fields, breaking of symmetry and dual charges (*Chinese*) 9-35918
 covariant formalism for a relativistic string in a constant homogeneous electromagnetic field 9-21546
 covariant inclusion of quark spin into the dual resonance model (*Russian*) 9-22074
 diffractive bumps, gluonic excitation Regge trajectories from bag and dual models 9-2978
 discrete and Abelian lattice gauge theories 9-9279
 discrete lattice gauge fields, duality transformation, review 9-26236
 flavour symmetry breaking and production processes in dual unitarisation, ϕ and ψ prod. 9-45080
 gauge fields as phonon excitations in a condensate of dual strings 9-35934
 gauge fixing ambiguities, flux strings, and the unconstrained Yang-Mills theory 9-35927
 gauge lattice systems, transition, duality 9-262
 geometric strings, quark binding, quantisation in GL(2,C)/SL(2,C) struct. group 9-40727
 ghost-free string models, systematic search, struct. constants in gauge superalgebra 9-30719
 gravitation duality in quantisation problem 9-30344
 hadronic processes, large and small p_T behaviour 9-26268
 hadronic processes, small and large p_T behaviour, new particle-wave duality 9-45081
 heavy quark system prod. in QCD, duality predictions 9-13074
 high-energy behaviour of a double discontinuity and the bare Pomeron 9-17696
 instantons, description in self-dual Euclidean Yang-Mills fields 9-6256
 instantons and Kahler manifolds 9-12925
 lattice gauge theory, extreme environments and duality transform., review 9-13024
 linear baryonic string model, dynamical SU(3) symmetry breaking 9-22036
 low mass diffractive dissociation in a simple t-depend. dual bootstrap model 9-13089
 low mass diffractive dissociation in a simple t-dependent dual bootstrap model 9-36042
 massless antisymmetric tensor gauge fields, second rank, free field theory quantisation 9-257
 meson resonances, high spin, natural parity, dual reson. model with non-degenerate Regge trajectories 9-359
 multi-instanton solutions of the duality equation and the inverse-scattering problem (*Russian*) 9-21591
 multiparticle production in multiperipheral resonance model complemented by duality 9-36050
 multi-quark states and the breaking of exchange degeneracy, dual approach 9-45061
 nonlinear relativistic string, Euler equations, introduction of new Lagrangian 9-36045
 point electric and mag. charge, nonAbelian gauge invariant classical Lagrangian formalism 9-12627
 QCD qq running coupling constant, β -function from string model, Padé approx. 9-343
 QCD spectrum, infinite number of colours at fixed coupling, interacting string model 9-2993
 quark and string interacting system, gauge theory for 2-D statistical mechanics 9-30713
 quark confinement, infinite momentum frame formulation 9-36026
 quark string model, hadron spectrum, semiclassical approach, baryons and exotic hadrons 9-40747
 Regge trajectories, dual unitarisation scheme, SU(3)-breaking and baryon exchange effects 9-26316
 reggeon and photon coupling relns. 9-13063
 relativistic string, geometric approach 9-36044
 relativistic string in a constant homogeneous electromagnetic field 9-22073
 small p_T hadronic collisions, jets, quark, fragmentation universality and rising rapidity plateaus 9-40734
 string model and QCD 9-26292
 SU₂ dual charges, U₂(Q) invariance of principal bundles, and corresponding ang. operators (*Chinese*) 9-36043

duality and dual models continued

- SU(2) gauge theory instanton solns., duality condition, Lie group interpretation, quasiparticle soln. 9-6261
 SU(n+1) invariant chiral theory, duality eqns. soln. 9-9351
 t-channel diffractive scatt., elastic peak and hadron size 9-45083
 triple-Pomeron couplings in dual models 9-358
 unambiguous field-strength formulation and dual potentials for gauge theories 9-35938
 Yang-Mills theories, quantum dual string wave functional 9-21921
 Z(N) gauge theories, self duality 9-2919
 Zwanzigers local Lagrangian quantum field theory, electric and mag. charge, Lorentz invariance 9-6286
 pp elastic differential cross section break, 90° scatt., duality satisfying lepton-hadron relation 9-3035
 $\pi\omega \rightarrow \pi\pi$, operator dual model for bound relativistic quark based mesons (*Russian*) 9-9408
 $\psi \rightarrow \psi\gamma$, OZI rule violating transition, unitary corrections using dual model 9-26330

ductile-brittle transition

- see also embrittlement*
 acoustic absorption during brittle-plastic transition, theory 9-27595
 energy scaling, size effects and ductile-brittle transitions in fracture 9-43394
 Incoloy 800, exam. of caustic stress corrosion cracking, comparison with type 304 stainless steel 9-29261
 Inconel 600, exam. of caustic stress corrosion cracking, comparison with type 304 stainless steel 9-29261
 metals, BCC, low temp. softening 9-34113
 nuclear reactor materials, crack propag., fracture, and ductile-brittle transition (*Spanish*) 9-36316
 steel, austenite decomposition, controlled rolling rel. to substruct., props. 9-29014
 steel, brittle transition temp. comparison of arc, gas-pressure and friction-pressure welded alloy by hardness measurements (*Japanese*) 9-11691
 steel, C, composite layered specimen influence of contact strengthening by intermediate layer, on fracture toughness (*Russian*) 9-15768
 steel, C, weldable, ferrite-pearlite, Widmanstätten structs., resist. to fracture 9-29203
 steel, Cr-Mo, grain size effect on ductile brittle transition 9-24615
 steel, ferritic, Charpy impact testing criteria 9-47855
 steel, ferritic-pearlitic, low C, low alloy, low temp. effects on fatigue strength 9-5057
 steel, low C, effect of grain size on transition behaviour and bending speed correl. (*Japanese*) 9-8345
 steel, low C, microalloyed, heat treatment, mech. props. 9-24551
 steel, Mn (1.10 to 1.55 wt.%), reactor vessel material, assessment of weld heat affected zone mech. props. 9-29217
 steel, Ni-Cr, exam. of caustic stress corrosion cracking, comparison with type 304 stainless steel 9-29261
 steel, structural, effect of rare earth metals on cold temper brittleness 9-29202
 steels, brittle transition temp. determs. from impact ductility tests, comparative evaluation 9-15888
 Co-Cr-(Al-Y) coatings, hot corrosion resist., ductile-brittle transition 9-24674
 Cr, anomalous US damping under hydrostatic press. 9-14890
 Cr-V-Ce-N, (2.4 to 2.6, 1.7 to 2.3, 0.005 to 0.23 wt.%) V effect on hardness, and ductile to brittle transition temp. (*Russian*) 9-34138
 $\text{Fe}_{20}\text{Ni}_{40}\text{P}_{14}\text{B}_6$, amorphous, annealed and unannealed, temp. depend. of flow stress and ductility 9-29119
 Mo, anomalous US damping under hydrostatic press. 9-14890
 Mo, recrystallised sintered sheet, C addition effect on ductility 9-8319
 Nb alloy, VN2AE, influence of nitriding on heat resist. and brittleness (*Russian*) 9-8380
 TiC, mech. props., 1073 to 2273K (*Japanese*) 9-15732
 ZN, anomalous US damping under hydrostatic press. 9-14890

ductile fracture

- see also ductile-brittle transition; notch ductility*
 computer model based on plastic strain, fracture toughness prediction, comparison with steel data 9-32383
 Duralumin, effect of alloy purity and ageing on fracture mechanism, and resultant toughness 9-5049
 metal, fracture under influence of high power US waves (*Russian*) 9-5034
 metals, liquid metal embrittlement, mechanism 9-43495
 microcrack formation, disclination mech. 9-23674
 nuclear reactor coolant circuits, fracture mech. appl. 9-43430
 polymer-based composite solid propellants, viscoelastic fracture mech. 9-43431
 polystyrene, rubber-modified, impact-strength analysis 9-38972
 rocks, hot, dry, hydraulically fractured linearly expanding cracks, eqns. (*Japanese*) 9-34809
 steel, alloy, tension test, computer simulation of deform. to fracture 9-11667
 steel, austenitic, intermittent loading effect on creep (*Japanese*) 9-29147
 steel, C, martensites, fractography, facets classification (*Slovak*) 9-20173
 steel, Cr-Mo-V, 1% Cr, chem. comp. and struct. effect on deform. props. (*German*) 9-1888
 steel, Cr-Mo-V, rupture ductility rel. to cavitation, density and SEM obs. 9-34142
 steel, ductile fracture under cold metal forming conditions, metallurgical struct. influence 9-34125
 steel, low C, strain ageing, essential work of plane stress ductile fracture 9-29187
 steel, low strength, strain induced fracture 9-43382
 steel, low-alloy, study of deformation and fracture processes by acoustic emission transient anal., SEM and optical microscopy study 9-43311
 steel, Ni (9 wt.%), tempered, mech. stability of retained austenite 9-24521
 steel, spheroidized AISI 1095, ductile fracture of U-notched bend specimens 9-24616
 steel, structural, lateral notches rel. to ductile fracture characts. 9-43392
 Ag-MgO, dispersion hardened, exam. of ductile fracture 9-34144
 Al alloy 01205, mech. props. at cryogenic temps. 9-29206
 Al, oriented single crystal, plastic deform. (*Japanese*) 9-43336
 Al, torque and length change during fracture in torsion test (*German*) 9-24611
 Al-Cu, effect of alloy purity and ageing on fracture mechanism, and resultant toughness 9-5049

ductile fracture continued

- Al-Mg-Si (0.52, 0.58 wt.%), ductile fracture intergranular mechanism 9-15784
 Cu, dislocation mechanism of luminescence during fracture 9-24376
 Cu-Ni, powder, sintered, effect of cold and hot dynamic pressing, upon structure and props. 9-33970
 Cu-Sb solid solution, dil., FCC, intergranular solid shortness mechanism (*Russian*) 9-5032
 Fe-Cr-Ni-C (17.2, 7.34, 0.2 wt.%) alloy, twin related laths, fracture elongation, TEM study 9-29192
 Fe-N, neutron irradi. effects on mech. props. 9-4338
 Fe-Ni-C, martensitic delayed fracture (*Slovak*) 9-43401
 Fe-Ni-Mo(13.3wt%), welded alloy, fracture and strength for cryogenic service 9-38930
 Nb-Zr-C, structural depend. of elasticity limit (*Russian*) 9-29171
 Pb-Sb (1 wt.%), highly averaged, fracture behaviour 9-8366
 Ti, shear bands in cup and cone fracture in pure plate (*Japanese*) 9-15773
 Ti-V (27 and 30 wt.%), fatigue crack propag., in single and poly. crystals 9-5048
 V-Nb-Ti-N alloy, dispersion hardened, fracture characts. 9-15794

ductility

- see also ductile fracture; notch ductility*
 ABS mouldings, selective Cu plated in areas, effect on mech. props. 9-34182
 alloy steels N30 and N29T, press. effect on reverse martensitic transform. and mech. props. (*Russian*) 9-38824
 bainite, formed from deformed austenite, morphology and mech. props. 9-43345
 α -brass, bicrystal, grain boundary fracture at intermediate temp. (*Japanese*) 9-15774
 α -brass, single crystal, deform. and ductility at elev. temps. (*Japanese*) 9-5012
 engineering materials relation between deform., rupture, power-law creep 9-5020
 Incoloy 800, creep rupture ductility, 500 to 600°C, hardness and metallurgical exam. 9-43435
 Incoloy 800, from KFA experimental duct at 700°C and 480 d in DRAGON reactor, mech. props. before and after contamination 9-47777
 Incoloy 800, mechanical props., heat treatment and appl., conf., Petten, Netherlands (March 1978) 9-43296
 Incoloy 800, review of mech. props. up to 600°C 9-43368
 Incoloy 800, use up to 550°C, creep ductility 9-43369
 Incoloy 800 and 802, influence of carburisation on mech. props. 9-20254
 inhomogeneous deformation of ductile single cryst., geometrical effects 9-46741
 metal, diffusional relaxation of stress conc. at second phase particles 9-1889
 metal, plastic props: investig. at elevated temps. by torsional method, review 9-43509
 metal targets, penetration by conical projectiles, ductile hole formation study 9-23220
 metallic two-phase coating, ductility maximum, weakening and strengthening 9-11681
 metals and alloys, strength/ductility relation (*Japanese*) 9-29145
 reactor pressure vessel brittle fracture, safeguards, American and German ductility requirements (*German*) 9-41017
 solid soln., ductility, comp. effect (*Japanese*) 9-43334
 steel, 12 MKh, strength, ductility rel. to H_2 corrosion at 1000 kg/cm² press., 450°C (*Russian*) 9-15723
 steel, austenitic, 30KhGSA, grain size before quenching rel. to mech. props. 9-24553
 steel, austenitic, 30KhGSA, heat treatment, preliminary, cold deform., elec. heating rel. to mech. props. 9-24554
 steel, austenitic, ASTM A533B and A542, H_2 embrittlement behavior of unirrad. steels for nuclear reactor press. vessels 9-8340
 steel, austenitic, Cr-Mn, Kh4G18F, microstruct. and mech. props. during tensile deform. (*Russian*) 9-20114
 steel, austenitic, low-C, transform. kinetics rel. to temp., deform., struct., mech. props. 9-24519
 steel, C-Mo-P, intergranular fracture and grain boundary segregation, P, H, Mo effects (*Japanese*) 9-15775
 steel, Cr, type Kh, (GOST 5950-51), in biaxial tension, effect of charact. of preloading on low-temp. ductility and strength 9-15749
 steel, Cr-Mo-(V), ductility and heat resistant prop. prediction rel. to fine struct. and solid soln. state 9-15751
 steel, Cr-Ni, hydrogen effect on strength, ductile and fracture characts. 9-38960
 steel, high-speed, cast, mech. props. at high temps. 9-20135
 steel, low C, microalloyed, heat treatment, mech. props. 9-24551
 steel, low-C, preliminary thermomech. treatment, cold deform. effect on struct. and props. 9-38847
 steel, low-C, with Nb-B addition, transform. characts. and mech. props. (*French*) 9-43253
 steel, maraging, inert gas atomised, hot isostatic pressing temp. effect 9-24460
 steel, Si (6.5 wt.%) Mn, Ni and Al additions influence obs., on mech. and magnetic props. (*Slovak*) 9-5064
 steel, stainless, 316, creep and rupture, 525 to 900°C, rupture and ductility 9-8327
 steel, stainless, embrittlement due to soldering with Cu alloy solder, effect of alloying additions 9-47773
 steel, stainless, Kh18N10T, struct. and mechanical props., effect of previous deform. in rolling (*Russian*) 9-29099
 steel, W, high C, amorphous, rapidly quenched from melt, mech. and thermal props. 9-38874
 steel, white layers forming at high rates of friction, struct. props. (*Russian*) 9-15800
 steel welded joint impact strength, preheating and tempering effects 9-24542
 steels, 45, Kh18N10T, and 30KhGSA, determining the relative elongation from a machine tensile curve 9-15927
 steels, die, mech. props. high temp. thermomech. treatment 9-20086
 strain rate gradient development 9-46219
 tearing of ductile material, fracture strength determ. 9-43385
 tension creep, finite element anal. of void growth 9-18739
 thermomechanical treatment on struct. and props. 9-29109
 zircaloy-4, oxidation in high temp. steam atm. effect on cladding ductility 9-26515

ductility continued

- Zircaloy-4, oxide coating effect on ductility 9-47819
 Al alloy 01205, mech. props. at cryogenic temps. 9-29206
 Al-Fe-Si commercial alloy, elevated temp. low cycle fatigue behaviour under rotating bending 9-47766
 α -brass, solid soln., ductility, comp. effect (*Japanese*) 9-43334
 Co, influence of FCC phase retained at room temp. on mech. props. 9-47677
 Cr diffusion coating of C steel, types 45, 50, U8, U10 9-43357
 Cr-Fe, magnetically insensitive Invar-type alloys (*Japanese*) 9-8034
 Cr-V-Ce-N, (2.4 to 2.6, 1.7 to 2.3, 0.005 to 0.23 wt.%) V effect on hardness, and ductile to brittle transition temp. (*Russian*) 9-34138
 Fe-Cu-Ti, improvement of irradiation-enhanced Cu embrittlement by Ti addition 9-43393
 Fe-Ni-C-Mn (3.56, 3.25, 0.6 wt.%), solid soln., quenched, changes during annealing to crystal structure, mech. props. (*Russian*) 9-34076
 Fe₄₀Ni₄₀P₁₄B₆, amorphous, annealed and unannealed, temp. depend. of flow stress and ductility 9-29119
 Mo, mag. field effect on mech. props. and dislocation struct. (*Russian*) 9-42818
 Mo, recrystallised sintered sheet, C addition effect on ductility 9-8319
 Mo-C-Zr-B (0.004, 0.12, 0.002 wt.%) effect of grain size, cellular dislocation structure, on mech. props. (*Russian*) 9-34105
 Nb, mag. field effect on mech. props. and dislocation struct. (*Russian*) 9-42818
 Ni base alloys Eh1607A and Eh1929VD, fatigue strength, temp. depend. 9-15791
 Ni electrodeposits, influence of Ni sulphamate operating parameters on impurity content and props. 9-28971
 Ni-Fe metallic glass, METGLAS 2826, creep props. 9-15746
 Ni-Nb-Al, eutectic, thermal cycling effect on strength and ductility (*Russian*) 9-24601
 α and $\alpha+\beta$ Ti alloy of different stability, exponential law use for anal. of strain hardening process 9-15697
 Ti alloy VT20, phase composition and structure effect on mech. props. 9-38958
 Ti and Ti alloys, struct. sensitivity of mech. props., alloying influence (*Russian*) 9-47748
 Ti-V-Si (30, 1 at%), quenched and aged, hardness, tensile behaviour and phase transform. 9-11646
 TiC, mech. props., 1073 to 2273K (*Japanese*) 9-15732
 U/(Zr-Cu-Mo alloy) welded joints, mech. characts. determ. 20 to 750°C 9-29113
 U/Ti welded joints, mech. characts. determ. 20 to 750°C 9-29113
 W and alloys, wire, increasing plasticity, by electroplastic rolling (*Russian*) 9-29103
 Zn-Al(Cu), dil. alloy, creep ductility 9-38899
 Zr-Mo-Nb-V-Sn (1.2,2.2 wt.%), heat treatment, transform. reactions and mech. props. 9-24545
 Zr-Mo-Sn (3.2 wt.%), heat treatment, transform. reactions and mech. props. 9-24545

duplicating see reproduction (copying)

dusk see twilight

dust

- see also cosmic dust
 airborne, field sampling techniques 9-12258
 airborne dusts collection by bluff bodies 9-4065
 airborne dusts transport in near wakes of bluff bodies 9-4064
 atmosphere, particulate conc. changes during precipitation, field studies 9-12167
 atmospheres, reflective dust blanket rel. to Earth albedo sudden change and ice age onset 9-44241
 dusty viscous flow between oscillating coaxial circular cylinders 9-18928
 eolian sediment transport during dust storms, Slims River Valley, Yukon territory 9-5552
 gauges, directional, analytic expression for collection efficiency 9-21062
 Great Plains, USA, dust storms, lessons 9-29486
 hypersonic free-molecular heating of micron size particulate 9-4058
 measurement 9-39331
 measurement engineering, survey (*German*) 9-35712
 particles, collecting, handling and mounting for SEM characterisation 9-21867
 Sahara as possible sink of trace gases 9-34888
 soil erosion, wind tunnel simulation, effects on fine dust production 9-20834
 spherically symmetric charged dust distrib., Einsteins theory generalised to Brans-Dicke theory 9-2694
 storms, SW. United States, tropospheric aerosols 9-20932
 Fe dust particles, respirable, meas. of mass and thickness by SEM back-scattered electron imaging 9-21707
 SiO₂+Al₂O₃ particulate emission from calcining of clay, removal using electrostatic precipitator 9-24925

dust storms see storms

dwarf stars

- see also white dwarfs
 accreting nonmagnetic degenerate dwarfs, X-ray and UV radiation 9-40184
 brown and black dwarfs, structure, evolution and missing mass contrib. 9-48800
 chromospheres, models and activity 9-48773
 cool stars, local interstellar H and D Lyman α towards four objects 9-5886
 ss Cygni, hard X-ray source, obs., accretion onto white dwarf 9-30078
 CM Draconis, low dispersion spectrum, metal abundance of eclipsing binary 9-25636
 emission-line M-type dwarfs, H α var., stellar surface phenomena 9-21313
 flare stars, dM stars as source of interstellar ³He 9-48810
 flare stars, photoelectric monitoring (1974 to 1976) 9-44509
 G139-29, perturb. from rectilinear motion, astrometric red dwarf binary system with subluminoous component 9-8910
 Gliese 867, flares obs. on both components of visual binary 9-48861
 HD 45166, dwarf in Wolf-Rayet clothing, spectrum anal. 9-5826
 HD 49798, H-deficient subdwarf O-type binary, non-LTE spectral anal. 9-16978
 HZ 22 (UX Canum Venaticorum), hot subdwarf binary, evolution and mass 9-12472
 K-type subdwarfs, missing halo population 9-25595
 LB 3459, O-type subdwarf plus hot white dwarf eclipsing binary, photometry, anal. 9-48859

dwarf stars continued

- AS Leonis, flare star, chromospheric emission lines in nonflare red spectrum 9-21294
 AD Leonis, flare star, H α emission short-period variability limits 9-48807
 M-type, in South Galactic Pole direction, catalogue of 282 objects 9-5762
 M-type, IR Fourier transform spectroscopy, abundance anal. 9-21279
 Me-stars, multiplicity 9-44544
 metal-poor stars, C/Fe ratio from CH features 9-16945
 nearby main sequence stars, XUV radiation upper limits 9-12471
 novae, spectrophotometric estimate of electron density in rapidly rot. accretion discs 9-16968
 PG 1413+01, white dwarf-red dwarf eclipsing binary, photometry and spectral types 9-8944
 red degenerates, eleventh list 9-25596
 red dwarf stars, origin, evolution and variability 9-16954
 scaling hypothesis, relativistic statistics and critical mass 9-16960
 Scutum Cloud direction, main sequence stars density functions from RGI photometry 9-35242
 southern subdwarfs, UVB photometry, UV excesses 9-5818
 van Bueren 62, 117, 121, dwarf stars in Hyades, spectroscopic orbits 9-5862
 Wolf 630, visual multiple system including dwarf or degenerate stars 9-17019

dye lasers

- air pollution monitoring by pulsed dye laser 9-48204
 amplifier system, multipass electro-optical injection 9-22975
 angularly resolved coherent Raman spectroscopy, crossed beam config., 9-30570
 anisotropic theory, oscill. model of complex mols. (*Russian*) 9-22948
 anthracene derivatives in soln., fluoresc. and laser parameters 9-27251
 approximate theory of laser with saturable absorber, stationary pulse parameters 9-3690
 beam expand telescope, on-axis reflective, for pulsed dye laser cavities 9-41398
 carbocyanine dye, tunable emission by pumping with Nd:YAG laser 9-950
 cavity dumped flashlamp pumped dye lasers 9-13987
 continuously pumped, pulse compression with slow saturable absorber 9-31959
 coumarin 481, mixed solvent systems for optimising output 9-13981
 coumarin dye laser, mode-locked flashlamp pumped, tunable blue ps pulses 9-13974
 coumarin laser dyes, in methanol, ethanol, and water, fluoresc. lifetimes meas. 9-27252
 coumarine dye laser, N₂ laser-pumped, pulse time behaviour 9-31894
 coumarins (C-30, C-102, C-7), synchronous pumping and mode locking 9-45966
 CW, freq. locking to Ne absorpt. lines by Faraday filter 9-22989
 CW, improved freq. stability using He-Ne lasers (*French*) 9-31935
 CW, output power, effects of gaussian depend. of fields 9-952
 CW, synchronous pumping and passive mode-locking, for picosecond pulse generation 9-3727
 CW, tunable by holographic grating 9-27288
 CW laser, mode locking wing externally modulated pumping laser 9-18456
 CW mode-locked dye lasers, Raman dephasing dynamics 9-44942
 CW mode-locked lasers for ultrafast spectroscopic studies 9-31960
 CW tunable dye laser, appl. to rot. anal. of A² Π -X² Σ system of SrF 9-31563
 3-cyano-4-methylumbelliferone in ethanol containing water, acid or alkali, laser emission 9-955
 dichromatic switching effect in two thin film DFB dye lasers 9-10331
 diphenyl-stilbene dye, sulphonated, CW laser emission, tunable down to 390.4 nm 9-41379
 distributed feedback, cholesteric liquid crystal as resonator, theory 9-31956
 double frequency narrow-band grazing incidence pulsed dye laser 9-36929
 double mode locking of CW laser, parametric study 9-45978
 efficient oscillator-amplifier, pumped by freq. doubled Nd:YAG laser 9-41389
 electron beam excited laser vapour cell designs 9-13951
 emulsion dye laser, pumped by N₂ laser 9-13962
 energy transfer, computer simulation 9-13964
 flash lamp, 1 kJ per pulse, for tunable organic-dye laser 9-36907
 flashlamp pumped, freq. tunable ns duration pulses by pulsed Q-modulation 9-41403
 fluorescent dye medium, short laser pulse superposition, numerical anal. 9-31891
 gas phase and other new dye laser developments 9-958
 gas phase chemical reactions, laser obs. (*German*) 9-29365
 grazing incidence grating efficiencies, rel. to dye laser tuning 9-36990
 interference metrological applications, spectral kinetic characts. (*Russian*) 9-27253
 intracavity absorption of I₂ vapour 9-22992
 intracavity intensity modulated, 0.01 Hz to 1.2 GHz 9-41400
 lasing characteristics, at high levels of coherent excitation (*Russian*) 9-27254
 liquid crystal matrix dissolved dyes, laser emission obs. 9-41376
 longitudinally pumped, simultaneous two-wavelength operation using intracavity prism (*French*) 9-970
 N-methylphthalimides, laser, lamp-pumped, solvent and temp. depend. 9-3692
 1,4-bis(2-methylstyryl)benzene, picosec. gain kinetics 9-45940
 mode-locked CW, prod. of picosecond and subpicosecond pulses (*French*) 9-31961
 mode-locked dye laser and single pulse amplification 9-27255
 narrow linewidth short pulse operation, using dual prism beam expander and grating 9-971
 near IR tunable high output laser 9-36926
 optical pumping, approx. analytic solns. 9-31890
 organic compound lasing ability (*French*) 9-31893
 oscillator-amplifier MW system for high resolution spectroscopy 9-41393
 oscillator-amplifier system, high power, pumped by Nd:YAG laser 9-18443
 oxazine dyes, orientation of S₁→S₀ transition moments, continuous ps photometry 9-10152

dye lasers continued

tunable pulses, picosecond duration, production by synchronous pumping 9-22976
tunable source appl., capabilities extension and appl. 9-18495
tunable ultrashort pulse generation in N₂ laser pumped dye laser (*German*) 9-27275
tuning and active mode-locking, interferometry technique 9-22982
tuning by dielectric interference filter-coated prism 9-10322
tuning range extension using electrochem. reaction products 9-31895
two-band stimulated fluorescence, laser action and bleaching effect in organic dyes 9-41190
ultra-short light pulse generation, review (*Japanese*) 9-45973
unstable resonator, injection locking 9-979
uranine, intercombination conversion rate consts. from triplet quenching by 1,4-diphenylbutadiene 9-956
UV laser (*Japanese*) 9-3686
vapour dye pumped by N₂ laser, fluorescence and amplified spontaneous emission charact. 9-3694
vapour phase, down conversion of 351 nm radiation for fusion lasers 9-3695
wavelength conversion of pulsed solid and gas lasers, organic dye attachment 9-7147
Cl₂, laser-induced fluorescence 9-45754
Na fluorescein, soln., lasing kinetics calcs. (*Russian*) 9-13778

dynamic nuclear polarisation
see also *CIDNP; Overhauser effect; solid effect*
aromatic molecular crystals, optical nuclear polarization by optically excited triplet states 9-19804
1,4-dibromonaphthalene, proton spin relaxation by optically excited triplet states 9-19810
imidazole nitroxide radical, H-bonding with H donors, NMR, DNP and spin lattice meas. 9-15971
radiation resistant materials, dynamic polarisation 9-31283
ruby NMR laser, spontaneous nucl. spin system self organisation 9-916
1,2,4,5-tetrachlorobenzene, proton spin relaxation by optically excited triplet states 9-19810
toluene, dynamic polarization in radiation resistant materials 9-31283
Cr(V) complex, paramagnetic, dynamic polarisation of protons and deuterons 9-36453
LiH, nuclear antiferromagnetism, dynamic nuclear polaris., NMR 9-1724
LiH, nuclear antiferromagnetism studied by neutron diff. 9-11358
Si, nuclear polarisation due to optical pumping, weak mag. field (*Russian*) 9-19805
²⁵Si, nuclear dynamic polarisation, impurity centre photoionisation, extrinsic light absorpt. (*Russian*) 9-15378

dynamic programming
see also *integer programming*
electrocardiological diagnostic efficiency improvement by cardiovascular system model dynamic optimisation 9-39569
radiation therapy of malignant growths, optimisation 9-5337
rhythm analysis, long-term ECG data storage and multipass scanning 9-39578
shells of revolution, stability, dynamic programming 9-32270

dynamic response
inertial seismographs, sensitivity and dynamic range 9-39910
nuclear power plant, dynamic response to earthquake, aircraft impact, soil structure interact. 9-3208
ocean current sensors, EM- and acoustic-types, performance assessment 9-25345
seismic wide-band recorders specification 9-39908
urethane prosthetic compound, dynamic mode determ. 9-48376

dynamic stability see *stability*

dynamic testing
see also *fatigue testing*
abrasive wear testing under conditions of rolling friction 9-15894
crack growth recording, automatic, elec. resist. method 9-39070
damping meas., vibration excitation method, equipment 9-1928
deformation, cyclic, static, meas., recording, automatic system 9-15893
deformation heat attachment for scanning electron microscopy (*German*) 9-20297
device for applying dynamic torsion and static tension 9-34214
FFTF dynamic modelling and sensitivity analysis 9-605
fibre reinforced plastic, dynamic strain investigation using EM wave method 9-20321
fracture toughness, using compact tension tests 9-34218
friction, wear testing in various media, device 9-29319
glass fibre reinforced composite plate, under vibr. load, strength testing, device 9-29318
hard coating on metal surfaces, abrasive wear resist. meas. 9-20327
mechanical analysis appl. to materials testing 9-15911
metallurgically bonded plates, structural integrity determ. by high energy impulse 9-39111
motor vehicle in impact test, force meas. (*German*) 9-34271
polyamide 6, glass fibre reinforced, response function characterization of thermal state in dynamic testing 9-18680
polyamides 6 and 66, response function characterization of thermal state in dynamic testing 9-18680
polyoxymethylene copolymers, response function characterization of thermal state in dynamic testing 9-18680
steel, S45C and SS41 types, dynamic yield condition under dynamic torsion and static tension 9-34214
strain gauges, resist., in alternating sign deform., calibration 9-15901
tensile impact tests with rupture diagram recording on pendulum machines, testing procedure 9-29313
tensile testing at const. true strain rates, test machine 9-34262
viscoelastometer, dynamic, direct reading, automation, appls. to polymer films, fibres 9-3980
volume compression sensors, sensitivity under cyclic load 9-29315

dynamical symmetry
dynamical lattice theory 9-21933
filling U(4) multiplets by hadrons (*Russian*) 9-22076
infinitesimal symplectic relations and generalized Hamiltonian dynamics 9-25878
isotopic symmetry group in strong interactions, possible geom. origin 9-17628
ladder models, dynamical symmetry and asymptotic scale invariance 9-21959
non-Abelian symmetries, spontaneous breaking in SU(2) and SU(2) × SU(2), observable consequences 9-26252

dynamical symmetry continued

- nonrelativistic particle in spherical space, dynamical symmetries 9-26255
- QCD, dynamic symmetry breaking (*Chinese*) 9-22050
- quantum chromodynamics psi-spectroscopy model (*Hungarian*) 9-13068
- SO(4,2) dynamical symmetry, unified description of bradyons and tachyons, book contrib. 9-44834

dynamics

- see also ballistics; fluid dynamics; force; friction; haemodynamics; impact (mechanical); kinematics; resonance; rotating bodies; rotation; vibrating bodies; vibrations
- brachistochrone, arbitrary initial vel. object, for teachers 9-21500
- circulant and near circulant systems 9-12585
- clusters of galaxies, very rich, dynamics from photometric study 9-21448
- constrained material continua, eqn. formation 9-40360
- constrained material continua, functional formation of dynamics 9-40359
- disc galaxy, axisymmetric disturbances growth rates 9-21410
- elastic three-body linear collision, inverse scatt. problem, for teaching 9-35468
- equilibrium configurations and small oscillations of some dynamical systems 9-25832
- fluid-structure coupling method in dynamic analysis of structs. 9-7322
- frontal solution algorithm for finite element frequency analysis 9-3942
- galactic disc, dynamical friction theory 9-35367
- galaxies, criteria of local gravit. instability of double gaseous discs (*Chinese*) 9-17099
- galaxies, numerical models and spiral struct. variability 9-25725
- galaxies, tidal disturbances of material arms and star clusters by spiral density waves (*German*) 9-17086
- galaxies inner Lindblad resonance, response density in nonlinear theory 9-35366
- galaxy formation, dynamical development and struct. of six collapsing models 9-25710
- galaxy groups, virial props. 9-9010
- general shell and axisymmetric shell elements, diagonal lumped mass matrix formulation 9-3911
- globular cluster cores evolution, life and death matters 9-25653
- globular clusters, space distrib. and galactic dynamics 9-2560
- kinetic energy of rotating wheel, expt. using rocket accel., for teachers 9-17168
- M32, orbit and gravit. effect on M31 spiral arm pattern 9-21408
- M82, Ne II 12.8 micron emission obs. and galactic dynamics 9-17082
- Morse-Smale inequalities for dynamic systems in a banach manifold (*Russian*) 9-12591
- motion rigidity (*Russian*) 9-9099
- Newtonian dynamics of systems of extended bodies 9-21160
- Pfaff's equations of motion in dynamics, appls. to satellite theory 9-12386
- phase space methods and the Hamilton-Jacobi form of dynamics 9-21542
- rigid body dynamics, nonexistence of single valued integrals and branching of solns. (*Russian*) 9-9098
- satellite stabiliser system with 2-stage suspension (*Russian*) 9-32222
- star cluster models dynamical evolution, early stages 9-8958
- star clusters, dynamical evolution with changing gravit. const. 9-17030
- stochastic processes in dynamical systems (*Russian*) 9-12718
- structural analysis, dynamic condensation method 9-3943
- structures dynamic problems, eigenvalue economisation, program (*Italian*) 9-35544
- submerged elastic cylindrical shell, initially stressed, axisymmetric dynamic response 9-18715
- system theoretic representation of mechanical systems 9-17342
- systems of solid bodies with combined control (*Russian*) 9-17209
- systems theoretic representation of mechanical systems, stochastic interpretation 9-17343
- tank with fluid, variational anal. of dynamic reaction (*Ukrainian*) 9-32234
- teaching approach to mechanics (*Hungarian*) 9-17157
- uniform acceleration, student laboratory expt. 9-40326
- Wick's theorem, relation between canonical and Fokker-Planck dynamics 9-17329

dynamometers

- see also force measurement
- multicomponent, practical experimental designs for calibration 9-35729
- time ageing determination using bonded resistance foil strain gauges 9-35726
- transducers, granular, based on conducting material contact resistance 9-35706

dysprosium

- see also nuclei with
- antiferromagnetic, thermal expansion, US attenuation anomalies 9-47319
- electron irradiated, defect annealing, recovery spectra 9-23648
- ion implanted into Ni, annealing study by Rutherford backscatt., TEM, and total current spectroscopy 9-4343
- liquid, struct. factors, high temp. X-ray diff. obs. 9-7544
- magnetic phase transitions, field-induced 9-24161
- paramagnetic phase, anomalous thermal expansion, up to 273K 9-7967
- resistance and mag. structure, near Neel point (*Russian*) 9-47074
- resistivity, crit. rel. to antiferromagnetism 9-47077
- specific heat, mag. contrib. 9-28538
- X-ray cross sections, L-shell, proton induced, 1 to 3 MeV range 9-1799
- Al₂O₃-Dy₂O₃, phase diagram at high temps. (*Japanese*) 9-38810
- CaF₂:Dy sensitivity to UV and ionising radiations, temp. treatment effect 9-26763
- CaO-Li₂O-B₂O₃:Dy³⁺ glass, optical excitation energy transfer from Dy³⁺-Nd³⁺ 9-15515
- CaSO₄:Dy embedded Teflon TLD phosphor photon energy dependence obs. 9-26761
- CaSO₄:Dy phosphor powder, effect of grinding on thermoluminescent sensitivity 9-33852
- CaSO₄:Dy TLD, temp. effect during UV and gamma irradiation 9-38684
- Dy³⁺ impurity ion in frozen aq. solns., effect on Fe³⁺ spin-spin relax., Mossbauer obs. 9-33573
- Dy³⁺+O₃(SO₂)-(SO₂), in H₂SO₄ soln., electrochemiluminesc. emitters quenching by electrolysis products 9-1794
- LaCl₃:Dy³⁺, mech. for X-ray luminesc. and thermolum. 9-8170
- LaF₃:Dy³⁺, laser excited fluoresc., lifetimes meas. 9-24353
- LaF₃:Dy³⁺, magnetospectroscopy with optically pumped far IR laser 9-33737
- SrF₂:Dy, far IR spectra 9-33736

dysprosium continued

- SrF₂:Dy³⁺, nuclear spin-lattice relax. anisotropy, 78 to 300K 9-38395
- ZrO₂:Dy, thermoluminescence, traps and emission centres 9-24373

dysprosium alloys

- Ag-Dy, dil., EPR linewidth anisotropy and mag. field depend., internal stress effects 9-33532
- Dy-Cd, dil., elec. field gradient, at ¹¹¹Cd impurities, temp. depend. 9-28642
- Dy-Fe, amorphous film, Kerr readout characts. 9-15439
- Dy-Fe, magnetic relax. phenomena 9-33579
- Dy-Sm, elec. resist. singularities and mag. transitions (*Russian*) 9-47075
- DyAl₂, cryst. field volume magnetostriction calc. 9-8029
- Dy₂Au, mag. props., 4.2-300K 9-7972
- Dy₂Ce_{1-x}Ru_x, supercond., mag. props. 9-11267
- Dy₂Co, effect of absorbed H₂ on mag. behaviour 9-33483
- Dy₂(FeCo)₁₇, mag. anisotropy fields by singular pt. detection 9-24156
- DyFe₂, powders, mag. and hysteresis props. (*Russian*) 9-42800
- Dy₂Pt₄, isotypic with Pu₂Rh₄, X-ray cryst. struct. refinement anal. 9-4271
- Fe₂(Tb_{0.2}Dy_{0.22}Hf_{0.58}), highly magnetostrictive alloy, vibrating-reed meas. of ΔE effect and internal friction 9-42819
- Tb_{0.3}Dy_{0.7}Fe₂, magnetostrictive, resonant coupling of shear waves 9-33517
- Y-Dy, mag. susceptibility, 4.2 to 300K, Neel temps. 9-19735
- Zr-Dy dil. alloys, plastically deformed, mech. props. and microstruct. (*Russian*) 9-20112

dysprosium compounds

- see also dysprosium alloys
- CdF₂:DyF₃ films, electroluminesc. meas. (*French*) 9-11471
- CsDy(MoO₄)₂, effect of 38K phase transition on phonon spectrum, IR reflection spectra (*Russian*) 9-10902
- CsDy(MoO₄)₂, trivalent ion impurity effects on structural phase transition temp., new transition 20-30K (*Russian*) 9-19367
- DyAl₂, magnetisation, three-state Potts model 9-42804
- DyAl₂[BO₃]₄, thermal stability, X-ray struct. anal., refractive indices 9-4297
- Dy₂C₃, cryst. struct., mag. struct. and props., 1.6 to 300K 9-11296
- DyFe₂B₂, compounds with CeAl₂Ga₂ structure type (*Ukrainian*) 9-32970
- Dy₂MoS₈, low temp. magnetisation meas., and supercond. props. 9-8018
- Dy₂O₃, XPS, charging effects on core-level binding energies 9-24409
- Dy₂O₃-TiO₃ sputtered film, optical waveguide with high refractive index 9-3797
- Dy₂O₃-SO₄, antiferromag., specific heat, 0.6 to 30K 9-33487
- Dy₂O₃SO₄, antiferromag., mag. props. and Zeeman effect meas. 9-33464
- DyPO₄, metamagnet, phase diagram, influence of internal strains 9-28544
- Dy₂Ti₂O₇, pressed powder, low temp. thermal cond., mag. field depend. 9-23789
- DyVO₄, antiferromag.-ferromag. structural phase transition induced by elec. field (*Russian*) 9-46802
- DyVO₄, centrosymmetric exhibiting cooperative Jahn-Teller effect, dielec. props. 9-28694
- DyVO₄, Green's function theory of phase transitions 9-38340
- Dy₂(WO₄)₂, mag. props., 300 to 900K 9-28510
- Sc₂O₃-Dy₂O₃, solid solution, use of segregation phenomena to exam. solidification phase diagrams (*French*) 9-8293

E-layer see E-region**E-region**

- see also sporadic-E layer
- auroral E-layer, plasma lines meas. 9-25386
- auroral E-layer, seasonal vars. 9-8746
- auroral substorm expansion phase, ionospheric currents and elec. field vars. assoc. with absorpt. spikes 9-35039
- daytime E-region, geostationary satellite signals mid-latit. scintillation at 937 MHz 9-25388
- daytime positive storm effects at middle latits., prod. by travelling atmospheric disturbances 9-25394
- drift above Ibadan 9-5711
- electrostatic waves, obs. in unstable polar cap ionosphere 9-29927
- equatorial, Cherenkov radiation prod. by unstable plasma wave coupling 9-40003
- equatorial electrojet, radar obs. of two dimens. turbulence, nighttime type 1 waves 9-35038
- equatorial electrojet, two-stream irregularities, neutral atm. motions effects 9-16742
- equatorial electrojet and assoc. plasma instabilities 9-8750
- equatorial electrojet axis in India, position variability 9-35046
- f0E, storm time var. at low latit. station 9-44295
- ion production function from meteor particles 9-12336
- ionisation, effect of neutral atmosphere seasonal vars. 9-12331
- metallic species, chemistry, problems 9-35035
- mid-latitude E-region electron density, geomag. storms effect 9-44294
- night-time E-region, mid-latit., ionisation by charged particle precip. 9-44291
- nighttime E-region at Halley Bay, Antarctica, influence on Pi 2 pulsations polarisation and phase 9-21107
- nighttime electric fields and conductivity rel. to magnetosphere-ionosphere-atmosphere coupling 9-35034
- radio waves reflection from E-region arrival direction meas. system 9-25387
- radio wave absorption near 100 km height, travelling (wave) disturbances 9-25392
- radio wave propagation, quasi-periodic artificial inhomogeneities, formation (*Russian*) 9-21093
- recombination coeff. at midlatitudes, determ. from daytime N_e profiles 9-5700
- thermal electrons energy distrib. distortion near focus of S_q current vortex 9-35053
- wireless transmission, 1900-1935, early ionospheric research 9-9070
- MgO, wavelengths and relative intensities of IR bands 9-2407

ear

- see also hearing
- acoustic impedance meter, principle aspects of development 9-24999
- acoustic reflex adaptation in humans 9-2082
- acoustic-reflex dynamics for pulsed signals 9-20549
- anatomical and physiological basis of auditory information 9-11944
- barotrauma, new aspects in oto-rhino-laryngology 9-11946
- bleeding, inner-ears of chinchillas, caused by simulated sonic boom 9-16247

ear continued

- caloric nystagmus, air and water, mathematical model 9-24983
- cat, action potentials at low intensities, thresholds, latencies and rates of change 9-11942
- cochlea, mathematical model for influence of spiral coiling on basilar membrane motion 9-5298
- cochlea, stiffness gradient along basilar membrane as basis for spatial freq. analysis 9-24995
- cochlear action potential threshold and single unit thresholds 9-43927
- cochlear motion vibration mode visualisation by holographic interferometry 9-2083
- equilibration, physiopathology in aerospace medicine 9-11950
- guinea pig outer ear, transfer function (*French*) 9-24994
- hair cells, inner, role of in hearing 9-43932
- inner ear impulse response and basilar membrane modelling 9-34570
- myringoplasty, comparison of implant materials after tympanic membrane perforation in rat 9-39597
- stimulated acoustic emissions from within the human auditory system 9-11941
- thermal resistance induced in mouse ear 9-48220
- tympanic contactless membrane thermometer 9-34692
- vascular permeability in rat ears after X-irradiation 9-5330
- X-irradiation damage, thermal enhancement in mouse, effect of prior heat treatment 9-48291

ear microphones *see* **microphones****earphones***see also* **hearing aids**

- audiometric, influence of cushion dimensions on output 9-41547
- electrodynamic earphone, mag. field probe 9-34690
- flying helmets, active noise reduction system 9-18602
- reference equivalent threshold sound pressure levels, audiometric zero 9-3872

Earth*see also* **Earth composition; Earth rotation; Earth structure; earth-quakes; geochemistry; geochronology; geodesy; geomagnetic variations; geomagnetism; terrestrial atmosphere; terrestrial electricity; terrestrial heat**

- 1978 annual review of Earth and planetary sciences 9-5437
- absolute velocity meas. using one-way velocity of light 9-44924
- asteroid 1685 Toro, orbital resonances with Earth and Venus 9-2513
- closest approaches of Mars 9-16866
- contraction and palaeomagnetic data, comments 9-34739
- early history, review 9-20739
- ellipsoidal density distrib. model (*Russian*) 9-20741
- equilibrium figure, integro-differential eqns. 9-44077
- figure and gravit. field determ., least-squares collocation method 9-48392
- free oscill. data inversion, eigenvalue problems, angular order spectra 9-8602
- kilometric radiation polarization, Voyager 1 and 2 direct meas. 9-12373
- obliquity of ecliptic, historical obs. anal. 9-44076
- obliquity of ecliptic 2000 years BP, calc., error correction 9-29688
- pulsation and expansion rel. to Phanerozoic tectonics and volcanism (*Russian*) 9-2202
- punctuated evolution of tectonic style 9-16432
- radial vibrations of a gravitating sphere with a material boundary 9-41609
- radiation environment, for near-Earth, review 9-12359
- radiative balance, absolute meas. instrument (*French*) 9-29900
- size measurement, from sunset obs., for teaching 9-35459
- tidal potential, multiple expansion 9-12062
- toroidal free oscillations, upper mantle discontinuity effects 9-29713
- torsional vibrations, damping effect 9-44121
- Universal view 9-5438

earth (electric) *see* **earthing****earth (soil)** *see* **soil****Earth age** *see* **geochronology****Earth atmosphere** *see* **terrestrial atmosphere****Earth composition***see also* **Earth structure**

- S.African kimberlites, ⁴⁰Ar/³⁹Ar anal. of phlogopite nodules and phlogopite-bearing peridotites 9-34769
- Arakapas fault belt, Cyprus, sedimentation and metallogenesis along fossil oceanic fracture zone 9-29769
- Archaean migmatites in Lofoten-Vesteralen, Norway, Nd, Sr and Pb isotope data interpretation 9-34773
- basalts, Palaeocene, of Mull and Skye, immobile trace elements rel. to palaeotectonic affinities 9-34816
- big river sands, modern, petrology and chemistry 9-25274
- Central American andesites, Sr isotope evidence for mantle petrogenesis 9-20833
- composite dike geochemistry, light rare earths partitioning between co-existing acidic and basic melts 9-2233
- continental crust modelling, structural and chemical constraints 9-16420
- core composition, implications of Fe close-packed phases eqns. of state 9-20780
- diamonds from Lesotho kimberlite pipes, isotopically light C obs. 9-48487
- ferromanganese nodules, oriented, U-Th series nuclides rel. to growth rates and turnover times 9-29740
- Hawaii xenolithic dunites, excess ¹²⁹Xe and high ³He/⁴He ratios 9-34814
- hydrophre, seawater and river water comp. rel. to water-rock partition coeffs. 9-44200
- hydrothermal mounds near Galapagos Rift, chemistry 9-29739
- W.Indian Ocean, mantle uplifted block 9-25228
- K-rich ultramafic magmas from peridotitic mantle source 9-2200
- Kapahu lava, Hawaii, olivine phenocrysts excess ¹²⁹Xe and high ³He/⁴He ratio 9-34814
- Kimmeridgian black shales, N Atlantic region, rare earth elements distrib. 9-44187
- Lassen Park volcanic gases, He isotope ratios 9-16425
- Lewisian gneisses, Sm-Nd systematics and implications for granulites origin 9-20777
- Louvem volcano-genetic Cu deposit, Quebec, lithogeochem. anomalies 9-5480
- magmatic rocks, petrographic study of Indian Ocean floor 9-20807
- mantle, seismic discontinuity at 650 km depth 9-44143
- mantle fluid phase, trace elements 9-34779
- marine minerals exploration, Mobile Initial Condition Indicator approach 9-5687

Earth composition continued

- Matsuhiro fault zone, Japan, He spots caused by diapiric magma from upper mantle 9-8618
- Michigan Basin deep hole metagabbro, mineralogy and geochemistry compared to seawater hydrothermal alteration 9-39710
- S. Nain, complex, Labrador, anorthosite and assoc. plutons comps. 9-20825
- precious metals, values in interflow sedimentary rocks from Kambalda (W.Australia) komatiite sequence 9-20830
- rare earth elements, partitioning between hydrous silicate melt, amphibole and garnet peridotite 9-20775
- rivers, evidence for higher natural U content 9-44208
- sandstones of California Late Cretaceous fore-arc basin, petrofacies and petrologic evolution 9-2232
- spilitite and keratophyre from Oregon-Idaho Permo-Triassic volcanic arc, comp. and petrogenesis 9-20826
- spinel hercynite xenoliths, implications of texture composition depend. 9-25244
- spinel hercynites from S.Rio Grande Rift, evidence for underlying oceanic mantle 9-29724
- superheavy elements, detection by fission activity detect. (*Russian*) 9-13358
- trace element geochem. of peridotite-gabbro-basalt suite, DSDP Leg 37 site 9-34793
- ultramafic nodules, from Kimberley pipes, South Africa 9-34821
- ultramafic xenoliths rel. to tectonites (*French*) 9-44141
- volcanic rocks, W. abundances 9-16468
- Vredefort structure, S.Africa, comp. of spherules on shatter cone surfaces 9-29773
- Yellowstone Park volcanic gases, He isotope ratios 9-16425
- ⁴⁰Ar concentrations in silicic crust and atmosphere, rel. to form. from upper mantle 9-44153
- C, organic, dissolves and particulate, in marine environment, stable isotope comp. 9-20862
- CO₂ in upper mantle, fugacity at high temps. and press. from decarbonation reactions 9-16439
- Ca, isotope fractionation on Earth and other solar system materials 9-20835
- Ca₂Al₂SiO₇, gehlenite, new high-press. phase, rel. to Earth interior 9-29753
- Ca₂GeO₄, with K₂NiF₄-type struct., high press. decomp. 9-1507
- Ca₂MnO₄, with K₂NiF₄-type struct., high press. decomp. 9-1507
- Mn nodules, mineralogy and comp. changes from long-term seafloor mineral exposure expts. 9-5471
- Pb-Zn belts and their origin 9-48427
- ⁸⁷Sr/⁸⁶Sr ratio reduction during hydrothermal alteration of basalts 9-16446

Earth core

- core-mantle boundary, layered transition zone rel. to seismic waves long distance propag. (*Italian*) 9-12071
- core-mantle boundary roughness, seismic array evidence 9-20781
- electrical conductivity, determ. from geomag. field dynamics 9-12066
- formation, examination of various hypotheses 9-44149
- formation in undifferentiated Earth, chemical reactions thermal effects 9-25218
- geomagnetic dynamo, characts. during mag. field transition periods 9-8598
- geomagnetic dynamo, gravitationally powered, thermal consequences 9-39687
- geomagnetic field 60-year variations, models rel. to mantle elec. cond. 9-8596
- geomagnetic field struct. and secular variation, mathematical-physical anal. and interpretation (*German*) 9-34742
- geomagnetism, kinematic dynamo of three spherical eddies 9-8597
- Gruneisen parameter, reevaluation 9-39685
- inner core, Q-factor from seismic body wave studies 9-39682
- magnetic field, screening by mantle when elec. cond. is concentrated near core boundary 9-12064
- P-waves anomalous vels. in outer core rel. to struct. 9-48436
- phase-change hypothesis, appl. to Sun and Moon accels., gravit. const. and origin of mountains 9-8592
- PKP precursor data comparison from seismic arrays 9-25208
- seismic precursors to PKKP, rel. to core-mantle boundary struct. 9-48409
- static core paradox, physical explanation 9-8614
- structure rel. to geomag. secular var. 9-39647
- Fe close-packed phases, eqns. of state and implications for Earth core 9-20780

Earth crust*see also* **geology; oceanic crust**

- accretion at trenches, model, rel. to subduction complexes tectonic evolution 9-20797
- Adriatic subplate, averaged model 9-44159
- E.African rift system, structure rel. to Martian canyons 9-40111
- Western Alps, axial culminations and depressions (*Italian*) 9-25210
- E.Alps, HD-profile (Vicenza to Innsbruck) preliminary interpretation 9-34765
- Alps in Valais-Valle d'Aosta area, formation (*French*) 9-2206
- N.America, in situ stress data compilation 9-29728
- N.American continental margin in Nevada during Late Cambrian 9-48472
- ancient metamorphism and charnockite formation in S.India 9-44154
- Apennines, anticlockwise rot. rel. to Tuscan anatectic magmatism eastward migration 9-16428
- NW.Apennines, seismicity and relation with surface structs. 9-34749
- Appalachian orogen western margin, basement slice at Saint-Malachie, Quebec 9-20824
- Apuane Alps structural evolution, continental margin deform. in N.Apennines, Italy 9-25245
- Arctic Basin, tectonic evolution, Jurassic to present 9-48446
- Arctic crustal studies, review 9-48439
- Arctic Ocean, crustal struct. review 9-48456
- Arctic regions, gravity from 60°N to North Pole, rel. to crust and mantle density struct. 9-48391
- Arctic regions, heat flow north of 60°N 9-48438
- Armenia, crustal stress state and seismic wave vel. anisotropy 9-44123
- Atlantic-type continental margin off New York, subsidence 9-29722
- barrier islands, global distrib. in terms of tectonic setting 9-2214
- Bay of Biscay, rifting, crustal attenuation and subsidence 9-2209

Earth crust continued

- bedded formations, modelling of structure-forming props., results (*Russian*) 9-48429
- Benue Trough, stratigraphic evolution and implications for W.Africa Upper Cretaceous palaeogeography 9-2230
- Bermuda geomorphology, results from satellite imagery 9-5470
- bulk densities measurement, gravity borehole data accuracy 9-5632
- S. California uplift, geodimeter meas. of strain 9-48434
- Canadian Shield, electrical resistivity structure, layer Earth models 9-48396
- Caroline plate existence, from marine geophys. and seismological data 9-29731
- Carpathians internal region, in depth dynamics and tectonic movements (*Russian*) 9-48444
- Chaine des Puys, France, elec. cond. anomaly, struct., active magma chamber 9-2185
- China, crust and upper mantle struct. study by converted seismic waves (*Chinese*) 9-12093
- conducting channel between India and Sri Lanka, effects on equatorial electrojet 9-25189
- conductive bodies, single and multiple, scale model results of inductive logging 9-16696
- continental crust, tectonics and seismicity review 9-44160
- continental crust modelling, structural and chemical constraints 9-16420
- continental drift, Arthur Holmes' convection hypothesis 9-12559
- continental drift, high-latit. continents as cause of glaciation 9-20961
- continental geotherms during Archaean, upper limits 9-34780
- continental margin morphology 9-12098
- convection fluid dynamics in a model of a fault zone in the Earth's crust 9-34778
- cordilleran tectonics, alternative to interarc spreading rel. to subducted oceanic lithosphere age 9-29732
- cratering by meteorite impact 9-21244
- Crimea, new data on Earth crustal structure (*Russian*) 9-8616
- Cuba crustal struct. study, earthquakes exchange waves method appl. (*Russian*) 9-44158
- DC resistivity modelling for axially symmetric bodies, finite element method appl. 9-5445
- deep EM sounding of Earths crust, pulsed MHD generator 9-48589
- deep zones, composition from elastic props. of rocks (*Russian*) 9-48460
- deformation and resulting local gravity changes 9-48389
- deformational history of the Delhi rocks around Biliawas, Central Rajasthan 9-25246
- Diablo Plateau, W.Texas, contemporary uplift from levelling meas. 9-20798
- Diablo Range, California, P-velocity models from earthquake and explosion arrival times inversion 9-12094
- dielectric constant at high temps., determ. from electrical parameters of Ukrainian shield rocks (*Russian*) 9-8628
- earthquakes, two-dimensional horizontal ground motions rel. to engineering structs. design 9-48419
- East Africa, isostatic compensation 9-8623
- eclogite production in overthrust orogenic zones, metamorphism 9-44142
- electrical conductivities, mapping via multifreq. airborne EM system 9-5446
- electrical conductivity, model for quantitative interpretation of towed-bird airborne EM system meas. 9-5447
- fault zone with finite thickness, frictional heating, comment 9-25215
- faults prospecting via seismic refr. method, model expt. and features of seismograms (*Chinese*) 9-12286
- N. Finland, magneto-telluric expts. 9-44093
- folded and crystalline basements of deep cavities, determ. from seismic data (*Russian*) 9-39692
- formation of continental crust, Sm-Nd and Rb-Sr chronology 9-12100
- fracture water radioisotope abundances for earthquake prediction 9-44124
- fracture water radioisotope vars. and earthquake prediction 9-44204
- geodesy applied to crustal movement measurement, instrumentation trends and prospect 9-29738
- geomagnetism, crustal field struct., mathematical physical anal. and interpretation (*German*) 9-34742
- glacial isostatic adjustment and sea level, global finite element model 9-20800
- global plate reorganization during early Cenozoic 9-34788
- gravimetric and deep seismic sounding, data interpretation (*Russian*) 9-39937
- gravity complex fields interpretation via minimisation method, automated system appl. (*Russian*) 9-35006
- Great Britain, Earth strain tides survey 9-44080
- Grenvillian palaeopoles, calibration by $^{40}\text{Ar}/^{39}\text{Ar}$ dating 9-20778
- heat flow rel. to crustal thickness in USSR European section (*Russian*) 9-20772
- Himalaya, intracontinental subduction initiation mechanics 9-16431
- horizontal stresses from satellite pictures (*Russian*) 9-20791
- hydrothermal convection, theoretical study rel. to Cyprus ophiolitic sulphide ore deposits origin 9-29761
- Icelandic plate boundary rift and earthquake activity (*German*) 9-5467
- impact structs., so called, non-random geographical distrib., implications 9-34825
- Imperial Fault, California, large creep events, 1975-77 period 9-12096
- in situ stresses relationship with depth, trends 9-29729
- Iran, seismotectonic implications of relocated aftershock sequences 9-44119
- central Israel, crustal structure for magnetotelluric data inversion 9-2196
- central Israel, evidence for pre-Late Jurassic east-west fossil continental margin 9-34766
- Jamaica, blueschists, coaxial pure shear rel. to deform. assoc. with subduction 9-2236
- Jotunheimen Caledonian structure, geological evidence 9-25222
- Late Cretaceous fore-arc basin, N. and Central California, petrofacies and petrologic evolution 9-2232
- Lewisian gneisses, Sm-Nd systematics and implications for granulites origin 9-20777
- lithosphere, compression and extension rel. to gravity nontidal vars., appl. to Hungarian depression (*Russian*) 9-8621
- lithosphere plates, accretion and subduction effects on shallow global mantle flow 9-44163
- lithosphere-mantle decoupling, role of shear heating 9-20790
- lithospheric downgoing slabs, temps. rel. to seismic zone lengths 9-25212
- lithospheric necking and slowly accreting plate boundaries 9-2208
- magma, ascending, heat and mass transfer 9-34768

Earth crust continued

- magma genesis 9-12103
- mass redistribution due to continental drift, influence on true polar wandering 9-44079
- Mesozoic volcano-tectonic rift zone and back-arc basin development, South America 9-29762
- Messejana Dolerite fault-dike system (Iberia), age and origin rel. to N. Atlantic Ocean opening 9-2198
- meteorite craters, Morasko, Poland 9-20837
- meteorite impact crater, central Alaska, possible glacial origin 9-25249
- Michigan Basin, crustal stress meas. 9-39681
- Michigan Basin, deep borehole results 9-39679
- Michigan Basin, evidence for crack free rocks at 5.3 km depth 9-39705
- Michigan Basin, gravimeter survey in deep borehole 9-39634
- Michigan Basin, Keweenaw turbidites as founded basin: sequence developed during Proterozoic rift system evolution 9-39712
- microtremors, 1 to 5 s, earthquake engineering appl., Tokachi-oki 1968 earthquake long-period accel. 9-16387
- Moho, seismic detect. by time fields method (*Russian*) 9-35010
- mountains origin, implications of Sun and Moon accels., appl. to gravit. const. var. 9-8592
- Nevada Test Site, geology effect on absolute travel-time residuals 9-16391
- New Hebrides island arc, earthquakes precise relocation rel. to seismotectonics 9-16404
- SW Newfoundland, Proterozoic-Palaeozoic thermal history from Grenville basement rocks $^{40}\text{Ar}/^{39}\text{Ar}$ ages 9-20771
- ocean basins, primordial, form. 9-20770
- oceanic ridges and trenches, polar wander excitation 9-16367
- ophiolitic rocks tectonic emplacement in Precambrian Mona Complex, Anglesey 9-8631
- Oroville, California, crustal shear wave vel. struct. determ. from 1975 August 1 earthquake 9-16417
- oscillations caused by var. mantle pressure (*Russian*) 9-29735
- Pacific plate, Neogene motion relative to mantle and Earth spin axis 9-44167
- palaeocontinental maps for Early Phanerozoic and Proterozoic 9-44150
- Palmahim structure in SE Mediterranean off Israel, continuous tectonic activity since Upper Miocene 9-34790
- Palmdale, California, crustal resist. changes 9-16373
- Pamir-Himalayan deep fault zone description 9-39676
- Philippines, subduction zone south of Mindanao, evidence from 1976 August 16 earthquake 9-44117
- Phlegrean Fields, Naples, geodetic and geophys. meas., elevation changes 9-29734
- Precambrian schist belt, Karnataka, India, struct. from aeromag. anomaly harmonic inversion 9-44094
- primary stresses, meas. at Eisenhower Memorial Tunnel, Colorado 9-29727
- regional stresses determ. from seismic b-value scanning, appl. to earthquakes development modelling (*Chinese*) 9-12072
- regional studies, nonlinear interference anal. of seismic data 9-25217
- Rhenish Massif/Rhemhercynian zone, W Germany, crustal struct., seismic refr. data 9-48435
- rock fracture prediction problem 9-25230
- rock stress measurement, hydrofracturing method and recent field results 9-29885
- salt dome dynamics, finite element analysis 9-20789
- San Andreas fault, Parkfield, repeated creep events, strainmeter array meas. 9-20762
- San Andreas fault stress pattern, near-surface in situ meas. 9-48433
- San Andreas fault zone, constitution at depth 9-12097
- Saskatchewan, seismotectonics 9-20757
- sedimentary basin on viscoelastic lithosphere, evolution 9-8615
- sedimentary basins development, role of continental lithosphere stretching 9-29719
- seismic attenuation in rocks, role of grain boundary friction 9-34755
- seismic boundary, essentially nonplane, supercritical al reflected waves record peculiarities (*Russian*) 9-8606
- seismic velocity depth dependence, prediction from minerals effective vels. var. with press. 9-44179
- seismic waves diffraction by finite crack, appl. to location of magma lens 9-16416
- seismic waves propagation, integral spectrum parameters appl. to geological section prediction (*Russian*) 9-8705
- SH-waves ray-mode duality in Earth models with crust and mantle discontinuities 9-25213
- silic crust and atmosphere system, form. from upper mantle 9-44153
- slip monitoring along major faults in southern California 9-48388
- sphene in high-pressure partial melting of hydrous mafic compositions 9-44174
- spherical ore-bodies, total field mag. anomalies interpretation via zero-line method 9-39973
- strain accumulation, triggering factor for shallow intraplate earthquakes 9-39661
- stress assoc. with plateau uplift, continental splitting mechanism appl. 9-34777
- stress changes, in situ monitoring 9-29884
- stress meas. limits 9-48588
- stress measurement by overcoring, diagnostic stress-relief curves 9-29886
- stress state, review 9-5465
- structural and vibr. bedrock props. in Sweden, seismic events 9-16402
- subduction angle, influence of mantle flow press., non-Newtonian corner flows theory 9-39695
- subduction zones, shallow seismicity meas. 9-16401
- submarine landslides, North American east coast and upper rise 9-20815
- Sulaiman Range, Pakistan, struct. and seismicity rel. to tectonics 9-39715
- sulphide mineralisation in Rajasthan, and Gujarat, India, induced polarisation surveys results 9-39714
- Switzerland, siting criteria for heat extraction from hot dry rocks 9-39275
- tectonic dislocations prospecting in complex media, appl. to seismic surface waves correl. method (*Russian*) 9-8605
- Tennessee, seismic characts., surface wave dispersion study 9-48426
- Texas shelf zone, crustal struct. from sonobuoy and ocean bottom seismograph data 9-5462
- thermic state and continental crust structure (*Italian*) 9-20769
- thickness in N. Nevada from seismic refr. profiles 9-48425
- Tibet, active tectonics, LANDSAT imagery 9-20794
- Tibetan Plateau, late Cenozoic tectonics, LANDSAT imagery 9-20795

Earth crust continued

- Tien Shan region, contemporary tectonics 9-29733
 tiltmeter obs. near 1976 February 4 Guatemala earthquake 9-16363
 Turkey, seismotectonic implications of relocated aftershock sequences 9-44119
 Ukrainian Precambrian Shield, deep fractures analysis (*Russian*) 9-20773
 Ukrainian Shield, deep structure from seismic studies (*Russian*) 9-48428
 ultramafic xenoliths rel. to tectonites and lower crust composition (*French*) 9-44141
 W United States, plate absolute motion and interaction constraints from Cenozoic igneous activity 9-2207
 central United States crustal velocity models, theoretical seismogram constraints 9-39693
 Urach region, Germany, very abnormal temp. field investigation at great depths 9-48440
 velocity anomalies determ. in Mugodzhary from seismic rays emergence angles and azimuths 9-25206
 velocity model, from seismic data, Kurinian depression example 9-39678
 vertical movement detection, noise reduction in sea-level records 9-2395
 Villalvernia-Varzi-Bobbio Line (N.Appennines), geomorphological evidence of neotectonic deform. (*Italian*) 9-8624
 viscoelastic deformation, by finite quasi-static sources 9-39686
 viscoelastic stiffness model of seismicity 9-20764
 Vredefort structure, S.Africa, comp. of spherules on shatter cone surfaces 9-29773
 Wellington region, New Zealand, seismicity within plate convergence zone 9-16398
 world-wide belts in geomag. field, rel. to tectonic features 9-39651
 Yong Shan-Da Guan, Yunnan earthquake (May 19, 1974), main shock source multiplicity (*Chinese*) 9-12075
 Zagros collision orogeny, finite element modelling of deformation 9-20803
 Zagros Mountains, geological comparison with island arcs 9-2231
 Zagros Mountains, Iran, seismicity depth 9-34751

Earth electricity *see terrestrial electricity***Earth heat** *see terrestrial heat***Earth interior**

- see also Earth core; Earth crust; Earth mantle; tectonics; volcanology*
 acoustic Gruneisen parameter for high-temps. 9-39691
 chemical reactions in undifferentiated Earth, thermal effects 9-25218
 connection, models having multiplicity of large horizontal scales 9-16430
 density structure, resolving power of seismic data simultaneous inversion 9-16699
 elastic wave propagation in anomalous layers, variational approach 9-44260
 elasticity imperfection 9-8613
 EM induction one-dimensional problem, model refinement 9-44096
 equations of state, theoretical, comparison using high-compression exptl. data 9-20779
 Gruneisen parameter, influence of press.-induced phase transitions 9-1497
 layered transition zone between mantle and core seismic waves long distances propag. (*Italian*) 9-12071
 lithosphere flow and rupture, analogy with creep rupture in cold ice sheet 9-2306
 ohmic region effect on geomagnetic vars. (*German*) 9-29708
 Q-factor, results from seismic studies 9-39682
 resistivity finite-difference modelling, practical approach 9-29878
 seismic reflection coefficients, determ. from waves 9-44115
 seismic SH-waves propag. in stratified medium with local inhomogeneities, finite element treatment (*Russian*) 9-34763
 shear wave velocity, resolving power of seismic data simultaneous inversion 9-16699
 structure rel. to geomag. secular var. 9-39647
 Ca₂Al₂SiO₇, gehlenite, new high-press. phase, rel. to Earth interior 9-29753

Earth lower mantle *see Earth mantle***Earth magnetic field** *see geomagnetism***Earth magnetic field variations** *see geomagnetic variations***Earth mantle**

- Adriatic subplate, averaged model 9-44159
 andesite magma and ignimbrite petrogenesis 9-44146
 Arctic Ocean, sediment thicknesses and upper mantle temps. from magnetotelluric soundings 9-48454
 Arctic regions, gravity from 60°N to North Pole, rel. to crust and mantle density struct. 9-48391
 asthenosphere, elec. cond. and struct.-sensitive physical props. of partially melted rocks 9-12116
 asthenosphere, frictionally heated shear flows stability 9-44164
 asthenosphere, influence on Himalaya intracontinental subduction initiation 9-16431
 asthenospheric counterflow, kinematic model 9-25220
 N.Atlantic basalt geochemistry rel. to mantle heterogeneity 9-29745
 N.Atlantic region, gravity anomalies, regional elevation and deep struct. 9-16421
 N.Australia, upper mantle P-waves vels. in long-range seismic profile 9-16419
 back-arc convection and marginal basin formation 9-25219
 Central American andesites, Sr isotope evidence for mantle petrogenesis 9-20833
 China, crust and upper mantle struct. study by converted seismic waves (*Chinese*) 9-12093
 conducting channel between India and Sri Lanka, effects on equatorial electrojet 9-25189
 convection, parametrised model rel. to Earth thermal history 9-16429
 convection, simple plate models 9-25221
 convection and thermal structure of plates 9-2197
 convection depth 9-48432
 convection processes rel. to plate tectonics 9-5464
 convective instability of many-layered models 9-25216
 core-mantle boundary, layered transition zone rel. to seismic waves long distance propag. (*Italian*) 9-12071
 Crimea, Moho surface relief rel. to crustal struct. (*Russian*) 9-8616
 Cuba upper mantle study, earthquakes exchange waves method appl. (*Russian*) 9-44158
 density inversion in upper mantle, rel. to seismic waveguides 9-12099
 electrical conductivity, distrib. rel. to core mag. field screening 9-12064
 electrical conductivity, rel. to geomag. field 60-year vars. 9-8596
 electrical conductivity of lower mantle determ. from geomag. field dynamics 9-12066

Earth mantle continued

- flow, one-dimensional modelling 9-39698
 flow pressure rel. to subduction angle, non-Newtonian corner flows theory 9-39695
 flow two-dimensional beneath rigid accreting lithosphere 9-12102
 fluid phase, trace elements 9-34779
 formation, examination of various hypotheses 9-44149
 global Earth tides and upper mantle struct. 9-25182
 Gruneisen parameter is upper mantle, influence of press.-induced phase transitions 9-1497
 Hawaiian hot spot, Neogene motion rel. to Pacific plate and Earth spin axis 9-44167
 heat transfer, consequences of gravitationally powered geomag. dynamo 9-39687
 Indian deep-focus earthquakes, P-wave travel times 9-2193
 NW Indian Ocean, crust and upper mantle density section construction (*Russian*) 9-48431
 W.Indian Ocean, mantle uplifted block 9-25228
 K-rich ultramafic magmas from peridotitic mantle source 9-2200
 kimberlite volcanism, nature of mantle rock specimens 9-2205
 Lassen Park volcanic gases, mantle He component from He isotopic ratios 9-16425
 lateral variations in lower mantle, seismic array evidence 9-20781
 lithosphere, compression and extension rel. to gravity nontidal vars., appl. to Hungarian depression (*Russian*) 9-8621
 lithosphere-mantle decoupling, role of shear heating 9-20790
 low viscosity zone, sublithospheric, rel. to convection models having multiplicity of large horizontal scales 9-16430
 low-velocity zone, seismic data simultaneous inversion 9-16699
 low-velocity zone, stability from melt/solid segregation theory 9-40144
 Massif central, France, upper mantle struct. and dynamics from basalt xenoliths obs. (*French*) 9-48424
 Matushiro fault zone, Japan, He spots caused by diapiric magma from upper mantle 9-8618
 Moho, seismic detect. by time fields method (*Russian*) 9-35010
 New Hebrides island arc, earthquakes precise relocation rel. to seismotectonics 9-16404
 nonlinear stress propagation in Earth upper mantle 9-16422
 oceanic lithosphere mechanical behaviour, implications of two earthquakes seaward of Tonga Trench 9-16405
 oceanic mantle, discovery beneath S.Rio Grande Rift 9-29724
 olivine-rich rocks, activation vol. for creep, rel. to upper mantle 9-44184
 P-wave velocities in upper mantle, model for E. and S.Africa 9-44135
 P-waves, short-period, anisotropic scatt. in upper mantle 9-16377
 E.Pacific Rise, synthetic seismic profile 9-12095
 partial melting, Ni distrib. and partitioning between forsterite and aluminous silicate melts, pressure depend. 9-44176
 PKP precursor data comparison from seismic arrays 9-25208
 pressure vars. and forced lithospheric oscils. (*Russian*) 9-29735
 Q-factor of lower mantle, body wave results 9-39682
 rare earth elements, partitioning between hydrous silicate melt, amphibole and garnet peridotite 9-20775
 Rayleigh wave attenuation and group vel., regionalisation and pure path models 9-12091
 Rayleigh waves, regional differences in phase velocity and Q-factor 9-16413
 regional studies, nonlinear interference anal. of seismic data 9-25217
 sedimentary basins development, lithosphere stretching and asthenosphere upwelling 9-29719
 seismic discontinuity at 650 km depth 9-44143
 seismic precursors to PKKP, rel. to core-mantle boundary struct. 9-48409
 seismic velocity radial anomalies in lower mantle, identification using interference method 9-25209
 SH-waves ray-mode duality in Earth models with crust and mantle discontinuities 9-25213
 shallow, global mantle flow due to lithospheric plates accretion and subduction 9-44163
 shear heating instability in upper mantle 9-20783
 shear wave velocity and attenuation models, great-circle Rayleigh waves inversion 9-12090
 spinel hercynite xenoliths, implications of texture composition depend. 9-25244
 strain tide spectroscopy, interaction Earth mantle, liquid core appl. 9-5440
 structure and HF spheroidal modes 9-8603
 subduction zone dip angles and flow driven by plate motion 9-20801
 thermal convection, mechanical boundary conditions 9-20782
 Tibet, active tectonics, LANDSAT imagery 9-20794
 ultramafic xenoliths rel. to tectonites and upper mantle composition (*French*) 9-44141
 W United States, asthenosphere-oceanic crust contact rel. to Cenozoic igneous activity 9-2207
 upper, discontinuities effect on toroidal free oscils. 9-29713
 upper, vel. cross sections from deep seismic sounding data 9-39677
 upper mantle, degassing rel. to atmosphere and sialic crust system form. 9-44153
 upper mantle of Carpathians internal region, dynamics rel. to tectonic movements (*Russian*) 9-48444
 xenoliths, mantle-derived, from S.Africa 9-34775
 Yellowstone Park volcanic gases, mantle He component from He isotopic ratios 9-16425
⁴⁰Ar/³⁶Ar trapped in Cretaceous deep-sea basalts 9-16423
 CO₂ in upper mantle, fugacity at high temps. and press. from decarbonation reactions 9-16439
 Ca₂Al₂SiO₇, gehlenite, new high-press. phase, rel. to Earth interior 9-29753
 Ca₂GeO₄, with K₂NiF₄-type struct., high press. decomp. 9-1507
 Ca₂MnO₄, with K₂NiF₄-type struct., high press. decomp. 9-1507
 Ge/Si and Ga/Al ratios vars. along Reykjanes Ridge and Iceland 9-8617
 Si-O bonds, cryst. chem. at high press., rel. to Earth mantle mineralogy 9-48470

Earth rotation*see also time and latitude*

- accelerations of Sun and Moon, rel. to gravit. const. and origin of mountains 9-8592
 atmosphere, gravity waves generation at solar terminator rel. to E_s-layers form. 9-12337

Earth rotation continued

- axis of figure, motion determ. from N solid bodies mutual gravit. pot. 9-12390
 diurnal latitude vars. spectra based on obs. at Gor'kii 9-35100
 elementary oscillation of elastic rot. Earth, ordinary differential eqns. 9-39632
 ephemeris time, correction determ. from photographic obs. of Sun annular eclipse (1976, April 29) (*German*) 9-44335
 Greenwich Obs. Time and Latitude Service, Time Report (January-March 1978) 9-25453
 Huronian polar wander and Thessalon volcanics palaeomag. 9-5444
 irregular variations in diurnal rot., correl. with solar wind vel. 9-8591
 Large Numbers Hypothesis implications 9-12063
 mean solar time on Greenwich meridian, definitions and terminology 9-21155
 Merate Observatory, time and latit. results of astrolabe obs. (1977) 9-40061
 moment of inertia tensor, changes due to earthquake 9-44106
 obliquity of ecliptic, historical obs. anal. 9-44076
 oscillations of a gravitating and rotating uniform liquid sphere 9-44082
 polar latitude variations, VZT obs. at Cagliari (*Italian*) 9-21153
 polar motion, random exciting process (*Chinese*) 9-20740
 polar wander excitation, effects of ridges and trenches 9-16367
 polar wandering, influence of continental drift 9-44079
 precession and year length rel. to old calendar systems 9-48693
 precession constant, new adopted value and effect on stellar proper values 9-25459
 precession matrix based on IAU (1976) system of astronomical constants 9-48653
 radio interferometric systems, meas., appl. 9-25375
 spin axis, Neogene motion rel. to Pacific plate and mantle 9-44167
 stratified ellipsoids of revolution, inertial frame dragging effects 9-2573
 Tokyo Astronomical Obs., Time and Latitude Bulletins (October-December 1977) 9-5736
 Universal Time, short period terms anal. (*Chinese*) 9-8589
 variations, secular and periodic, rel. to gravitation and inertia corpuscular model (*Russian*) 9-40439
 velocity variations anal. (*Russian*) 9-20743

Earth satellites *see artificial satellites; Moon***Earth structure**

- see also Earth composition; Earth interior*
 E.African rift system, structure rel. to Martian canyons 9-40111
 anomaly source models, statistical parameters rel. to pot. fields obtained by superposition (*German*) 9-34783
 Arctic regions, gravity from 60°N to North Pole, rel. to crust and mantle density struct. 9-48391
 N.Atlantic region, gravity anomalies, regional elevation and deep struct. 9-16421
 Mid Atlantic Ridge, 45°N, seismic vel. struct. of crust 9-25214
 N.Australia, long-range controlled source seismic profile 9-16419
 Bihar mica belt, two catazonal granite plutons, mode of emplacement 9-44157
 Canadian Shield, electrical resistivity structure, layer Earth models 9-48396
 Concepcion Bank, off Morocco, crustal struct., tectonic unit of volcanic origin 9-39689
 continental crust thermal state and structure (*Italian*) 9-20769
 crustal, deep structure to NW of Cape Verde Islands 9-2201
 crustal velocity model, from seismic data, Kurinian depression example 9-39678
 Cundeelee area, W.Australia, regional geology and gross structure 9-2194
 deep horizons, seismic refls. unravelling via seismic stripping 9-34970
 density inversion in upper mantle, rel. to seismic waveguides 9-12099
 density of Earth and crust, Bouguer formula rel. to gravity corrections 9-29692
 dilatant regions in layered Earth, electrokinetic and mag. anomalies rel. to earthquake prediction 9-39658
 earthquake zones, pore fluids and Q rel. to brittle fracture model 9-39671
 elastic homogeneous layers laterally varying boundaries, volume and surface seismic sources 9-16397
 elasticity imperfection in interior 9-8613
 middle Europe, Rayleigh waves phase vel. investigations 9-44136
 Explorer ridge, off W.Canada, marine geophysics survey 9-25224
 faults, size and distrib. rel. to earthquake elastic energy release and heat prod. 9-44106
 folded and crystalline basements of deep cavities, determ. from seismic data (*Russian*) 9-39692
 geological section prediction, appl. of seismic waves integral spectrum parameters (*Russian*) 9-8705
 global Earth tides and upper mantle struct. 9-25182
 gravimetric and deep seismic sounding, data interpretation (*Russian*) 9-39937
 gravitational field, external, of three-dimensional body, analytic continuation into interior (*Russian*) 9-34731
 gravity anomaly interpretation, direct and inverse problems soln. for hemispherical bodies (*Russian*) 9-35012
 gravity field anomalies sources, depths determ. 9-16366
 Iceland, Skagi and Langjokull volcanic zones, petrology and structure 9-2195
 Indonesia, 1977 August 19 earthquake, IDA network obs. of attenuation and splitting, Earth struct. determ. 9-34754
 induced polarisation sounding, response of polarisable inhomogeneous sphere 9-44092
 interior struct. rel. to geomag. secular var. 9-39647
 central Israel, crustal structure for magnetotelluric data inversion 9-2196
 laterally inhomogeneous media, seismic body waves ray amplitudes calc. 9-44118
 layered Earth model, appl. to buried electrode resistivity data 9-29701
 layered Earth model, seismic prospecting inverse kinematic problem soln. using reciprocal points (*Russian*) 9-44268
 layered Earth model, seismic wavefront curvature 9-29712
 line masses depth estimation from residual Bouguer anomalies, via Backus-Gilbert min. distance criterion 9-44257
 magnetic anomaly field vertical intensity, autocovariance function analytic derivation for sources statistical distrib. (*German*) 9-34746
 magnetic anomaly interpretation, bidimensional inhomogeneous problem soln. via Cauchy integrals (*Russian*) 9-35013

Earth structure continued

- magnetic bodies, numerical soln. for inductive magnetisation and palaeomag. sounding inverse problem (*Russian*) 9-34747
 magnetotelluric sounding, soln. for horizontally-inhomogeneous media using finite differences method (*Russian*) 9-44102
 mantle, convective instability of many-layered models 9-25216
 mantle, lower, lateral vars., seismic array evidence 9-20781
 mantle, lower, struct. from radial seismic vel. anomalies identification 9-25209
 mantle, upper, vel. cross sections from deep seismic sounding data 9-39677
 mantle discontinuities effect on toroidal free oscills. 9-29713
 modelling, seismic sections construction using stacked recordings of controlled directional reception (*Russian*) 9-39960
 monolayer model, calc. of surface seismic waves dispersion curves partial derivatives (*Russian*) 9-34764
 ocean basins, primordial, form. 9-20770
 oceanic crust, seismic vel. evolution 9-5457
 oceanic ridges and trenches, polar wander excitation 9-16367
 Oroville, California, crustal shear wave vel. struct. determ. from 1975 August 1 earthquake 9-16417
 outer core thermal regimes, consequences of gravitationally powered geomag. dynamo 9-39687
 P-waves anomalous vels. in outer core rel. to struct. 9-48436
 PKP precursor data comparison from seismic arrays 9-25208
 potential field anomalies geodynamic interpretation, physically based source models (*German*) 9-34782
 Q-factor, determ. from Moon tidal accel. 9-16849
 Rhenish Massif/Rhenohercynian zone, W Germany, crustal struct., seismic refr. data 9-48435
 Sakhalin, magnetotelluric investigations, induction effects detect. methods and appl. (*Russian*) 9-39642
 seismic boundary images reconstruction, numerical models appl. (*Russian*) 9-39923
 seismic high-frequency Pn,Sn phases on ocean bottom seismographs, high efficiency propag. 9-16400
 seismic precursors to PKKP, rel. to core-mantle boundary struct. 9-48409
 seismic velocity determination, overlying sequence stratification effect (*Russian*) 9-39961
 seismic velocity structure, rel. to body waves focusing at epicentre antipode 9-16399
 seismology, transmission synthetic seismograms direct inversion 9-29877
 SH-waves ray-mode duality in Earth models with crust and mantle discontinuities 9-25213
 strain tide spectroscopy, 30 m laser system, interaction mantle, liquid core 9-5440
 stratified bodies, analytical interpretation of gravity and mag. $V_{zz}(V_{\Delta}, Z_{\Delta})$ anomalies (*Russian*) 9-39968
 thermal structure of plates and mantle convection 9-2197
 thin surface sheet of variable integrated elec. cond., two-dimensional EM induction 9-16372
 Tirumalai hill range AP, porphyritic granite fracture pattern interpretation 9-44156
 Ukrainian Shield, deep crustal structure from seismic studies (*Russian*) 9-48428
 upper mantle, structure and HF spheroidal modes 9-8603
 Yakutia, magnetotelluric investigations, induction effects detect. methods and appl. (*Russian*) 9-39642
- Earth third layer** *see Earth mantle*
Earth upper layer *see Earth mantle*
earthring
 choke-earthed surgical diathermy circuit analysis 9-20705
 ion plating, induction-heated source, arcing elimination by top coil grounding 9-47639
 lightning protection, general principles 9-48536
earthquake recorders *see seismometers*
earthquakes
see also seismology
 acceleration hazard map, sensitivity to input seismic parameters 9-44111
 acceleration simulation, random process 9-2186
 accelerograms, amplitude spectra, statistical properties 9-44122
 aftershock sequences, relocated, in Iran and Turkey, seismotectonic implications 9-44119
 Agua Caliente Springs, California, 1973 September 13, aftershock series 9-12084
 Attica, New York, 1966 January 1 and 1967 June 12, source parameters 9-16379
 b-value changes during movement on cut surfaces in granite, lab. expt., rel. to earthquake prediction 9-12109
 Balkan earthquake provinces, largest magnitudes third asymptotic distrib. 9-39669
 Bengough (S.Saskatchewan), 1972 July 24, seismotectonics 9-20757
 Bob-Tangol, SE.Iran, 1977 December 19, surface rupture and mechanism 9-44114
 book 9-12092
 British Columbia, 1946 June 23, focal parameters redeterm. 9-16380
 brittle fracture model, rel. to pore fluids and Q 9-39671
 Canada, 1972 events 9-34757
 Canada, 1975 records 9-34758
 W.Canada, seismicity, 1899-1975 period 9-5452
 Canadian earthquakes, 1976, catalogue 9-44139
 Caracas, Venezuela, 1967 July 29, multiple source event, tectonic implications 9-20761
 catastrophic earthquakes prediction, development monitoring via seismic b-value time and space scanning (*Chinese*) 9-12072
 Chagos-Laccadive Ridge, earthquake swarm and tectonic implications 9-16395
 Chile, 1960, time-domain obs. of split spheroidal and torsional free oscills. 9-12079
 s. Chile, 1960 June 6, anomalous slow earthquake characts. 9-39662
 China, catalogue of instrumentally determined earthquakes 9-12081
 China, investigation of sunspot period stability by anal. of ancient earthquake records (*Chinese*) 9-21253
 China, seismicity and seismotectonics characts. (*Chinese*) 9-16406
 N.China precursory vars. in seismic b-values before large earthquakes (*Chinese*) 9-12073
 Colombia, 1970 July 31, isotropic seismic source observability 9-39663
 Colombia (1970, July 31), deep earthquake source mechanism from free oscill. data 9-16394

earthquakes continued

crustal deformation, viscoelastic, by finite quasi-static sources 9-39686
 Diablo Range, California, P-velocity models from earthquake and explosion arrival times inversion 9-12094
 Duhamel's integral numerical evaluation, earthquakes response spectra calc. appl. 9-21035
 dynamic faulting in half-space, three-dimens. numerical simulation 9-16376
 dynamic field of Haskell's rectangular dislocation fault model 9-48403
 elastic energy release, heat prod., and Earth inertia tensor changes 9-44106
 elementary catastrophe theory modelling of Duffing's equation for seismic excitation of nuclear power facilities 9-31240
 epicentral parameters determ., software package 9-48585
 Etorofu (Kurile Islands), 1958 November 6, great earthquakes stress drops, wave spectra and recurrence intervals 9-44116
 Explorer ridge, off W.Canada, marine geophys. survey 9-25224
 fission reactors, structural anal. of lifting-off 9-596
 focal mechanism consistency, new parameter describing seismic activity (*Chinese*) 9-12074
 focal process and frictional characteristics of deep-focus earthquakes 9-44127
 Fort Yuma, Arizona, 1852 November 29, location and intensity 9-16382
 frequency-magnitude relation, statistical parameters rel. to seismic zoning problems 9-44112
 frequency/magnitude prediction for selected surface regions 9-16415
 friction and earthquake mechanics 9-20766
 Friuli, Italy, small shocks total durations and local magnitudes 9-34750
 Friuli (1976, May 6), main earthquake isoseismals map 9-44137
 Friuli (1976, May 6), precursor aerosol anomalies 9-16407
 Gore Range (Summit County, Colorado), Quaternary geology, surface faulting and earthquake hazard 9-2238
 Greece area, shallow earthquakes intensities attenuation with distance 9-44107
 ground-response maps for Tonopah, Nevada 9-12086
 Guatemala, 1976 February 4, tiltmeter obs. 9-16363
 Himalayan region, body waves spectral anal., earthquake source parameters 9-39660
 horizontal ground acceleration, Fourier amplitude spectra estimation 9-16389
 horizontal ground motion, two-dimensional, evaluation for structs. design 9-48419
 Iceland, 1976 January 13, focal mechanism solns. reanal. 9-44140
 Icelandic plate boundary rift and earthquake activity (*German*) 9-5467
 Indian deep-focus earthquakes, P-wave travel times 9-2193
 Indonesia, 1977 August 19, IDA network obs. of attenuation and splitting, Earth struct. determ. 9-34754
 S. Italy, seismic risk map preliminary results 9-44113
 Jan Mayen, 1975 April 16, focal mechanism solns. reanal. 9-44140
 Kalapana, 1975 November 29, intra-plate event rel. to geothermal processes 9-39664
 Kern County, California, 1952 July 21, local magnitude determ. 9-12087
 Khurgu, Iran, 1977 March 21, field report, seismotectonics 9-12083
 Koyna, 1967 December 10, temporal var. of body waves travel time ratio 9-5456
 Lake Oroville, reservoir-induced pore pressure and seismic activity 9-2190
 Livermore, California, 1977 June 22, strong motion records 9-16390
 local magnitude determ. from strong-motion accelerograms 9-12290
 Maniwaki, Quebec, 1975 July 12, focal parameters, intraplate seismicity 9-16378
 Matushiro fault zone, Japan, He spots caused by diapiric magma from upper mantle 9-8618
 microearthquake research, methods and meas. errors 9-39987
 microseisms influence on terrestrial quartz gravity meters, mechanism (*Russian*) 9-39967
 microtremour site anal. study, Beatty, Nevada 9-13686
 microtremours, 1 to 5 s, earthquake engineering appl., Tokachi-oki 1968 earthquake long-period accel. 9-16387
 modelling in homogeneous half-space 9-12078
 Modified Mercalli Intensity attenuation with distance in USA 9-48414
 Mongolia, 1905 July 9 and 23, surface-wave investigation, comment 9-29711
 N.China, seismic gaps prior to large earthquakes (*Chinese*) 9-20755
 New Hebrides island arc, earthquakes precise relocation rel. to seismotectonics 9-16404
 New Madrid seismic zone, focal mechanism studies 9-48410
 New York State, spectral anal. of two small earthquakes 9-48412
 New Zealand, Main Seismic Region, var. of energy release, occurrence rate and b-value 9-39665
 nonstationary model identification, nonlinear filtering approach 9-5458
 North Island, New Zealand, axial tectonic belt 9-2173
 nuclear power plant, dynamic response to earthquake, aircraft impact, soil structure interact. 9-3208
 nuclear power stations, applications of multi-directional seismic inputs in the design of components 9-31238
 nuclear power stations, risk due to seismic activity in New York and New Jersey 9-8611
 offshore building structure, earthquake resistant design 9-12089
 Oroville, California, 1975 August 1, crustal shear wave vel. struct. determ. 9-16417
 Oroville, California, 1975 August 1, strong-motion accelerograms of after-shocks and peak accel. data 9-16381
 P- and S-waves spectral content, from Garm, Tadzikistan local earthquakes 9-48406
 P-phases, anal. of short-period waveforms, from deep focus earthquakes beneath Fiji Islands 9-25200
 P-wave signals, multivariate autoregressive model, short-period discrimination appl. 9-16385
 Pand S-phase data from local earthquakes, California, 1966-75 period 9-12088
 S.Peru, 1965, shallow seismicity meas. in subduction zone 9-16401
 Peru, Oct. 3 1974, numerical seismogram dispersion curves computed by normal modes 9-16403
 Philippine earthquake, 1976 August 16 evidence for subduction zone south of Mindanao 9-44117
 pre-seismic sound (*Chinese*) 9-34760
 precursor theory, dilatancy-creep model of source development, rel. to prediction (*Chinese*) 9-20754
 precursors from Earth tilt obs. corrected for rainfall 9-8609
 prediction, biosystem behaviour as precursor 9-39673

earthquakes continued

prediction, electrokinetic and magnetic anomalies associated with dilatant regions in a layered Earth 9-39658
 prediction, overview and recommendations 9-8703
 prediction, rock dilatancy and vel. anomalies 9-16458
 prediction, velocity anomalies prior to rock failure and violent slip 9-16409
 prediction and American studies of rock mechanics 9-16449
 prediction and crustal fracture water radioisotope vars. 9-44204
 prediction and warning, theoretical review 9-5455
 prediction using crustal fracture water radioisotope abundances 9-44124
 premonitory changes in fault gouge 9-12110
 premonitory slip, creep and stable sliding 9-16410
 preseismic fault slip and earthquake prediction 9-2189
 Rat Island sequence, 1965, seismic scaling information 9-12076
 recurrence relations 9-39672
 response spectrum amplitudes, probabilistic computation 9-8610
 risk maps for Western Central Europe (*German*) 9-8600
 rock fracture prediction problem 9-25230
 rock friction and earthquake prediction, conf. (Stanford, 28-30 April 1977) 9-16448
 rock volume changes during fracture and frictional sliding 9-16450
 Rumania, 1977 March 4, specific defect of area (*Rumanian*) 9-20768
 rupture incoherence influence on seismic directivity 9-12077
 Salton Sea geothermal area, California, microearthquake study 9-12085
 San Andreas fault near Palmdale, 1976-7 earthquake swarm 9-34756
 San Andreas fault slip and prehistoric large earthquakes 9-2188
 San Francisco, 1906 April 18, strain accumulation and release mechanism 9-20765
 seafloor earthquake meas. system, development 9-5689
 seismic acoustics and earthquake prediction (*Chinese*) 9-34759
 seismic activity rel. to source power 9-44125
 seismic amplitude measurements, focal mechanisms of fore and after-shocks 9-20767
 seismic body waves, focusing at epicentre antipode 9-16399
 seismic events identification, appl. of non-linear stochastic models 9-16396
 seismic instrumentation for nuclear power plants in Germany, review 9-620
 seismic microzoning, mapping method based on subsoil conditions 9-44108
 seismic shocks, location with imperfect knowledge of seismic wave path hodographs (*Russian*) 9-35009
 seismic wave traces, multivariate autoregressive feature extraction and the recognition of multichannel waveforms 9-39878
 seismic zoning, contrib. of geophysical methods, conference (Erice, Italy, 13-23 April, 1977) 9-44104
 seismic zoning map, new elements 9-44105
 SH-wave travel times and amplitudes for two well-constrained earthquakes 9-48407
 shallow intraplate earthquakes triggering factor, strain accumulation 9-39661
 Shamil-Siahou, Iran, 1977 March 21, regional seismicity, ground movements, major shocks, aftershocks 9-48422
 Shimane, SW.Japan, 1978 June 3, preceding seismic activity pattern 9-39659
 Sierran foothills near Oroville, California, regional seismicity 9-48411
 single-station fault-plane solution method 9-44263
 source spectrum determ. using code of seismic oscils. 9-48405
 stochastic characterization through response spectrum 9-20758
 stress redistrib. by slow earthquakes 9-2191
 strong ground motion representation and simulation 9-16388
 surface wave contrib. to dislocation source in superficial multi-layers 9-44126
 Svalbard, 1976 January 18, focal mechanism solns. reanal. 9-44140
 Tangshan, China, elec. resistivity anomaly in epicentral area prior to 1976 earthquake (*Chinese*) 9-20744
 Tennessee, seismic characts., surface wave dispersion study 9-48426
 Thessaloniki, 1978, activated faults, intra-plate deformation 9-39697
 Tibet, active tectonics, LANDSAT imagery 9-20794
 Tibetan Plateau, late Cenozoic tectonics, LANDSAT imagery 9-20795
 Tien Shan region, fault plane solns. rel. to contemporary tectonics 9-29733
 Tonga Trench seaward side, earthquakes implications for oceanic lithosphere mechanical behaviour 9-16405
 Tonghai, China, fault parameters determ. from ground deform. data (*Chinese*) 9-20753
 torsional spectrum for earthquake motions 9-2187
 tsunami-generating earthquakes, ionosphere detect. method 9-44681
 United States, national seismic hazard and zoning maps status and prospects 9-44109
 United States Earthquake Hazards Reduction Act 9-48415
 United States seismic hazard maps, prospects for geological data appl. 9-44110
 Upper Rhine graben, seismic risk evaluation 9-25207
 v_p/v_s ratio spatial and temporal vars. prior to strong earthquakes, Kamchatka 9-39657
 Xing tai, 1966 March, structural damage and ground displacement near faults (*Chinese*) 9-20756
 Yong Shan-Da Guan, Yunnan earthquake (May 19, 1974), main shock source multiplicity (*Chinese*) 9-12075

EAS see cosmic ray showers and bursts
Eberhard effect see photographic materials
ebullition see boiling
e.c.g. see electrocardiography
echelons see diffraction gratings
echo
 see also anechoic chambers; architectural acoustics; reverberation; sonar
 dynamically focused array imaging systems, induced Doppler distortions 9-46117
 electronic echo and reverberation generation, ccts. (*German*) 9-32138
 EM wave scatt., echo width meas. 9-3614
 F-region, high latit., fixed freq. sounding echo rel. to gravity waves 9-25390
 HF radio meteor echoes duration rel. to dense trains deionisation 9-5697
 icebergs underwater profiling using unmanned submersibles, echo sounder and scanning sonar 9-5673
 magnetosphere radio echoes rel. to plasma density, GEOS-1 relaxation sounder meas. 9-35072
 ocean wave height meas. with satellite radar altimeter 9-44253

echo continued

- seismic reflection profiles of marine sediments, statistical anal. 9-2385
 troposphere VHF radar echoes, appl. to velocities and irregularities study 9-16701

ECL see emitter-coupled logic

eclipses

see also solar eclipses

- Jupiter's satellites, mutual phenomena (1973 Sept.-1974 Jan.) 9-40129
 Moon, 1978 March 24 total eclipse, S.African obs. 9-44384

eclipsing binary stars

- V889 Aquilae, photometric obs. of eclipsing binary, apsidal motion 9-25640
 V539 Arae, photometric analysis of B-type double lined eclipsing binary 9-44535
 BF Aurigae, B-type semidetached system, photoelectric obs. 9-44522
 SX Aurigae, early-type semidetached binary, UVB photometric anal. 9-44521
 ε Aurigae, International UV Explorer obs. 9-17027
 CQ Aurigae, RS Canum Venaticorum type eclipsing binary, photoelectric obs. 9-40218
 SX Aurigae, semidetached massive binary system, period changes 9-25637
 LY Aurigae, tidal effects in O-type eclipsing binary system 9-25638
 AS Camelopardalis, light curves Fourier analysis, appls. to eccentric orbits 9-25630
 AH Cancri, contact binary in M67, spectrum and photometry 9-40222
 RU Cancri, RS Canum Venaticorum type eclipsing binary, photoelectric obs. 9-40218
 UW Canis Majoris, BV light curves of close binary 9-12496
 RS Canum Venaticorum, radio flare obs., (1979, February 6) 9-40220
 RS Canum Venaticorum stars, intrinsic light vars. due to starspots, model 9-35295
 TV Cassiopeiae, Algol variable, UVB photometric obs. 9-35306
 V748 Centauri (Centaurus X-4?), high-latit. eclipsing system, VBLUW photometry 9-44529
 Centaurus X-3, accretion disk evidence from month-long X-ray obs. 9-44636
 Centaurus X-3, long-term studies with Ariel 5 All-Sky Monitor 9-30146
 U Cephei, chem. comp. of secondary component of close binary system 9-35308
 CW Cephei, in III Cephei association, distance 9-21326
 TV Ceti, F-type eclipsing binary, four-colour photometric obs. 9-40217
 TV Ceti, light curves, photometric elements and He content 9-44526
 TX Ceti, UVB obs., photometric elements 9-8950
 Circinus X-1, semiperiodic pulsations 9-48963
 close binary systems, polarimetric determ. of revolution directions and spatial orientations 9-35309
 CG Cygni, changing light curve obs. 9-48857
 V453 Cygni, in cluster NGC 6871, distance 9-21326
 V1143 Cygni, light curves Fourier analysis, appls. to eccentric orbits 9-25630
 distances, masses, radii and absolute magnitudes of 96 stars 9-44520
 BS Draconis, BV photometry 9-44536
 CM Draconis, low dispersion spectrum, metal abundance 9-25636
 BV Draconis (ADS 9537A), W Ursae Majoris type star, photoelectric photometric obs. 9-35296
 BW Draconis (ADS 9537B), W Ursae Majoris type star, photoelectric photometric obs. 9-35296
 Fourier anal. of light curves, geometric elements soln. 9-25634
 Fourier anal. of light curves, photometric perturb. for partial eclipses 9-25635
 Fourier anal. of light curves 9-25632
 Fourier anal. of light curves 9-25633
 Fourier anal. of light curves 9-30088
 Fourier analysis, B_{eff}^4 integrals explicit expression 9-35298
 Fourier analysis of light curves 9-8945
 Fourier analysis of light curves 9-8946
 U Geminorum, HEAO 1 obs. of hard X-rays 9-21299
 U Geminorum, HEAO obs. of low-energy X-ray emission 9-21298
 U Geminorum, V mag., primary eclipse and visual mag. estimates 9-44505
 HD 152667=OAO 1653-40, physical parameters 9-17021
 HD 153919(3U 1700-37), coronal emission line search 9-35302
 HD 153919 (3U 1700-37), X-ray eclipsing binary, VBLUW photometric obs. 9-17135
 HD 77581 (4U 0900-40), optical pulsations from eclipsing binary 9-48951
 HDE 226868 (Cygnus X-1), extended secondary envelope with eclipsing region, V-polarization obs. 9-35433
 HZ Herculis, (Hercules X-1), X-ray spectra, pulse phase depend. on high-energy continuum 9-17128
 Hercules X-1, Fe line emission discovery in low-state spectrum by (HEAO-1) 9-5922
 Hercules X-1, long-term studies with Ariel 5 All-Sky Monitor 9-30146
 AM Herculis, 1.2 and 2.2 μ m light curves interpretation, model parameters 9-8949
 AM Herculis, evidence on nature of soft X-ray source from HEAO 1 obs. 9-17134
 AM Herculis, hard X-ray spectrum 9-17022
 DQ Herculis, He II 4686 Å line phase shift from spectrophotometry 9-21296
 AM Herculis, high-speed circular polarimetry 9-25629
 AM Herculis, IR and visual monitoring, model constraints 9-17018
 AM Herculis, UBVR1 photometric and polarimetric obs. 9-5861
 HZ Herculis (Hercules X-1), 2-6 keV pulse profiles, Uhuru data 9-17129
 HZ Herculis (Hercules X-1), UBVR photometry during 1977 Jul.-Aug. (Russian) 9-17028
 HZ 22 (UX Canum Venaticorum), hot subdwarf binary, evolution and mass 9-12472
 LB 3459, O-type subdwarf plus hot white dwarf eclipsing binary, photometry, anal. 9-48859
 XY Leonis, light curve synthesis for contact binary 9-12494
 light curve solution by Kopal's iterative process 9-35310
 light curves, Fourier analysis for partial phases 9-21350
 light curves Fourier analysis, appls. to eccentric orbits 9-25630
 1MC X-4, spectroscopic obs. and orbit 9-9028
 VV Monocerotis, RS Canum Venaticorum type eclipsing binary, photoelectric obs. 9-40218
 Ophiuchi, orbital elements from new obs. 9-21327

eclipsing binary stars continued

- AG Persei, in II Persei association, distance 9-21326
 RT Persei, light curve analysis by automated Fourier technique 9-17020
 RW Persei, UVB photometry of semidetached binary system 9-25639
 β Persei (Algol) system, gravity darkening 9-44525
 PG 1413+01, white dwarf-red dwarf eclipsing binary, photometry and spectral types 9-8944
 RR Pictoris (Nova 1925), spectrophotometry of surrounding filaments, abundances, ionization 9-40194
 VV Puppis, AM Herculis type binary spectrophotometric obs. 9-5860
 V Puppis, B-type semidetached system, photoelectric obs. 9-44522
 VV Puppis, circular polarimetry in active state and evidence for two accreting poles 9-48854
 VV Puppis, obs. in faint state 9-25643
 VV Puppis, spectroscopic obs., broad absorpt. features discovery 9-44502
 TY Pyxidis, light curve of RS Canum Venaticorum type binary 9-25641
 WZ Sagittae, BV photometry and magnitudes (1978 Nov.-Dec. outburst 9-12484
 WZ Sagittae, period change and magnitudes (1978 Dec.-1979 Jan.) 9-21309
 WZ Sagittae, spectroscopic obs. (1978 December 1 and 2) 9-16983
 WZ Sagittae, spectroscopic obs. and photoelectric V-magnitudes 9-16984
 WZ Sagittae, time of minimum light, period, magnitudes 9-21353
 WZ Sagittae, UVB photometry and spectroscopy of 1978 Dec. outburst 9-12483
 WZ Sagittae, visual magnitude 1979 April 8 9-44508
 WZ Sagittae, visual magnitude estimates, 1978 Nov., 1979 Jan.-Feb. 9-30075
 WZ Sagittae, visual magnitude estimates, (1978, November 28 to December 11) 9-12481
 υ Sagittarii, UV spectrum 9-35300
 υ Sagittarii primary eclipse prediction (for 1979 March 10) 9-35307
 V861 Scorpii=OAO 1653-40, physical parameters 9-17021
 μ Scorpii, B-type semidetached system, photoelectric obs. 9-44522
 V861 Scorpii, IR obs. of black hole candidate 9-44538
 RY Scuti, β Lyrae system, optical and radio spectra 9-30090
 SMC X-1, soft X-ray emission detection, 2-day flaring period 9-35432
 RW Trianguli, nova-like variable, eclipse timings 9-21357
 AQ Tucanae, UVB photometry, light curves 9-8951
 4 U 1538-52, corrections to ephemeris and revised period 9-25760
 4U 1538-52, optical counterpart spectroscopy and system parameters 9-5924
 4U 1700-37 (HD 153919), uncertainty of 97 min. periodicity 9-40295
 AN Ursae Majoris, steady low luminosity state 9-40219
 W Ursae Majoris, uvby obs. 9-44533
 W Ursae Majoris metal-poor systems, evolution models 9-25628
 W Ursae Majoris stars, A-type, radii and evolutionary state 9-8943
 W Ursae Majoris stars, Fourier analysis of light curves 9-21349
 W Ursae Majoris type binaries, mass ratio function 9-8947
 Vela X-1, long-term studies with Ariel 5 All-Sky Monitor 9-30146
 BS Vulpeculae, photoelec. photometry, light curve, period 9-21351
- ecology**
 computer-aided instruction, appl. to ecological population dynamics 9-30166
 freshwater food chains contamination by ^{60}Co , direct water borne contamination of organisms (French) 9-20688
 limnological ecosystem modelling, real-time estimation methods appl. 9-5541
 nuclear energy centres, power development, economic and ecological problems, USSR (Russian) 9-31149
 photobiological conversion of solar energy (German) 9-2013
 urban flood control programs, ecological and social aspects 9-2316
- econometrics** see economic cybernetics
- economic and sociological effects**
 cancer management, potential impact of particle radiation therapy 9-20620
 dust storms, Great Plains, USA, lessons 9-29486
 earthquake prediction and warning, techniques and social effects 9-5455
 education in developing countries, the American science educator 9-2
 flash floods, American National Weather Service (NWS) warning and disaster preparedness program 9-25289
 hail suppression, crop protection, involvement of society 9-8677
 materials conservation ethic 9-44700
 New York City blackout (1977 July 13) economic and social costs 9-24894
 physics in Europe, bibliography 9-40341
 public policy careers in the USA 9-5954
 thunderstorms, severe, nature and effects on society 9-5560
 urban flood control programs, ecological and social aspects 9-2316
 weather modification, economic context 9-20936
 weather modification, insurance perspective 9-20937
 weather modification, national policy 9-20938
- economic cybernetics**
 long-term regional development, macromodel 9-12562
 water resources management, systems anal. and modelling techniques appl. 9-5518
- economics**
 BWR, fuel cycle cost sensitivity anal. 9-31104
 coal gasification, underground, US Department of Energy status 9-48054
 COS-B satellite, ESA extraterrestrial gamma radiation obs. project (German) 9-21151
 denatured Th cycle in symbiotic systems, potential role 9-26484
 domestic wind, solar, wind and solar heating systems, economic evaluation 9-43744
 electrification of rural areas, energy economics and national policies, in developing countries 9-48042
 energy future concepts, Conf. London, England (Jan.-Feb. 1979) 9-43709
 energy resources, alternative technologies cost analysis 9-48041
 energy schemes assessment, domestic solar heating appl. 9-48044
 energy sources, renewable, assessment for UK power supply system 9-48043
 energy storage devices assessment 9-48183
 energy technologies assessment, based on renewable resources 9-48045
 fuel adjustment clause for collecting nuclear fuel costs 9-31105
 fuel cells, H_2PO_4 , technology advances 9-48122
 fuel cycle and nuclear power plant development in USSR, economic aspects 9-644
 geothermal binary cycle calc., hydrocarbon working fluid selection 9-48091

economics continued

- geothermal energy extraction and utilisation in France (*French*) 9-39276
- geothermal power utilisation, in evaporation/crystallisation industry 9-48086
- hybrid geothermal/coal fired power plant, site specific economic anal. 9-24887
- hydrometeorological information in USSR, economic effectiveness 9-29909
- low level radioactive waste volume reduction and cost savings 9-36360
- LWR power stations and fuel cycles, economic indices improvement (*Russian*) 9-26744
- medical microprocessor applications and costs 9-44011
- MHD generation, open-cycle, 1978 reappraisal in United Kingdom 9-48140
- nuclear energy complexes, economic and ecological problems of nuclear power development 9-645
- nuclear fuel cycle cost sensitivity to data uncertainties, interactive graphic computation 9-9837
- nuclear fuel recycle facility, utility ownership 9-31099
- nuclear power, economics 9-22499
- nuclear power development in US, Pu recycle's influence 9-36394
- nuclear power plant cost reduction by containment elimination 9-13467
- ocean wave power, assessment 9-34422
- optical bench base selection, accuracy/cost tradeoffs 9-27447
- photovoltaic power supplies, self-contained, cost minimisation 9-48098
- photovoltaic systems, all component optimisation, theory and appls. 9-29475
- plasma confinement, quasisteady, scaling laws rel. to fusion reactor operation 9-27812
- pollution problems from fertilizer manufacture 9-34450
- polymer-concrete composites, civil engineering appls., technical, processing, economic merits 9-11545
- power plant availability improvement by surveillance techniques 9-9812
- power reactor underground siting feasibility, Californian programme 9-13399
- PWR, economics of fuel cycle options 9-31102
- PWR, planned cycle stretchout 9-31103
- quality health care and cost containment, conf., Washington, USA (Mar.-Apr. 1978) 9-39333
- rotating mirror scanners, technology and market rel. to price 9-27362
- solar cells, technical and economic assessment 9-34433
- solar energy concentrator/solar cell array systems, economic assessment 9-43770
- solar power satellite, technical considerations 9-34425
- teaching projects, distance (broadcasting), cost effectiveness evaluation 9-40312
- thermionic power plant, design point selection impact 9-48155
- thermionic topped steam power plant, conceptual design using advanced boiler concept 9-48156
- wave energy system, optimum annual load factors estimation 9-43732
- wave power generation viability 9-43728
- weather modification economics, review, future anal. 9-20927
- wind energy conversion, toroidal accelerator rotor platforms appl. 9-48073
- wind energy conversion system, low-cost, for domestic premises appl. 9-43716
- wind furnace systems, advanced, for residential and agricultural heating and power supply 9-48070
- Li, ores in United Kingdom, brief assessment 9-48476
- Li requirements for fusion power plants, aspects 9-45401
- Mn nodules, on deep ocean floor struct., composition, economic pot. 9-29747
- Si ribbon growth, technology assessment 1978-1986, computer anal. using PECAN 9-8244
- Th fuel cycle role in thermal and fast reactors 9-13420
- U isotope separation in countercurrent vortex tube, energy consumption (*German*) 9-27099

eddy current losses

- multifilamentary superconductor, AC losses, mag. field depend. of loss-freq. charact. 9-33384
- thin conducting sheets, variational estimation 9-41296
- Tokamak toroidal field coil shielding calc. 9-31212
- CdCr₂Se₄/Ag, ferromag. linewidth and eddy current losses 9-33541
- Fe-Si (3 wt.%) alloy, domain structure influence obs. and calc. (*Slovak*) 9-4693
- Nb₃Sn-Cu composite superconductors, in-situ, AC losses 9-38283

eddy currents

- see also induction heating*
- 3 GeV proton synchrotron magnet design and meas. 9-31303
- brain tumour destruction by 8 MHz implanted metal powder eddy currents (*German*) 9-16337
- conducting media, eddy current phenomena, neglect of displacement current 9-13868
- crack detection and meas. technique 9-43500
- defectoscopy appl., using nonsinusoidal EM fields (*Czech*) 9-20311
- electromagnetic flaw detector, differential eddy current transducer asymmetry effect on sensitivity 9-39092
- elongated part of noncircular cross section, straight through eddy current transducer inspection 9-47860
- FFTF-type eddy-current flowmeter performance in SLSF P-series test trains 9-9669
- HFEF/N irradiated fuel element eddy-current exam., cladding performance 9-9750
- induction in thin curved sheets, calc. 9-41299
- irradiated fuel rod NDT using encircling and probe eddy-current systems 9-9751
- in laminated Fe cores, calc. in arbitrarily shaped three-dimens. cores, appls. (*German*) 9-45886
- Maxwell's eqns. in electromech., numerical resolution by finite element anal., eddy current effects (*French*) 9-30269
- metal object in media, depth measurement instrument, eddy current transducer 9-39091
- microwave ferromagnetic resonance probe, for eddy current detection of surface flames in metals 9-34254
- NDT, equipment for production line inspection 9-29320
- nondestructive materials testing, pulse-excited systems frequency spectrum analysis (*Czech*) 9-39071
- nonferromagnetic solid eddy currents, three-dimensional calc. (*French*) 9-41301
- phase thickness gauge, automatic error corrections 9-9204

eddy currents continued

- problem soln., integral eqn. method developments 9-41292
- pulsed method of testing, theoretical and expt. foundations (*German*) 9-15920
- speed meter operating characteristic analysis 9-40543
- steel, square parts, surface inspection, defect depth meas., eddy current method 9-29307
- temperature measurer, exam. of design 9-12803
- three- and two-dimensional eddy current problems, Fredholm integral eqns. 9-41298
- transducer of arbitrary form located parallel to multilayer medium, EMF 9-2762
- transient, distribution in plate of finite thickness due to coil of arbitrary shape (*German*) 9-27129
- transient distribution in two insulated coils embedded in conducting medium (*German*) 9-41282
- transient skin effect in laminated cores with sectionally different material props. (*German*) 9-41280
- two-dimensional steady-state and transient eddy current problem soln. 9-41289
- unbounded two-dimensional linear eddy current algorithm 9-41300

edge dislocations

- coincidence site lattice, differential geometry 9-28000
- displacement field, in elastic strip, Fourier transform technique 9-46658
- displacements in elastic strip, Fourier transform method 9-21553
- elastically nonlinear medium, dislocation interactions (*Russian*) 9-42064
- image and surface dislocations models, comparison 9-23605
- Invar, deformed, magnetism and temp. depend. of effective field on ⁵⁷Fe (*Russian*) 9-24234
- irradiation creep due to stress induced preferred absorption of point defects, anisotropic dislocation struct. effects 9-42140
- lamellar liquid crystal, biaxiality due to oriented defects 9-41945
- laser optical simulation of diff. from distorted lattices 9-23612
- metals, BCC, dislocations, anisotropic elasticity theory (*Japanese*) 9-10853
- Peierls model, dislocation core energies 9-27984
- plastic relaxation in shock wave, slip mechanism 9-41605
- semiconductor crystal, positron annihilation with electrons bound in edge dislocations 9-47539
- smectic liquid crystal, edge dislocations obs. by polaris. microscopy 9-7547
- spinel oxide, dissociation of dislocations and plastic deform., temp. effects 9-7613
- stress field of edge-dislocation lying in plate 9-23603
- superconducting filament formation near edge dislocation (*Russian*) 9-4635
- thermally activated motion, appl. to KCl-KBr solid soln., computer simulation 9-19249
- X-ray diffraction distortion distrib., behaviour from mixing near low Fourier orders (*German*) 9-37583
- Ba ferrite compounds, microsyntactic intergrowth and cryst. defects, TEM obs. 9-10858
- Cu, neutron irradi. cryst., edge and screw dislocation groups, mean vel. 9-7607
- p-InSb, influence of plastic bending on galvanomag. props. 9-28349
- KCl-KBr solid solution, thermally activated edge dislocation motion, computer simulation 9-19249
- MgAl₂O₄, dislocations, sessile dissoc. 9-46663
- Mg₂SiO₄, etch pits in cleaved faces, revealing low angle boundaries 9-14818
- Mo:He, interaction of He with edge dislocation, influence of interatomic pot. 9-33014
- NaCl, edge dislocation dissoc., computer simulation of core struct. 9-37703
- Si (100), P implanted, dislocation dechannelling, obs. by backscatt. spectroscopy and TEM 9-4308
- Si, spin dependent recomb. at dislocations, EPR and photocond. 9-38095
- Si wafer, defect studies by ASLEEP, SEM and scanning AES 9-19256
- n-Si:P, edge dislocation energy level, differential capacitance meas. 9-23927
- Sn, single crystal, dislocation walls consisting of double arrays 9-46664

education

- see also computer science education; educational administrative data processing; educational aids; educational courses; teaching; training*
- academic motivation, objective measurement 9-17154
- astronomy at Florida's Brevard Community College 9-12557
- colour, chemical origins 9-21479
- community college, educational management system 9-35446
- computer-aided ship structural design for diploma and undergraduate courses 9-35494
- computer-assisted learning in the University of Surrey Chemistry Department 9-30167
- crystallography, conference, International Crystallography Congress, Warsaw, Poland (Aug. 78) 9-23481
- dehumanisation, risk involved 9-17155
- developing countries and the American science educator 9-2
- developing-country university, physics teaching 9-35458
- engineering education, perspective and some current problems 9-10
- engineering project, submarine radiometry and physical environment monitoring 9-12555
- engineering-science summer programme 9-2588
- Finnish education system, school TV and radio broadcasts (*French*) 9-17171
- Government organisation of education in USA 9-1
- interactive computer assistance with calculations arising in undergraduate laboratory experiments 9-35493
- interactive learning, the Millikan Lecture 78, educational uses of computers 9-25785
- Lawrence Bragg's advice to a lecturer 9-40314
- lesson design for computer-based instructional systems 9-35490
- mathematics learning, effect of specially constructed advance and post-organisers 9-35452
- Medical College Admission Test, 1977, America, physics content evaluation 9-35462
- Nigerian local radio strategy, rural communities education 9-40313
- nondestructive testing qualifications, redefinition 9-9048
- optometry in Nigeria, three year programme 9-25781
- peer managed assessment of competencies 9-35443
- Physical Sciences Building, Washington State University 9-21499

education continued

- physics careers, employment and education, conf., Pennsylvania, USA (Aug. 1977) 9-2591
- physics in Europe, bibliography 9-40341
- physics in schools and universities in FRG, student numbers (*German*) 9-40315
- quality control of mandated programmes, model 9-35449
- reactor simulators and nuclear power plants, mutual dependency of numbers (*Czech*) 9-35499
- science, aims and social implications 9-35457
- sixth form physics, proposed core syllabus 9-5934
- structured tutorials to develop students' creative thinking, problem-solving and formulation 9-35451
- student assessment techniques in cognitive domain, taxonomy 9-35444
- suggestopaedia, training technique 9-17153
- systems approach 9-35450
- teacher/administrator training, educational computer use 9-35489
- TV educational programmes, problems encountered in Bulgarian People's Republic 9-17170
- university entrants, cognitive level by Piagetian tasks 9-4
- verbal computation problem-solving, hierarchical struct. of learner abilities rel. to material strength 9-35453
- vortex flowmeter for student laboratory use 9-7424

educational administrative data processing

- DIAGNOSE, computer-based reporting of student test performance 9-17156

educational ADP *see educational administrative data processing***educational aids**

- see also student laboratory apparatus*
- chemical equilibrium teaching, computer method using minimisation of free energy 9-30168
- computer-simulated laboratory experiments, in chemical spectroscopy 9-40339
- lap dissolve projection 9-40333
- line-of-sight transparency for astronomy 9-35508
- microcomputer applications in physics teaching, review 9-30171
- microcomputer systems, comparative eval. 9-30173
- microcomputer use in high school physics 9-30172
- overhead projection, transparencies for action effects 9-40330
- physics tutoring, personal computer feasibility 9-30174
- projection plotter system, for classroom demonstrations 9-33
- radio transmissions at FM sub-carrier freqs. 9-35488
- speech trainers, with visual display system, systematic use for hard of hearing children (*Japanese*) 9-39596
- speech trainers using visual display system, for hard of hearing children (*Japanese*) 9-39595
- televised educational programming 9-35485
- University of Lowell Reactor utilisation 9-9857
- video applications in education 9-35491
- videotape instruction in physics, low-cost systems 9-29

educational computing

- see also computer-aided instruction; educational administrative data processing*
- stratospheric photochemistry, computer simulation 9-21481

educational courses

- advanced laboratory-research course for nonphysicists 9-25792
- applied science CNAAC degree course at Kingston Polytechnic 9-35454
- architects, physics course description 9-25779
- astronomy-astrophysics, courses, new approaches 9-3
- biomedical electronics, BSc level option, Lanchester Polytechnic, England 9-17158
- chemical laboratory course, for intellectual skills development 9-21484
- crystallography education, a survey in the USA 9-9047
- electrooptics for electrical engineers, undergraduate curriculum 9-11
- elementary particles, introductory course for liberal arts students 9-25780
- engineering electronics: An alternative degree program for departments of physics 9-9046
- environmental science and engineering interdisciplinary curriculum, faculty requirements 9-12553
- instructional evaluation by students, appl. in teaching diagnosis, improvement 9-35448
- instruments in advanced physics, a final year undergraduate course 9-21486
- introductory biophysics, personalised system of instruction course 9-5929
- laboratory course, individualized, first year undergraduate 9-21489
- lifelong learning adapted to adults, principles and practice, University of Mid-America 9-12
- mathematical physics, personalised system of instruction course, problems in developing country 9-5930
- measurement oriented basic physics laboratory 9-25790
- optometry, interdisciplinary course with vision training specialisation 9-40311
- origin of life, molecular evolution and exobiology, interdisciplinary course 9-21485
- physical sciences at Lanchester Polytechnic 9-44658
- physics, joint honours degree course at Manchester University 9-35456
- physics and engineering at Loughborough University of Technology 9-35455
- science in society, a 6th form course 9-17161
- special relativity, teaching module 9-21483
- underdevelopment of a course 9-35445
- undergraduate engineering education, physics requirements 9-44656
- undergraduate preparation for career in physical oceanography 9-12554
- X-ray science, survey of former students of Oregon State University 9-9
- Yugoslav university training of biomedical engineers 9-35442

e.e.g. *see electroencephalography***effective mass (band structure)**

- cubic semiconductor, Zeeman split acceptor levels, calc. method 9-28322
- de Haas-van Alphen effect, FFT anal. 9-42434
- ferroelectricity, vibronic theory, developments 9-33620
- Hall effect coeffs., linearised Boltzman eqn. solved 9-1595
- inert gas solid, electronic struct. of self-trapped excitons 9-19525
- MOSFET, ionic scatt. effect on Shubnikov-de Haas amplitudes in Si inversion layers 9-42653
- narrow band gap semiconductor, electron-phonon interaction, effective mass of carriers determ. 9-11058
- polaron model, Froelich Hamiltonian, perturbation theory calcs. 9-33247
- semiconductor, bound exciton recombination, phonon replicas 9-38649

effective mass (band structure) continued

- two-dimensional surface layer, ground state energy and effective mass of polaron 9-23910
- Cd, Fermi surface, 3rd band sheet, electron effective mass and relaxation time 9-11056
- n-Cd, Hg_{1-x}Te, thermal EMF, in transverse quantised EM field (*Russian*) 9-23993
- GaAs, Schottky barrier diodes, strain sensitivity mechanism 9-38165
- GaAs:C, Zeeman effect of effective mass acceptor, polarised luminesc. 9-4541
- GaSe, layer, upper valence bands using bond-orbital model 9-15078
- Ge, diamagnetic excitons, fundamental absorption edge, Faraday config. 9-8144
- Ge, electron states below cond. band originating from dissociated 60°-dislocations, calc. using effective mass method 9-19546
- Ge, sum rule for intraband optical absorpt. of shallow acceptor impurities 9-28793
- Ge:Cu, press. effect on energy spectrum of carriers, elec. cond. and Hall coeff. expts. 9-23930
- Hg_{1-x}Cd_xTe, far IR cyclotron reson., band edge effective mass and relax. time 9-19781
- Hg_{1-x}Cd_xTe films, Tamm surface states, Kane model 9-28395
- In_{0.7}Se_{0.3}, single cryst. prep. and electrophys. props. 9-43129
- Pb_{1-x}Cd_xS epitaxial layer, metastable, optical props. and electronic struct. 9-15543
- PbI₂ (2H), electronic transport and cyclotron reson. 9-28369
- p-PbTe, Fermi surface parameters depend. on carrier density, Shubnikov-de Haas oscils. 9-42435
- PbTe-based solid solns., 9-23990
- Pd, electron effective mass, press. depend. 9-11055
- Si, heavily doped, characts. of distrib. of density of states 9-15072
- Si inversion layers, effective mass variation 9-24050
- n-Si, surface-barrier electroreflection, polarisation anisotropy 9-24295
- n-SiC (6H), density of states effective mass determ., high temp. meas. of elec. props. 9-15073

effusion

- rare earth nitrides, Knudsen effusion press., vaporization enthalpies 9-10936
- In-Zn, liq., Zn activity meas. by Knudsen torsion-effusion method 9-10950
- Mn, vaporization, thermodynamic study by Knudsen-cell mass spectrometry, congruent effusion 9-10937
- RbI, vaporisation thermodynamics, mass-loss Knudsen effusion, mass spectrometry 9-28093

EHD *see electrohydrodynamics***EHT calculations**

- acetylene, dissoc. chemisorption on Pt (111) surface, EHT calcs. 9-39190
- benzene-benzene (anthracene) dimers, ground and excited states, EHT calc. 9-36553
- benzothiazole, and homologues electronic struct., photoelectron spectra and MO calcs. (*French*) 9-31598
- charge transfer complexes, geometries, CNDO/2 and EHT calcs. 9-36530
- diamond, defect states, extended Huckel Hamiltonian calc. 9-7802
- dimethyl sulphide dimerisation, S lone pair nonbonded contacts, EH, MINDO/3, CNDO/2 calcs. 9-773
- hydrocarbon, conjugated, nonlinear susceptibility, extended basis set calcs. 9-27107
- linear homoatomic macromolecules, stability 9-10038
- macromolecules, quantum chemical characteristics, extended Huckel calcs. 9-45874
- nucleic acid bases, excited states formation, EHT calc. 9-13651
- tempered orbital energies, SCF calc., relation to Mulliken-Walsh ordinate and extended Huckel orbital energies 9-763
- TGS:Cr³⁺, EPR obs. of ferroelectric monocrystals, fine struct. EHT-SCC-MO calcs. 9-19769
- TTF-CNQ, CNQ and TTF bandwidths, extended Huckel and CNDO/2 calcs. 9-7771
- H-bonded complexes, geometries, CNDO/2 and EHT calcs. 9-36530
- Ni, adsorption of H₂, activation mechanism, extended Huckel calc. (*French*) 9-42379
- (SN)₂ chain, isolated, effect of (SCH₃)₂ impurities, on electronic props., EHT calcs. 9-15067
- SiO₂, g-tensor and ²⁹Si hyperfine tensors of E_h-centre for model of O⁻ vacancy 9-19777

eigenfunctions *see eigenvalues and eigenfunctions***eigenvalues and eigenfunctions**

- ¹Hooft-Polyakov monopole, zero energy eigenvalues for quantum fluctuations, quantisation 9-9318
- acoustic destabilization of vortices 9-32533
- acoustic wave propag. in shallow water, soln. of wave eqn. based on eigenfunctions of Schrodinger eqn. (*French*) 9-41505
- aerial photograph statistical spatial filtering 9-13908
- aerofoil flutter, vibration and stability of a bar in a stream of gas (*Russian*) 9-32548
- analytic continuation of a group of eigenvalues 9-6010
- anharmonic oscillator, modified perturbation theories using Riccati eqn., energy eigenvalues 9-12644
- anharmonic oscillator, moment recursions and the Schrodinger problem 9-35584
- anisotropic 3-D Ising lattice 9-156
- atom, contact interactions, parity-violating and parity-conserving, new evaluation techniques 9-26872
- atomic collisions, two-state approximation in the adiabatic and sudden-perturbation limits 9-22780
- atomic system, two-electron, Schrodinger local energies 9-41090
- atoms and molecules, total SCF electronic energy rel. to eigenvalue sum 9-9993
- Bell-Lavis 2-D bonded lattice model, critical behaviour 9-17356
- Bethe-Salpeter eqn., eigenvalue, asymptotic expansion, weak binding approx. of Wick-Cutkosky model 9-2925
- Boltzmann neutron transport operator, dominant eigenvalue determ. for inhomogeneous body 9-13377
- branching diagram and Serber type spin functions, construction algorithms 9-6828
- charged particle scattering in homogeneous mag. field, transition amplitude 9-10218
- charmonium models, energy perturbation series from Schrodinger eqn. 9-6005

eigenvalues and eigenfunctions continued

chemical kinetics, eigenvalue and eigenfunction anal. of Kramer's theory 9-29330
 classical coupled dipole oscillators, optical props., normal mode treatment 9-36611
 classical groups, invariant operators 9-21585
 Clebsch-Gordan coeff. of symm. group, arranged into eigenvectors of propagation matrices 9-19175
 coherent states, time-dependent invariants 9-44791
 composite beams, vibration and buckling anal. 9-1123
 convergence properties of the Pade approximants on a lattice 9-17615
 coupled-channel Schrodinger eqn. bound states, renormalised Numerov method 9-13627
 cyclotron reson. at model interface in transverse mag. field 9-4726
 damped linear systems, freely vibrating, eigenvalue lower bounds 9-27569
 delta wing equations, high freq. solns. 9-46337
 discrete systems, conservative dynamic, K-Quotient for determ. of upper bound 9-18777
 doubly connected membranes governed by Helmholtz eqn., eigenvalue determ. 9-23253
 eigenvalue spectrum of homogeneous multiplying systems for monoenergetic neutrons with anisotropic scattering 9-22353
 elastic quadrilateral plates 9-46201
 elastic rotating Earth, elementary oscill., ordinary differential eqns. 9-39632
 electronic structure, Hartree problem, iterative diagonalisation soln. 9-6829
 ELF eigenvalues approx. determ. in Earth-ionosphere waveguide 9-8763
 ELMO bumpy torus, macroscopic MHD stability and beta limit 9-31186
 EM scatt. integral eqn. resonant solution elimination 9-45895
 energy eigenvalues of Coulomb and oscillator potentials, connections 9-12637
 ergoregion instability of rotating stars, eigenfrequency calc. 9-8835
 Euler buckling eigensystem for a nonprismatic strut 9-18764
 fluid, cold, displacement by hot fluid in porous medium, stability 9-27691
 fluid-structure coupling method in dynamic analysis of struts. 9-7322
 free oscill. data inversion, eigenvalue problems, angular order spectra 9-8602
 frontal solution algorithm for finite element frequency analysis 9-3942
 fuel storage pool criticality calc., transport-consistent diffusion algorithm 9-9721
 general anharmonic oscillator, eigenvalue calc. 9-6015
 general nonlinear differential-difference equations, integrability by inverse scattering method 9-12575
 general relativity, spin coefficient equations with nongeodesic eigenrays 9-25941
 general relativity, SU(1,1) spin coefficient equations with nongeodesic eigenrays 9-25942
 global gravitational instability of disc galaxies 9-48931
 global gravitational instability of gaseous discs 9-48932
 gyroscopic effects in micropolar elasticity 9-30247
 gyrotron, freq. characts. determ. (*Russian*) 9-14241
 hadronic atoms in momentum space, Dirac, Schrodinger and Klein-Gordon eqn. eigenvalues 9-872
 Hamiltonian, complex-rotated, reson. props. 9-31427
 Hamiltonian, information content of exact eigenfunction of physical system 9-30280
 Hamiltonian $P^2 + A|X|^4$, exact eigenvalues 9-40392
 harmonic oscillator, vibr.-rot. interaction eigenvalue estimate 9-12628
 higher order modified pot. for effective phase integral approx. 9-44779
 Hubbard model, computer renormalisation-group technique, eigenfunctions and eigenvalues in finite energy range 9-19716
 hydrocarbon, conjugated, nonlinear susceptibility, extended basis set calcs. 9-27107
 hydromagnetic thermal instability of rotating fluid layer, Hall current effects 9-27699
 inverse eigenvalue problem of order four—an infinite case 9-9084
 inverse eigenvalue problems, ideal soln. with finite spectral data 9-34974
 inverse iteration method convergence, for nonlinear elliptic eigenvalue problems 9-40353
 irregularly shaped clamped plates, free vibration 9-37231
 IJ(n) and IO(n) invariant operators and their eigenvalues 9-30194
 layered elastic composites, harmonic wave frequency estimation, eigenfrequency bounds 9-46252
 linear potential, energy eigenvalue eqn. 9-2646
 linear potential eigenenergy equation, $K_n(3l^*)$ coeffs. 9-44762
 linearised Boltzmann eqn., constructive soln., scalar BGK model eqn. 9-161
 Lorentz Fokker-Planck, kinetic theory 9-46413
 massive Thirring model, explicit diagonalisation of Hamiltonian 9-21918
 MHD diffuser flow across homogeneous magnetic field 9-1262
 micropolar fluids, stability of laminar flows between parallel walls 9-1160
 molecular bond order orbitals and eigenvalues 9-41088
 molecular vibration, semiclassical eigenvalues in nonseparable systems, good action angle variables 9-13694
 molecule, quartic potential function with finite BE, props. 9-26913
 Morse oscillator, matrix elements calcs. with Sturm-Liouville eqn. eigenfunctions 9-2660
 multiparticle scatt., ghost bound states and Pauli principle (*Russian*) 9-9152
 multiplicative stochastic processes in statistical physics 9-25980
 N-body Schrodinger operators, eigenfunctions, wave packets, pointwise bounds 9-12634
 neutron transport, 2-D, diffusion synthetic acceleration method 9-22357
 neutron transport theory, homogeneous cylinder, numerical anal. 9-17953
 nonlinear diffusion eqns., evolution of stable profile 9-17363
 nonlinear eigenvalue problem method 9-17208
 nonlinear medium is form of complex structures, burning 9-18688
 ocean internal wave climate near NW.African coast during JOINT-I 9-20840
 one dimensional Ising system with random long-ranged interaction, density of eigenvalues of random matrix PV 9-12733
 one-dimensional classical spin chain with random interactions, exact calcs., transfer kernel eigenvalue 9-4687
 one-dimensional diffusion, soluble model potentials 9-35649
 Onsager-Casimir symmetry, geom. of roots of matrices 9-100
 orbitals, max. and min. overlap, localised, and hybrid, orthonormality-constrained variation method 9-6830
 Orr-Sommerfeld eqn., eigenvalue series representation 9-7364

eigenvalues and eigenfunctions continued

Orr-Sommerfeld problem, approx. to eigenvalue reln. 9-3995
 paramagnetic ion, eigen-value problem in crystalline and mag. field 9-7954
 Pauli equation with differential operators for the spin (*German*) 9-2664
 periodic helical flow in pipe, linear stability, Hermitian forms and eigenvalue bounds 9-37401
 periodic potential energy levels, late terms, asymptotic expansions 9-25895
 perturbed molecular system, eigenvalues and eigenvectors, method of generation 9-41094
 physical systems instabilities, variational principles for complex eigenvalues 9-21527
 plasma, current-driven drift-wave eigenmodes, stability criteria 9-32769
 plate, thick infinite, transversely isotropic, containing circ. hole, end effects 9-27510
 polymer, derective, freq. branch calc. of n-paraffins, fatty acids, and glymes 9-31747
 proportionally damped dynamic systems, eigenvalues (*German*) 9-21540
 QED without divergence, fine structure constant, Ward-Takahashi relation and eigenvalue eqn. 9-17648
 quantum chemistry, spin-free, alternacy, quantum no. assignment 9-9988
 quantum decay models, complex energy eigenstates for pot. scatt. 9-6011
 quantum Hamiltonian on lattice, estimation of eigenvalues 9-40669
 quantum mechanics, group representation theory, intuitive approach for teaching 9-25804
 random chain, low-energy density of states and long-time behaviour, scaling approach 9-25994
 random sparse matrix block triangularisation 9-44703
 reactor core, uniform infinite lattice eigenvalue as function of buckling 9-609
 reactor spatial control during nuclear station load cycling, multivariable control algorithm 9-13490
 real-space renormalisation group transformation based on cumulant expansion 9-12730
 rectangular plate with thermal gradient vibration anal. 9-27567
 repulsive quadratic potential, energy eigenvalues determ. 9-9136
 scalar fields, non-null eigenvalues 9-21623
 scattering theory, existence and completeness of wave operators, eigenvector orthogonal complement 9-9150
 Schrodinger eqn. eigenvalues for particle in monotonic pot. 9-40412
 Schrodinger equation, nonseparable, series solns. and variational principle, appl. to H_2^+ and He 9-36504
 Schrodinger operator, interaction of type $\lambda x^2/(1+gx^2)$ 9-91
 self-adjoint operator, eigenvalue bounds, variational approach (*German*) 9-25886
 SO(N) grand unified gauge theories, eigenvalue conditions and asymptotic freedom 9-22010
 solar intense magnetic flux tube, convective instability 9-30038
 solitary Rossby waves in zonal shear flows, interactions, terrestrial atm. appl. 9-7379
 spherical top molcs., vibr.-rot. eigenvalue spectrum, energy level cluster anal. 9-18174
 stability problem, lateral, with free-flying column, asymptotic solns. 9-14242
 static screened Coulomb potential, high-accuracy eigenvalues 9-40403
 stellar low-frequency gravity modes, eigenfreqs./rot. general relation 9-16934
 stellar magnetic configurations linear oscill., eigenfreqs. and eigenfunctions 9-44461
 structural analysis, dynamic condensation method 9-3943
 structures dynamic problems, eigenvalue economisation, program (*Italian*) 9-35544
 Sun oscillations, eigenfreqs. and eigenfunctions for 1968 nonstandard solar model 9-35218
 superposed Yukawa and inverse square potentials, eigenenergy expansion 9-30281
 tensor spherical harmonics on S^2 and S^3 as eigenvalue problems 9-17324
 thermosphere, structure and dynamics rel. to tides and diffusion waves 9-35026
 thin plate Semiloof element for structural anal. 9-3913
 three magnon bound state eqn., physical eigenstate 9-4663
 three-body eigen wave function of a continuous spectrum, asymptotic form 9-5994
 trial wave functions, by off-diagonal hypervirial theorem 9-22578
 two-well oscillator, eigenvalues, scaling properties, WKB approx. 9-25897
 uniform potential vorticity flow, wave interactions model 9-12196
 van der Waals molecules, higher-order vibr. eigenvalues calcs. 9-36722
 Varshni V and Lennard-Jones pots., 3rd order WKBJ eigenvalues 9-6982
 vector wind meas., principal components anal. 9-39807
 vibrating thin rectangular plates, influence of thermal grad. on natural freq. 9-32353
 vibration problems, element spaces and separation for determining bounds to eigenvalues 9-14317
 vibrations of plates, circular and annular, with ring mass (*Japanese*) 9-18783
 vibrations of string with time-varying length 9-25870
 virial theorems, generalised and pointwise 9-30354
 viscoelastic body eigenfrequency determ., finite element method (*German*) 9-23270
 wave eqn., one-dimensional, asymptotic formulae for eigenvalues (*Japanese*) 9-25869
 wave propagation in stratified media, matrix anal. 9-12618
 wind generator oscillation modes in large power systems 9-29446
 x^4 potential, associated ground state wavefunction, sum rules 9-45036
 ^{40}Ca , vibrating nucleus, eigenvalues of Baranger-Veneroni operator, RPA solns. 9-40863
 Fe, spin 3/2, in strong crystal field, axial and rhombic symmetry, EPR parameters 9-28591
 H atom spectra, homogeneous mag. field, variational approach 9-22629
 He-He, Born-Oppenheimer pot. using Hylleraas-type electronic wave functions 9-31438
 ^{10}O , vibrating nucleus, eigenvalues of Baranger-Veneroni operator, RPA solns. 9-40863
 SF_6 , ν_3 band high-J manifolds, eigenvalues use second-order perturbation theory 9-36702
 UO_2 -water tightly-packed lattices, ENDF/B-IV data evaluation 9-9805

eigenvectors *see eigenvalues and eigenfunctions*

eightfold way *see SU₃ theory*

Einstein-de Haas effect

see also gyromagnetic ratio
No entries

einsteinium

see also nuclei with

²⁴⁹Es, K-shell fluorescence yields from Auger electrons and X-rays, precision meas. 9-31462

einsteinium compounds

No entries

elastic aftereffect

cylindrical shell, submerged 9-18715

steel, C, spring, compressed, patented wire, reverse elastic aftereffect and fatigue strength 9-38881

elastic constants

see also elastic moduli

acrylic gel, US observation of critical behaviour (*French*) 9-29414

alkali halides, three-body interactions, effect on electronic polarisabilities and photoelastic behaviour 9-47382

alkali metal, thermal expansion, elastic constants, phonon freq. anisotropy (*Russian*) 9-1516

anisotropic medium, perturbed, propag. of elastic waves (*French*) 9-42144

benzene, Brillouin spectra, elastic consts. and intermol. pot. 9-42977

butadiene-styrene block copolymer, viscoelastic props. 9-8336

Cauchy relations, sufficiency for central pot. determ. 9-46735

compliance, review and extension of information for common crack growth specimens 9-3974

coplanar Griffith cracks in infinite elastic medium, dynamic stress conc. 9-46270

cracked elastic solid, 3-D wave propagation 9-46251

cubic crystal, phase transitions with three-component order parameter, elastic anomalies (*Russian*) 9-37837

cyclohexane, plastic phase, Brillouin scatt., elastic consts. determ. 9-24324

dicalcium strontium propionate, elastic stiffness consts., determ. in US freq. region 9-37752

dicalcium strontium propionate, temp. depend. of elastic const. c_{16} 9-28029

dislocation energy and line tension, effect of dissociation 9-27985

dislocation self-energy effect on choice of slip system 9-27982

dynamic modulus and compliance, loss and storage component relations (*German*) 9-32268

ferroelectric ceramics, elastic and piezoelec. eigenstate spaces 9-42901

Galois unsolvability of anisotropic crystal elasticity sextic equation 9-37170

glass, inorganic, calc. of microhardness and glass transition temp. 9-5059

glass, laser, elastic, elasto-optic consts. and extinction coeffs., Brillouin scatt. meas. 9-11429

glasses, strain interactions, low-temp. props. 9-42269

2,4-hexadiene-1,6-diol-bis(p-toluene sulphonate), cryst., polymerisation, elastic consts., Brillouin scatt. 9-1950

hexagonal crystals, under press., finite strain theory (*French*) 9-1475

homogeneous isotropic material, high press. eqn. of state and sound vels. to fourth order elastic consts. 9-37806

III-V compounds, rel. to lattice constant determ. of epitaxial layers 9-19479

inner elastic constants, symm., depend. on symm. of interlattice tensors 9-28028

inner elastic constants, tensor notation and relation to lattice dynamics 9-28027

isopropyl ammonium chloroplatinate and chlorostannate, ferroelastic transition, thermal, optical, and elastic meas. 9-28096

Kroner limits of technically important materials, low order limit comparison (*German*) 9-33029

layered or reinforced composites, elastic constants and stress-strain parameters (*Russian*) 9-46209

liquid crystal theory, phenomenological and microscopic approaches connection 9-4248

lithium ammonium tartrate, ferroelectric and ferroelastic transitions, Brillouin scatt. meas. 9-33716

mechanical anisotropy of texture effect on X-ray stress measurement (*German*) 9-29091

metal, cryst. equilib. and Cauchy deficiency 9-19328

metal, cubic, HCP, non-central, non-isotropic interactions, third-order elastic const. determ. 9-10474

metals, d-band, force fields, elastic consts. predicted 9-33051

micropolar circular cylinder, flexural rigidity 9-18724

noncontact material testing using laser energy deposition and interferometry 9-34258

octyl-cyano-biphenyl, elastic props. near smectic-A nematic transition 9-23704

phonon focusing and cond. in orthorhombic and tetragonal crystals, boundary scatt. regime 9-42162

poly(4-methyl-1-pentene), semicrystalline, bulk and film, surface effects in terms of compressional and shear consts. 9-42982

poroelastic discs or slabs, dynamic response to harmonic loading 9-41578

PVC, filled, with varying plasticiser content, deformative props. in highly elastic state, temp. depend. 9-20099

pyrazine, thermal diffuse scattering corrections, choice of elastic constants in evaluation 9-32849

quartz, AC and BC crystals, rotated elastic consts., coupling factors and conversion efficiencies 9-19838

sodium ammonium tartrate, crystals., temp. depend. of elastic compliances at phase transition 9-15409

squaric acid, structural phase transition, US vel. meas. as function of temp. below and above T_c 9-14927

steel St 52, textured, rolled, REK and lattice strain distrib. (*German*) 9-29095

stress intensity factor for a flat elliptical crack in an elastic solid under uniform tension 9-27525

stress intensity factor for crack in sphere embedded in infinite medium 9-27585

stress intensity factors for self similar cracks derived from path independ. integrals 9-23213

stress intensity factors of point loaded circular disc with two diametrical cracks 9-27589

ternary chlorides, ferroelec., birefringence, twinning and structural phase transitions 9-38480

elastic constants continued

TGSe, acoustic and thermal anomaly correlation near ferroelec. transition 9-4775

thermal diffuse scattering corrections, choice of elastic constants in evaluation 9-32849

tris-sarcosine calcium chloride, ferroelec., US attenuation and vel., elastic consts., and permitt. near Curie temp. 9-37761

uniaxial ferroelectrics, microscopic theory, crit. behaviour and anomalous elastic consts. 9-38463

Al, US velocity, depend. of applied stress and third order elastic const. (*Japanese*) 9-29124

Al₂O₃+TiC system, elastic and fracture charact. at elev. temp. (*German*) 9-43299

As, rhombohedral crystals, slip dislocations and slip systems 9-23617

BN, Raman scatt. exam. of high press. effects on force const. anisotropy 9-38542

BaTiO₃, polycrystalline, exam. of effect of freq., temp. and DC electric field strength, on elastic consts. 9-1890

BaTiO₃, pure, dielectric const. and elastic compliance temp. depend. for various phases 9-19830

Bi, rhombohedral crystals, slip dislocations and slip systems 9-23617

β -CO, single cryst., adiabatic elastic consts., at triple pt., Brillouin scatt. obs. 9-47466

Cd, under press., finite strain theory (*French*) 9-1475

Co, Anderson-Grüneisen parameter, temp. depend., third-order elastic consts. calc. 9-46776

CoF₂, elastic constant determ. by US pulse echo overlap 9-14874

CsH₂AsO₄, Mandelstam-Brillouin spectra and US vel. meas. near ferroelec. Curie point 9-38553

CsPbBr₃, critical thermodynamic props. around successive phase transitions 9-33627

CsPbCl₃, critical thermodynamic props. around successive phase transitions 9-33627

Cu, US velocity, depend. of applied stress and third order elastic const. (*Japanese*) 9-29124

Cu-W(Fe)(Ag), biphasic material X-ray stress determ. (*Russian*) 9-5097

CuCl third-order elastic and piezoelec. constants 9-46739

D₂ solid, elastic constants and anisotropic pair corrs. 9-33042

Er, Anderson-Grüneisen parameter, temp. depend., third-order elastic consts. calc. 9-46776

GaSe, layer cryst., elastic props. rel. to zone-centre phonon freqs. 9-46736

GaSe, layer struct., fine independent elastic const. using Brillouin scatt. 9-19896

H₂ solid, elastic constants and anisotropic pair corrs. 9-33042

p-H₂ solid, elastic consts., Brillouin scatt. obs. 9-8149

Hg, rhombohedral crystals, slip dislocations and slip systems 9-23617

HgBr₂, ferroelastic phase, softening of acoustic and optical modes 9-33064

Ho, 80-140K, 95K anomaly and annealing 9-46734

In-Tl, BCC alloys, stability and elastic consts., US vel. 9-42133

KCN, cubic, third-order elastic consts., nonlinear behaviour 9-28026

(KCN)_x(KBr)_{1-x}, Brillouin scatt. of elastic anomaly 9-28779

KH₂(SeO₃)₂, ferroelastic, low-frequency elastic props., -190 to 50°C 9-37759

K_{2.89}Li_{1.55}Nb_{1.01}O₁₅, elastic and piezoelec. props. 9-15403

LaP₂O₄, ferroelastic phase transition, thermal expansion and elastic consts. tensors 9-42236

LiIO₃ crystal elastic, piezoelec., dielectric and acoustic props. 9-46740

Mg, under press., finite strain theory (*French*) 9-1475

MgF₂, elastic constant determ. by US pulse echo overlap 9-14874

MgO, fourth order elastic constants and temp. variation of second order elastic constants 9-19306

MnF₂, elastic constant determ. by US pulse echo overlap 9-14874

Nb₂Cl₃, ultrasonic exam. near order-disorder transition, elastic consts. 9-46799

(NH₄)₂BeF₄, ferroelectric, Brillouin scattering study 9-15470

NH₄Br, order-disorder phenomena, high press. US investigation 9-37835

NaCN, cubic, third-order elastic consts., nonlinear behaviour 9-28026

NaCl, calc. of third- and fourth-order elastic constants 9-10891

NaCl, high press. eqn. of state and sound vels. to fourth order elastic consts., 270 kbar 9-37806

Na₂CoGeO₄, single cryst. growth and study of their piezoelec. and elastic props. 9-4906

NaN₃, orientational motion and elastic anomaly 9-46803

Nb, elastic constants, OK to melting point 9-38882

Nb-Zr, effect of band structure on elastic constants and superconductivity 9-8313

Nb-Zr, elastic constants, OK to melting point 9-38882

NbO₂, semicond. cryst., elastic props. 9-19308

NbO₂, semiconducting, elastic const., press. depend. at 296K 9-23672

Ni-Ru (3.3 at%), magnetisation, magnetocrystalline anisotropy, magnetostriiction and elastic consts., thermal variations 9-28563

NiO, phonon dispersion relations, neutron scatt. meas. 9-42181

PbF₂, elastic consts., acoustic phonon modes up to high temps., neutron scatt. meas. 9-33052

Rb, lattice dynamical props., conduction-core exchange, Lindgren approx. 9-1481

RbAg₄I₅, US attenuation near 208K phase transition 9-33085

Rb(H₂D)₂(SeO₃)₂, improper ferroelec. phase transition, anomalous elastic props. 9-33634

Ru, Anderson-Grüneisen parameter, temp. depend., third-order elastic consts. calc. 9-46776

Sb, rhombohedral crystals, slip dislocations and slip systems 9-23617

Se, amorphous, elastic props. at high press. 9-37753

Sr_{0.3}Ba_{0.7}Nb₂O₆ crystals, ferroelec., dislocation free, pyroelec. props. 9-42907

TGSe:D,L- α -alanine crystals, with large unipolarity, dielec., piezoelec., elastic props. and internal friction 9-33615

Ti-V-H system, BCC, hydrogen effects on anisotropic elastic props. 9-24565

Ti₂O₃, press. depend. of elastic consts. at 296K. 9-42134

V, shear elastic constant, anomalous temp. behaviour, US study 9-28031

V₂Ge, Anderson-Grüneisen parameter, from 3rd order elastic const. data 9-33059

V₃Si, Anderson-Grüneisen parameter, from 3rd order elastic const. data 9-33059

Y, thermal and elastic props. 9-33027

Y₃Fe_{5-x}Ga_xO₁₂, inhomogeneous stress effect on ferromagnetic resonance 9-24219

ZnF₂, elastic constant determ. by US pulse echo overlap 9-14874

elastic constants continued

- ZnO triode sputtered film elastic props. rel. to structure and composition 9-46988
 Zr₂Ni, search for soft phonon modes, neutron scatt. 9-23686

elastic deformation

see also bending; elasticity; electrostriction; stress/strain relations; torsion

- anelastic deformation, generalised representation by num. sol. of initial boundary value problems (*German*) 9-12610
 anisotropic medium, perturbed, propag. of elastic waves (*French*) 9-42144
 antiplane deformation state for elastic body, potential function representation (*French*) 9-37176
 beam, Timoshenko's shear coeff. variation with frequency 9-32367
 beam nonlinear elastic optimal design for minimum compliance 9-1108
 bent crystal, X-ray Laue diffraction, integrated intensity 9-23492
 butadiene-styrene block copolymer, viscoelastic props. 9-8336
 cantilever beam, distorted isoparametric elements 9-27526
 cantilever curved beam, stress singularity anal. 9-23214
 circular ring plates, finite deflections 9-27533
 circular sliding contact on transversely isotropic spheres, stress field 9-18833
 classical impact theory, Carnot functional (*Russian*) 9-25856
 complementary energy principle, finite elasticity solns., hybrid finite element anal. 9-32274
 composite Cosserat elastic cylinders, deformation 9-37178
 composite micropolar elastic cylinders, Saint-Venant's problem 9-46206
 compressible solids, finite plain strain problems 9-10479
 concentric impact of pointed bodies 9-41604
 conic body torsion, double series method (*Russian*) 9-23206
 consolidation in compressible mixtures 9-46271
 contact problem of half space pressed onto rigid base with cylindrical protrusion or pit 9-37249
 contact problems involving a cooled punch 9-32390
 cruciform crack, unsymmetric, soln. in infinite plane isotropic elastic medium 9-14342
 crystal, elastically bent, dynamical Bragg diffr. of X-rays 9-14639
 cylinder, elastic, equilib. difference scheme, deformation tensor approx. 9-41583
 cylinder, hollow, end effects (*Russian*) 9-10487
 cylinder embedded in elastic half space, Reissner-Sagoci type problem 9-27524
 cylinder with internal hole, dynamic excitation 9-18712
 cylinders, deform. anal. in modified Bessel functions (*Russian*) 9-10478
 cylindrical shells, dynamic behaviour under transient inner pressures 9-23215
 cylindrical shells, finite element anal. of stress deform. states (*Russian*) 9-14256
 cylindrical tubes, compressible, wire-layer reinforced, inflation and extension 9-3922
 deformable body with central vertical crack, destruction in homogeneous force field (*Russian*) 9-27554
 dielectric, polarised, small longitudinal vibr. 9-18772
 discrete spectra for elastic plates without deflection, mixed boundary conditions (*German*) 9-27579
 p-disubstituted phenylcyclohexane, liq. cryst., investigation of elec. field induced deform. by capacity measurements 9-4234
 ductile materials, tearing, fracture strength determ. 9-43385
 dynamic coefficient of an elastically supported, pre-stressed beam 9-14306
 elastic behaviour of elastic materials, thermodynamical bounds, thermoelasticity, deformation 9-41576
 estimation of parameters for a beam on an elastic foundation with large deflections and built in at both ends 9-27520
 Euler buckling eigensystem for a nonprismatic strut 9-18764
 evolving shells, postcritical deformations (*Ukrainian*) 9-32310
 finite deformation elastoplasticity, strain measure decomposition 9-23223
 flat elliptic paraboloid shells subjected to uniformly distrib. horizontal load at edges (*German*) 9-27518
 flexure, Scholnikoff's method 9-21552
 frictionless indentation by an elastic punch: a dynamic Hertzian contact problem 9-32389
 frictionless indentation by rigid wedge, effect of tangential displacements in contact zone 9-37250
 geometrical nonlinear shell theory, continua with warped cross section (*German*) 9-23210
 granular material with no intergran slip, elastic zone 9-34087
 Green's function of elastic plate in the shape of epitrochoid of order-3 and clamped along the boundary 9-17220
 ground surface profile, crest and trough height distrib., Monte Carlo simulation (*Japanese*) 9-34180
 ground surface profile power spectrum, Monte Carlo simulations (*Japanese*) 9-34179
 gyroscopic problems in elasticity, orthogonality principle 9-17218
 half-planes, distributed load end values by optical caustics technique 9-18851
 hardness testing, scale effect during indentation, role of elastic strains (*Russian*) 9-39062
 holes with loaded boundaries in elastic plane, anisotropic property optimisation (*Russian*) 9-46208
 hollow thick-walled cylinders, stress-deformation, limiting state anal. (*Russian*) 9-27538
 indenter moving on an anisotropic elastic half-space 9-37248
 infinitely long trapezoidally corrugated plates in shear, elastic buckling 9-32315
 initial stress problems, stress function appl. 9-18722
 Ising systems, compressible, elastic anomalies inducing first order transitions 9-47288
 isotropic linear viscoelastic material, connection between shape and volume change (*German*) 9-27531
 large deflection analysis of plates and shells by discrete energy method 9-3918
 linear Cauchy and Piola-Kirchhoff constitutive theories for stress in solids 9-37173
 linear elastic arbitrary deformable bodies, iterative method (*Polish*) 9-10476
 LORA—an accurate four node stress plate bending element 9-27527
 lung membrane indentation anal. on elastic half space 9-20522
 magnetostriuctive viscoelastic cylinder, nonhomogeneous, torsional deformation 9-37169

elastic deformation continued

- massive designs, investigation of large deformations using finite-element moment system 9-41580
 maximum-energy-release-rate criterion applied to a tension-compression specimen with crack 9-23212
 membrane deformations, constitutive relation effects 9-14269
 membranes for pressure meas., nonlinear characs. calc. (*Czech*) 9-26021
 micropolar circular cylinder, flexural rigidity 9-18724
 micropolar elastic almost cylindrical beams, deformation 9-37177
 non-homogeneous hollow cylinders stress determ. (*French*) 9-32423
 non-uniform motion of thin smooth rigid inclusion through elastic solid 9-32267
 nonhomogeneous cylinders and cylindrical shells, torsional oscillations anal. 9-18768
 nonlinear beam structures, finite element method for deformation, kinematic functions (*German*) 9-37167
 nonlinear discrete continuous model of elastic layered body, homogeneous deformation 9-23207
 nonlinear elastic tubular membrane, limiting pressure in simultaneous elongation and inflation 9-37166
 nonlinear elasticity incremental eqns., bifurcation of pressurised spherical shells 9-17225
 nonlinear elasticity incremental eqns., membrane theory 9-17224
 nonlinear elasticity strain energy, integral bound for displacement boundary value problem 9-37171
 nonlinear flexural oscillations of orthotropic shallow spherical shells 9-3939
 nonlinearly elastic plates, buckled states 9-1118
 nonlocal thin elastic plates, impact by cylindrical projectile, shearing stress anal. 9-10467
 optimal anisotropy of elastic shafts under torsion (*Russian*) 9-23211
 optimal design of bending elements 9-10470
 perfect single crystal, elastic instabilities and plastic modes (*French*) 9-28034
 plain strain displacement and stress field in transversely isotropic elastic solid 9-14340
 plate, circ., thin, elastic, containing Griffith crack, in infinite elastic medium, stress distrib. 9-32374
 plate, circ. isotropic, compressible, bending into ellipsoidal shell 9-32252
 plate, relaxed by holes, elastic-plastic deformation, stress state (*Russian*) 9-27545
 plate, round, viscoelastic, deformation and creep (*Russian*) 9-32291
 plate, round compressible, stability under uniform loading (*Russian*) 9-27522
 plate, thin, under elastic bending, optical method for slope and curvature contours 9-37259
 plate flexure, Castigliano's principle (*Russian*) 9-18718
 plate with circular hole under dynamic loading, comparison of deform. and flow theories 9-23228
 plates, thick, bending anal. (*Russian*) 9-10485
 plates, thick circular, axially symmetric vibration, elastodynamic deformation 9-37214
 polycrystals, bond between deformation and stress (*Russian*) 9-33031
 polydimethylsiloxane, stress-strain props., cross link functionality 9-46575
 polyethylene terephthalate, stretching, heat effects, struct. transforms. 9-15735
 polymer, crystalline, dynamic mech. props., influence of struct. 9-4991
 polymers, solid, mech. deform., model 9-20120
 polypropylene, oriented, thermooxidative degradation kinetics, durability, influence of mech. initiated processes (*Russian*) 9-24591
 prismatical beams, torsion and flexure 9-18711
 PVC, antiplasticised, linear-nonlinear viscoelasticity transition 9-5015
 PVC, filled, with varying plasticiser content, deformative props. in highly elastic state, temp. depend 9-20099
 PVC, mech. behaviour in nonlinear viscoelasticity range 9-4996
 quasistatic problem of mechanics of deformable body in stresses 9-37179
 rectangular parallelepiped compression, small elastoplastic deformation, variation anal. (*Russian*) 9-32294
 rectangular plate, stability, mechanical props. dependent on strained condition (*Russian*) 9-10494
 rigid circular punch on elastic halfspace, Mindlin force 9-18716
 rigid indentation and plane crack extension 9-18835
 rotating disks, elastic and elasto-plastic, with temp. gradient, stress distrib. determ. (*Italian*) 9-41633
 round bars, endurance limit under combined tension and torsion 9-32387
 rubber, synthetic, nonlinear anelastic behaviour at finite strains 9-3923
 rubber balloon, internal press. eqn., for teachers 9-14
 rubber-like solids, anisotropy of compressibility 9-43302
 rubberlike solids, nearly isochoric deform., anal. of volume changes 9-10471
 scale single flat spring fulcrum deformation, second approximation (*Japanese*) 9-184
 sheet, plane elastic, containing circular hole or inclusion, radial deformation 9-41575
 shell, thin walled axisymmetric, elastic deformation, nonlinear numerical anal. method (*French*) 9-41584
 shell wall anal., circular tanks under axisymmetrical pressure 9-46202
 snap-buckling of orthotropic shallow spherical shells 9-23234
 stamp problem, elastic layer or half space, variational formalism, numerical soln. 9-1106
 steel, C, X-ray line fitting by Gram-Charlier distrib., appl. to tension test (*French*) 9-15689
 steel, mild, temperature monitoring system used during mech. deform., stress anal. appl. 9-12796
 stiffened panels with rectangular cut outs, stresses and deform. (*Japanese*) 9-3977
 stress distribution of frictional bonds, computer model (*Hungarian*) 9-14275
 stress field, surface deformation in half-space with cuboidal zone 9-18721
 structural systems, elastic critical loads 9-18754
 superposition principle in the solution of contact problems taking friction forces into account (*Russian*) 9-7343
 temperature monitoring system used during mech. deform., stress anal. appl. 9-12796
 thin elastic shells, stability, variational method (*Russian*) 9-32321
 toroidal shells and tubes, flexible shell theory and buckling 9-23231
 torsion of elastic layer, by annular die, Fredholm integral equation anal. 9-3969
 uterine deformation during labour, thin shell model and kinematic analysis 9-2090

elastic deformation continued

- viscoelastic $1/2$ -space, glass ball adherence, coming-on expts. (*French*) 9-1113
 wave propagation in deformed compressible elastic material 9-14338
 wetting, elastically deformable bodies, influence of vol. deform. of solid 9-11008
 wetting of elastically deformable bodies, reduction of effects of deform. to line tension 9-11007
 X-ray elasticity method for stress and deform. meas. 9-43506
 Ag-Pd-Cu, contact-spring props., fatigue and spring limit (*Japanese*) 9-29117
 B fibre reinforced Al, stress redistribution in fibre elastic deformation failure (*Russian*) 9-47740
 Cu-Al-Ni, formation of martensitic phases during deform. by extension 9-20048
 Cu-Sn, deformed, martensitic transformation (*Russian*) 9-15668
 NaCl whiskers, X-irrad., stress oriented dislocation loop nucleation 9-33213
 NiFe₂-xAl₂O₃, LPE grown films on ZnGa₂O₄ substrates, tensile strain due to elastic deformation 9-28238
 PLZT ceramics, stress-induced ferrelec. transition, pseudoelasticity and shape memory, bending meas. 9-24274

elastic hysteresis

- bimolecular columns, buckling and immediate postbuckling behaviors 9-23232
 dislocation behaviour during fatigue, friction stress and back stress from hysteresis loop anal. 9-42076
 endochronous theories of material behaviour, uniqueness and stability 9-18752
 fatigue specimen, nonsteady temp. field computation, rel. to thermal part of mech. hysteresis 9-3905
 fibre reinforced silicone rubber composites, interfacial slip and damping 9-5010
 Incoloy 800H, high temp. low cycle fatigue, ageing and cold working effect 9-43277
 internal friction, complex theory 9-18746
 linear models of frequency-independent internal friction (*Russian*) 9-18834
 nonlinear behaviour in 1- and 2-dimens., elastoplastic hysteresis, flow and relaxation (*French*) 9-46229
 nonlinear viscoelasticity variational formulations of boundary problems (*Russian*) 9-18749
 nylon 6 fibres, dynamic mech. props., interpretive nonlinear viscoelasticity 9-4994
 steel, Cr-Cu-Mn, fatigue crack propag. rate eval. by J integral method (*Japanese*) 9-8346
 steel, low C, effective stress determ. during the loading cycle 9-38879
 steel, low C, low cycle fatigue, cumulative damage, absorbed plastic energy anal. 9-38932
 steel, low C, temp. effect on hysteresis loop under cyclic load (*Japanese*) 9-20096
 steel, medium C, S 45 C, influence of mean strain on low-cycle torsional fatigue life (*Japanese*) 9-8348
 steel reinforced concrete, local bond-stress/slip relationships under repeated loading 9-20123
 Cu, fatigue of single crystals and low const. plastic strain amplitude 9-20174
 Cu, high purity, low cycle fatigue, cumulative damage, absorbed plastic energy anal. 9-38932
 α -Cu-Al, single crystal, low cycle fatigue 9-43405
 β -Cu-Zn-Al pseudoelasticity 9-29126
 Fe, cast, with uniaxial loading, changes in ultrasonic waves vel. and attenuation 9-15756
 HfO₂, monoclinic, microcracking, elasticity, internal friction, thermal expansion meas. 9-29195
 SiO₂ fibres, fused, load-elongation curves, elastic hysteresis, tensile testing machine 9-1891

elastic limit

- hyperbolic paraboloids elastic stability analysis, using reduced scale models 9-3910
 PMMA, activation parameters of creep 9-38925
 polyvinyl butyral, activation parameters of creep 9-38925
 steel, C, mech. props. rel. to heat treatment, ferrite-pearlite transform. (*French*) 9-20043
 steel, high strength, sensitivity to stress concentration with various H content (*Russian*) 9-15724
 thin plates, limit load and elasto-plastic bending, finite element anal. 9-27544
 Ag-Pd-Cu, contact-spring props., fatigue and spring limit (*Japanese*) 9-29117
 Al-Cu (4 wt.%), with θ' precipitates, relation between elastic limit and hardness (*French*) 9-5018
 Al-Cu (4wt.%), elastic limit, precipitation effects (*French*) 9-47738
 Fe-Ni (1 to 5 at.%), mech. props. below 300K (*French*) 9-8314
 Nb-Zr-C, structural depend. of elasticity limit fracture features (*Russian*) 9-29171
 Ta-O, BCC, Snoek type reordering during strain ageing (*French*) 9-8312

elastic moduli

- see also Poisson ratio; shear modulus; Young's modulus
 A-15 compounds, struct. transformations and soft phonon modes, microscopic theory (*Chinese*) 9-37803
 alkali halide, dielec. const., press. depend. from ionic polarisability and bulk modulus 9-19828
 amorphous structure, computer simulation of deformation 9-7647
 aramid fibre reinforced acrylic bone cement, tensile strength and fracture toughness, SEM study 9-29667
 brass, creep of β and β' phases, influence of order (*French*) 9-38921
 composite materials, laser beam determination, of elasticity-compressibility modulus, during compaction 9-43542
 dipalmitoyl phosphatidylcholine-(cholesterol) aligned multilamella lipids, elastic props., Brillouin spectra 9-5255
 ductile materials, tearing, fracture strength determ. 9-43385
 elastohydrodynamic lubrication of elliptical contacts for materials of low elastic modulus 9-20214
 elastomer, relaxation processes, statistical description (*Russian*) 9-23229
 ethylene-vinyl alcohol (<36.3 mol.%) copolymer, elastic moduli of crystalline region (*Japanese*) 9-15715
 ethylene-vinyl alcohol (>40 mol.%) copolymer, elastic moduli of crystalline region (*Japanese*) 9-15716
 FCC cryst., theory of response to [110] uniaxial loading 9-19310

elastic moduli continued

- fibre reinforced composite, unidirectional, representative volume, elastic moduli, calcs. by photoelasticity (*Russian*) 9-34094
 fibre reinforced composite with viscous matrix, random stresses in components, laws of distrib. 9-23226
 glass fabric reinforced phenol resin, effect of thermal loading on physicochem. props. 9-24622
 glass fibre reinforced plastic, flexural fatigue props. (*Japanese*) 9-20171
 glass fibre reinforced polyester, behaviour under bending load (*Japanese*) 9-38904
 grade n material, tensor of effective elastic moduli 9-10473
 granular medium, shear modulus, rel. to void ratio (*Japanese*) 9-32401
 incommensurate two-dimensional crystal, ground state, spectrum, phase diagram 9-19458
 Ising systems, compressible, elastic anomalies inducing first order transitions 9-47288
 Kroner limits of technically important materials, function of temp. (*German*) 9-28032
 Lexan, optical and phys. parameters 9-32004
 metals, dynamic elastic moduli of finite temps. (*Russian*) 9-14873
 metals, polycryst., elastic moduli rel. to those of single crystals. 9-23671
 non-randomly cracked body, elastic moduli 9-23209
 nylon 6 fibres, dynamic mech. props., interpretive nonlinear viscoelasticity 9-4994
 piezoelectric cryst., excitation and energy flux of acoustic harmonic, amplitude depend. on elastic nonlinearity 9-15404
 pivalolactone- α -methyl- α -propyl- β -propiolactone copolymers, struct., thermal and mech. props. 9-43582
 plastic, flexural fatigue props. (*Japanese*) 9-20171
 Plexiglas 55, optical and phys. parameters 9-32004
 polycrystalline aggregate, with fibre texture, coincidence of bounds 9-28030
 polydimethylsiloxane, stress-strain props., cross link functionality 9-46575
 polyethylene, linear, injection moulded at high press. struct. 9-11640
 polyethylene, orthorhombic and triclinic lattices, eqns. of state 9-28069
 polymer, microinhomogeneous, elastic props. description rel. to crystallinity 9-19307
 polymer, yield stress and elastic modulus power law relationship 9-47752
 polymers, filled, elastic moduli, effect of particle shape at finite conc. 9-15712
 polymers, glassy, Gruneisen const. calc. from thermoelastic meas. 9-14945
 polyurethane foam, SiO₂ particulate filled, mechanical props. 9-11666
 PVC, crosslinked, mech. and thermal props. with plasticisers (*Japanese*) 9-15741
 PVC-chlorinated PVC mixtures, compatibility, mixing techniques, elastic modulus determ. 9-4943
 quartz, fused, second press. derivatives of elastic moduli, US vel. meas. 9-23670
 soil, layered, effective moduli theory appl. (*Polish*) 9-25237
 specific heat, const. press., press. variation of vacancy contrib. 9-1510
 Steatit ceramic strength determination by measuring US dynamic elastic modulus (*German*) 9-43301
 steel, austenitic stainless, porous fibre, sintered and compacted, mech. props. 9-15623
 steel, electric arc sprayed coating on wire, elastic and elastic-plastic props. (*German*) 9-34089
 steel, stainless, austenitic, Cr-Ni-Mn-Si-Mo-C alloy, 13Kh18Ni9G3S2M2, elastic moduli exam. after thermomechanical treatment (*Russian*) 9-24558
 stresses in cylindrical welded rod with interlayer of lower elastic modulus, stresses in tension 9-24557
 triglycine selenate, elastic moduli matrix, and temp. depend. of elastic moduli 9-46738
 viscoelastic materials, error anal. in complex moduli investig., coated beam method 9-27565
 viscoelastic materials, true moduli determ. using superposition method 9-18744
 Al₂TiO₃, grain size pseudobrookite oxide, microcracking relations 9-29194
 Ar, liq., elastic modulus and stress relaxation 9-19304
 p-CdSi₃ elastic moduli depend. on hydrostatic press. up to 17 kbar 9-37755
 Cu, US attenuation, nonlinearity parameter temp. depend. 9-42152
 β -Cu-Zn-Al pseudoelasticity 9-29126
 D₂, solid, equation of state, at high pressure 9-46781
 Fe, cast, grey, electric arc sprayed coating on wire, elastic and elastic-plastic props. (*German*) 9-34089
 Fe-Mn alloys, elasticity modulus anomaly and magnetoelastic effect (*Russian*) 9-28578
 Fe₂TiO₃, grain size pseudobrookite oxide, microcracking relations 9-29194
 H₂, solid, equation of state, at high pressure 9-46781
 HfO₂, monoclinic, microcracking, elasticity, internal friction, thermal expansion meas. 9-29195
 KDP crystal, third-order moduli of elasticity 9-46737
 Li₂GeO₃, pure, and Si- and Mg-doped, impurity effects on elastic and piezoelec. props. 9-47388
 MgO polycrystals, hot-pressed, changes in elastic moduli on annealing 9-34073
 MgTi₂O₃, grain size pseudobrookite oxide, microcracking relations 9-29194
 MnAs, second-order phase transition, elastic anomalies 9-10908
 Mo, electric arc sprayed coating on wire, elastic and elastic-plastic props. (*German*) 9-34089
 NaND₂SeO₄·2D₂O, nonlinear electromechanical props. above Curie temp. 9-33610
 Nb, elastic constants, OK to melting point 9-38882
 Nb-Zr, elastic constants, OK to melting point 9-38882
 NbSn multifilamentary superconducting composites, micromechanics 9-38878
 Nb₂Sn, electronic props. calc. 9-7780
 Ni ferrites, internal friction and modulus defect at US freqs. 9-19762
 Ni, porous, internal friction and effective elasticity modulus, temp. depend. (*Russian*) 9-29118
 NiTi, thermoelastic martensites, cyclic stress-strain curves obtain in tension compression 9-29166
 Pb impregnated porous Ni, porous, internal friction and effective elasticity modulus, temp. depend. (*Russian*) 9-29118
 ScM, (M= Ru, Rh, Pd, Ag, Mo), self-consistent local density functional calcs., LMTO method 9-11059

elastic moduli continued

- Se, amorphous, elastic props. at high press. 9-37753
 Si_3N_4 , reaction bonded, fracture mech. paracrystals, microstmet. and temp. effect 9-24598
 TaSe_2 (2H), thermal and elastic props., X-ray diff. exam. 9-37754
 α and $\alpha+\beta$ Ti alloy of different stability, exponential law use for anal. of strain hardening process 9-15697
Ti and Ti alloys, mechanical, thermal and elec. props., data sheet 9-43317
 TiN_xO_y , cubic, thermal expansion coeffs., Ti-Ti bond/screening 9-10970
 V_3Si , exam. of superconductivity and props. 9-1649

elastic moduli measurement

- Fourier transform method for elastic consts. and internal friction meas. in small specimens 9-14357
fused quartz, determ. of acoustic and acousto-optical parameters using acoustic interferometry 9-41532
isotropic solid, viscoelastic characterisation using harmonic dispersion of longit. reson. 9-10538
laser energy deposition method 9-20309
material elastic anisotropy, analysis, by acoustic ellipsometry 9-47864
metals, thermal props. at high temps. meas., acoustic method 9-14222
Poisson ratio, optical method of expl. determ. 9-43523
sine wave dynamic elasticity modulus meas. apparatus (*German*) 9-2167
transducer, viscoelastic, in-situ, Duomorph, appl. to polymeric materials 9-30463
waveguide slow torsional wave sensors 9-46748

elastic scattering of atoms and molecules

- atomic, molecular and solid-state theory, conf., Flagler Beach, Florida, USA (Mar. 1978) 9-31356
atomic and molecular collisions in intense light beams, quantum aspects (*Russian*) 9-6903
atomic resonance interaction, photon echo meas. 9-27061
born-Huang expansions in the generator coordinate method of molecular dynamics 9-31646
charged particle scattering, Schwinger variational principle 9-45780
collision induced transition probabilities and line width parameter of rot. transition 9-22776
complex scaling transformations in stationary and scattering problems 9-18124
diabatic and adiabatic representations 9-45795
diatom, phase shift difference, trigonometric pots. in radial Schrodinger eqn. 9-22787
exponential model, two-state, comment on Stueckelberg phase calcs. 9-3514
field theoretical method for mol. scatt., distorted wave formalism 9-3513
fluids, atomic and molecular, collision induced light scatt. (*German*) 9-27057
graphite, diffraction of He atoms by (0001) basal face, bound state resonances 9-47575
laser field, multimode, intensity time variation on mol. collision processes 9-31620
molecule, zero point vibr. effect in low energy scatt. 9-22832
multiple scattering in molecular gases, target at. + energetic ion spatial correlation influence 9-27062
neutron detection, recoil atoms (mols.) meas. by laser spectroscopy 9-22864
nonlinear spectroscopy, diff. effects in mol. collisions 9-36731
partial wave parameters in CS and IOS approx., mag. transitions 9-10164
polyatomic molecule + atom, many body approach 9-31645
redistribution of scattered radiation by collisions in nonimpact region of spectral line profile 9-35109
Regge pole analysis of differential cross sections for elastic molecular scattering 9-3523
semiclassical collision theory, breakdown of integer Bessel uniform approx. for elastic transitions 9-36730
Ar-Xe mixture, microwave absorption, collision-induced 9-22626
Cl + Xe, elastic scatt. for interaction pot., $\text{Cl}(^2\text{P}) + \text{Xe}(^1\text{S})$ 9-27059
D, muonic, proton scatt., Schwinger variational principle 9-45780
 $\text{D} + \text{H}_2$, pot. surface, isotropic part determ. 9-36729
 $\text{D}_2^+ + \text{H}^+$, Schwinger variational principle 9-45780
H + He, elastic scatt. cross-section, using model pot. 9-13786
H + Hg, differential cross sections, orbiting contribution 9-41221
 $\text{H}^+ + \text{H}_2$, elastic of rot. excitation, semiclassical treatment 9-31657
 $\text{H}^+ + \text{H}_2$, elastic scatt. and rot. excitation, multistate semiclassical orbital method 9-27058
 H_2 , short range intermolecular forces, scattering of molecular beam 9-36727
 $\text{H}_2 + \text{H}_2$, elastic scatt., rigid rotor approx. 9-31642
He beams, scattering by crossed at. and mol. beams, elastic differential cross section 9-10171
He, Glauber scatt. amplitude, numerical method in Lommel function 9-22795
 $\text{He} + \text{H}^+$, elastic scatt. and 2^1s and 2^3p excitation cross-sections 9-36747
 $\text{He} + \text{He}^+$, cross-section oscills., 5 to 40 keV 9-45785
 $\text{He} + \text{methane}$ (NH_3)(H_2O)(SF_6), differential scatt. cross-section, intermol. pot. 9-36728
 $\text{He} + \text{N}_2(\text{O}_2)(\text{CO})(\text{NO})$, anisotropic intermol. pots., crossed beam expts. 9-31639
 $\text{He}^* + \text{Ar}(\text{Kr})(\text{Xe})$, elastic scatt., repulsive rainbows and optical pots. 9-840
H(muonic) + H^+ , elastic scatt., cross section 9-871
Kr + carbon tetrachloride, differential elastic scatt. cross-section 9-45784
 $\text{Li}^+ + \text{H}_2$, elastic scatt. and rot. excitation, multistate semiclassical orbital method 9-27058
 Li_2 , emission circ. polaris., hyperfine coherence and elastic collisions effect 9-3471
 Li_2 + inert gas, energy and ag. momentum transfer, polarised laser fluoresc. obs. 9-31590
 $\text{Li}^+ + \text{H}_2$, elastic of rot. excitation, semiclassical treatment 9-31657
Na + Ar, scatt. cross-section, thermal energy, interaction pot. for Na(3^2P) 9-27060
Ne-Xe mixture, microwave absorption, collision-induced 9-22626
Ne + Ne, total cross-section, 0.5-1.4 km s⁻¹, long range pot. 9-13787
U + Kr, momentum transfer cross-section, 0.1 eV 9-45783

elastic scattering of electrons by atoms and molecules

see also gas phase electron diffraction

- alkali metal, polarised orbitals method modification 9-22835
atom, independent particle model pot. calc. of differential shielded cross section, keV range 9-13824

elastic scattering of electrons by atoms and molecules continued

- ATOM programme package for atomic calculations 9-10010
atomic ion, electron scatt., S-matrix calc. 9-45847
bremsstrahlung, electron + atom, 1-500 keV, bremsstrahlung ang. distrib. prediction 9-41312
bremsstrahlung cross-section, near HF limit 9-18288
charged particle scattering, Schwinger variational principle 9-45780
complex angular momentum theories, background integral evaluation 9-6986
continuum wave functions, discrete basis set method 9-22829
diatom, phase shift difference, trigonometric pots. in radial Schrodinger eqn. 9-22787
free particle Green's function, Gaussian matrix elements 9-2667
HV electron microscopy, total scatt. cross-section obs. 9-21859
inert gas low energy electron elastic scatt. effective cross section, time of flight meas. 9-13823
ionsphere photoelectron flux, anisotropic electron-neutral cross sections 9-21103
laser field affecting scattering from atoms, many-body Green's function 9-31679
light atoms, intermediate energy, review 9-856
low energies, phaseshift evaluation by pseudopotential method 9-22830
molecular gases, positron scattering, 50-800 eV, total cross-section meas. 9-31680
molecule, adiabatic nuclei theory 9-45846
molecules, close coupling method, elastic and rot. excitation 9-10202
molecules, one- and two-electron characts. determ. 9-31691
momentum-transfer cross sections 9-25777
positron + H(He), second-order nonadiabatic polaris. pot. for elastic scatt. 9-22836
resonances during dilatation transformations, reson. eigenvalues stability 9-18291
summation of partial wave expansions in scatt. by long range pots. 9-41239
trifluoromethyl sulphonyl chloride, mol. struct., electron diff. obs. 9-7016
two-state atom, in low-freq. laser field, charged particle scatt. 9-41241
 μ^- , electron scatt. length determ. 9-36801
Ar, phaseshift anal. of ang. distrib. 9-22833
Ar positron scatt., elastic, diffusion and annihilation cross sections 9-36769
Ar, total scatt. cross section, 20-3000 eV 9-36778
Be, ^2P shape reson., electron scatt. calc. 9-41240
CO, elastic differential cross-section, 3-100 eV, 15-130° 9-27086
CO, electron scatt., adiabatic polaris. pots. 9-10203
 CO_2 , elastic electron scattering and rot. excitation calcs. 9-22834
 CO_2 , electron energy deposition, rel. to Venus and Mars atms. 9-45857
Cu, ang. distrib. for 98.6 keV electrons 9-18295
Fe, 1-8 keV, differential shielded cross section calc. 9-13824
H, e^+ scatt., two-pot. eikonal approx. 9-31685
H, elastic electron (positron) scatt., relativistic Glauber amplitudes 9-31681
H, elastic electron scattering, eikonal Born series calc. 9-36766
H, electron elastic scattering, fixed scatterer approx. 9-10204
H, electron scatt. in EM field, reson. emission and absorpt. of photons 9-27087
H, electron/positron elastic scatt., least squares calcs. 9-3572
H, positron elastic scatt. lengths and phase shifts, variable phase method 9-22838
H, positron scatt., analytic model, complex scaling 9-18257
H, positron scatt., Schwinger variational principle 9-45780
H-like atoms, electron exchange scatt., high impact vels. 9-22846
H-like ions, elastic electron (positron) scatt., relativistic Glauber amplitudes 9-31681
 $\text{H} + e^+$, moment T-matrix approach, ang. distrib., total cross section, below pickup threshold 9-3573
 $\text{H} + e^+$, moment T-matrix approach, elastic scatt., total cross section, intermediate energy 9-3582
 H_2 , 11-12 eV, variational calcs. of resonant states of H_2^- 9-3571
 H_2 , electron scatt., iterative static-exchange calc. 9-18290
 H_2 , exchange effects in independ. atom model 9-22837
 H_2 , positron scattering, 50-800 eV, total cross-section meas. 9-31680
 H_2 , static exchange approx., variational correction 9-7015
 H_2^+ , electron elastic scatt., two-centre variational calc. of s-wave phase-shift 9-3570
HCl and HBr, low-lying reson. states in 0.25-1.15 eV electron scatt. 9-45844
 H_2S , electron impact, vibr. elastic scatt. and vibr. excitation 9-13822
He, 0-16.5 eV electron scatt., R-matrix calc. 9-36768
He, effective collision freq. of electrons 9-3566
He, elastic electron scatt. phaseshifts, $2s2p\ ^3\text{P}$ autoionisation, $1s2s\ ^3\text{S}-1s2p\ ^3\text{P}$ triplet continuum photoionisation 9-31480
He, electron elastic scatt. at low energy, exchange effects, natural boundary conditions methods 9-22831
He, electron elastic scattering, improved second Born calc. at intermediate energies 9-36770
He, electron scatt., He^- resonances in post collision interaction 9-13820
He, electron scatt. resonances during dilatation transformations, reson. eigenvalues stability 9-18291
He, electron scattering, by long-range pots. summation of partial wave expansion 9-41239
He, electron scattering amplitudes for energies less than 19 eV 9-45845
He, Glauber scatt. amplitude, numerical method in Lommel function 9-22795
He, low energies, phaseshift evaluation by pseudopotential method 9-22830
He, phaseshift anal. of ang. distrib. 9-22833
He, positron scatt., total cross section meas., with positron TOF spectrometer 9-3568
He, positron scatt. cross sections 9-3569
KOH, electron collisions, integrated and momentum transfer cross sections, cond. integrals 9-41238
Kr, total scatt. cross section, 20-3000 eV 9-36778
Li, adiabatic exchange approach, integral form 9-31684
Li, polarised orbitals method modification 9-22835
Mg, ^2P shape reson., electron scatt. calc. 9-41240
N, effective collision freq. of electrons 9-3567
 N_2 , electron scatt., 50-500 eV, two-pot. approach 9-41242
 N_2 , electron scatt., iterative static-exchange calc. 9-18290
 NH_3 , 35 keV electron elastic differential cross section, bond formation, independent atom model 9-31683

elastic scattering of electrons by atoms and molecules continued

- Ne, effective collision freq. of electrons 9-3566
 Ne, phaseshift anal. of ang. distrib. 9-22833
 Ne, total scatt. cross section, 20-3000 eV 9-36778
 O₂, effective collision freq. of electrons 9-3567
 O₂, differential and integral cross sections 9-10216
 O₂, interactions with slow electrons 9-45848
 SF₆, electron elastic scatt., total cross-section, multiple scatt. calcs. 9-7014
 SF₆, electron elastic scatt., shape resonances 9-18289
 SF₆, electron impact, elastic scatt., absolute differential cross-sections meas. 9-36767
 SF₆, electron scatt., total absolute cross sections, 0.5-100 eV, incl. reson. struct. 9-45843
 ScOH, electron collisions, integrated and momentum transfer cross sections, cond. integrals 9-41238
 T 9-45757
 U, atomic model 9-41095
 U⁺, atomic model 9-41095
 Xe atoms scattering, expt. 9-857
 Xe, total scatt. cross section, 20-3000 eV 9-36778

elastic waves

- see also acoustic waves; Love waves; magnetoelastic waves; Rayleigh waves; seismic waves; vibrations*
 acceleration wave reflection in elastic-plastic medium 9-7331
 acceleration waves in elastic dielectrics with internal state variables 9-47396
 anisotropic media, criteria for cusp points on elastic wave surfaces 9-37236
 anisotropic medium, perturbed, propag. of elastic waves (French) 9-42144
 beam, Timoshenko's shear coeff. variation with frequency 9-32367
 beams and rods, dispersive waves, experimental study using FFT 9-46275
 boundary friction effects on elastic wave propag. 9-46242
 characteristic eqns. for homogeneous elements of mechanical structures 9-30265
 colliding elastic bodies, nonlinear surface waves (Ukrainian) 9-32331
 couple stress effects on elastic waves and vibr. 9-14307
 couple stress effects on wave prop. in elastic layer immersed in infinite liquid 9-1126
 crack characteristics from elastic wave scatt. using quasistatic approx. 9-37241
 cracked elastic solid, 3-D wave propagation 9-46251
 crystal, elastic wave theory (Russian) 9-7320
 cylindrical anisotropic waves propagation in nonhomogeneous material 9-32364
 cylindrical impact waves in inhomogeneous viscoelastic media 9-14295
 cylindrical non-axisymmetric wave propagation in laminated medium, continuum theories 9-14293
 deformed compressible elastic material 9-14338
 diffraction by cylindrical cavity in half-space 9-23110
 diffraction of stationary and nonstationary waves, survey (Russian) 9-18795
 discontinuity wave propagation in elastic body with dislocations 9-18787
 dynamics of elastic layer, approx. eqns. 9-7326
 elastic materials, strongly anisotropic, wave propagation 9-14300
 elastic strip with fluctuating parameters, flexural wave characts. 9-23116
 elasto-plastic half-plane generated by supersonic variable load (Russian) 9-10526
 elastodynamic stress intensity factors, ray theory approach 9-7339
 elastodynamics with rigid inclusions, identities 9-10422
 ellipsometer for meas. of material property variations 9-46143
 finite amplitude standing waves in compressible elastic solids 9-18784
 free wave motion in periodic systems with multiple disorders 9-23247
 glass prisms, vel. meas. by pulse technique and propag. theory 9-18636
 harmonic waves in elastic sandwich plates 9-37235
 homogeneous isotropic viscoelastic medium, wave propagation eqns. with time lag 9-35573
 impact force meas. by elastic stress wave obs. 9-34215
 imperfectly periodic structures, random evolution approach 9-14339
 incompressible isotropic elastic material, Hadamard criterion, wave propagation 9-27571
 inhomogeneous anisotropic elastic media, cylindrically symmetric waves, propagation and reflection 9-21559
 inhomogeneous elastic slab impedance soln. 9-44745
 inhomogeneous viscoelastoplastic media, wave propagation (Russian) 9-32337
 interface waves and sliding between two solids 9-18800
 laminated composites, simulation of effect of bonding materials on dynamic behaviour 9-46216
 laminates, comparative study of subsonic transverse elastic wave propag. theories 9-14324
 layered elastic composites, harmonic wave frequency estimation, eigenfrequency bounds 9-46252
 linear elastic continuum, book 9-25862
 liquid, three-dimensional gravitationally-elastic, gravitationally-capillary surface waves (Russian) 9-32537
 longitudinal wave propagation in circular cylinder with Cauchy's initial stress 9-37217
 longitudinal wave vel. and absorpt. in rocks and minerals at high press. and temp. 9-39704
 magnetothermoelastic waves, propag. in initially stressed conducting layer 9-63
 magnetoviscoelastic initially-stressed conducting medium, plane Lamb's problem 9-37183
 metallurgically bonded plates, structural integrity determ. by high energy impulse 9-39111
 micropolar elastic media, anisotropic, propag. of shock and acceleration waves 9-30242
 micropolar sphere, harmonic wave propagation 9-27560
 nonlinear mode coupling, numerical investigation 9-7240
 nylon 6 fibres, dynamic mech. props., interpretive nonlinear viscoelasticity 9-4994
 oblique compression of two elastic spheres 9-27564
 one dimensional plastic materials with work hardening, acceleration waves 9-32339
 periodic elastic media, wave dispersion 9-17244
 perturbation of front of flat plastic wave 9-5980
 piezoelectric medium, wave propag. 9-28042
 plain strain displacement and stress field in transversely isotropic elastic solid 9-14340

elastic waves continued

- plane compressional wave attenuation by random distrib. of thin circular cracks 9-27561
 plane progressive waves in linear elastic material binary mixture 9-32357
 plane wave propagation in thermoelastic solids with Tolotti's isothermal pot. 9-18786
 plasticized epoxy polymer rods, stress wave propag. 9-19322
 plate, thermoelastic, deflection under point heat source 9-32261
 plate, thermoelastic deflection under point heat source 9-32260
 plate kinematics in oscillatory bending, particle trajectories (Russian) 9-37209
 porous elastic half space, Lamb's line load problem 9-30248
 prestressed nonlinear elastic solids, exact relativistic theory of wave propag. 9-1124
 radiation from spherical wave sources, seismic model 9-8612
 random media, coupled EM and elastic waves 9-28579
 rectangular cross section solid waveguide, nondispersive propag. of elastic strain waves 9-18565
 reflection-refraction wave fronts at nonlinear elastic media boundaries (Russian) 9-32336
 relativistic hypoelasticity, characteristic manifolds, wave propagation (French) 9-30227
 relativistic magneto thermo viscoelastic medium, effect of mag. and thermal fields on plane wave propag. 9-2637
 relativistic magnetoelasticity, infinitesimal discontinuities (French) 9-25853
 rock elastic wave absorption meas. and recording instrument (Russian) 9-29891
 rocks, wave vels. rel. to deep crustal composition (Russian) 9-48460
 rod, nonhomogeneous elastic, with varying cross section, pulse propagation 9-46257
 rod, nonlinear hyperelastic, decay of acceleration waves 9-1125
 rods, coupled thermoelastic wave propagation, asymptotic theory 9-12609
 rods, propag. anal. using numerical method, impact motion 9-32352
 semi-infinite elastic media, harmonic wave generation at unbonded interface 9-23237
 SH wave scatt. by spherical layer 9-27562
 shear wave propagation in layered elastic medium, dispersion eqn. 9-17245
 shear waves, horizontally polarised, generation in ferromagnets using magnetostriictively coupled meander-coil EM transducers 9-46144
 shear waves in an infinitely extended medium perforated with a row of cylindrical ducts 9-32116
 shell, cylindrical, dynamic stability under periodic axial load 9-14302
 shock wave decay in elastic rods 9-41603
 singular reflection and refraction of elastic waves due to separation 9-32358
 solid layer, field of elementary source of elastic strain waves 9-18561
 sphere, elastic, inverse normal mode problem (French) 9-41610
 spurious reflection in nonuniform finite element grids 9-14303
 Stoneley waves, effect of gravitational force in the liquid layer 9-3968
 Stoneley waves propag., effect of liquid layer overlying a thermoelastic halfspace with an embedded spherical cavity 9-1134
 stress wave generation in metal by electrons excited by nucl. fission fragments 9-37747
 stress waves focusing in viscoelastic solid cylinder (Russian) 9-27535
 stretched elastic sheet, punched hole, wave propagation 9-10524
 strong discontinuity wave in initially strained elastic medium 9-14301
 surface wave guidance by stress free crack 9-46250
 tensile cracks and shear faults, elastic wave radiation 9-16411
 thin layer surface inhomogeneity effect on dynamic surface response 9-7288
 transient response of inhomogeneous thermoelastic media to a dynamic input 9-27532
 truss joints, elastic and plastic wave distrib. (German) 9-18769
 ultrasonic pulse propagation in elastic waveguides (Russian) 9-18576
 viscoplastic-elastic media, waves under complex strain (French) 9-27570
 waveguide slow torsional wave sensors 9-46748
 Cd US attenuation due to conduction electrons 9-46754
 CdSe, wave propag. 9-28042
 Fe₅₅Ni₃₃ ferromagnetic alloy, zero sound anomaly, inelastic neutron scatt. 9-46764
 Ge-Pb-Bi-O glass, photoelasticity, glass transition limits 9-33670
 Mg US attenuation due to conduction electrons 9-46754
 Mo magnetoacoustic effect shear wave selectivity 9-47131
 W magnetoacoustic effect shear wave selectivity 9-47131
 Zn US attenuation due to conduction electrons 9-46754

elasticity

- for crack problems in elasticity see crack-edge stress field analysis*
see also elastic constants; elastic moduli; elasticity of liquids; elastoplasticity; photoelasticity; rheology; thermoelasticity
 active damping of vibrations in elastic systems with distributed parameters, active stabilisation (Russian) 9-27577
 aeroelastic analysis of subsonic aircraft (Italian) 9-41598
 aeroelasticity, flutter testing, modal parameter identification 9-3938
 aircraft wing weight optimisation with static aeroelasticity constraints (Russian) 9-23240
 allowable representations of appropriate small groups, calc. of system coords. and physical props. 9-2595
 anisotropic composite cantilever, bending and torsion, mathematical formulation 9-18708
 anisotropic inhomogeneous bodies, convergence rates for elastic solutions method and variable elasticity parameters (Russian) 9-44740
 anisotropic media, roots of characteristic eqn. (Russian) 9-17221
 anisotropic medium under polynomial form applied stress, elliptical crack elastic field 9-46263
 automorphic functions in plane theory (Russian) 9-35563
 axial impact buckling of a column with random initial imperfections 9-18762
 bar with two natural freqs., minimum mass design 9-46246
 bars, thin, variational method (Russian) 9-23216
 beam, homogeneous, initial boundary value problem of transverse vibr. 9-41601
 beam, homogeneous, initial boundary value problem of transverse vibr. 9-40367
 beam containing fluid flow, on elastic base, flexural vibration stability 9-46248
 beam formation, eccentric, error anal. 9-3920
 beams, curved, shear stress formulas and shear centre 9-18726
 beams, finite, curved, stress anal. under general equilb. loading 9-14258

elasticity continued

Beck's column, harmonic nonlinear response to lateral excitation 9-10517
 Bergman operator method and anti-plane contact problems involving an inhomogeneous half-space 9-14353
 bimaterial problems and cracks, integral equations 9-44741
 biwedge, stress singularities under various boundary conditions 9-12601
 bonded wedges, plane problem (*Russian*) 9-23284
 bone remodelling, adaptive elasticity theory 9-25016
 boundary elements in potential and elasticity theory 9-35560
 boundary value problems in I-D 9-30236
 buckling models for higher order catastrophes in elastic struts. 9-1122
 canonical model, dynamical processes in elastic isotropic medium (*Russian*) 9-25855
 cascade airfoil aerodynamic design, exact method based on conformal transformation (*Italian*) 9-41599
 Cauchy problem for a system of equations for plane dynamic elasticity theory (*Russian*) 9-5983
 ceramics, mechanical behaviour, book 9-38983
 circular bar in elastic half-space, longitudinal harmonic excitation 9-10518
 clamped heterogeneous circular cylinder, torsion problem, stresses and displacement 9-32278
 columns and plates, lower bounds to fund. freq. and buckling loads 9-10469
 combined mode cracks, energy fracture criteria, complex variable method 9-27596
 complementary energy principle, finite elasticity solns., hybrid finite element anal. 9-32274
 complex elastic systems, appl. of generalised functions to analytical methods of study (*Ukrainian*) 9-35537
 composite cylinders, St. Venant torsion warping and stress functions 9-32265
 composite micropolar elastic cylinders, Saint-Venant's problem 9-46206
 compound elastic systems, natural frequency spectra (*Russian*) 9-17230
 compressed crack development at circular inclusion boundary with elastic medium (*Russian*) 9-46265
 compressed laminar structures, stability (*Russian*) 9-18759
 concavity techniques, point mass impact on elastic, viscoelastic or nonlinear elastic rod 9-37172
 concrete reactor vessels, behaviour of perforated slabs under temp. and external load 9-30917
 constrained material continua, eqn. formation 9-40360
 continuous beam resting on tensionless elastic foundation, soln. 9-46238
 continuum mechanics, introduction, book 9-30234
 coplanar Griffith cracks in infinite elastic medium, dynamic stress conc. 9-46270
 crack behaviour model, from thermodynamic considerations (*French*) 9-10534
 crack propagation in non-proportionally scaled elastic structures 9-18807
 cubic crystals at arbitrary pressure, shear moduli and relative elasticity 9-42132
 curved orthotropic body, approx. soln. for canonical regions (*Russian*) 9-17229
 curvilinear crack along the interface of two plane isotropic elastic media 9-37246
 curvilinear crack theory (*Russian*) 9-46266
 cylinder, elastic, equilib. difference scheme, deformation tensor approx. 9-41583
 cylinders, fibre-reinforced, singular stress layers 9-14268
 cylindrical shell, with non-small holes, elastic equilib., integral representations method (*Ukrainian*) 9-32256
 cylindrical shells, orthotropic, noncircular, problem solubility (*Ukrainian*) 9-32255
 diaphragm supported cylindrical shells, static anal. using curved finite strip 9-27507
 Dirichlet problem of classical elasticity, method of integral eqns. validity (*French*) 9-17217
 disc, constant stress, quasi-isotropic laminate, longitudinal and transverse stresses (*Italian*) 9-41573
 discrete models of two-dimensional continuum, side (deformation) effects 9-58
 discrete spectra for elastic plates without deflection, mixed boundary conditions (*German*) 9-27579
 displacement stress reln. evaluation (*German*) 9-12603
 dual elastic continuum model, internal mobility induced consolidation 9-14352
 dynamic indentation of elastic plate by rigid punch, numerical soln. 9-14260
 dynamic modulus and compliance, loss and storage component relations (*German*) 9-32268
 dynamics of elastic layer, approx. eqns. 9-7326
 Earth interior, elasticity imperfection 9-8613
 edge-dislocation displacements in elastic strip, Fourier transform method 9-21553
 elastic behaviour of elastic materials, thermodynamical bounds, thermoelasticity, deformation 9-41576
 elastic body cryogenic gravitational wave antennae, sensitivity 9-12705
 elastic circular cylinder, axisymmetric end-problem solns. 9-18700
 elastic contact problems with friction, nodal parameter soln. (*French*) 9-10475
 elastic dielectrics, nonlinear compatibility equations and Bianchi-type identities 9-41574
 elastic discs, high frequency vibr. spectra, second order approx. theory potentiality (*Russian*) 9-10515
 elastic lateral torsional buckling of unbraced and braced planar frames 9-46236
 elastic shell, stable solutions of simplified problem (*French*) 9-5984
 elastic shell revolution, transient motion in acoustic medium 9-7333
 elastic strip pressing against elastic half plane, strain anal. 9-7345
 elastic tube, cylindrically symmetric vibr. (*German*) 9-7330
 elastic-plastic materials, dynamic behaviour (*German*) 9-14271
 elastic-plastic struct. cyclic thermomech. loading 9-7299
 elastic-plastic-creep-large strain analysis at elevated temperature by the finite element method 9-37185
 elastic-viscoelastic-elastic beams, compressional damping in vibratory response 9-32323
 elastodynamic stress intensity factors, ray theory approach 9-7339
 elastostatics, appl. of modified integral eqn. method 9-14254
 ellipsoid, displacement fields for double forces 9-37168
 estimation of parameters for a beam on an elastic foundation with large deflections and built in at both ends 9-27520

elasticity continued

expansion bellows, elastic flexibility of axially loaded omega and toroidal bellows, review 9-32266
 finite element stiffness matrix, symbolic generation 9-32244
 finite extension of an elastic strand with a central core 9-46217
 flat elliptical crack, behaviour in an anisotropic elastic body 9-7336
 fluid saturated porous elastic cylinders, vibrations 9-10521
 fluid saturated porous elastic solid, tensorial eqns. of motion 9-40366
 fracture criterion of Sih, formal extension, elastic stress field near crack (*German*) 9-1139
 fracture mech. techniques, review 9-41635
 fracture mechanics problem, two-dimensional, Green's function method 9-23272
 Fredholm linear eqns. of first kind, failure to satisfy Picard's condition 9-2601
 frequency anal. of unsupported structures 9-32333
 Galois unsolvability of anisotropic crystal elasticity sextic equation 9-37170
 general physics and heat, book 9-25814
 generalised displacement functions, elastic continuum 9-7289
 glass fibre reinforced polyester, filament wound pipe, winding angle effect on failure 9-43379
 granular layer on elastic foundation, axisymmetric contact problem 9-27600
 Griffith cracks, coplanar opening in infinite medium 9-32379
 guided launch vehicle misalignments, static aeroelastic anal., matrix formulation 9-14313
 gyroscope on elastic suspension, principle resonance (*Russian*) 9-30461
 gyroscopic effects in micropolar elasticity 9-30247
 gyroscopic problems in elasticity, orthogonality principle 9-17218
 Hadamard conditions in nonlinear elasticity theory (*Russian*) 9-46207
 half-space, dislocations and extended sources 9-35562
 harmonic waves in elastic sandwich plates 9-37235
 heated electric plates, large deflections, constant deflection line method 9-32277
 heterophase systems, pressure-induced elastic fields, effective inclusion method 9-10502
 historical development during the 17th and 18th centuries 9-17167
 hole in heavy semi-plane, optimal form (*Russian*) 9-10486
 holes with loaded boundaries in elastic plane, anisotropic property optimisation (*Russian*) 9-46208
 hollow thick-walled cylinders, stress-deformation, limiting state anal. (*Russian*) 9-27538
 homogeneous elastic sphere, spheroidal mode props., displacement radial depend. special reference 9-14312
 homogeneous isotropic compressible elastic media, circular concentric ring, second-order torsion problem 9-32276
 hyperbolic paraboloids, stability analysis, using reduced scale models 9-3910
 hyperelastic bodies, Lyapunov stability sufficient criteria 9-12604
 hyperelastic boundary value problems, dual extremum principles and global error bounds 9-30253
 hyperelastic spherical cavity, finite amplitude oscillations 9-32332
 impact loading of disc by radial force 9-14298
 incompressible isotropic elastic material, Hadamard criterion, wave propagation 9-27571
 inextensible elastic materials, general solns. in equilib. theory 9-12602
 infinite isotropic elastic medium, crack and misfitting inclusion interaction 9-37244
 infinite isotropic solid, with curvilinear cuts, elasticity theory (*Ukrainian*) 9-32257
 inhomogeneous elastic material, antiplane crack problems 9-14343
 isotropic body with different moduli (*Russian*) 9-30249
 isotropic elastic half spaces with circular crack, stress at interfaces (*Russian*) 9-27582
 isotropic thick plates, review of problems of plates with geometric, and load discontinuities 9-46218
 iterative algorithm for continuous stress and displacement solns. 9-1109
 Karman-Foppl eqns., energy approach 9-12607
 Lamé eqns., fundamental soln. to displacement and strains 9-35559
 laminated composites, simulation of effect of bonding materials on dynamic behaviour 9-46216
 line and point loads on a non-homogeneous incompressible elastic half-space 9-40371
 linear Cauchy and Piola-Kirchhoff constitutive theories for stress in solids 9-37173
 linear elastic continua, variational principles, finite element techniques (*German*) 9-9113
 linear elastic helical spring, Saint-Venant's principle 9-18720
 linear elasticity in exterior domains, continuous dependence theorems 9-46204
 linear elasticity systems, finite equilibrium element models (*French*) 9-21550
 linear reinforced composite material with anisotropic structural components (*Russian*) 9-30250
 linear theory, with point Maxwellian sources of stress relax., numerical solns. 9-5982
 lipid bilayers, curvature elasticity 9-48222
 magnetic tape, coil, determ. of stressed-strained state 9-14283
 magneto-elastic plates under mixed boundary conditions 9-7328
 manipulator compliance, kinetostatic error distrib. 9-18697
 membranes for pressure meas., nonlinear characs. calc. (*Czech*) 9-26021
 micropolar elastic media, anisotropic, propag. of shock and acceleration waves 9-30242
 micropolar elasticity, uniqueness for anti-plane crack problems 9-30235
 micropolar elastostatics, J-integral type conservation laws 9-18710
 micropolar half space, soln. of source problem 9-30238
 micropolar half-space disturbance due to axially symmetric source of finite length 9-30239
 micropolar media, elastostatics, J-type conservation laws (*French*) 9-17227
 Mindlin plate elements, free vibration anal. 9-46244
 mixed spatial elasticity problems, variational soln. (*Russian*) 9-9110
 mixtures with long range spatial interaction 9-12600
 multilayer stress displacement calc. by double layer method (*Chinese*) 9-37162
 multilayer systems, elastic fluid motion (*Russian*) 9-46211
 multiparametric discrete-continual elastic systems, characteristic series coeff. (*Ukrainian*) 9-40368
 multiparametric elastic system, lower frequencies and crit. loadings (*Russian*) 9-44739

elasticity continued

- multistorey elastic frames, critical load numerical determ. (*French*) 9-14262
- multiwedge corner, singular stress field, boundary value problem elasticity solns. 9-37174
- muscovite, exam. of dislocations and props. using elasticity theory (*German*) 9-10854
- Navier's eqn. soln. in cylindrical coords. 9-44744
- Navier equations of elasticity, iterative solns., depend. on Poisson's ratio 9-1107
- nonconservative continuous elastic systems, post-buckling behaviour 9-3931
- nonconservative elastic systems, stability under periodic effects (*Ukrainian*) 9-32309
- nonconservative systems which are conservative in a higher sense, Hamilton's variational principle extension 9-44742
- nonhomogeneous medium, shock wave refl. from movable partition 9-7327
- nonlinear, potential wells and stability 9-9111
- nonlinear discrete continuous model of elastic layered body, homogeneous deformation 9-23207
- nonlinear elastic body, stress/strain deviator ratio (*Russian*) 9-25854
- nonlinear elastic cylinder, parametric biharmonic vibrs., reson. modes (*French*) 9-10522
- nonlinear elastic shells, stability loss (*Ukrainian*) 9-32308
- nonlinear elastic tubular membrane, limiting pressure in simultaneous elongation and inflation 9-37166
- nonlinear elasticity, boundary value problems, finite element anal., recent developments 9-44737
- nonlinear elasticity incremental eqns., membrane theory 9-17224
- nonlinear elasticity strain energy, integral bound for displacement boundary value problem 9-37171
- nonlinear elastodynamics which conserve energy, finite element methods 9-18723
- nonlinear flexural vibr. of elastic ring 9-18805
- nonlinear hyperelastic problem, soln. analyticity (*French*) 9-32249
- nonlinear rectangular elastic plate, instability 9-32316
- nonlocal, 1-D models 9-40365
- nonlocal, static lattice defects props. 9-46743
- nonlocal elastic half space, boundary forces in solvable integral model 9-35558
- numerical estimation of boundary stiffness (*German*) 9-10466
- oblique compression of two elastic spheres 9-27564
- oceanic lithosphere mechanical behaviour, implications of two earthquakes seaward of Tonga Trench 9-16405
- orthotropic solid, rigid elliptic inclusions, soln. method 9-32275
- oscillation of rectangular elastic body framework model 9-41607
- panel structural optimisation under supersonic flutter conditions (*Italian*) 9-41600
- perfect single crystal, continuum model of many-body interactions 9-35564
- periodic elastic inclusion-rectilinear crack system in isotropic medium 9-41619
- periodic problems in elasticity theory (*Russian*) 9-9112
- piezoelectricity equations in stresses (*Russian*) 9-46210
- plane elasticity, cracks, Cauchy type integrals and integral eqns. with logarithmic singularities 9-30252
- plane elastostatic boundary value problems, formulation as integral eqns. by singularity method 9-35556
- plane finite elastostatics, discontinuous deformation gradients, ellipticity failure and cracks 9-32264
- plane harmonic Dirichlet problems, soln. for canonical domains 9-21548
- plane theory problems, plane framework model for approx. soln. (*Russian*) 9-17223
- plate, behaviour in limit of thin inclusion of high stiffness (*French*) 9-32250
- plate, buckling, von Karman eqns., generic and nongeneric bifurcation 9-46239
- plate, linear elastic, classical boundary value problem 9-14261
- plate, linearly elastic, free harmonic vibration fundamental frequency, approx. solution 9-46256
- plate, thick infinite, transversely isotropic, containing circ. hole, end effects 9-27510
- plate aerodynamic stability in supersonic/hypersonic flow 9-14424
- plate incompressible isotropic, stability under all-round compression (*Ukrainian*) 9-37149
- plate theory, justification of nonlinear model (*French*) 9-25852
- plate theory, nonlinear elasticity model, asymptotic expansion method anal. 9-44738
- plates, thick orthotropic on elastic foundations, freq. anal. using triangular plate bending element 9-46273
- plates, thin rectangular elastic, bending, finite difference anal. 9-46181
- polycrystal, elasticity, graded disorder, self-consistent scheme 9-10473
- polydimethylsiloxane, rubber elasticity in uniaxial tension, compression 9-15714
- polymer, microinhomogeneous, elastic props. description rel. to crystallinity 9-19307
- polymeric solids, mech. retardation time spectrum, thermostimulated creep 9-5014
- polynomial solutions for an ellipse on an anisotropic elastic half-space 9-10480
- poroelastic semi-infinite cylinder, torsional vibr. 9-32334
- porous elastic half space, Lamb's line load problem 9-30248
- preconditioning of indefinite problems by regularization 9-46214
- prestressing in 2-phase media (*Polish*) 9-12605
- prismatic bars, torsional stiffness of heterogeneous material and solid cross section 9-27519
- prismatic bars, torsional stiffness upper limit 9-32248
- quadrilateral plate anal. 9-46201
- radial vibrations of a gravitating sphere with a material boundary 9-41609
- reactor component-support impact dynamics, elastic anal. by model expansion method 9-45343
- rectangular orthotropic region, plane shear, stress free edge effects 9-18830
- rectangular plates with perforations, stability anal. (*Russian*) 9-32311
- relativistic hypoelasticity, characteristic manifolds, wave propagation (*French*) 9-30227
- representation theorem for isotropic linear constitutive relns. 9-17226
- rock, dry, quantitative model of dilatancy and appl. to Westerly granite 9-16445

elasticity continued

- rock penetrator, initial response, elastic rod theory 9-32392
- rod, nonhomogeneous elastic, with varying cross section, pulse propagation 9-46257
- rod equations 9-40364
- rods, initially stressed, curved, twisted, constitutive eqns. 9-27517
- rotating circular elastic disc, diametral edge cracks, stress anal. 9-32386
- rotating disc, elastic stress state distrib. calc. 9-37175
- rotation effects on natural vibr. frequency (*Russian*) 9-7319
- running crack, three-dimens. problem, elasticity dynamic eqns. 9-18811
- Saint-Venant's principle, elastic cylinder energy decay 9-14270
- sandwich structure stability, analog method 9-32314
- second order, internal instability 9-60
- sector problem with arbitrary loads on edges 9-32263
- semi-infinite elastic media, harmonic wave generation at unbonded interface 9-23237
- semi-infinite transversely isotropic materials, Green's function solutions 9-46205
- semiinfinite elastic solid, frictional shear effect on dynamic stresses 9-10537
- sethlets, generalised singular points 9-46
- shallow shell theory, series representation of fundamental solution 9-10468
- shaping of adherends in bonded joints 9-27599
- shell, aerohydroelastic opening of shell in nonstationary flow (*Ukrainian*) 9-32258
- shell, cylindrical, dynamic stability under periodic axial load 9-14302
- shell, elastic cylindrical, impact on surface of compressible fluid (*Russian*) 9-37181
- shell of revolution in acoustic medium, steady state motion 9-18728
- shells, internally pressurised 2:1 ellipsoidal, elastic and elastic-plastic buckling 9-37206
- shells, parabolic, shallow, thin, approximate calc. 9-57
- shells of revolution, finite-difference method (*Russian*) 9-10477
- shells of revolution, stability, dynamic programming 9-32270
- shells with curvilinear axis, geometric approach 9-32271
- shock wave-acoustic wave interactions in elastic solids 9-32370
- Signorini's problems, reciprocal variational inequalities soln. 9-41585
- singular integrals, 2-dimens., used in 3-dimens. elasticity 9-35561
- skeletal elastic structures, forced, damped vibr. anal. procedures 9-32330
- skew crack propagation, induced dynamic stresses, numerical soln. 9-1137
- soft ferromagnetic elastic solid, magnetoelastic interaction with penny shaped crack in const. mag. field 9-18829
- spherical elastic shell, thick walled, transient response, ray theory determ. 9-10484
- stability of elastic systems with small internal friction (*Russian*) 9-17222
- stability theory, nonlinear partial differential eqns. (*Russian*) 9-9128
- star shaped membranes, new bounds of Poincare const. (*French*) 9-25860
- stayed columns, concise buckling, vibration and static anal. 9-18755
- steel, mild, residual stress meas., acoustoelastic, in a patch-welded disc 9-27604
- steel H₂, embrittlement resist., selection of test conditions (*Russian*) 9-15883
- Steklov const., bounds 9-25861
- stress meas., nondestructive, acoustoelasticity appl. 9-34259
- stretched elastic sheet, punched hole, wave propagation 9-10524
- stretched finite elastic strip, central crack dynamic response 9-18826
- string, stochastic vibr., mean displacement determ. by successive approx. 9-27523
- strip with semi-elliptic notches or cracks, stress anal. by rational mapping function 9-14257
- structures, work hardening deflection stability 9-27528
- theory, partial differential equations transformation into uniform system of equations 9-2630
- thermodynamic fundamentals of continuum mechanics, equilibrium states 9-40373
- thick multiply connected plates with nonsymmetric stress tensor, oscillations (*Ukrainian*) 9-41602
- thick walled cylinder, internal or edge crack, stress intensity factors 9-18827
- thin elastic bar, impact buckling, Monte Carlo calcs. 9-32317
- thin elastic shells, general theory 9-25857
- thin elastic shells, stability, variational method (*Russian*) 9-32321
- thin layer surface inhomogeneity effect on dynamic surface response 9-7288
- thin shells in Eulerian coordinates, eqn. of dynamics 9-17232
- traction problem in finite elasticity, integral bounds on strain energy 9-35557
- transient response of continuous elastic structures with viscous damping 9-46254
- transversally isotropic layer, soln. of three-dimens. problem of theory of elasticity 9-40372
- twisted elastic prismatic solid, torsion, Gohner-Giovannozzi stress anal. (*Italian*) 9-18766
- undamped linear elastic systems, stability under follower forces, perturbation study 9-1110
- uniform systems of elastic eqns., general solns., appl. (*Russian*) 9-14272
- unitary eqn., soln. uniqueness 9-5981
- valveless shock tube pumping mechanism 9-14337
- variational inequality related to elasticity operator, soln., dual problem 9-9109
- vibrating heterogeneous string (*French*) 9-7317
- wedge, 3-dimens., functional equations of static elasticity theory (*Russian*) 9-46203
- Al-Mg, elastic and anelastic props. in relation to Guinier-Preston zones, US investigation (*French*) 9-38833
- C and graphite, mechanical props., high temp., review 9-38897
- C fibre reinforced plastics, angle ply specimen, calc. of strength and elastic response 9-20108
- C fibre reinforced plastic, stress analysis of butt strap joint 9-43300
- Cu-Be, elastic interaction energy calcs. for Guinier-Preston zones 9-11617
- Cu-Zn single crystal, pseudoelastic effects 9-47739
- Fe based amorphous alloys, Invar effects, mag. and elastic props. (*Japanese*) 9-20100
- Fe-Al, single crystal, twinning and pseudoelasticity 9-15718
- KDP crystal, third-order moduli of elasticity 9-46737
- Ni electrodeposition from alkaline citrate electrolytes, coating impurity quantities and props. (*Russian*) 9-8252

elasticity of liquids

see also compressibility of liquids
 acoustic levitation technique appl. 9-44906
 p-p'-dibutyl-azoxybenzene, nematic liq. cryst., elasticities and viscosities, light scatt. meas. 9-4245
 ferroliquids, phenomenological theory 9-16042
 4-methoxy-4'-azoxybenzene, nematic liq. cryst., elasticities and viscosities, light scatt. meas. 9-4245
 nematic liquid crystal layer, twisted, elastic deform. energies and reverse twist domains 9-37617
 nematic liquid crystals, temp. dependent props., twisted nematic displays 9-32901
 pentylycyanobiphenyl, nematic, elastic and dielec. props. from capacitance-voltage curve 9-32894
 Ar, liq., elastic modulus and stress relaxation 9-19304

elasto-optical effects *see photoelasticity; piezo-optical effects*

elastomers

see also rubber
 butadiene acrylonitrile copolymer, raw elastomer, containing crosslinked particles, flow behaviour 9-37359
 butadiene acrylonitrile elastomers, props. in glass transition range (Polish) 9-42223
 epoxy-polyglycol elastomers, fracture strength under compression 9-38929
 filled, swollen state, network density determ. from stress/strain meas. 9-34112
 filled, unfilled, Poisson ratio, dilatometric method 9-11733
 lubricated elastomers in contact with regularly spaced sliders, frictional dynamics 9-20213
 O-rings for service in hot water, evaluation 9-29257
 polyisobutylene-glass adhesion bond, macroscopic contact form. 9-39113
 relaxation processes, statistical description (Russian) 9-23229
 silastene seal, easily demountable for cryogenic appl. 9-207

elastoplasticity

acceleration wave reflection in elastic-plastic medium 9-7331
 bar, elastic-plastic cylindrical, Lipschitz character of stress tensor during twisting 9-46221
 bars, cylindrical and prismatic, stochastic, holonomic, elastoplastic torsion (German) 9-37192
 bars, instability modes (Russian) 9-10514
 beam columns and frames incremental anal. 9-3925
 beams, elastoplasticity, flexural motion, finite element anal. 9-46223
 beams, inelastic response, elasto-plastic transition effect 9-32300
 bifurcation of deform. process and postcritical behaviour of plate model (Ukrainian) 9-41587
 circular bar, tension and torsion 9-14285
 circular plates, nonlinear behaviour, equilib. eqns. 9-14279
 clay, consolidation model, finite element anal. 9-18732
 composite materials, laser beam determination, of elasticity-compressibility modulus, during compaction 9-43542
 continuous casting cylindrical ingot, development of elastic-plastic temp. stresses and deformations (Russian) 9-29151
 crack growth, elastoplastic finite element anal. 9-46260
 crack movement, isothermal conditions, heat liberation, finite element method (Russian) 9-27583
 crack opening and plastic zone size depend. on stress state 9-14348
 cylinder compression at small elastico-plastic deformations (Russian) 9-10497
 cylindrical shell under internal press. elastoplastic nonhomogeneity 9-37196
 defining relations for media whose elastic props. vary with plastic deform. and temp. 9-18751
 elastic-plastic deformation stress-strain anal., parametric linear programming method 9-37194
 elastic-plastic frames, deformation anal. Monte Carlo technique 9-7295
 elastic-plastic solids, crack tip deformation and fracture 9-27591
 elastic-plastic structure, shakedown anal., incremental procedure 9-23219
 elasto-viscoplastic thermal stress model, appl. to continuous casting of metals 9-18740
 elongation, dynamic, of material, stress/strain curve up to scabbing, meas. method 9-7348
 equilibrium stability, Timoshenko's method (Russian) 9-10504
 existence and regularity of the solutions of plasticity equations (French) 9-21551
 fibre reinforced composite with viscous matrix, random stresses in components, laws of distrib. 9-23226
 fibre reinforced composites, thermal cycling, elastoplastic strain calc. under action of external stresses (Russian) 9-38896
 finite deformation elastoplasticity, strain measure decomposition 9-23223
 flawed elastoplastic structure, method of lines applied to crack problem 9-46259
 fracture, estimation of load required to start a crack (Russian) 9-14346
 fracture and yield conditions elastoplastic solid 9-14344
 fracture mechanics, elasto-plastic, critical assessment 9-38943
 fracture mechanics, plasticity, finite element anal., review 9-41612
 frames, elastoplastic anal., uniqueness 9-7297
 glass (roving cloth) fibre reinforced plastics, yielding behaviour of plate with circular hole (Japanese) 9-8323
 hybrid-stress models for elastic-plastic analysis by the initial-stress approach 9-32288
 inhomogeneous viscoelastoplastic media, wave propagation (Russian) 9-32337
 linear models of frequency-independent internal friction (Russian) 9-18834
 longitudinal shock-waves in an elastoplastic medium (French) 9-46249
 metals, hardening response in small deform. 9-47719
 metals with mixed hardening, finite element anal. of elastic-plastic materials 9-27543
 multi-axial stress states, elasto-plastic stress-strain relationships 9-1115
 multilayer cylinder with monolithic insert, exptl. study of stress/strain state 9-42139
 non-associated plasticity, dual extremum principles in rate boundary value problems 9-25845
 nonlinear behaviour in 1- and 2-dimens., elastoplastic hysteresis, flow and relaxation (French) 9-46229
 notch tip stress distrib. in strain hardening material 9-3927
 notched plates, fatigue life estimation based on elastoplastic anal. (Japanese) 9-18814
 plasticity equations, new functions framework (French) 9-21549
 plate, elastic-perfectly plastic, dynamic hole expansion 9-46234

elastoplasticity continued

plate, relaxed by holes, elastic-plastic deformation, stress state (Russian) 9-27545
 plate, round, elastoplastic, plastic flow stability (Russian) 9-32293
 plate, slim, relaxed by round orifice system, elasto-plastic problem (Russian) 9-32292
 plates, inelastic response, elasto-plastic transition effect 9-32300
 plates and shells, elastic-plastic, cyclic loading anal. variational method 9-37198
 portal frame, elastic-perfectly plastic behaviour under column axial force variations 9-7296
 prismatic bars, elastoplastic torsion by quadratic programming, finite element scheme 9-32251
 rectangular parallelepiped compression, small elastoplastic deformation, variation anal. (Russian) 9-32294
 rhomboidal steel panel, elastoplastic stress and strain diffusion 9-20128
 rods, quasi-bifurcation within axial plastic compressive wave 9-10513
 rotating disks, elastic and elasto-plastic, with temp. gradient, stress distrib. determ. (Italian) 9-41633
 shear joint, discontinuous, holonomic elastoplastic anal. (German) 9-1117
 sheet metal stamping, finite element anal. 9-7344
 shell structures, elasto-plastic analysis 9-3926
 shells, internally pressurised 2:1 ellipsoidal, elastic and elastic-plastic buckling 9-37206
 stability of elastoplastic half-space around spherical cavity, rock deformation appl. (Russian) 9-27551
 steel, austenitic stainless in liq. Na, mechanical props., review 9-20150
 steel, Cr-Ni-Mo-V, plate, type HY130, exam. of elastic-plastic R curve 9-29157
 steel, electric arc sprayed coating on wire, elastic and elastic-plastic props. (German) 9-34089
 steel, stainless, 304, beam, elastic-plastic response to impulse loads 9-34118
 steel A533A, review of data in reln. to fracture toughness at upper shelf temp. 9-15797
 stress analysis in elasto-plastic media using birefringent coatings (French) 9-18846
 stress distrib. in array weakened by biperiodic system of holes (Russian) 9-46228
 structures at shakedown, maximum deflections, improved upper bound 9-27547
 theory, thermodynamic restrictions 9-3924
 theory of cracks, elastoplastic solns. special characts. (Russian) 9-32375
 thermal loads in elastoplastic stress finite element anal. 9-46225
 thermoelastoplastic 3-D problem formulation by integral eqns. 9-7292
 thin plates, limit load and elasto-plastic bending, finite element anal. 9-27544
 U-shaped bellows design, low cycle fatigue life, elastoplastic anal. 9-37247
 velocity discontinuities, variational formulation of boundary-value problems (French) 9-32284
 viscoplastoelastic material, plane wave propagation anal., upon shock loading 9-14336
 wave propagation in half-plane generated by supersonic variable load (Russian) 9-10526
 wire, locked coil rope, limiting moment calc. in torsion 9-10507
 Al alloy 7075-Tb, coldworked fastener holes, elastic-plastic boundary layer determ. 9-34066
 Al beam, exam. of elastoplastic contact strength law, using impact bending (German) 9-43365
 Fe, cast, grey, electric arc sprayed coating on wire, elastic and elastic-plastic props. (German) 9-34089
 Fe-Ni (15, 25 at.%), longitudinal forces in the hot torsion test (German) 9-38889
 Mo, electric arc sprayed coating on wire, elastic and elastic-plastic props. (German) 9-34089

elastoresistance

TTF-TCNQ and related cpds., elastoresistivity 9-23956
 Bi, film, evaporated, elect. and elastoresistance props. 9-33367

ELDOR

No entries

electrets

see also dielectric devices; electrostatics; photoelectrets; thermoelectrets
 discharge theory 9-11380
 glass properties obs., bonded, under corona discharge and electron irradiation conditions (Russian) 9-4759
 polyethylene terephthalate electrets, TSC due to injected charges, electron trapping props. 9-4566
 Ag₃SbS₃, pyrragrite, order-disorder phase transition and elec. polarisation 9-38468
 LiNbO₃:Fe, electron irradi., photoinduced charge transfer and hologram recording 9-36859

electric actuators

electromechanical actuator, vibr. linearisation of mag. hysteresis charact. (Russian) 9-12789

electric admittance

electrolytes, in ethylene carbonate viscosity and conductance meas. at 40°C 9-28122
 lipid bilayer membranes, pancuronium inactivation of alamethicin-induced conductance 9-39189
 optical cavity, one-dimens., with output coupling, thermal radiation, fluctuation-dissipation theorem 9-978
 SCLC diode with traps, small-signal admittance in high freq. range, negative conductance 9-11221
 semiconductor, surface-state props., using field effect anal. 9-24053
 Au surface, iodide ion adsorption, depend. on electrode crystallographic orientation, admittance pot. curves 9-15020

electric amplifiers *see amplifiers*

electric arc welding *see arc welding*

electric arcs *see arcs (electric)*

electric breakdown

see also electric breakdown of gases; electric breakdown of liquids; electric breakdown of solids
 discharges growth in short point-plane electrode systems, critical survey 9-4206
 PWR containment vessel wall electrical penetration tests (Japanese) 9-6747
 Van de Graaff generator terminal discharges, transient radial elec. field in breakdown channel 9-22501

electric breakdown of gasessee also *electron avalanches*

air, formative time lag rel. to gap geometry, pressure, and overvoltage 9-18994

air, microwave breakdown field calc., resonator and rectangular waveguide expt. 9-41789

air, ionized, enhanced light emission from positive corona 9-37568

air positive point-to-plane corona, continuous and pulse components 9-19119

crossed mag. field, characts. prediction 9-32839

detonation products in discharge gap, electric breakdown 9-10736

electron neutral collision frequency from breakdown measurements in crossed electric and magnetic fields 9-14517

electrostatic precipitators, air temp. influences on negative corona integral characts. (Russian) 9-41892

flame, ruby laser-induced gas breakdown thresholds 9-1951

high press. gas discharge prebreakdown processes, electrode surface inhomogeneity effects 9-14628

highly ionised gas flow, local elec. breakdown criterion 9-41894

insulators, initiation and propagation (Japanese) 9-19837

laser beam with retractable focus, ionis. path form. in gases 9-18992

microwave breakdown in gases, Schwinger variational principle 9-41788

weakly ionised gas, low threshold optical breakdown 9-27860

Ar high press. gases, laser spark, breakdown and radiation supported shock waves 9-32791

Ar, laser-induced gas breakdown, wavelength depend. meas. of threshold 9-41895

H, laser-induced gas breakdown, wavelength depend. meas. of threshold 9-41895

He, laser-induced gas breakdown, wavelength depend. meas. of threshold 9-41895

Kr, laser-induced gas breakdown, wavelength depend. meas. of threshold 9-41895

N₂ discharge, flowing, electron-beam maintained, cathode shape effects 9-27850N₂, electric breakdown in long high-voltage gaps with gamma and alpha particle irradi. 9-18993N₂, formative time lag rel. to gap geometry, pressure, and overvoltage 9-18994N₂-O₂ gas mixtures, elec. breakdown voltage, 113-293K 9-1363N₂-O₂ gas mixtures, highly transient gas discharges, obs. 9-37562O₂, formative time lag rel. to gap geometry, pressure, and overvoltage 9-18994SF₆ breakdown at moderate temps., investigation 9-27863SF₆, elec. discharges, expt. (German) 9-10726SF₆ electric strength as statistical charact. (Russian) 9-41787SF₆, electron beam irradi., delayed elec. breakdown 9-4200SF₆, laser-induced gas breakdown, wavelength depend. meas. of threshold 9-41895SF₆-gas mixtures 9-37438**electric breakdown of liquids**

dielectrics, magnetic field effect on breakdown voltage 9-42894

insulators, initiation and propagation (Japanese) 9-19837

mineral oil in large gaps, electric strength study 9-38452

polymeric dielectric materials exposed to partial discharges, degradation product anal. 9-4765

N₂ electric strength determination 9-38451**electric breakdown of solids**see also *impact ionisation; partial discharges; Zener effect*

alkali halide, DC breakdown strength at room temp., calc. 9-24260

alkali halide crystal, activator centres, excited state transitions, bleaching dynamics 9-4527

alkali halides, laser induced damage (Russian) 9-43070

alkali metal halide optical breakdown, multiphoton carrier generation theory 9-19953

insulators, initiation and propagation (Japanese) 9-19837

metal-dielectric-semiconductor structure, ponderomotive force effect on dielec. breakdown 9-15230

numerical method for computing the electrical stress in dielectrics 9-4767

Plexiglas, spark energy balance 9-23474

polycaprolactam film, subjected to 9 kV elec. discharge, X-ray obs. (Russian) 9-23536

polymeric dielectric materials exposed to partial discharges, degradation product anal. 9-4765

semiconductor devices, breakdown voltage, temp. effects 9-7882

Al₂O₃, anodic oxide films on superpure Al, growth kinetics and UV radiation effect, breakdown voltage 9-34190Al₂O₃, DC reactively sputtered, in MIS structs. optical and elec. props. 9-19486Al₂O₃ insulators, surface treatment with Mn-Ti, effect on voltage-holdoff in vacuum 9-24261BaTiO₃ films, ferroelec., effect of elec. field on dielec. props. 9-33642Bi₂O₃ anodic film form. on Bi, electric breakdown 9-20377

n-Ge, impurity breakdown field, temp. depend. 9-24263

KBr whiskers, electric breakdown mechanism 9-28679

KCl, spark channel, plasma light absorpt. coeffs. 9-7501

MgO, defect aggregation and thermal-electric breakdown, TEM obs. 9-42069

MgO, elec. field effects on cond. above 1300K, elec. breakdown 9-42551

Ni, anode, oxide growth, effect on breakdown voltage and efficiency 9-4766

NiO films, on Ni (100) electrodes, oxide defect sites role in breakdown 9-43587

PLZT, Sn substituted, antiferroelectric ceramics research and their applications (Chinese) 9-33617

Pb(Zr,Ti)O₃ ceramics, shock depoling, pulse charging of nanofarad capacitors 9-42913

Si p-n junction, unified approach to breakdown phenomena 9-42630

SiO₂ film, from oxidation, in dry O₂ and H₂O ambients, initial oxidation regime obs. 9-29240**electric cables** see *cables (electric)***electric capacity** see *capacitance***electric cells** see *cells (electric)***electric charge**see also *space charge*

capacitor, charge difference phenomena (German) 9-36810

cosmic systems charge polarisation, appl. to stars and universe 9-48771

cosmology of charged universe 9-25766

electric charge continued

differential photoelectric charging of nonconducting surfaces in space 9-25439

double layer, aqueous, at charged plane interface, theories comparison 9-34317

droplet, EHD produced, specific charge and size 9-32696

equivalence charge concept, appl. to electrostatic energy of charges and multipoles 9-18323

fractional charge, $1/3e$, expt. determ. on Nb sphere 9-21694

Hertz Quincke effect 9-36808

lightning stepped leader, excess charge distrib. rel. to return streamer EM radiation 9-8652

static electricity, charge neutralisation on moving filament (Russian) 9-7876

electric coils see *coils***electric condensers** see *capacitors***electric conductance** see *electric admittance***electric conduction processes** see *electrical conductivity***electric conductors** see *conductors (electric)***electric connectors**see also *cable jointing*

hybrid fibre optic/electrical connector, environmentally sealed, multispin, cylindrical 9-41457

vacuum feedthrough, Burndy, bakeable 300°C quick contact 9-40582

vacuum leadthrough, heavy duty, for vapour deposition resistively heated box sources 9-40584

electric control equipmentsee also *controllers; electric actuators; electric sensing devices; switches; telecontrol equipment; telemetering equipment*

electrostimulator three-mode control unit 9-20693

electric control gear see *electric control equipment***electric current**see also *arcs (electric); corona; critical currents; current density; current distribution; current fluctuations; eddy currents; electrojets; leakage currents; short-circuit currents; sparks*

horizontal electric wire source of arbitrary length, EM fields 9-27130

ionosphere, current collection by long wire in near-Earth orbit 9-25438

lightning, return stroke current and vel 9-25306

solar wind, thin layered field aligned currents distrib. 9-12375

electric current control

Pt 9-48340

electric current measurementsee also *ammeters; galvanometers*DC, 10⁻³ to 10⁻¹¹ A range, portable picoammeter/teraohmmeter 9-17441

DC Josephson current meas., automatic recorder 9-17444

double constant current source, for cyogenic current comparators, appls. 9-21775

electron beam current meas. fast response magnetic loop current monitor 9-35791

low currents, instantaneous capacitor discharge, errors and nonlinearity 9-6142

maintenance, renovation and repair procedures for multimeters including Avo model 8 9-35795

PTFE film capacitors in low DC meas. ccts., temp. effects 9-6141

pulsed corona meas. in coaxial electrode structures 9-19114

quantum current-frequency converter using optical orientation of ¹³³Cs (Russian) 9-10275

RMS, true value meas. methods, appls. (Italian) 9-21767

shunt heated by current pulse, iterative method for overcoming errors 9-21766

electric discharge machining see *spark machining***electric discharges** see *discharges (electric)***electric distortion**see also *fading*

AM/FM radio signal diffraction in homogeneous dispersive medium, space time geometric theory 9-4149

electric domain walls

boracites, spontaneous birefr., meas. and appl., statics and dynamics of domains and walls 9-15434

ferroelastic-ferroelectric crystals, rel. to appl. in electronic micropositioning 9-17392

ferroelectric materials, repolarisation in SEM 9-15424

TGS, ferroelec., domain wall orientations and domain shapes 9-38508

TGS, pure and doped, thermal diffusivity, domain wall thickness determ. 9-42324

TGSe, ferroelec., domain wall orientations and domain shapes 9-38508

triglycine selenate, sideways velocity anisotropy 9-8108

BaTiO₃/Mn, ferroelec. domain stabilisation by bulk ordering of defects 9-42925BaTiO₃, ferroelec., reduction of hysteresis losses 9-42926BaTiO₃, single crystals, electron microscope study of domain and defect structs. 9-15425CsH₂PO₄, domain obs. in paraelectric phase 9-24277LiNbO₃, damping of LF elastic vibrs., internal friction meas. 9-28043

PLZT, fine grained 90° electric domain wall movement, interpretation of dielectric losses (German) 9-33646

PLZT, transparent, optical exam. of small signal behaviour, of 90° electric domain walls (German) 9-33645

SbSI, single- and poly-domain, complex permitt. and dielec. relax. losses 9-28699

electric domainssee also *electric domain walls; ferroelectric materials*

acceleration waves in elastic dielectrics with internal state variables 9-47396

boracites, spontaneous birefr., meas. and appl., statics and dynamics of domains and walls 9-15434

ferroelec. crystal, Barkhausen effect study 9-38507

ferroelectric, collinear, domain struct. changes on switching, liq. cryst. visualisation (Russian) 9-33648

Gunn diode, domain instability at near-critical dopant conc. 9-23980

Gunn diodes, domain instabilities in transverse mag. field 9-23981

multivalley semiconductor, domain instability, two-beam model 9-47116

TGS, alignment on domains of nematic liq. cryst. 9-38506

TGS, correlation between domain struct. and dielec. props. 9-42927

TGS, ferroelec. crystal, Barkhausen effect study 9-38507

TGS cleavage faces, ferroelec., oriented growth of Te 9-38509

electric domains continued

TGS crystals, thermal props., γ -radiation defects and inhomogeneity of domain deposition 9-46810
 TGSe, low freq. dielec. dispersion near Curie point 9-38432
 triglycine selenate, coercive field calc. using two-dimens. domain growth model 9-8108
 uniaxial ferroelectrics, domain formation during second order phase transition 9-38505
 BaTiO₃, domain struct., formation at phase transitions 9-38510
 BaTiO₃, ferroelec., X-ray diffr. topographic study of polarisation reversal 9-38442
 BaTiO₃, piezoceramic, nonlinear piezoeffect 9-42900
 BaTiO₃, single crystals., electron microscope study of domain and defect structs. 9-15425
 CdS, domain elec. instabilities, elec. field and temp. distrbs., optical meas. 9-11405
 n-Ge:Ni, negative differential conductance of surface channels 9-11134
 KH₂PO₄, differential γ -ray diffractometry, exam. of ferroelectric-ferroelastic cryst. in cyclic fields 9-38511
 KH₂PO₄, struct. memory effects in low temp. changes 9-28700
 KH₂(SeO₃)₂, ferroelastic, low-frequency elastic props., -190 to 50°C 9-37759
 K₂Mn₂(SO₄)₃, optical and dielectric props. 9-11403
 NH₄Cl, order-disorder phase transform., effect of plastic deform. and electro-optic effect 9-33672
 NaH₂(SeO₃)₂, ferroelec. crystal, Barkhausen effect study 9-38507
 PLZT ceramic with memory, domain reorientation, alternating elec. field effect 9-47405
 PLZT ceramics, photoferroelectric effects, image storage device appl. 9-42924
 PLZT composition, effect on its switching characts. 9-42917
 Pb₂KNb_{5-x}Ta_xO₁₅, ferroelastic-ferroelectric coupling, dielec. props. 9-38433
 PbNb₂O₆, surface (001), microstruct. obs. by optical, etching, and interferometric techniques 9-11399
 PbTiO₃, crystals., X-ray investigation of 90° domain struct. 9-15426
 PbTiO₃, domain struct., formation at phase transitions 9-38510
 PbTiO₃, mechanical twinning, spontaneous polarisation shielding 9-42930
 PbTiO₃, spontaneous polaris. shielding destruction by polishing and scribing 9-15427
 Pb(Zr,Ti)₃O₉, piezoceramic, nonlinear piezoeffect 9-42900
 Pb(Zr,Ti)₃O₉, polarisation effect on deform. and strength, Curie pt. region 9-42902
 Rb₂Cd₂(SO₄)₃, pyroelectric and dielectric props., ferroelectric transitions 9-38458
 Rb₂ZnCl₄, incommensurate phase form., domain struct. near phase transition, NQR obs. 9-33643
 SbSI, ferroelec. semicond., influence of internal fields on polarisation reversal process 9-38443
 VO₂ needles, switching, rel. to voltage oscills. 9-15199

electric double refraction *see electro-optical effects*

electric field effects

see also acoustoelectric effects; discharges (electric); electrical conductivity; electro-optical effects; electrochemistry; electrodynamics; electrokinetic effects; electroluminescence; electromechanical effects; electromigration; electron field emission; electrophoresis; field emission ion microscopy; field evaporation; field ion emission; field ionisation; high field effects; magnetoelectric effects; particle optics
 aerosol particles, β -active, electrification, in external elec. field, influence of stopping power of gaseous medium 9-20473
 colloids, electrostabilisation effect in elec. field 9-39210
 crystallisation, comp. control of crystals, grown in elec. and mag. fields 9-33920
 dielectric fluids vapours condensation, heat exchange obs. (Russian) 9-1055
 doubly rotated α -quartz plate vibration, polarising effect 9-14186
 EPR method of appl. strong electric fields at low temp. 9-21792
 fluid, promotion of combustion, vaporisation, and heat transfer 9-20370
 glass, particle size influence on force moving particle in inhomogeneous elec. field, influence of field frequency 9-11795
 n-hexane, geminate ion scavenging yield, external elec. field effect 9-47909
 ice crystals, epitaxial, influence of environmental saturation and elec. field on growth and evaporation 9-42408
 impulse discharge treatment, of machine bearings coatings, wear resistance improvement (Russian) 9-1917
 insulating liquid, small air bubble formation, under strong nonuniform electric field 9-46373
 MBAB:cholesterlyl chloride, thickness depend. of threshold elec. field for instabilities 9-32896
 MBBA, nematic phase, effect of elec. field on flow alignment angle 9-10792
 metal-liquid insulator interface, in presence and absence of applied elec. field 9-19429
 nuclear emulsion type BA-2, pulsed electric field effect on cosmic ray detection 9-26829
 polyethylene, elec. field effect on positron annihilation 9-4868
 polyethylene, structural changes induced by high elec. field (Japanese) 9-23532
 quartz crystals, Bragg reflection enhancement due to X-ray irradiation under high elec. fields 9-14643
 secondary electron emission near dielectric-metal interface 9-38697
 spacecraft charging, positive ion beam system for charge ejection 9-12379
 TGS-type crystals:C³⁺, radiospectroscopic studies, elec. field effects on EPR. EM EPR 9-15341
 thermoelastic solids, field-matter interactions, book 9-30270
 weakly conducting fluid, separation by thermal diffusion in elec. field (Russian) 9-16117
 GaAs layers, grown by electroepitaxy and LPE, surface morphology 9-19478
³He, B-phase, superfluid, orientational electric field effect 9-46868
 n-InSb, acoustoelectronic interaction, effect of alternating electric field 9-11188
 NbSe₃, incommensurate CDW, X-ray scatt. and elec. field studies 9-42471
 Si, inclusion type defects removal from bulk of single cryst. by elec. fields 9-43126

electric field measurement

see also field plotting
 cylindrical electrode under corona discharge, elec. field intensity meas. 9-23473
 in finite heterogeneous biological bodies, using insulated elec. field probe 9-2170
 interference electron microscopy, for elec. field distrib. meas. 9-17567
 ion analyzers for DC electric field and ion temp. meas. 9-21147
 magnetosphere, quasistatic elec. fields meas. between 3-7 R_E 9-29942
 microfields meas. with SEM attachment 9-2789
 microwave mapping of near-field pattern in simulated biological tissues 9-39445
 ocean, baseless method of electric field meas. (Russian) 9-39900
 ocean electric field measuring system equivalent base for rectangular fairing (Russian) 9-34988
 passive probe for free atmosphere electric field meas. 9-8710
 probes, widebandedness, influence of parasitic resonances (Polish) 9-2783
 semiconductor surface potential distrib. meas. using mirror electron microscope 9-35784
 static probe for electric field meas., in presence of space charge 9-17448
 transient fields, measurement using electrostatic field meter of Smith type 9-21723

electric field strength measurement *see electric field measurement*

electric fields

see also electric field effects; electric field measurement; electromagnetic fields; electromagnetic waves; field plotting
 in composite dielectric arrangements, field behaviour near singular points 9-31763
 conducting emitter, surface elec. field (Russian) 9-10242
 between conical electrode with hyperboloid end and earthed plate, mathematical formulation (Czech) 9-27125
 dissipative media, field strength by equivalent cct., for teachers 9-40319
 electrostatic, two-dimensional, computerised solution using Sander's function 9-878
 electrostatic fields, finite element anal., element function shape geometry (Polish) 9-3609
 excitation of conductive body, covered with thin dielectric layer, integral equation solution (Russian) 9-18322
 geomagnetic tail, electric field of a time-dependent Alfvén-type neutral sheet 9-25403
 interacting gravitational and electron fields, Hamiltonian formulation, canonical form 9-17301
 interfacial entropy, elec. and mag. interfacial polarisation (French) 9-7050
 interplanetary magnetic holes, plasma sheath elec. field 9-29961
 ionosphere, electric fields and currents generated by field-aligned currents, TRIAD obs. 9-40013
 lightning leader stroke model, electric field strength computation (Czech) 9-5554
 magnetopause, tangential electric field, three-dimens. energetic ion obs. 9-40038
 magnetosphere, GEOS-1 meas. of electric and magnetic wave fields and cold plasma parameters 9-48620
 magnetosphere, ISEE-1 electric field meas. results 9-40037
 plane meridional, between equipotential electrodes, analysis (Russian) 9-45880
 polar cap electric field structures with a northward interplanetary magnetic field 9-44305
 pulsars, elec. fields rel. to amplified linear accel. radio emission 9-8936
 solar wind, bow shock, magnetosheath, magnetopause and magnetosphere, ISEE meas. 9-40053
 stars, elec. fields, accretion and stellar winds in He rich atmospheres 9-48772
 three dielectric media image method for potential eqn., discussion and reply 9-3610
 two dimensional, computerised shape investigation (Czech) 9-27126
 variation during low solar activity (Japanese) 9-40032

electric filters *see filters*

electric furnaces

electrothermal atomiser using graphite braid, for at. absorpt. spectrosc. 9-34377
 heat propagation in plane wall, temperature dependence on time and spatial coordinates 9-1054
 low-inertia reverb. furnace for alloy phase transforms. study by mag. method 9-2771
 optical cuvette, high temp., for transmission spectra meas. over 2-13 μ m, 300-1600K ranges 9-2839

electric generators

see also magnetohydrodynamic converters; turbogenerators; Van de Graaff generators
 radioisotope power generation, radiation techniques and technology development in the Soviet Union 9-685
 wave energy conversion, directly driven generator design constraints 9-43725

electric glow *see corona*

electric heaters *see electric heating*

electric heating

see also domestic appliances; drying; electric furnaces; heating elements; induction heating; ovens; radiofrequency heating; space heating
 resistance thermometer sensor overheating, influence of meas. current (Russian) 9-26053
 utilization for energy conservation, review 9-24884

electric heating elements *see heating elements*

electric ignition

No entries

electric impedance

see also electric reactance; electric resistance
 electric field probe, dielec. insulated, for field meas. in finite heterogeneous biological bodies 9-2170
 MBBA film, homeotropic nematic cell, subjected to ultrasound, impedance variations 9-41948
 metal electrodes, impedance props., chronic recording from mammalian nerves 9-12043
 piezoelectric transducer, eqn. for energy balance of piezoelec. medium 9-28684
 polymer solutions, mol. diffusion coeff. meas. using impedance meas. technique 9-23328
 semiconductor diode, layer, HF characts. 9-7886
 skin impedance, Laplace plane anal. 9-39458

electric impedance continued

- skin impedance parameter dispersion and correlation 9-29518
thin conducting films thickness meas. by skin impedance method 9-35673
thoracic, model for cardiac-associated changes in man 9-25128
thoracic electrical impedance sensitivity to blood volume changes 9-34543
Al-CdS-Au structure, interfacial phenomena, complex impedance meas. (French) 9-42668
GaP, n-, p-type, electrode, impedance in alkaline medium (French) 9-43586
Mo, RF surface impedance, new type of oscills. 9-15070
Nb film, superconducting surface impedance 9-24110
Nb, supercond., surface resistance derivative meas. for annealed and unannealed crysts. 9-33395
Nb₃Sn, vapour deposited, supercond., surface resist. and penetration depth 9-33392
PbO₂(Pb) electrode, anodic impedance during suspension-electrolysis leaching of β -ZnS in 1N H₂SO₄ soln. (Japanese) 9-43594
Pt microelectrode potentials and small-signal impedances 9-34716
Pt/Y₂O₃-ZrO₂/Pt cell, Faradaic reaction kinetics, impedance dispersion anal., electrode/electrolyte interface process 9-11798
Si:Zn, P⁺-n-n⁺ struct., deep doubly ionized centres, impedance calc. 9-11202
Sn thin-film superconducting bridge microwave impedance anomalies 9-7942
W microelectrode potential and small-signal impedances 9-34715
W, RF surface impedance, new type of oscills. 9-15070

electric impedance measurement

- see also *electric reactance measurement; electric resistance measurement*
disc impedance meas. and US transducer CAD program 9-46157
meter, high-speed, for electrochem. system obs. 9-30490
natural VLF antenna, Deception Island, impedance meas. 9-48399
radiating magnetostriuctive transducers, impedance determ. 9-32173
skin, human, circuit 9-20607
transthoracic impedance curve processing, patient-computer interface 9-34686

- Se photoconductive layers, impedance-freq. characts. meas. (Japanese) 9-38120
ZnO-resin photoconductive layers, impedance-freq. characts. meas. (Japanese) 9-38120

electric locomotives

- aerodynamic noise generated by high speed electric train 9-18591
traction motor, circuit fault detection by NDT method 9-39097

electric machine analysis computing

- magnetic field computation, conference, Grenoble (1978) 9-41262
slotted boundary machine field soln., conformal transformation and integral methods 9-41272

electric machine theory see *machine theory***electric machines**

- see also *electric generators; electric motors; machine bearings; machine theory; rotors; small electric machines; superconducting machines*
nuclear power plant machinery surveillance and diagnostics automation 9-641

electric moments

- see also *atomic electric moment; molecular moments; nuclear electric moment*
1,1-difluoroethylene, dipole moments in ν_4 and ν_9 states 9-36694
equivalence charge concept, appl. to electrostatic energy of charges and multipoles 9-18323
fermions, information from potential scatt. (Russian) 9-5998
neutron, dipole moments and spin rot. meas. 9-36080
particles with anomalous moments, motion in external EM field (Russian) 9-9321
polar liquids soln., mol. electric dipole moments, extrapolation formula 9-38437
Reissner-Nordstrom gravitational field, electric dipole (Russian) 9-21611
SU(2)×U(1) gauge theories of leptons, T violation, leptonic decay and dipole moment 9-299
unstable particles in electric field, physical meaning of Zel'dovich dipole moment 9-36594
 μ^\pm , anomalous mag. moment, elec. dipole moment, and test of relativistic time dilation 9-45088
 π photoproduction on N, multipole $E_{1+}^{(3/2)}$ and its double zero at reson. $\Delta(1232)$ 9-40790

electric motors

- see also *a.c. motors; d.c. motors; linear motors; stepping motors*
ball bearing electric motor, for teachers 9-21488

electric networks see *networks (circuits)***electric noise measurement**

- semiconductor in nonlinear region, spectral noise meas. between 30 and 400 MHz, pulse technique device (German) 9-47134
SQUID noise thermometer, future of superconducting instruments in metrology 9-26020

electric potential

- see also *contact potential; overvoltage; surface potential; voltage control; voltage measurement*
capacitor, charge difference phenomena (German) 9-36810
charged particles, equilibrium space distrib. (Russian) 9-22887
conducting plane, infinite, nonuniform, with radial conductance distribution, calc. (Russian) 9-7051
ion cyclotron resonance cell, elec. pot. improvement 9-2875
membranes, mosaic, charged, thermal membrane pot. 9-34358
metallic films, vapour deposited on polymer, ageing, adhesion, elec. cond., electrochem. pot. (Russian) 9-33362
phosphate ester, electrical prop. rel. to lubrication 9-38150
potential theory, higher-order approximations for integral eqns. 9-22877
rocket carrying electron gun, electrical potential determ. device 9-21146
rotation induced electromotive forces in normal and superconducting metals 9-24120
satellite charging at geosynchronous orbit during eclipse 9-16792
thick ellipsoidal coil and ferromagnetic ellipsoid system, vector potential 9-41269
AgBr crystals, electrical potential distrib. near interface, recording using automatic device 9-24759
Ba₁₀₀Ti₉₉-0.3 at.%Sb, intergranular capacitor, effect of microstructure on electrical props. 9-34160
Hg-electrolyte interface, polarizable, dynamics of double layer 9-24756
In-Hg amalgam, EMF meas. of In/InCl₃/amalgam cell and thermodynamic quantities 9-33999

electric potential continued

- Na-Sn liq. alloys, thermodynamic props. by EMF meas. with β -Al₂O₃-Ba₂ electrolytes 9-19379
ZrO₂, electrochemical cells for O₂ sensing, EMF oscills. 9-47999

electric power generation

- see also *direct energy conversion; power stations; wave power generation*
alternative resources exploitation, cost analysis 9-48041
coal underground conversion, integrated fuel-generation and power-generation concept, using electrochemical engines 9-48053
coal-based, alternative processes development, IEA activities 9-48064
developing countries, rural electrification, energy economics and national policies 9-48042
energy strategy, soft vs. hard energy technologies, review 9-24885
fission product decay heat appl. to electrical energy and H₂ production 9-18005
fusion reactors, light nuclei fusion of charged particles 9-18032
H-coal products appl. 9-48056
marine structures for energy conversion 9-43712
ocean thermal energy conversion, Early Ocean Testing Platform siting considerations 9-5506
ocean thermal energy conversion, status and prospects 9-5502
radioisotope-powered photovoltaic generator 9-22495
wastes treatment and disposal, technological and economic aspects 9-48066
worldwide energy prospects, synthesis of studies published in 1976 and 1977 (French) 9-29443

electric reactance

- see also *capacitance; inductance*
No entries

electric reactance measurement

- see also *capacitance measurement; inductance measurement*
inductance bridge measurement methods and formulae for calculating inductance 9-44920

electric relays see *relays***electric resistance**

- quantum transport effects in DC elec. resistance of solids, review 9-40500
screw-fastened joints for thermal contact at low temperatures 9-35760
Na-S cells, factors affecting S electrode operation 9-29463
Na-S interconnected cell performance 9-29464
Pt anode, impedance behaviour study in β -ZnS suspension-electrolysis leaching in 1N H₂SO₄ soln. (Japanese) 9-24754

electric resistance measurement

- see also *ohmmeters*
20 $\mu\Omega$ to 300 G Ω range, portable meter 9-17441
absolute ohm of ETL, determ. using calculable capacitance standard (Japanese) 9-6137
barrier resistance meas. in multifilamentary composite superconductor 9-30506
CRT tester based on ohmmeter and adapter 9-35711
fundamental ohm determ. by ASMW standardising office, status (German) 9-9221
high-resolution cryogenic resist. bridge using SQUID null det., construction and performance 9-2792
internal resistance of energy source meas., student expt. 9-30176
maintenance, renovation and repair procedures for multimeters including Avo model 8 9-35795
Manganin wire, resistance meas., with cubic-anvil type pressure apparatus 9-44919
quantum transport effects in DC elec. resistance of solids, review 9-40500
RLC bridge, with oscillator and having ten ranges 9-2785
semiautomatic bridge for high-precision DC resistance measurements on pure metals at low temperatures 9-35788
semiconducting ceramic, meas. cell and setup for elec. resist. meas. 300-1400°C 9-30488
solid dielectrics, surface resistivity meas. and calc. 9-1617
standard representative of ohm and volt, January 1977, France (French) 9-26077
strain gauge plethysmograph, automated 2-channel 9-29648
superconducting chopper amplifier for resistance meas., sensitivity and noise calc. 9-12817
superconducting transition meas., contactless, circuitry 9-17442
tenso-resistors, meas. using closed Wheatstone bridge (Russian) 9-12821
weak signal detection, circuits for resistance meas. and temp. control (Chinese) 9-30451
Pt resistance standard capsule thermometer, for 13.81 to 273.15K, two-point calibration 9-206
Si slices, application of capacity gauges (Polish) 9-2784

electric resistors see *resistors***electric sensing devices**

- see also *instruments; measurement*
biochemical sensor devices, review (Japanese) 9-12050
biomedical system control sensors 9-48380
capacitive sensor, characts. linear approximation, in vicinity of working point (Slovak) 9-40547
capacity gauge for resistivity meas. of semicond. slice (Polish) 9-2784
conductivity meter for in situ ocean meas., development, testing and calibration 9-5671
crack growth recording, automatic, elec. resist. method 9-39070
creep curves, multicycle, device for recording at elevated temps. 9-43512
differential pressure transmitter, electronic, design and apps. 9-17435
electronic sphygmomanometer, direct and indirect methods for blood pressure meas. 9-25125
force sensor, inductively coupled, high bandwidth 9-6118
heat flowmeter, battery, heat flux meas. using Kalman filter 9-37143
humidity sensor, based on thin film capacitor, Finnish development of meteorological instruments 9-12310
image sensor, charge coupled device, microscope television for detection and meas. of nuclear emission tracks 9-3290
line sensor used to monitor a distant transducer 9-6145
magnetic displacement sensor (Japanese) 9-12761
magnetic heading sensors, in towed hydrophone location system 9-2401
magnetometer, RF SQUID, construction, geomag. microfluctuation meas. appl. (Japanese) 9-5641
metal-film temp. and vel. sensors and self-propelled research vehicle stability evaluation for ocean turbulence meas. 9-5672
MOS gas sensor for combustible gas and vapour monitoring 9-16104
ocean current sensors, EM-type, performance assessment 9-25345

electric sensing devices continued

oceanographic buoys, electronics and telemetry developments 9-5659
 oceanographic instrument for vel., temp. and cond. microstruct. studies, sensors 9-5669
 offshore oceanographic buoy, telemetering sensors and new mooring design 9-5660
 optoelectronic two-component spirit-level for whole-arm prostheses (*German*) 9-8572
 particle size counter, BaTiO₃ dispersion effects 9-17383
 propane gas detector using SnO₂ doped with Nb, V, Ti, or Mo 9-29426
 rainfall intensity sensor 9-39888
 resistance thermometer sensor overheating, influence of meas. current (*Russian*) 9-26053
 salinity/temperature sensor chain for estuarine meas. 9-5670
 SEM, wet, live and frozen objects, review 9-26183
 semiconductor gas sensors, selectivity to CO and CH₄ 9-34407
 solid-state, for high direct voltages meas. 9-44916
 speed sensing facility, electronically operated 9-30427
 superconducting quantum magnetometer with two-contact sensor, asymptotic characteristics 9-6155
 temperature regulator circuits, using thyristors and triacs (*Spanish*) 9-6115
 thermo-sensors utilizing temperature-sensitive magnetic characteristics (*Japanese*) 9-12790
 thermometer for 0 to 100°C, using Si transistor (*German*) 9-6122
 VMOS transistors used to give linear thermal response characts. 9-9216
 water wave probe, parallel wire type 9-18979
 Hg vapour conc. meter, construction and performance 9-2759
 Si whiskers, as basis for low-temp. sensors of temp. and deformation 9-5095
 ZrO₂, electrochemical cells for O₂ sensing, EMF oscils. 9-47999

electric shielding, nuclear *see nuclear screening*

electric spark machining *see spark machining*

electric sparks *see sparks*

electric strain gauges *see strain gauges*

electric strength

see also electric breakdown
 mineral oil in large gaps, electric strength study 9-38452
 perfluorocarbon compounds, electron attachment obs., dielectric strength 9-36759
 polyethylene, influence of Se on mechanical and electrical strength (*Russian*) 9-11662
 polymers, reduction due to stretching (*German*) 9-43446
 N₂ liq., determination 9-38451
 SF₆ electric strength as statistical charact. (*Russian*) 9-41787

electric susceptance *see electric admittance*

electric susceptibility *see optical susceptibility*

electric transformers *see transformers*

electric utilities *see electricity supply industry*

electric variables measurement

see also attenuation measurement; capacitance measurement; charge measurement; dielectric measurement; electric current measurement; electric field measurement; electric impedance measurement; electric noise measurement; electric reactance measurement; electric resistance measurement; electrical conductivity measurement; frequency measurement; gain measurement; inductance measurement; phase measurement; power factor measurement; power measurement; voltage measurement
 electrostatic force meter, device for underground laboratory 9-17164
 EM meas. and instrumentation, conf., Ottawa, Canada, 1978 9-21731
 hydrostatic pressure cell, up to 90 kbars, appl. 9-17436
 INI-3 measuring system for nanosecond pulses 9-35793
 SQUID appl. to low temperature transport physics 9-26067
 thermoelectric power, liquid metals and alloys 9-40591

electric vehicles

see also electric locomotives
 batteries development, Al-air, mechanically rechargeable 9-48103
 batteries development, Fe-air, long-life 9-48118
 batteries development, high temperature, Na/S 9-43757
 batteries development, Li-Al/MS, improved design 9-48116
 battery, Pb-acid, response to chopper-controlled discharge 9-48120
 bipolar Li-Al alloy/FeS₂ battery appl., using LiCl-KCl eutectic or LiF- γ -LiCl-LiBr melt, cycle life, self-discharge rates and edge losses obs. 9-48117
 energy conversion, Conf., San Diego, CA, USA (Aug 1978) 9-48038
 flywheel energy storage system appl., composite, regenerative braking 9-48185
 utilization for energy conservation, review 9-24884
 Li-FeS₂ battery appl., industrial participation in ANL development program 9-48113
 Li-Si alloy/FeS battery appl., research and development at Atomics International 9-48115
 Li-Si alloy/FeS₂ cells appl., high performance 9-48114
 Na/S cells appl., pulse characts. obs. 9-48109
 Pb-acid batteries appl., using high-rate tapered DC charge method 9-48111

electric welding

see also arc welding; welding electrodes
 ultra pulse welding, heat transfer characts. 9-1047
 Pt and Au threads in air, pull-off force, influence of electric charge 9-11196

electrical conduction in condensed matter

see also carrier density; carrier lifetime; carrier mean free path; carrier mobility; carrier relaxation time; dislocation scattering; electrical conductivity of liquids; electrical conductivity of solids; electrical conductivity transitions; electron density (metals); electron mean free path (metals); electron mobility (metals); electron-phonon interactions; electron relaxation time (metals); high field effects; hopping conduction; impurity scattering; Lorenz number; minimum metallic conductivity; minority carriers; mixed conductivity; negative resistance effects; one-dimensional conductivity; photoconductivity; point defect scattering; size effect; skin effect; small polaron conduction; space-charge-limited conduction; spin disorder resistivity; surface conductivity; surface scattering; thermally stimulated currents; tunnelling
 anisotropic medium, resistance, geometrical effects 9-28331
 disordered media, elec. transport theories, effective medium approx. improvement 9-47071

electrical conductivity

see also electrical conduction in condensed matter; electrical conductivity of gases; electron mobility; ion mobility; space-charge-limited conduction
 conductance network, random, simple, triangular, site percolation, effective medium theory 9-12746
 geological conductors, water-bearing and frozen, elec. props. investigations (*German*) 9-5472
 inhomogeneous media, conductivity profile determ. by time domain reflectometry 9-36820
 Kerr black hole, elec. and mag. cond. 9-25625
 thermoelectricity, stationary interaction of temp. and elec. tension in 3-D body (*German*) 9-27497

electrical conductivity measurement

cardiac tissue resistivity, intramural meas. 9-39388
 coal, bituminous, meas. as function of freq., polarisation, EM wave direction and temp. 9-12113
 conductivity meter for in situ ocean meas., development, testing and calibration 9-5671
 contactless meas. method, cond. cylinder motion in solenoid field (*Russian*) 9-214
 Earth, DC resist. meas. interpretation 9-5449
 Earth conductivities, mapping via multifreq. airborne EM system 9-5446
 Earth conductivity, model for quantitative interpretation of towed-bird airborne EM system meas. 9-5447
 electrolyte flows, low-loss instrument IC with induction transducer 9-17439
 electrolytic solutions, bridge cct. for cond. cell (*German*) 9-9220
 films electrophysical properties, using automatic recording and expt. data analysis 9-17446
 four probe AC conductivity meas. system 9-35792
 general reciprocity theorem for conducting media 9-31770
 glass, ionic cond. meas. equivalent circuit for ohmic resist. meas. 9-33110
 Hall measurements instrument, specimens in strong elec. fields 9-35779
 MISS, apparatus with automatic compensation for geometric capacitance, 1 Hz-100 kHz range 9-21780
 ocean conductivity microscale studies, stable platform development 9-5669
 photoconductive insulators, interdigital electrode method, current density and arrival time 9-33308
 poly- and single-crystalline solids in diamond anvil cell, DC 4-point probe method 9-6147
 salinity/temperature sensor chain for estuarine meas. 9-5670
 specific resistivity meter with logarithmic output for rock samples 9-35781
 SQUIDS, multiple mag. flux entry, cos ϕ conductance exam. 9-4623
 surfacing probe for ocean surface layer elec. cond. meas. 9-2392
 thin liquid films on inaccessible surfaces, thickness meas. 9-30412
 two-circuit system, resonant EM transducer sensitivity anal. (*Russian*) 9-213
 ultrapure water electrolytic conductivity meas. 9-24755
 water sample, automated anal., pH, conductivity, alkalinity 9-12287
 LaAlO₃ perovskite electrolytes for high-temp. fuel cells 9-29467
 Si, single cryst., devices for resistivity meas. (*German*) 9-12824
 Si, wafer, photovoltaic technique for meas. resistivity variations 9-21783

electrical conductivity of amorphous metals and alloys

see also dislocation scattering; electron density (metals); electron mean free path (metals); electron mobility (metals); electron relaxation time (metals); electronic conduction in metallic thin films; impurity scattering; point defect scattering; surface scattering
 hardness, elec. cond., photo emission, and mag. props. (*Norwegian*) 9-32909
 metallic glass, conduction electrons interacting with tunnelling states 9-15137
 metallic glasses, electrical transport 9-38040
 metallic glasses manufacture, struct. and stability (*Norwegian*) 9-14687
 Metglas 2605, and 2605 A, transport props., resist. and magnetoresist. 9-1590
 review of transport props. 9-4546
 spin glass, nonmagnetic defects, sp. ht., susceptibility and resist. determ. 9-19738
 Ag-Te amorphous films, effect of annealing on elec. resist., phase transitions 9-11241
 Co, resist., fall in going from amorphous to crystn. state 9-23881
 CoGd, H₂ and N₂ contaminated amorphous films, mag. props. 9-1690
 Co₉₀Ni₁₀B₂₀, spontaneous Hall effect and resistivity 9-19576
 Cu metallic glasses, elec. and optical props., annealing effects 9-38565
 Fe-B ferromag. film, props. 9-4709
 Fe-B glass, crystallisation kinetics, elec. resist. meas. 9-4254
 Fe-Si ferromag. film, props. 9-4709
 Fe-Y(Th)(Zr), amorphous, charge transfer and mag. props., ⁵⁷Fe Mossbauer spectra 9-19719
 Fe₈₀B₂₀, amorphous, crystn. temp. under press. 9-23523
 Fe₈₀B₂₀, glassy, ferromag. anisotropy of resistivity 9-23939
 Fe₈₀B₂₀, hardness, elec. cond., photo emission, and mag. props. (*Norwegian*) 9-32909
 Fe_{90-x}Co₁₀B₂₀, spontaneous Hall effect and resistivity 9-19576
 FeGd, H₂ and N₂ contaminated amorphous films, mag. props. 9-1690
 Fe₇₈Mo₂B₂₀, glassy, ferromag. anisotropy of resistivity 9-23939
 Fe₄₀Ni₄₀B₂₀, amorphous and crystalline, resist. minimum 9-47079
 Fe_{80-x}Ni₂₀B₂₀, spontaneous Hall effect and resistivity 9-19576
 Fe₄₀Ni₄₀P₁₄B₆, and Fe₃₂Ni₃₆Cr₁₄P₁₂B₆, glassy, ferromag. anisotropy of resistivity 9-23939
 Fe₄₀Ni₄₀P₁₄B₆, hardness, elec. cond., photo emission, and mag. props. (*Norwegian*) 9-32909
 Fe₄₀Ni₄₀P₁₄B₆, metglas 2826, amorphous, Hall resistivity, thermal cycling and annealing effects 9-38050
 Fe₂Sn_{1-x}, amorphous alloy stability, comp. and temp. depend. 9-19156
 Fe₂Sn_{1-x} amorphous alloy, elec. resistivity, Ziman's formula 9-15130
 HoSm elec. props. in temp. range near zero to 150K (*Russian*) 9-11098
 La_{100-x}Al_x, amorphous film, stability, supercond. temp. and residual resistivity 9-4636
 La₇₈Au₂₂, amorphous supercond., under high press., fluctuation cond. above T_c 9-7935
 Nb-Ni, amorphous thin film, vapour quenched, elec. resistivity and thermoelectric power 9-32725
 Ni-rare earth intermetallics, RNi₃, amorphous alloys, mag. and transport props. 9-42513
 Pd-Ni-P, amorphous, elec. resistivity negative temp. coeff., CAP calcs. 9-42515

electrical conductivity of amorphous semiconductors and insulators

- see also carrier density; carrier lifetime; carrier mean free path; carrier mobility; carrier relaxation time; dislocation scattering; electrical conductivity transitions; electronic conduction in insulating thin films; high field effects; hopping conduction; impurity scattering; minority carriers; negative resistance effects; photoconductivity; point defect scattering; small polaron conduction; surface scattering
- alkaline earth glasses, $\text{RO-Al}_2\text{O}_3$, P_2O_5 , R=Mg, Ca, Sr, Ba, exam. of electron beam irradiation effects 9-4253
- cathode, oxide type, conductivity model 9-15159
- chalcogenide glass, charge screening lengths 9-23974
- chalcogenide glasses, conductivity, doping effect 9-38062
- dispersive transient transport in disordered solids, expt. and theory 9-28342
- electronic properties and structure (*Japanese*) 9-47179
- intercalation inorganic-organic layered complexes, effects of intercalation on elec. and mag. props. (*Japanese*) 9-8255
- magnetic substance with rare earth ion, low temp. specific heat, elec. resistance and US absorpt. (*Russian*) 9-19734
- poly-N-vinylcarbazole, polymerisation, struct., props., elec. characts., review 9-41972
- trans-polyacetylene, halogen doped, elec. cond. 9-19589
- polyethylene films, low density, γ -irrad., elec. cond., effect of elongation 9-4564
- polyglycine chain with hydrated side group, electronic struct., transport props. 9-16146
- polyvinylcarbazole, amorphous, hopping transport, reinterpretation of mobility meas. 9-42563
- protein-methylglyoxal complex, electronic props., energy band cond. 9-24936
- RC network model, based on percolation theory 9-4560
- semiconductor, electrical conductivity, super-linear freq. depend. 9-28348
- semiconductor, impurity control, elec. resist. (*Japanese*) 9-37722
- semiconductors, elec. and optical props., w.r.t. electronic band states (*Japanese*) 9-23979
- sputter-deposited materials, electrical and optical props. 9-47181
- TCNQ salts organic semiconducting polymers, electron transfer mechanisms 9-42544
- trinitrofluorenone, amorphous, hopping transport, reinterpretation of mobility meas. 9-42563
- AgPO_3 - Ag_2SO_4 , new Ag^+ and Li^+ ion glass conductors, glass transition, Raman spectra (*French*) 9-47094
- As-S-Te, vitrification, density and elec. cond. measurements 9-7645
- As-Te system glasses, DC and AC cond., thermo-EMF, 140 to 350K 9-42549
- As-Te-Cu system glasses, elec. cond. and thermo-EMF 9-42540
- $\text{As}_2\text{Ge}_{10}\text{Te}_{90-x}$ glass, cond. and dielec. const. from 77 to 383K and from DC freq. to 5 MHz 9-23964
- As_2S_3 , amorphous, AC cond. magnitude and variation (*French*) 9-47095
- $(\text{As}_2\text{S}_3)_{0.55}(\text{Sb}_2\text{S}_3)_{0.45}$ vitreous film, dispersive charge transport, time-of-flight meas. 9-19594
- As_2Se_3 , amorphous, AC cond. magnitude and variation (*French*) 9-47095
- As_2Se_3 , amorphous, electron and hole transport, charge defect model 9-15162
- $\text{As}_2\text{Se}_3/\text{Ag}$, doping effect of gap states and elec. cond., dielec. relax. and DC cond. meas. 9-47098
- $(\text{As}_2\text{Te}_3)_{1-x}\text{Ge}_x$, amorphous, AC cond. magnitude and variation (*French*) 9-47095
- $\text{BaO-B}_2\text{O}_3\text{-V}_2\text{O}_5$ glasses, polaron hopping cond., optical absorpt. and ESR spectra 9-23966
- C, elec. cond. at low-temp. as function of freq. 9-23965
- $\text{FeO-P}_2\text{O}_5$ glass, elec. props. effect of high energy γ -radiation 9-11173
- GaAs amorphous film, effective medium theory and freq. depend. of conductivity 9-24090
- Ge, amorphous film, annealing, effect on localised states 9-4535
- Ge amorphous film, effective medium theory and freq. depend. of conductivity 9-24090
- Ge amorphous films, self-ion bombard., electronic props. 9-28422
- Ge:Sb(Ga), amorphous, doping effects on Fermi level, electrical meas. 9-42546
- Ge-As-Te glass, between metal electrodes, contact props. determ. 9-7908
- Ge-S-In, chalcogenide glass, meas. of resist. 9-23526
- Ge-Se, effect of Ag electrodiffusion on volt-ampere characteristics 9-7869
- GeS_{11} glass, neutron irrad., thermal and elec. props. 9-19286
- $\text{Ge}_2\text{Se}_{1-x}$ chalcogenide glasses, trap-controlled carrier mobility, time of flight meas. 9-4557
- InSb amorphous film, effective medium theory and freq. depend. of conductivity 9-24090
- $\text{LiPO}_3\text{-Li}_2\text{SO}_4$, new Ag^+ and Li^+ ion glass conductors, glass transition, Raman spectra (*French*) 9-47094
- P, amorphous film, prepared by chemical transport in glow discharge, electronic props. 9-24011
- Se, amorphous, AC cond. magnitude and variation (*French*) 9-47095
- Se, amorphous, O impurity addition rel. to elec. cond. 9-38067
- Se, amorphous film, AC conductivity at radio and microwave frequencies 9-11248
- Se-Te, amorphous, pure and doped, freq. depend. of elec. cond., 150 to 310K 9-42545
- $\text{Se}_{1-x}\text{Ge}_x$, amorphous, AC cond. magnitude and variation (*French*) 9-47095
- Si, amorphous, AC cond., bipolaron hopping 9-23928
- Si, amorphous, hydrogenated pure and B doped, annealing effect on cond. (*Korean*) 9-15142
- Si, amorphous film, drift mobility and photocond. 9-15143
- Si, amorphous film, ESR, cond. secular change on annealing (*Japanese*) 9-15238
- Si, amorphous film, interface charge, influence on transfer meas. 9-15237
- Si amorphous film, sputter-deposited, elec., optical, and photoelectronic props. 9-24433
- Si amorphous films, RF sputtered, appl. as Schottky barrier solar cells 9-34434
- Si amorphous films, self-ion bombard., electronic props. 9-28422
- Si, doping effects on cond. in hopping transport regime 9-28424
- Si, elec. props., effect of amorphous to polycryst. transition 9-28425
- Si, electron-beam-evaporated amorphous thin films, noise meas. 9-24091
- Si, ion irradiated, elec. cond. 9-11127
- Si:B amorphous film, CVD prep., EPR, elec. and optical props. 9-4558
- Si:H, evaporated amorphous film, prep. elec. cond. and photocond. 9-38201

electrical conductivity of amorphous semiconductors and insulators continued

- $\text{a-Si}_{1-x}\text{H}_x$, oxygenated thin film, sputtered, elec. cond. and optical props. 9-15239
- TeSe_{20} , vitreous alloy, elec. and thermal cond. during crystallisation 9-7550
- VO_2 , metal-semiconductor transition, effect of deviations from cryst. lattice periodicity 9-23898
- V_2O_5 , amorphous, electronic cond., effect of random glass struct. 9-23972
- $\text{V}_2\text{O}_5\text{-P}_2\text{O}_5$ glasses containing metallic particles, elec. props. 9-42547
- electrical conductivity of crystalline metals and alloys**
- see also dislocation scattering; electron density (metals); electron mean free path (metals); electron mobility (metals); electron relaxation time (metals); electronic conduction in metallic thin films; impurity scattering; point defect scattering; surface scattering
- A15-compounds, electron lifetime affecting electronic props. 9-15134
- actinide non-stoichiometric intermetallic cpds., elec. resist. temp. depend. 9-1597
- Al alloy AK4-1, acoustic investigation of ageing 9-34083
- alkali metal, low-temperature elec. resist., empirical expressions, validity 9-23945
- alloy with arbitrary gradient of conc. and degree of order, residual elec. resist. 9-19569
- antiferromagnetic metal, crit. resistivity, appl. to Dy 9-47077
- band mixing, generalised Boltzmann theory 9-38060
- Bloch theory agreement and limitations 9-28332
- carboxylic acid metallic salts, laminated cpds., nature of cond. (*Russian*) 9-42512
- cathode spots of the first kind, erosion rate resistivity and thermal cond. depend., explosive model 9-14630
- collision frequency of electron with positive ions, vel. to ionosphere collision freq. and recomb. coeffs. 9-8742
- electron scattering, relation between X-ray small-angle scatt. and elec. resist. 9-19125
- ferromagnetic binary alloy, elec. resist. temp. depend. (*Russian*) 9-1592
- ferromagnetic metal, nearly and weakly ferromag., freq. depend. elec. cond., Drude's formula deviation 9-47091
- low temperature, Matthiessen's rule deviations (*Croatian*) 9-11099
- magnetic alloy, highly concentrated, elec. resist. 9-24134
- metal, elec. resist., correction from non-Hermiticity of pseudopotential 9-7815
- metal, electron transport properties 9-19565
- metal, electron-electron scatt. 9-38045
- metal, low temp. impurity cond. temp. depend., kinetic eqn. (*Russian*) 9-7817
- metal, simple, vacancy, formation energy and residual resist. calc. 9-11077
- metal, with impurities, noise fluctuations, quaternary correlation function calc. 9-24041
- metals, pure, electrical resistance, exam at high temp. using inductive heating 9-7816
- neutral and charged impurity scattering, Matthiessen's rule 9-47081
- rare earth orthotitanates, RTiO_3 , metallic and semicond. elec. and mag. props. 9-38068
- rotation induced electromotive forces in normal and superconducting metals 9-24120
- solid solution, dilute, residual resistance, pseudopotential calc. (*Russian*) 9-33276
- spin glass Kondo transition resist. max. 9-19584
- steel, C, fracture criterion determination, using 3-point bending 9-29216
- transition metal alloys, disordered, density of states, elec. cond., extended Hubbard model 9-37948
- transition metal germanium borides, metallic resist. mag. suscept. 9-42731
- transition metal magnetic alloys, dilute, props., review of theory 9-15282
- transition metal-simple metal disordered alloy, effect of electron correl. on elec. resist. 9-47076
- transition metals and alloys, BCC, electron lifetime affecting electronic props. 9-15134
- vacancies and lattice elec. cond. determ. method at high temp. 9-37695
- Ag, electrical resistivity, low-temp. meas. 9-23944
- Ag, lattice vibrations and ideal elec. resistivity 9-46770
- Ag, phonon-limited elec. and thermal resistivity 9-42517
- AgZn , β' to ζ_1 and β to ζ_0 phase transform. 9-34026
- Al alloy, mechanical properties, correlation with elec. cond. 9-34114
- Al dilute alloys, 3d transition metal impurities, residual resist., influence of multiple scatt. effects 9-19570
- Al, elec. resist. and magnetoresist., anisotropic temp. depend. (*Russian*) 9-11103
- Al, press. depend. of electron-phonon interaction rel. to normal state resist. 9-28063
- Al-Ag(Ga)(Ge) dil. alloys, Hall coeff., residual resist., and relax. times 9-11107
- Al-Ag(Mg)(Zn)(Ga)(Ge), dil., deviations from Matthiessens's rule, 4-OPW approx. calc. 9-19574
- Al-Cu-Mn-Mg-Fe-Si (4.48, 0.66, 1.55, 0.43, 0.23 wt.%), alloy D16, relationship between intercrystallite corrosion depth, and elec. cond. 9-20220
- Al-Ge alloy, effect of high press. on phase equilibrium (*Russian*) 9-1844
- Al-Mg-Si, Guinier-Preston zones, inception and effect on ageing, review (*Hungarian*) 9-11627
- Al-Zn (10 wt.%), ageing at low temp., solute conc. fluctuation effects (*Japanese*) 9-4969
- Al-Zn (2 and 4 wt.%), ageing and elec. cond. reversion (*Japanese*) 9-4983
- Al-Zn alloy, resist. and X-ray small angle scatt. during GP zone form., theory (*French*) 9-29070
- Al-Zn-Mg, solid soln. decomp., 20 to 200°C 9-38830
- Al-Zn-Mg, zone composition change during ageing 9-29110
- Au, elec. resist. exam. 9-38042
- Au, lattice vibrations and ideal elec. resistivity 9-46770
- Au, magnetoresist. of quenched and annealed metal, defect scatt. 9-4981
- Au, phonon-limited elec. and thermal resistivity 9-42517
- Au-Cu alloy, internal oxidation, calorimetric meas. 9-43258
- Au-Mg alloy, internal oxidation, calorimetric meas. 9-43258
- Au-Pd-Pt-Ag, composition-property diagrams, mathematical models for diagrams (*Russian*) 9-11554
- Au-Pd(Pt), elect. resistivity, temp. depend. between 1.6 and 4.2K (*German*) 9-28337

electrical conductivity of crystalline metals and alloys continued

- CC Al-Mg-Si, precipitation of cube-shaped phases, electron diffr. study using TEM (*Japanese*) 9-43251
- Cd foil, monocrystalline, anisotropy of size effect 9-38048
- Cd, resistivity, existence of Einstein type phonon mode 9-42519
- Cd, single cryst., electrical resistivity and deviations from Matthiessen's rule 9-23943
- Cd-Mg, dil. alloy, single cryst., electrical resistivity and deviations from Matthiessen's rule 9-23943
- Ce compounds, Anderson model, exchange parameter, Kondo temp., mag. susceptibility 9-1656
- CeAl₃, electronic transition under pressure, resist. meas. 9-33311
- Co-Cu(Ti)(Fe), neutron radiation stimulated diffusion, electrical resistivity exam. (*Russian*) 9-14959
- Co-Ga alloys, transition metal partially substituted, elec. resist. anomalies 9-38044
- CoCl₂ purification by H₂ reduction, of Co, exam. of conductivity (*Russian*) 9-28981
- CoCl₂-NaCl purification by H₂ reduction, of Co, exam. of conductivity (*Russian*) 9-28981
- Cr, antiferromag., elec. resist. near Neel temp. 9-33278
- Cr-Ni, high temp. strength, interatomic bonds ionic component correlation (*Russian*) 9-15761
- Cr-Sb alloy, dil., mag. phase diagram, elec. resist. and thermal expansion obs. 9-1669
- Cr-V-Fe alloy, resistivity minimum, press. effect 9-38043
- Cu, compressed powder, elec. cond. -30 to +30°C (*German*) 9-28335
- Cu films, ion plated on polyethersulphone, structural and resistivity study 9-42411
- Cu, lattice vibrations and ideal elec. resistivity 9-46770
- Cu, phonon-limited elec. and thermal resistivity 9-42517
- Cu, thermal neutron irradiated, isochronal resist. recovery, 30-400K 9-19287
- Cu wire, electroplastic drawing X-ray diffr. anal. and mech. props. exam. (*Russian*) 9-29138
- α -Cu-Al, kinetic behaviour of vacancies and atoms 9-28129
- Cu-Al (12 wt.%), acoustic emission related to props. 9-34032
- Cu-Al-Fe-Mn (10,3,2 wt.%), phase comp. struct., continuous cooling from β -phase effect 9-24499
- Cu-Au, dil., thermal neutron irradiated, isochronal resist. recovery, 30-400K 9-19287
- Cu-Mn-Ni alloy, Manganin, elec. resist. under static pressures up to 110 kbar, pressure gauge appl. 9-1594
- Cu-Ni, bimetallic film, exam. of diffusion by electrical resistivity meas. (*Russian*) 9-14970
- Cu-Ni, neutron radiation stimulated diffusion, electrical resistivity exam. (*Russian*) 9-14959
- Cu-Pd alloy, pressure effect on β -phase transition by elec. resist. meas. 9-15660
- Cu₃Au, elec. resistivity, temp. depend. 9-47078
- CuMn, acceleration of coarsening by temp. changes, study by resistivity meas. 9-47718
- CuPt equiatomic alloy, effects of quenching temp. on ordering, study by elec. resistivity meas. (*Japanese*) 9-43285
- Dy, elec. resist. and mag. struct. near Neel point (*Russian*) 9-47074
- Dy-Sm alloys, elec. resist. singularities and mag. transitions (*Russian*) 9-47075
- Fe-based alloy, effect of sp-3d impurity interactions in resistivity 9-46696
- Fe-Cr-Ni, α -particle induced precip. and phase instability 9-1470
- Fe-Cu (1.77%) alloy, influence of neutron irradiation on electric resist. (*Russian*) 9-38041
- Fe-Nb(Ta)-Co, Recalloys, semihard mag. alloys, mag. and elec. props., hardness, thermal expansion (*Japanese*) 9-5066
- Fe-Ni, α to γ transformation, changes in Young's modulus and electro-physical props. (*Russian*) 9-20042
- Fe-Ni-Ti (25.9, 2.15 wt.%), exam. of effect of inhomogeneous solid soln., on martensitic transformation (*Russian*) 9-34034
- Fe-Rh, mag. phase transitions, triple point 9-1672
- Fe-V alloy, Curie temp. determ. using deviation from Mattheisen's rule 9-15306
- Fe₃Al, order-disorder transition, elec. resistance meas. 9-42518
- FeCo, ordered and disordered alloy, annealing of point defects created by neutron irradiation at 20K (*French*) 9-1467
- FeCo₂V, ordered and disordered alloys, annealing of point defects created by neutron irradiation at 20K (*French*) 9-1467
- Fe_{1-x}Mn_x, elec. resist., anomalies in temp. depend. 9-23942
- Fe_{1-x}Ni_x, elec. resist., anomalies in temp. depend. 9-23942
- Fe₄₀Ni₆₀B₂₀, amorphous and crystalline, resist. minimum 9-47079
- Fe_{0.5}(Ni_{0.5}Mn_{1-x})_{0.5}, elec. resist., anomalies in temp. depend. 9-23942
- Fe_{1-x}P dilute alloys, electronic struct., mag., elec. and struct. props. 9-37971
- Fe₉₃Si₇, thermal and elec. cond., heat transport by spin waves 9-38047
- Gd, thermal diffusivity, conductivity and elec. cond. 110 to 2100K 9-42516
- (Hf_{1-x}Zr_x)₈₀Nb₂₀, influence of Hf additions to Zr₈₀Nb₂₀ on temp. coeff. of elec. resist. 9-8304
- K, residual-resistivity anisotropy using several impurity scatt. potentials 9-19571
- K, transport calculations, usefulness of theoretical form factor 9-23946
- (La,Gd)Al₃, very dil., resist. 9-23958
- La-Ce alloy, press. induced spin glass to Kondo phase transition, resist. meas. 9-24174
- Mg-Fe alloy film, quench-condensed, resistance meas. 9-15235
- Mn-Ni-Ti (Zr) systems, and mech. props. thermal expansion for different heat treatments (*Japanese*) 9-29123
- Mo, electron irradiated, recovery studies of pure and radiation doped crystals 9-19280
- Na-Li (19.2 wt.%), elec. resistivity, immiscibility region 9-1593
- Nb, resistivity studies of interstitial He mobility 9-14800
- Nb spheres, residual resistivity ratio, prep. method effects (*German*) 9-8372
- Nb, vacuum heat treatment effects on gas content and elec. and mech. props. (*Russian*) 9-43281
- Nb-Cu, neutron radiation stimulated diffusion, electrical resistivity exam. (*Russian*) 9-14959
- Nb-Mo(Zr) alloys, vacuum heat treatment effects on gas content and elec. and mech. props. (*Russian*) 9-43281
- Nb-Ti, metallurgical treatment, effects on props. 9-38846
- NbGe₂ single crystals, elec. resist. and superconductivity 9-38233
- Ni, cathodically H charged, isothermal ageing 9-15703

electrical conductivity of crystalline metals and alloys continued

- Ni, US deformation at low temps., elec. resistivity recovery (*Russian*) 9-11656
- Ni-alloys with 3d- and 4d-metals, low temp. elec. resist. (*Russian*) 9-23941
- Ni-Cr (33.3 at.%) alloy, ordering after US deform., microhardness and elec. resist. meas. (*Russian*) 9-20113
- Ni-In(Sn), electrical cond. and magnetic susceptibility of B₂-compounds (*German*) 9-42520
- Ni-Mn, low temp. kinetic props., 4.2-77.3K, resistivity (*Russian*) 9-19568
- Ni-Mn base polynary alloys, magnetic, and elec. props., composition and heat treatment effects 9-11710
- Ni-S, defect control by heat-treatment in S atmos. 9-43293
- Ni-Sn(Sb), dilute ferromagnetic alloy, resistivity and magnetoresist. anisotropy 9-11106
- Ni-Ti alloy, Curie temp. determ. using deviation from Mattheisen's rule 9-15306
- Os, elec. resist., thermal diffusivity, and thermal cond., 290 to 3300K 9-11101
- Pb, press. depend. of electron-phonon interaction rel. to normal state resist. 9-28063
- PbNb₂O₆, permittivity and elec. cond. meas., first order transition 9-24270
- Pd-Ag-Cu (35.25 at.%), determ. of ageing transformations by resist. meas., metallography, TEM and X-ray diffr. 9-4967
- Pd-Fe, dil., transport props. at low temp. 0.05 to 5K 9-38046
- Pd-Fe-H, elec. resistivity, 4.2 to 300K (*Russian*) 9-7814
- Pd-H, nature of the 50K anomaly, residual resist. 9-7818
- Pd-Ni, neutron radiation stimulated diffusion, electrical resistivity exam. (*Russian*) 9-14959
- Pd-Pt, elect. resistivity, temp. depend. between 1.6 and 4.2K (*German*) 9-28337
- PdH₂, PdD₂, ordering, resistivity, annealing and neutron diffr. obs. 9-34030
- Pd_{0.97}Sm_{0.03} dil. alloy, assist. meas. 9-19583
- Pd_{0.97}Tm_{0.03} dil. alloy, elec. resist. meas. 9-19583
- Pr, electrical resistance increase due to nucl. cooperative anomaly at low temp. 9-15133
- Pt₃Fe, transport and mag. props. near Neel temp. 9-7976
- Rb₂WO₄, phase transitions, supercond. transition temp. and elec. props. 9-28431
- SmCo₅, specific heat and kinetic props. at elevated temp. (*Russian*) 9-28530
- Sn bronze, extruded atomized powders, struct. and props. 9-38763
- Ta:H, recovery after cold working at 4.2K, resist. meas. 9-4977
- Ti, α - β phase transformation, elec. resistivity 9-15661
- TiBe₂, itinerant antiferromag., mag. susceptibility and elec. cond. meas. 9-19726
- Ti₂Zr_{1-x}Nb_{30x}, ω phase precipitation 9-34042
- UPd₃, anomalous behaviour in low temp. props. 9-28108
- V,V-Zr (2 wt.%), internally oxidised, neutron irradiated, annealing effect on mech. props., elec. cond. and electron microscope obs. (*Japanese*) 9-15701
- V, electrical resistivity, 200-2100K 9-33277
- V-Os system, equilib. phase fields, X-ray diffr., elec. resist., DTA, and EPMA meas. 9-47661
- W, electron-electron scatt. 9-38045
- Zn, electron-phonon interaction anisotropy, microcontact spectroscopy (*Russian*) 9-37786
- Zr, low temp. deformed, O₂ effect on production and recovery of defects, elec. resist. meas. 9-47705
- Zr₃Al, ordered, elec. resist. of Li₂ phase as function of temp. 9-19572
- Zr(V,Al)₂, struct., supercond. props., elec. resist. and mag. susceptibility, 4.2 to 300K (*Russian*) 9-15246

electrical conductivity of crystalline semiconductors and insulators

- see also carrier density; carrier lifetime; carrier mean free path; carrier mobility; carrier relaxation time; dislocation scattering; electronic conduction in crystalline semiconductor thin films; electronic conduction in insulating thin films; high field effects; hopping conduction; impurity scattering; minority carriers; negative resistance effects; photoconductivity; point defect scattering; small polaron conduction; surface scattering
- AC conductivity due to intimate pairs of charged defect centres 9-4563
- alkaline-earth-Os ternary oxide system, solid state prep. and reactions, cryst. struct., mag. and elec. props. 9-24739
- anthracene, drift mobility expts., arrival-time detection 9-33308
- anthracene, transient photocurrent, appl. of Scher-Montroll method 9-7851
- azulene, drift mobility expts., arrival-time detection 9-33308
- Boltzmann eqns., soln. for electron-LO phonon scatt. 9-19586
- collision frequency of electron with positive ions, vel. to ionosphere collision freq. and recomb. coeffs. 9-8742
- diamond:B, synthetic, current-voltage characteristics, temp. depend. (*Russian*) 9-7825
- diamond:Ge(B)(B₄C), doping by diffusion at high temp. and press. 9-19273
- diamond ceramic, elec. cond., thermal cond. rel. to temp. 9-15140
- electron irradiation, defects, elec. and optical props. 9-19282
- electron speed, technique for doubling 9-38076
- graphites, electrical conduction in c-direction, rel. to struct. perfection 9-38069
- heavily doped semicond., electronic sp. ht. and transport coeff., influence of band-tail parameters 9-14941
- heavily doped semiconductors and devices, review 9-47039
- II-IV-V₂ phosphides, cond. compensation by electron bombardment 9-15151
- III-V semiconductors, conduction-band struct. from reflectivity meas. when subject to mechanical strain 9-42449
- magnetites, cond. mechanisms (*Russian*) 9-42539
- molecular crystals, electron mobility, temp. depend., hopping model 9-19588
- organic free-radical solid conductors and semiconductors, electronic structure 9-35496
- n-PbTe, dynamical cond. in freq. range of LO-phonon-plasmon excitations 9-19592
- perovskite oxides, ferroelec., point defects and elec. props. 9-42533
- polar semiconductor, oscillatory electron drift rel. in non-ohmic regime at low temp. 9-33291
- polyacetylene film, heavily doped with AsF₅, conductivity and Hall effect meas. 9-28353

- electrical conductivity of crystalline semiconductors and insulators continued
 polycrystalline semiconductors, theoretical models and high-field behaviour
 (Czech) 9-42537
 rare earth chalcogenides, cond. mechanism and thermoelec. efficiency
 9-38110
 rare earth niobates, pyrochlore structure, synthesis and props., 9-11533
 rare earth orthotitanates, RTiO_3 , metallic and semicond. elec. and mag.
 props. 9-38068
 semiconducting ferroelectric glass-ceramics, dielectric dispersion (Russian)
 9-8097
 semiconductor, impurity band props. 9-23888
 semiconductor devices, resistivity and lifetime inhomogeneities, laser scan-
 ning method detect. 9-30489
 semiconductor impurity bands, one-dimens. AMO-MT model validity
 9-33256
 semiconductors, electrical resistance, exam at high temp. using inductive
 heating 9-7816
 semiconductors, n-type, metal-insulator transition and negative resist.
 effects 9-24026
 semiconductors with grain-boundary barriers, boundary states' energy
 struct. influence on elec. cond. 9-11147
 n-Si, elec. cond. in weakly heating alternating elec. field 9-23977
 tetraselenotetracene, electronic structure, conductivity studied by ESCA
 9-4889
 tetrathionaphthalene, electronic structure, conductivity studied by ESCA
 9-4889
 tetrathiotetracene, electronic structure, conductivity studied by ESCA
 9-4889
 TGS, pure and with lattice defects, elec. cond. 9-42538
 thermal instability in semicond. based on effective thermal time const.
 9-15155
 transition metal sulphides, selenides and phosphides, NaCl struct., super-
 cond. props., elec. resist. up to room temp. 9-4613
 $\text{AgFeSe}_2(\text{S}_2)(\text{Te}_2)$, elec. props., band gap (Russian) 9-11116
 $\text{Ag}_2\text{S}(\text{Se})(\text{Te})$, changes in elec. cond. and thermoelec. power at melting
 point 9-15147
 Al_2O_3 scales on Pt-Al alloy, elec. props. 9-20282
 $\beta\text{-Al}_2\text{O}_3\text{-H}^+(\text{H}_2\text{O})_n$, p-type conductor, stability (French) 9-38063
 $\beta\text{-Al}_2\text{O}_3\text{-NH}_4^+$, p-type conductor, stability (French) 9-38063
 Ba-ferrite, temp. range 303 to 353K 9-42564
 $\text{Ba}_2\text{Bi}^{2+}\text{Bi}^{3+}\text{O}_6$, structure and elec., mag., thermal props. vs. temp. X-ray
 and neutron powder diff. study 9-19189
 $\text{BaO-SiO}_2\text{-Fe}_2\text{O}_3$ permanent mag. ceramics, exam. of phase diagram, using
 X-ray analysis, optical microscopy, electron probe anal., and thermal
 analysis (German) 9-29012
 $\text{Ba}_3\text{Re}_2\text{O}_9$, cryst. struct., mag. and semicond. props. 9-10836
 BaTiO_3 , acceptor doped, exam. of electrical conductivity 130 to 300°C
 9-33286
 BaTiO_3 , donor doped, exam. of heterogeneous microstructure (German)
 9-24632
 BaTiO_3 , exam. of PTC effect as function of Ti excess (German) 9-23960
 $\text{BaTiO}_3\text{-Nb}$, ferroelec. and paraelec. phases, props. 9-42919
 $\text{BaZrO}_3\text{-LaAlO}_3$ systems, sintering conditions, elec. props. 9-43184
 Bi, electrical resistivity due to electron-phonon scatt. on small cylindrical
 Fermi surface 9-4562
 Bi, electron irradi., displacement threshold energy (French) 9-23649
 $\text{Bi}(\text{TeSn})$, elec. resist., 1.8 to 77K, electron-phonon scatt. mechanism
 9-15144
 $\text{Bi}_{1-x}\text{Sb}_x$, elec. resist., 1.8 to 77K, electron-phonon scatt. mechanism
 9-15144
 $\text{Bi}_{1-x}\text{Sb}_x$, thin film, elec. props., composition variations (Russian) 9-7841
 BiTe, elec. props., crystals grown from melt in excess iodine 9-4907
 C-PVC composite, transport props. 9-38073
 $\text{Ca}_3\text{LaFe}_2\text{O}_{8+x}$, influence of O_2 partial pressure on nature of point defects,
 characterisation by elec. cond. meas. (French) 9-42055
 $\text{CaNd}_{1-x}\text{Nb}_{1/2}\text{O}_7$, pyrochlore struct., synthesis elec. props. 9-42543
 $\text{p-CdCr}_2\text{S}_4$, single cryst., elec. cond. 9-15148
 $\text{CdCr}_2\text{S}_4\text{-Gd}$, ferromag. reson. and electrical cond. 9-28626
 $\text{CdCr}_2\text{S}_4\text{-In}$, single cryst. prep. and elec. props. 9-38727
 $\text{CdCr}_2\text{S}_4\text{-In(Ga)}$, resist. and magnetoresist. meas., effect of donor impuri-
 ties 9-19608
 $\text{Cd}_{0.96}\text{Cu}_{0.04}\text{Cr}_2\text{Se}_4$, single cryst., elec. resis., depend. on Cu content and
 temp. 9-7848
 $\text{CdF}_2\text{-Mn}$, Y, deconversion due to vacuum heat treatment, elec. resist. and
 electron probe meas. 9-24025
 $\text{CdF}_2\text{-Mn}^{2+}\text{Y}^{3+}$, thermal stability under vacuum, effect of heat treatment
 on resist. 9-23969
 CdGeAs_2 , electron irradiated, change in electrical props. 9-7829
 CdGeAs_2 , optical and elec. props. 9-19590
 CdGeP_2 , cond. compensation by electron bombardment 9-15151
 $\text{Cd}_x\text{Hg}_{1-x}\text{Se}$, carrier mobility, 4.2 to 300K, scatt. mechanisms 9-4561
 $\text{Cd}_x\text{Hg}_{1-x}\text{Te}$, strong elec. field effect on galvanomagnetic effects 9-11159
 CdO, effect of compacting pressure on consolidation and elec. cond.
 9-29007
 CdS, porous, dynamic phase transition at high press. 9-23723
 CdSb, phase diagram, region of homogeneity, elec. cond. 9-43219
 CdSb resistance thermometer, characts. of cryogenic temps. 9-21760
 CdTe, n- and p-type, elec. and galvanomag. props. 9-7830
 CdTe-HgTe, neutron irradi. rel. to elec. props. 9-15141
 $\text{Cd}_2\text{V}_2\text{O}_7$, elec. props. and EPR meas. 9-11114
 $\text{Cd}_{1-x}\text{Zn}_x\text{S}$, film, technical data, for low cost solar cell 9-48127
 CeNb_2O_6 , CeNbO_4 , CeNbO_7 , electron config. of Ce ions, mag. suscep-
 t. , L_3 absorpt. edge, resist. 9-43063
 Ce_2 in O_2 atmos., adsorption and elec. cond. props. 9-23836
 Co_{1-x}O , point defect struct., elec. cond. and Co tracer diffusion 9-10849
 Cr-Ge system, phase anal. and physical props. 9-24160
 $\text{Cu}_{0.67}\text{Cr}_{1.78}\text{Se}_{2.67}\text{Br}_{1.34}$, polycrystalline mag. semicond., mag. and elec.
 props. 9-7846
 $\text{Cu}_{1-x}\text{Fe}_x\text{O}_4$, elec. resist., Seebeck coeffs., 20 to 900°C, cation distrib.
 9-4575
 CuInS_2 crystals, growth, struct., and elec. props. 9-38729
 $\text{Cu}_2\text{Mn}_2\text{S}_4(\text{Se}_4)$ spinel, prep. and elec. props., 100 to 650K 9-43127
 Cu_2O and CuO powders, contact resistance, temp. and pressure depen-
 dence, obs. (German) 9-4555
 Cu_2S , electromechanical props. (Russian) 9-11117
 $\text{Cu}_2\text{-Se}$, electric, thermal and magnetic props. investigation in low temp.
 phase (Croatian) 9-11299
 $\text{Cu}_2\text{Te-Ag}_2\text{S}$, kinetic props. of solid solutions 9-7827
 $\text{Er}_2\text{O}_3\text{-CaO}$, elec. cond. and nonstoichiometry 9-11112
 ErS, heat carrier scatt., thermal and elec. cond. from 5-400K 9-14974
 EuO, HF conductivity meas. 9-33304
- electrical conductivity of crystalline semiconductors and insulators continued
 EuO, hydrostatic press. effects on elec. resist. in temp. range 3 to 300K
 9-23968
 EuO, nonstoichiometric film with excess EU, elec. resist. variation with
 lattice parameter 9-8204
 EuSe, HF conductivity meas. 9-33304
 EuSe, Hall effect, elec. cond. and magnetoresistance temp. depend.
 9-33296
 $\text{Eu}_2(\text{WO}_4)_3$, molar mag. susceptibility, DC elec. cond., thermopower meas.
 9-15172
 $\text{FeAl}_{1-x}\text{Cr}_x\text{O}_4$ spinel, elec. cond. behaviour during oxidation 9-19593
 $\gamma\text{-(Fe}_{1/3}\text{Al}_{2/3-x}\text{Cr}_x)_2\text{O}_3$, lacunar spinels, elec. cond. behaviour during
 oxidation 9-19593
 FeCoCrO_4 spinel, elec. resistivity, temp. var. 9-38065
 FeCr_2S_4 , pure and doped, CVD grown, surface struct., elec. props. and
 band struct. 9-4905
 $\text{Fe}_{1-x}\text{Cu}_x\text{Cr}_2\text{S}_4$, mag. semicond., mag. props. and elec. cond. (Japanese)
 9-47111
 $\text{FeSO}_4\cdot 7\text{H}_2\text{O}$, single cryst., elec. and dielec. props., temp. depend.
 9-19826
 Ga-Sb-Te, props. of ternary solid solution based on GaSb 9-7826
 GaAs, p- and n-type, and Zn-diffused, spreading resist. meas. 9-28343
 GaAs, shallow donors, screening, energy spectrum of electrons and cond.
 mech. 9-7831
 p-GaAs:Be, ion implanted, annealing characts., defect cond. profiling, elec-
 tron diff. obs. 9-4318
 GaAs:Cr, current voltage characterisation, deep levels and Fermi level
 determ. 9-7823
 n-GaAs:O film, influence of O on elec. props. 9-11252
 GaAs:Si, ion-implanted, elec. props. 9-46686
 n-GaAs:Te, elec. cond. and Hall coeff. temp. depend. meas., three band
 model 9-33287
 GaAs:Zn, Se, double doping during LPE, exam. of elec. cond. and Hall
 effect 9-4923
 GaN, epitaxial growth on sapphire substrates, elec. props., X-ray, diff. anal.,
 photoluminescence spectra 9-4919
 GaS-YbS system, phase diagram, reacts., thermal, mag. and elec. meas.
 9-11578
 p-GaSb, elec. cond., Hall effect, mobility and carrier concentration (Rus-
 sian) 9-19603
 GaSb:Fe, shallow acceptor level, electrical meas. 9-11087
 n-GaSb:Te, Hall coeff., carrier conc. and mobility, elec. cond., 290 to
 550K (Russian) 9-19604
 p-GaSe, resistivity, anisotropy 77 to 750K 9-4559
 p-GaSe, single cryst., negative photocond. induced by elec. field 9-19623
 GaTe, Hall mobility, resistivity anisotropy 9-11150
 Ga_2Te_3 , single cryst., elec. cond. meas. 9-11124
 $\text{Gd}_3\text{Ga}_2\text{O}_{12}$, elec. cond. meas. 9-23961
 Gd_2S_3 , antiferromag. to ferromag. and semiconductor to metal transitions
 (Russian) 9-33485
 $\text{Gd}_2(\text{WO}_4)_3$, molar mag. susceptibility, DC elec. cond., thermopower meas.
 9-15172
 n-Ge, impurity breakdown field, temp. depend. 9-24263
 Ge, p-type, and n-type converted to p-type by irradiation at 77K, defect
 form. mechanism 9-23651
 Ge, thermal rectification and negative differential cond. 9-42554
 Ge:Cu, press. effect on energy spectrum of carriers, elec. cond. and Hall
 coeff. expts. 9-23930
 p-Ge:Ga, heavily doped, elec. resist., 40 mK to 300K 9-38071
 Ge:O, elec. props., O interaction with point defects 9-11081
 n-Ge:Sb,Cu, exactly compensated, static photocurrent-voltage characts.
 9-38131
 GeSb crystals, purification by zone recrystallisation with temp. gradient
 9-4916
 GeTe-MnTe-SnTe system, compds., GeTe phase transition temp., elec.
 props., thermal cond. 9-43220
 $\text{Ge}_{1-x}\text{Te}_x$, elec. cond., Hall effect in phase transition region 9-11113
 $\text{HfC}_{1-x}\text{N}_x$, elec. resist. (German) 9-38064
 Hg_2Cl_2 , elec., dielec., and thermophysical props. 9-10989
 HgI_2 , single cryst. elec. and thermal props. 9-11111
 InAs, exam. of decomposition of donors 9-1605
 InAs, thin film prep. and elec. props. 9-1633
 InAs:Cr, high-resist., energy positions of deep levels, elec. and optical
 props. 9-7807
 $(\text{InAs})_{1-x}(\text{CdSe})_x$, solid solution, elec. props. 9-15146
 n- $\text{In}_{1-x}\text{Ga}_x\text{P}$ solid solns., electron scatt. mechanisms (Russian) 9-4568
 InP, compensated impurity conduction and negative magnetoresist.
 9-28360
 InP, growth and props. 9-1822
 InP, large size single crystals., synthesis, solute diffusion technique, elec.
 props. 9-33917
 n-InSb, helicon wave propag., quantum mechanical features 9-42571
 p-InSb, ion bombardment using 30-80 keV ions, isochronous annealing,
 elec. props. obs. 9-19295
 InSb:Cr:Zn, resist. in static and pulsed mag. field 9-15169
 InSbSe₃, cryst. prep. and props., resistivity versus temp. study 230-400K
 9-15601
 $\text{In}_{1-x}\text{Sb}_{2x}\text{Se}_3$, cryst. prep. and props., room temp. DC resistivity 9-15601
 InSe, single cryst. prep. and electrophys. props. 9-43129
 $\alpha\text{-In}_2\text{Te}_3$ single crystals, elec. and photocond., temp. depend., linear thermal
 expansion coeff. 9-42541
 LaB₆, elec. cond. under hydrostatic press. 9-7832
 $3\text{La}(\text{IO}_3)_3\cdot \text{HIO}_3\cdot 7\text{H}_2\text{O}$, pyroelec. p_3 and piezoelec. d_{33} coeffs. 9-19840
 LaS, heat carrier scatt., thermal and elec. cond. from 5-400K 9-14974
 LiH(D), electrical conductivity, effect of isotopic composition of H
 9-15150
 LiNbO₃:Fe, photovoltaic effect and charge transport mechanism 9-38123
 MgO, defect aggregation and thermal-electric breakdown, TEM obs.
 9-42069
 MgO, elec. field effects on cond. above 1300K, elec. breakdown 9-42551
 MgSi_2O_6 , enstite, elec. cond. var. with O_2 partial press., obs. and theory
 9-1609
 MnCr_2Te_4 , elec. props., 100 to 650K (Russian) 9-11115
 $(\text{MnTe})_{1-x}(\text{As}_2\text{Te}_3)_x$ solid solns., thermoelec. props. 9-42567
 NaCl, elec. cond. and distrib. of Ni^{2+} ions 9-33010
 Na₂SO₄, pure and K-doped, phase transforms., X-ray, DSC and elec.
 cond. obs. 9-33082
 Nb complex, prep. by halide reaction with tetramethyleurea and tetrame-
 thylthiourea, and characterisation 9-15972
 Nb_{1-x}O_{2.99}Nb_{0.01}O₆, oxide defect structures of stable and metastable phases,
 800 to 1100°C 9-46651

electrical conductivity of crystalline semiconductors and insulators continued

- Nd₂(WO₄)₃, molar mag. susceptibility, DC elec. cond., thermopower meas. 9-15172
- NiO, elec. cond. and chem. diffusion coeff. at high temps. 9-23962
- NiO, thermodynamic study of point defects, anal. of elec. cond. results 9-23963
- Ni_{1-x}Rh_xS, nonvulve effect of Rh substitution on paramag. metal-antiferromag. nonmetal transition 9-28277
- Pb₂Ge₂O₁₁, dielec. behaviour, 60 Hz-100 kHz, particle size effects 9-33638
- Pb_{1-x}Mn_xTe (x=0.005, 0.001, 0.05), solid solns., exam. of electrical and thermal props. 9-1599
- 4PbO.GeO₂, X-ray phase and thermal anal., new antiferroelectric 9-1744
- PbTe film, elec. transport props. 9-42679
- PbTe:Ga, location, behaviour of Ga, electrophysical props. meas. 9-38016
- PbTe:Ti, effect of impurities on transport props. 9-11158
- Pb(Zr,Ti)O₃:Nb₂O₅(Sc₂O₃), elec. cond. investigation with and without various dopants and stoichiometry 9-11120
- Pb(Zr,Ti_{1-x})O₃ solid solns., elec. props. near morphotropic phase boundary 9-42566
- PrS, heat carrier scatt., thermal and elec. cond. from 5-400K 9-14974
- Sb₂Se₃ single crystals, phys. prop. anomalies, 400-450K (*German*) 9-38072
- Si, liquid-crystal phase transition, elec. cond. changes 9-33310
- Si, diffusion coeff. of Se, by sheet Hall coeff. meas. 9-46843
- Si, polycrystalline, neutron transmutation doped, grain boundary zero-bias resistance 9-15153
- Si, radiation detector, barrier heights, electron and hole currents, Schottky contact effects 9-33293
- Si, single crystals, devices for resistivity meas. (*German*) 9-12824
- Si, thermal donor generation in temp. range 600-800°C 9-11121
- Si whiskers as basis for strain resistors 9-5094
- Si:As, implanted As redistrib. during annealing in oxidising ambient, carrier distrib. meas. 9-19275
- Si:As, laser annealing, channelling, optical obs., and resist. meas. 9-1444
- Si:As, IR absorption and elec. resist. meas., impurity centres 9-38580
- Si:B, dopant density and temp. depend. of hole mobility and resistivity 9-38075
- Si:B effect of elec. field on carrier capture by attractive centres. 9-11145
- p-Si:N₂⁺, implanted, anneal behaviours of lateral photovoltaic method, sheet resist., junction conductance 9-14825
- Si:P, amorphous, CVD, substitutional doping, electronic props. 9-23923
- Si_{1-x}Al_xN_{1-x}, x=1.5, 3, 4, SiAlon ceramics, elec., thermal cond. 9-33124
- n-SiC (6H), density of states effective mass determ., high temp. meas. of elec. props. 9-15073
- SiC-Si composite, bulk resist. of technical SiC powders 9-28350
- Sm₂(WO₄)₃, molar mag. susceptibility, DC elec. cond., thermopower meas. 9-15172
- SnF₂, α- and γ-phases, elec. cond. characts. determ. (*French*) 9-47093
- Sn₂Ge_{1-x}Se_x, ¹¹⁹Sn Mossbauer and elec. conductivity study 9-19595
- SnO₂, transparent conductive film, prep. by magnetron sputtering and elec., optical and structural props. (*Japanese*) 9-8247
- SnS_{2-x}Se_x, electron mobility elec. resist. and Hall constants 9-28346
- p-SnTe, elec. resist. anomaly in vicinity of struct. phase transform. 9-19597
- SrO-SiO₂-Fe₂O₃, permanent mag. ceramics, exam. of phase diagram, using X-ray analysis, optical microscopy, electron probe anal., and thermal analysis (*German*) 9-29012
- (TSeT)₂Cl complex, metal-semimetal transition, magnetoresist. and cond. (*Russian*) 9-38138
- Ta complex, prep. by halide reaction with tetramethylurea and tetramethylthiourea, and characterisation 9-15972
- Ta₂Ti_{1-x}Se₂, cryst. struct. and elec. props. 9-47133
- Te, deformed and annealed crystal, depend. on stress 9-7847
- TiO₂-SiO₂, micron dispersion of impurity, chem. diffusivity and elec. cond. 9-1528
- TlInSe₂, single cryst., elec. cond., photocond. and IR spectra absorpt. spectrum 9-47097
- TiTe, elec. props., cryst. growth (*Japanese*) 9-33907
- TmSe, intermediate valence state, resistivity of magnetically ordered ground state 9-1683
- TmSe_{0.83}Te_{0.17}, spontaneous magnetisation, mag. susceptibility, magnetotransition, elec. cond. 9-24146
- U₃Pu_{1-x}O₃, theoretical study of electronic thermodynamic and valence props. 9-37655
- V₂Cr_{3-x}S₄, elec. and mag. props. 9-28523
- V₂O₅ cathode, used in Li-V₂O₅ reserve cells, microstruct. optical reflectance, elec. cond. meas., chem. anal., SEM obs. 9-43752
- V₂O₅ single crystals, prep. by chem. transport reacts. props. 9-43115
- V₂Ti_{1-x}Se₂, cryst. struct. and elec. props. 9-47133
- WS₂-NbS₂ system, compds., elec., antiferion props. 9-38066
- VFe₂O₄, parasitic ferrimagnetism 9-4703
- YIG, substituted, effect of electron bombardment on mag. and elec. props. 9-42103
- YV_{1-x}Cr_xO₃ (0≤x≤0.6), room temp. elec. conductivity and mag. props. 9-23967
- YBS_x, thermo-EMF, elec. and thermal cond., 300 to 1000K, comp. depend. 9-38111
- ZnGeP₂, cond. compensation by electron bombardment 9-15151
- ZnGeP₂, electron irradi., elec. and optical props. 9-33743
- ZnO-Bi₂O₃, ceramic semiconductor, injection currents 9-11141
- ZnO-CoO₄ (Fe₂O₃), ceramics, impurity at. states, elec. cond. 9-11130
- ZnS, low temp. equilibrium compensation limit of intrinsic-defect hole conductivity (*Russian*) 9-1598
- ZnSe, dislocation motion, influence on elec. cond. 9-15149
- ZnSe:Ga, defect struct., Hall effect and resist. meas. 9-1428
- ZnSe:In, single crystals, new vapour phase growth method, elec. cond. props. and photoluminesc. spectra 9-19982
- ZnSiAs₂, electron irradi., defects, elec. and optical props. 9-19282
- n-ZnSnP₂:Ga, elec. cond. and Hall meas., 77 to 1000K, scatt. mechanisms 9-11153
- ZnTe, effect of quenching on electrical props. 9-1920
- ZrO₂ electrolyte cells, elec. props. 9-24477
- ZrO₂-CaO-SiO₂, relationship between texture parameters, and sintering, elec. cond. and mech. strength props. (*German*) 9-24474

electrical conductivity of electrolytic liquids

- see also *electrochemical analysis; electrolytic ion mobility; Wien effect*
- electrolyte solution, Brownian dynamics approx., time evolution and transport props. 9-37604
- electrolytes, complete conductance eqn., hydrodynamic terms 9-23755

electrical conductivity of electrolytic liquids continued

- Hall effect, in flowing electrolyte, student expt. 9-21501
- measurement of conductivity, bridge cct. for cond. cell (*German*) 9-9220
- paired ion model, conductance-conc. function 9-37603
- solutions, in ethylene carbonate viscosity and conductance meas. at 40°C 9-28122
- ultrapure water electrolytic conductivity meas. 9-24755
- BaCO₃, soln. kinetics and activation heat (*German*) 9-16031
- KBrO₃, KIO₃ and K₂SO₄, in dioxane-water mixtures, ion-solvent interaction and conductance 9-34315
- KCl, mol. dynamics study 9-28116
- KI, soln. in organic solvents, elec. cond., shock compression effects 9-46822
- La₂O₃-Li₂B₄O₇-Li₃AlF₆ melts, LaB₆ electrodeposition, pot.-current curves 9-20378
- MgSO₄, aq. soln., electrolytic conduct. affected by US waves 9-23997
- NaBrO₃, NaIO₃ and Na₂SO₄, in dioxane-water mixtures, ion-solvent interaction and conductance 9-34315
- electrical conductivity of gases**
- see also *space-charge-limited conduction*
- air, conduction current, effect of cross mag. field 9-18990
- cyclohexane, gaseous, crit. and liq., density and temp. effects on electron mobilities 9-27739
- cyclopentane, gaseous, crit. and liq., density and temp. effects on electron mobilities 9-27739
- electron drift velocity, density dependence, high press., quantum mech. theory 9-1285
- flame plume behind bluff body with fuel injection, elec. cond. mechanism 9-39150
- n-hexane, gaseous, crit. and liq., density and temp. effects on electron mobilities 9-27739
- weakly ionised gas, relaxing, negative cond., kinetic eqn. anal. (*Russian*) 9-4101
- CO, electron scatt. cross sections for momentum transfer and inelastic excitation 9-36782
- H₂, lateral diffusion to electron mobility ratio 9-1284
- KOH, electron collisions, integrated and momentum transfer cross sections, cond. integrals 9-41238
- N₂, lateral diffusion to electron mobility ratio 9-1284
- SiF₆, electrical conductivity calc., 2000 to 50000K 9-14512
- ScOH, electron collisions, integrated and momentum transfer cross sections, cond. integrals 9-41238
- electrical conductivity of liquids**
- see also *electrical conductivity of electrolytic liquids*
- baddeleyite-corundum refractories, fused, elec. resist., 1300-2300°C 9-28345
- cholesteryl laurate-cholesteryl caprilate mixture, elec. cond. mechanism 9-10796
- cyclohexane, gaseous, crit. and liq., density and temp. effects on electron mobilities 9-27739
- cyclopentane, gaseous, crit. and liq., density and temp. effects on electron mobilities 9-27739
- emulsion of H₂O-alcohol, elec. cond. rel. to conc. 9-20471
- n-hexane, gaseous, crit. and liq., density and temp. effects on electron mobilities 9-27739
- hydrocarbons, localised and quasifree excess electron mobility, cond. state energy and temp. depend. 9-4588
- MBBA-EBBA mixture, nematic liquid cryst., anisotropic effects in dielec. cond. of thick samples 9-10795
- MBBA-EBBA mixtures, quinone and hydroquinone doped, dynamic scatt., elec., electro-optical props. 9-37616
- metals, effect of multiparticle interionic correls. (*Russian*) 9-28333
- metals, monovalent, divalent and trivalent, resist. and thermo-electric power using corrected parameters of Shaw model 9-19566
- nematic liquid crystal, volt-ampere characteristic nonlinearity (*Russian*) 9-33292
- neopentane, liq., excess electron mobility, elec. field depend., parity and differentiability restrictions 9-38141
- polar liquids, activation energy for viscosity, rel. to charge distrib. 9-37865
- rare earth, liquid, divalent electrical resist. 9-38039
- rare earth, liquid, trivalent, electrical resist. 9-42514
- rare earth metals, structure factors, calc. of temp. coeff. of resistivity, one component plasma model 9-32881
- sepiolite, clay mineral in suspension, elec. cond., depend. on length 9-38520
- solvent, ion migration and frequency-dependent dielectric loss 9-19832
- transition metal liquids, electrical transport 9-38040
- transition metals, structure factors, calc. of temp. coeff. of resistivity, one component plasma model 9-32881
- water-in-dodecane microemulsions, struct. transitions in liq. cryst. phase, dielec. props. 9-28669
- Ag₂Te, liq., elec. cond. at high temps. and pressures 9-11119
- CaO-SiO₂-NiO melt, viscosity and elec. cond., effect of NiO conc. (*Japanese*) 9-23760
- Ce-Sn, liq., elec. resistivity negative temp. coeff., CPA calcs. 9-42515
- Cu_{1-x}Ga_x liquid alloys, elec. resistivity 9-47073
- CuInSe₂-CuInS₂, melts, viscosity, elec. cond., density composition prop. graphs 9-14948
- Fe particles in Hg, ferromagnetic liquid, resistivity 9-1591
- GaTe₃, liq., elec. resistivity meas. up to 30 kbar 9-38070
- Gd, thermal diffusivity, conductivity and elec. cond. 110 to 2100K 9-42516
- H₂, liq. metal, electron kinetic eqn. with exchange, elec. resist. 9-15131
- Hg, expanded, thermodynamic and electron transport props. 9-23938
- Hg, resistivity from X-ray diff. struct. at -30 to 290°C 9-46551
- Hg-In (3 at.%), amalgam, thermodynamic and electron transport props. 9-23938
- Hg-Na (3 at.%), amalgam, thermodynamic and electron transport props. 9-23938
- HgCl₂, solid and molten state, elec. conductance, relative behaviour 9-33113
- HgI₂, solid and molten state, elec. conductance, relative behaviour 9-33113
- In₂Te₃, liq., elec. resistivity meas. up to 30 kbar 9-38070
- Li-In, liquid alloy, elec. resist., Knight shift of ¹¹³In and ⁷Li nuclei 9-11352
- Li-NH₃, conc. solns., elec. cond. and thermoelec. power 9-19640
- NaH solution in liq. Na, elec. resist. and solubility 9-14934

electrical conductivity of liquids continued

- $\text{Na}_2\text{O-SiO}_2\text{-NiO}$ melt, viscosity and elec. cond., effect of NiO conc. (Japanese) 9-23760
 Nb_2O_5 solution in liq. Na, elec. resist. 9-14934
 Rb, static struct. and electronic transport props., pseudopotential calc. 9-7543
 Se, liquid-crystal phase transition, elec. cond. changes 9-33310
 Te, liq., elec. resistivity meas. up to 30 kbar 9-38070
 Ti-Te, liquid alloy, miscibility gap 9-10952
 Ti_2Te , liq., elec. resistivity meas. up to 30 kbar 9-38070
 W, density at onset of sharp fall in elec. cond. 9-33026

electrical conductivity of one-dimensional systems *see one-dimensional conductivity***electrical conductivity of plasmas** *see plasma transport processes***electrical conductivity of solids**

see also electrical conductivity of amorphous metals and alloys; electrical conductivity of amorphous semiconductors and insulators; electrical conductivity of crystalline metals and alloys; electrical conductivity of crystalline semiconductors and insulators; electronic conduction in crystalline semiconductor thin films; electronic conduction in insulating thin films; electronic conduction in metallic thin films; ionic conduction in solids; recovery; superconductivity

- binary mixtures, near percolation threshold, expt. model (French) 9-1589
 bond-disordered conductance lattices, real-space renormalisation 9-7812
 composite, unidirectional, percolation in thin ply 9-42511
 conductive filler polymer composites, theoretical study 9-19585
 critical resistivity of mag. solids 9-42213
 crystalline films, dispersion law and struct. transition, Fermi line geometry, acoustic spectrum, resist. min. (Russian) 9-7764
 DC resistivity as functional of generalised dynamical susceptibilities, solid state model 9-28330
 disordered alloys, influence of strong hybridization on elec. cond. 9-11097
 disordered material, elec. cond. and density of states, scaling relations 9-28329
 disordered system, particle diffusion in Anderson model 9-33273
 fuel rod, simulated, for HTGR, pre- and postirradiation thermal transport and thermal expansion 9-6742
 Hubbard model, random one-body approx., higher dims. lattices 9-37945
 inhomogeneous materials, effective medium theory with dipole-dipole interactions 9-4544
 metal, isotropic Fermi surface, cond. tensor calc., cyclotron waves 9-42528
 metals, Bloch theory agreement and limitations 9-28332
 molecular solid, electronic polaron, excess electron transport, polarisation dynamical self consistency depend. 9-47030
 open electron-phonon system, statistical electron transport theory 9-11096
 organic free-radical solid conductors and semiconductors, electronic structure 9-35496
 percolation problem, recursion eqn. (Russian) 9-38038
 polymeric compositions containing elec. cond. filler, struct. effect on elec. props., review (Russian) 9-33317
 porous bodies, exam. of conductivity 9-4543
 random resistor lattice, bicritical macroscopic cond. exponent in dimensionalities two, three and infinity 9-33272
 scaling theory of localization: absence of quantum diffusion in two dimensions 9-38037
 site-diluted resistor networks, renormalisation group approach 9-15128
 solid-state theory, introduction, book 9-33215
 ternary alloys, disordered, elec. cond. and density of states, CPA calc. (Russian) 9-47072
 thin films, ion-bombarded, simple model of dose depend. of resist. 9-42669
 wax-graphite composite, electrical cond. 9-24044
 $\text{Al}_2\text{O}_3\text{-Fe}$ cermet, microstruct. and physical props. 9-42279
 Au-WO_3 electrochromic cermet, optical and electrical props. 9-33674
 Au-WO_3 electrochromic cermets, resist. and optical density meas. 9-8201
 C fibre reinforced $\text{CuO-H}_2\text{PO}_4$ effect of C fibre on props. 9-43192
 C fibre reinforced plastic, moisture content effect on elec. resist. 9-38992
 CoS_2 , change in resist. by Fe impurity 9-7990
 Cr-SiO film, elec. props., effect of P^+ and Ar^+ implantation 9-11239
 HgCl_2 , solid and molten state, elec. conductance, relative behaviour 9-33113
 HgI_2 , solid and molten state, elec. conductance, relative behaviour 9-33113
 NbSe_3 , incommensurate CDW, X-ray scatt. and elec. field studies 9-42471
 Pt-WO_3 electrochromic cermet, optical and electrical props. 9-33674
 SiP^+ ion implanted, selective annealing of amorphous layers by Nd^{3+} :YAG laser irradi. 9-14823
 $\text{Ti-Al}_2\text{O}_3$ system mixed films, prep., phase comp., struct. and elec. props. 9-37930
 ZnO ceramic varistors, trapping by localized states, effect on dielec. and elec. props. (Russian) 9-28671
 ZnO-ZnS powder mixtures, elec. cond. and Hall effect meas., percolation effects 9-7828

electrical conductivity transitions

see also metal-insulator transition

- alloys, binary narrow-band, metal-dielectric transition, off-diagonal disorder (Russian) 9-4512
 amorphous inorganic semiconductor, elec. switching, aggregated electrons emulsion inversion as possible mechanism 9-38139
 anomalous frequency-dependent conductivity in disordered one-dimensional systems 9-46834
 carboxylic acid metallic salts, laminated cpds., nature of cond. (Russian) 9-42512
 inhomogeneous materials, effective medium theory with dipole-dipole interactions 9-4544
 lead phthalocyanine film, switching effects 9-28384
 melanin, wet, elec. switching, aggregated electrons emulsion inversion as possible mechanism 9-38139
 polymer films, threshold switching, statistical aspects 9-33315
 polyvinylidene fluoride, crystn. process and elec. cond., differential scanning calorimetry 9-24024
 semiconductors, n-type, metal-insulator transition and negative resist. effects 9-24026
 TCNQ salt , NMeQn(TCNQ)_2 , role of solvent in phase transition, thermal anal. and transport props. 9-33312

electrical conductivity transitions continued

- threshold switching as a generation-recombination induced non-equilibrium transition 9-33314
 TTF-TCNQ , elec. cond., role of librations 9-19580
 $\text{Ag}_2\text{O-P}_2\text{O}_5$, amorphous metaphosphate, memory cell with low switching fields (German) 9-19641
 $\text{Ag}_2\text{S(Se)(Te)}$, changes in elec. cond. and thermoelec. power at melting point 9-15147
 Au island films, forming process, I-V characts., and switching 9-11242
 AuI, elec. cond. 9-42302
 $\text{CdCr}_2\text{S}_2\text{(InGa)}$, resist. and magnetoresist. meas., effect of donor impurities 9-19608
 $\text{CdF}_2\text{Mn, Y}$, deconversion due to vacuum heat treatment, elec. resist. and electron probe meas. 9-24025
 $\text{n-Cd, Hg}_{1-x}\text{Te}$, conductivity inversion under laser radiation (Russian) 9-15198
 CeAl_2 , electronic transition under pressure, resist. meas. 9-33311
 CuCl , high press. phases and anomalous props. 9-7689
 FeSi_2 films, structural and Anderson transitions, cond. and IR reflectance meas. 9-15200
 GaAs , amorphous, switching obs. 9-11190
 Ge-S-In , chalcogenide glass, determ. of glass phases, phys. props. meas. 9-23526
 HfV_2 , C15 supercond., dielec. transitions, temp. depend. of resist. and mag. susceptibility, 4.2-300K 9-38136
 InAs-GaSb superlattice energy struct. and semiconductor-semimetal transition 9-23893
 InSb , high-purity, electron irradiation effects on transport props., evidence for semicond.-metal transition 9-23650
 K solution, in KBr, conc. fluctuations, neutron small-angle scatt. study in electrolyte-metal transition range 9-14668
 KNbO_3 , elec. and thermoelec. singularities due to small polaron hopping motion cond. transition 9-42565
 Li-NH_3 , conc. solns., elec. cond. and thermoelec. power 9-19640
 NiS , semiconductor-metal transition, UPS and XPS 9-23896
 Pd_2F_6 , evidence of an electronic transition under high press. (French) 9-42596
 Sb_2Se_3 , monostable switching effect (Russian) 9-33316
 Se, amorphous, struct. and elec. cond. transitions under high press. 9-42237
 Se, liquid-crystal phase transition, elec. cond. changes 9-33310
 Si, heavily doped, doping density striation effects in metal-nonmetal transitions studies 9-28383
 Si-Au amorphous film, metal-nonmetal transition, elec. cond., thermoelectric power meas. 9-47132
 SiC , thermal Si-N switching 9-24027
 $\text{Si}_{12}\text{Ge}_{16}\text{As}_{36}\text{Te}_{48}$ chalcogenide glass, switching in thin layers with semicond. electrodes 9-4586
 $\text{Sm monochalcogenides}$, semicond.-metal phase transition 9-47017
 $\text{Sm}_{1-x}\text{R}_x\text{S}$, (R is rare earth metal), semicond.-metal phase transition 9-47017
 TaS_2 (1T), Hall effect 9-38103
 $\text{Ta, Ti}_{1-x}\text{Se}_2$ cryst. struct. and elec. props. 9-47133
 Ti_2O_3 , $3d\text{-T}_{2g}$ band optical transitions near conductivity transitions, temp. depend. 9-19900
 Ti_2O_3 , piezoresistivity and semiconductor-semimetal transition 9-42595
 V foil, air-oxidised, reversible switching, mechanism determ. 9-28387
 VO_2 , elec. cond. and dielec. props. 9-11379
 VO_2 needles, switching, voltage oscils. 9-15199
 VO_2 , single crystal, fluctuations of current and switching time 9-38137
 V_2O_5 , cond. transition at 154°C , effect on props. (German) 9-42594
 V_2O_5 , resistivity switching due to phase transition, 154°C 9-19642
 $\text{V}_x\text{Ti}_{1-x}\text{Se}_2$, cryst. struct. and elec. props. 9-47133
 Xe, metallic state at static press., elec. cond. meas. 9-33313
 $\text{ZnSi}_{1-x}\text{Se}_x\text{-Cu, Br}$ ceramic, current oscils. and electrolum. under high elec. fields 9-38677
 ZnSe:Al , current switching mechanism (German) 9-28385
 ZrV_2 , C15 supercond., dielec. transitions, temp. depend. of resist. and mag. susceptibility, 4.2-300K 9-38136

electrical contacts

see also contact potential; contact resistance; ohmic contacts; point contacts

- cermet Ag based contacts, Brinell and Vickers hardness number comparison 9-38978
 erosion and aggregate condition near discharge, cellular structure effects (Russian) 9-37557
 relays, measurement of thermoelectric voltage across contacts for different metals (German) 9-26040
 superconducting quantum magnetometer with two-contact sensor, asymptotic characteristics 9-6155
 surface film, method of obs. of contact area and mech. breakdown 9-37939
 Ag-Pd-Cu , contact-spring props., fatigue and spring limit (Japanese) 9-29117
 Al/NiSi/Si system, high temp. interaction study, elec. and struct. characts. 9-24075
 Au-Ge-Si structure, O distrib. profile in Ge, from emitted α -particle energy anal. of $^{18}\text{O}(\alpha, \alpha)$ 9-5213
 Au-Si structure, O distrib. profile in Au, from emitted α -particle energy anal. of $^{18}\text{O}(\alpha, \alpha)$ 9-5213
 Cu_2O and CuO powders, contact resistance, temp. and pressure dependence, obs. (German) 9-4555
 InP ohmic contacts 9-28406
 IrSi on Si, Schottky barrier height meas. 9-47160
 Si, radiation detector, barrier heights, electron and hole currents, Schottky contact effects 9-33293
 n-Si-Ni , Schottky-barrier, I-V characts. of elec. contact 9-19662

electrical contracting

- Li-FeS_2 battery development, for electric vehicles and stationary energy storage devices ANL program with industrial participation 9-48113

electrical engineering

see also high-voltage engineering

- climatic conditions of equipment in Rumania, classification (Rumanian) 9-44242
 electrooptics for electrical engineers, undergraduate curriculum 9-11
 engineering education, perspective and some current problems 9-10

electrical engineering applications of computing *see electrical engineering computing*

electrical engineering computing

see also computerised control; computerised instrumentation; electric machine analysis computing
circuit-breaker induction calc. using standard finite element software 9-41906

cylindrically symmetric arcs, radial radiative energy flux distrib. 9-14623
electrostatic field solution, two-dimensional, using Sander's function 9-878

hysteresis modelling and digital simulation, using cubic spline functions (*German*) 9-4706

LF fields in linear media, two-dimensional finite element analysis 9-41297

permittivity meas. through ponderomotive forces determ., computer-aided field analysis 9-215

pole pieces with cavities, correction effect modelling (*Czech*) 9-45879

two dimensional electrostatic field shape investigation (*Czech*) 9-27126

SF₆, compressed in space-charge stabilised nonuniform fields, corona threshold computation 9-19118

electrical fault location *see fault location*

electrical faults

see also accidents; discharges (electric); electric distortion; fault location; flashover; insulation; losses; overvoltage; protection; testing; transients
components, mathematical simulation of life (*Spanish*) 9-21532

electrical forming *see electroforming*

electrical insulation *see insulation*

electrical noise *see noise*

electrical power systems *see power systems*

electrical properties of substances

see also dielectric properties of substances; discharges (electric); electrical conductivity; flexoelectricity; thermoelectricity
No entries

electrical resistance measurement *see electric resistance measurement*

electrical transport processes *see electrical conductivity*

electricity

see also atmospheric electricity; electric charge; electric current; electrical properties of substances; electromagnetism; terrestrial electricity
nuclear power, electricity generation and use in energy conversion 9-9921
SUPERCHARGE game for student visualis. of equipot. surfaces 9-30179

electricity supply industry

advanced electric power utilisation technology, review 9-24884
economic assessment of renewable sources, for UK conditions 9-48043
offshore energy conversion (OTEC) plant design, technology considerations 9-5507

storage of off-peak power, thermal, high efficiency 9-48188

thermionic conversion appl., Department of Energy (USA) development program 9-48154

United States' Pacific Northwest Electric Utility, strategic solar energy planning program 9-48101

electro-optical devices

see also liquid crystal devices; optical modulation; Q-switching
active Y-junction switching devices in Ti diffused LiNbO₃ optical waveguides 9-23091

atmospheric degradation of electrooptical system performance 9-34940

coupled-waveguide optical modulators with Schottky contacts, embedded- and rib-waveguide configurations 9-23093

curriculum in electrooptics for electrical engineers 9-11

deflector, light beam streaking by induced travelling lens 9-46045

deflectors using electro-optically controlled interference 9-1007

device fabrication by MBE 9-43154

display structure based on reversible electrodeposition 9-15435

distance measuring instruments, Zeiss ELDI 2 type, error anal. (*German*) 9-21081

dynamic electro-biased laser Q-switch with SCRs (*Chinese*) 9-45977

electroabsorptive devices, material requirements 9-3754

Fabry Perot wide-band electrooptic type modulator, modulation sensitivity 9-3724

fail-safe fibre optics data bus using active electrooptic mirror terminals 9-23053

ferroelectric ceramic, optical modulation by electrostriction during electron beam charging, spatial characts. 9-7224

holographic storage, electro-optic crystals (*German*) 9-27198

integrated electro-optic modulators, review 9-37058

integrated optical device used as switch, amplifier, limiter and memory logic element 9-32090

Kerr shutters, for Q-switching and radiation pulse shaping in Nd-glass lasers 9-3729

light modulation by electro-optical device with feedback 9-41448

Mach-Zehnder interferometric waveguide modulator, polarization-independent operation 9-18552

microchannel spatial light modulator, for real-time optical data processing 9-18534

mirrorless electrooptic device with feedback, optical multistable operations 9-32051

modulator, thin-film, for fibre optical communication system 9-10407

multi-functional electro-optical device with feedback 9-32055

multimode waveguide modulator/switch 9-10383

multiplexer system for multimode fibre data communications 9-18510

optical switching device using leaky surface wave, controlled by electro-optic effect 9-23090

photo-optical polarising optical system as elec. signal generator 9-1000

Pockels cell drive pulser in multiarm laser 9-14001

profile meas., automated equipment appl. 9-21701

Q-switch for pulse-periodic Nd³⁺:YAG laser 9-45975

Q-switch pulsed modulation to produce dye laser nanosecond duration pulses 9-41403

shutter, passive switching to produce ruby laser picosecond pulse generation 9-36942

space testing and qualification, using NASA Long Duration Exposure Facility 9-5725

spatial light modulator, for optical data processing, 1978 state of art and development trends 9-7201

waveguide 3X3 switch, tuning and control theory 9-41458

waveguide modulator for fibre transmission systems, temperature stabilized (*Japanese*) 9-27391

waveguide modulator for single-mode optical fibre transmission system, temp. stabilized 9-41450

electro-optical devices continued

Bi₁₂SiO₂₀ crystal, for programmable optical guided-wave device 9-23069

Bi₁₂SiO₂₀, optical information recording, PROM device resolution 9-41443

GaAs, electroabsorpt. avalanche photodiode waveguide detector, freq. demultiplexing 9-17486

GaAs Schottky barrier modulator, strain induced optical waveguiding 9-27388

GaAsP epitaxial waveguide, electro-optic phase modulation of laser radiation 9-10417

LiNbO₃ deflector, use in streak camera of approx. 100 ps resolution 9-18533

LiNbO₃, thin-film electrooptic modulator, optimal characts. 9-10405

LiNbO₃, Ti diffused, optical waveguide isolator using electrooptic branching waveguide 9-18532

LiTaO₃, Ti diffused, electrooptic diffraction modulation 9-10381

PLZT ceramic, transverse electro-optical effect, matrix-addressable transparency 9-27431

PLZT real time 2 colour incoherent to coherent image converter 9-3805

Si₃N₄ waveguide layer, as electro-optic phase modulator 9-23081

electro-optical effects

see also electroabsorption; electrochromism; electroluminescence; electroreflectance; Kerr electro-optical effect; photorefractive effect; Pockels effect; Stark effect

air, light flash excited by γ-ray source, electric field effect 9-14514

p-n-alkoxybenzoic acid series, nematic liq. crystals., electrooptical props. 9-15438

anisaladazine, colloidal particles in water, elec. polarisability anisotropy 9-39208

anisotropy in plane of light wavefront 9-8121

benzenes, para-disubstituted, liq., 2nd order hyperpolarisabilities, regularities, intramol. charge transfer 9-10353

cholesteric liquid crystal, anisotropy fluctuations suppression by elec. field (*Russian*) 9-32900

colloid, dichroism in homogeneous elec. field 9-8122

conference, ferroelectric materials and their applications, Kyoto, Japan, Nov. 17-19, 1977 9-19846

curriculum in electrooptics for electrical engineers 9-11

cyclohexane-methanol, crit. opalescence, elec. field effect 9-28775

diamond, colloidal particles in water, elec. polarisability anisotropy 9-39208

dichroic colloidal particles, size distrib. determ. by electro-optical method 9-6087

trans-4-dimethylamino-4'-nitrostilbene, mol. hyperpolarisability in soln., UV dispersion of charge transfer contrib. 9-31986

electric circular dichroism in optically active fluid 9-19862

liquid crystals, effects and appls., review (*Chinese*) 9-32905

liquids, DC elec. field induced optical rectification and SHG 9-46005

macromolecular solution, light scatt. in AC electric field 9-47468

macromolecular solutions, orient. in laser beam elec. field, anisotropic light scatt. 9-1768

macromolecules, scatt. methods, conf., Prague, Czechoslovakia, (July 1976) 9-1764

macromolecules in soln., Rayleigh scatt., elec. reorient. rel. to spectral line rot. broadening 9-1774

MBBA, nematic liq. crystals., AC excited, dynamic light scatt., orient. fluctuations 9-1769

MBBA-EBBA mixtures, quinone and hydroquinone doped, dynamic scatt., elec., electro-optical props. 9-37616

methane, Raman intensity from electro-optical parameters 9-36645

nematic liquid crystal, ZhK-440, new type of electrohydrodynamic instability 9-14677

nematic liquid crystals, temp. dependent props., twisted nematic displays 9-32901

p-nitroaniline, mol. hyperpolarisability in soln., UV dispersion of charge transfer contrib. 9-31986

nonlinear fourth-order electro-optical effect, calc. of sixth-rank tensor 9-24291

phase transitions, ferroelectric and structural, refractive indices and electro-optics 9-19850

photo-induced electron and hole transport in electro-optic crystals, holographic method for determ. 9-28375

piezoelectric cryst., excitation and energy flux of acoustic harmonic, amplitude depend. on electro-optic nonlinearity 9-15404

Rochelle salt, electrogyration during phase transitions 9-19859

semiconductor, IR transmission, cond. variations effects 9-15158

semiconductor, optical generation of carriers under Franz-Keldysh effect conditions, instability 9-24017

semiconductor, piezoelectric, modulational instability of far IR laser, in presence of DC field 9-47117

semiconductor diamagnetic excitons in strong elec. field, optical absorpt. line intensities 9-38002

semiconductors, Benard effect, influence of extreme elec. field (*Russian*) 9-1750

simple liquids, Raman spectroscopy, electric field induced changes (*German*) 9-28715

smectic mesophases, viscoelastic properties and field instabilities 9-27904

suspension of rod-like molecular particles, rot. diffusion coeff. from decay rate of birefr. 9-38520

Tanane, dielec. and electrooptic meas. near ferroelec. transition 9-33587

1,2,3,4-tetrachloro-7,8-diphenylcalicene, excited states, moments anal. of electro-optical spectra 9-22698

TGS, electrogyration during phase transitions 9-19859

Ba₂NbNb₂O₁₅, electrooptic coeffs. and refractive indices 9-33673

Ba₂NbNb₂O₁₅, Raman spectra in elec. field 9-1763

BaTiO₃, dielec. and optical props. using shell model 9-33654

BaTiO₃:Mn²⁺, electrooptical effect, charge transfer mechanism, defect. pair form. 9-38519

Bi₁₂GeO₂₀, electron beam recording 9-32075

Bi₁₂SiO₂₀, image recording possibility 9-27432

Bi₁₂SiO₂₀ in insulator-semicond.-insulator struct., induced birefr., influence of kinetics of transient processes 9-24294

CO₂, electrooptic constants, IR absorption spectrum in 2ν₃ vibration band 9-3442

CdS, domain elec. instabilities, elec. field and temp. distrib., optical meas. 9-11405

CdS, photoexcitation, effect of elec. field (*Russian*) 9-1751

n-GaAs, IR transmission, cond. variations effects 9-15158

GaAs MOS and Schottky systems, electromodulated reabsorption of luminesc. 9-15524

electro-optical effects continued

- α - HfO_3 , electrogyration coeff. meas. 9-19859
- InGaAs-GaSbAs periodic structures, with controlled emission 9-7880
- KNbO_3 , dielec. and optical props. using shell model 9-33654
- LiIO_3 , electrogyration coeff. meas. 9-19859
- LiNbO_3 , electro-optical modulator, principal refr. indices and electrooptic coeffs. 9-42947
- LiNbO_3 , light diffraction from volume phase holograms 9-36860
- LiNbO_3 , Y-cut, waveguide form. by Ti diffusion, refr. index and electrooptic coeffs. 9-14114
- $\text{LiNbO}_3\text{:Fe}^{3+}$, electrooptical effect, charge transfer mechanism, defect. pair form. 9-38519
- $\text{LiNbO}_3\text{:Ti}$ optical waveguides, elec. field tuning of SHG, phase-matching condition 9-41412
- NH_4Cl , order-disorder phase transform., effect of plastic deform. and electrooptic effect 9-33672
- NaClO_3 , electrogyration and piezogyration meas. 9-28716
- PLZT ceramic with memory, domain reorientation, alternating elec. field effect 9-47405
- PLZT ceramics, electro-optical props. (*Korean*) 9-11406
- PLZT ferroelectric display electro-optical props. (*Russian*) 9-9211
- $(\text{Pb}_{1-x}\text{Bi}_x)_2\text{GeO}_{11}$, spontaneous and induced electrogyration 9-42946
- $\text{Pb}_2\text{GeO}_{11}$, electrogyration during phase transitions 9-19859
- PbHPO_4 , optical props. near ferroelec. transition 9-33663
- $\text{PbMg}_{1/3}\text{Nb}_2/3\text{O}_3$ single cryst., electro-optical hysteresis curves and phase transitions (*German*) 9-28717
- PbMoO_4 , electrogyration coeff. meas. 9-19859
- $\text{Sr}_{0.25}\text{Ba}_{0.75}\text{Nb}_2\text{O}_6$ film, growth and electrophys. props. 9-42928
- $\text{Sr}_{0.75}\text{Ba}_{0.25}\text{Nb}_2\text{O}_6$ single cryst., electro-optical hysteresis curves and phase transitions (*German*) 9-28717
- SrTiO_3 , electrooptic coeffs. 9-33673
- ZnS , refr. index oscils. in strong, elec. field 9-28720
- ZnSe in insulator-semicond.-insulator struct., induced birefr., influence of kinetics of transient processes 9-24294
- ZnSe single crystals, birefringence due to native defects and electro-optic effect (*French*) 9-24293

electroabsorption

- PAA, nematic liq., cryst., light transmission in high elec. field grad. 9-19150
- semiconductors, impurity electro- and magnetoabsorpt. coeffs., deep levels 9-24340
- semiconductors with narrow band gap, multiphoton magneto-absorption and electro-absorpt. (*Russian*) 9-19867
- solids, physical principles underlying electroabsorptive phenomena, optical system appl. 9-3754
- GaAs, electroabsorpt. avalanche photodiode waveguide detector, freq. demultiplexing 9-17486
- GaAs, two-photon electroabsorption by excitons 9-42944
- $\text{GaAs}_{1-x}\text{Sb}_x$ epitaxial n-n heterostructures, gap energies and interface pots., modulation electroabsorpt. meas. 9-11201
- GaTe:Sn, electroabsorption spectra 9-19901
- $\text{Ge}_{1-x}\text{Si}_x$, with Si implanted ions, optical and photoelec. props. 9-24014
- $\text{KCl-Tl}^+ \text{Ca}^{2+}(\text{Si}^{2+})$, electrolytic colouring, colour centre form., optical absorpt. spectra 9-15497
- SiC:B , electroabsorption, 0.35-0.45 eV, under UV illumination 9-4831
- ZnSe , exciton-impurity complex, electroabsorption meas. 9-15484
- ZnTe:In(Al) , pure and doped, Zn vacancy energy levels, elec. and optical props. 9-4827

electroacoustic effects *see acoustoelectric effects***electroacoustic generators** *see acoustic generators***electrocaloric effects** *see pyroelectricity***electrocardiogram** *see electrocardiography***electrocardiography**

- see also bioelectric potentials; biomagnetism; cardiology*
- absolute ECG and clinical map curve experiences 9-39556
- acute myocardial infarction, electrophysiological aspects 9-43858
- analogue and digital transmission 9-39564
- analogue cct. for fast-response frequency measurement, used for foetal heart rate 9-21708
- analysis program testing 9-25146
- aortic and mitral regurgitation patient surgery and vectorcardiogram changes 9-44050
- arrhythmia and conduction disturbance diagnosis from His bundle electrogram 9-44032
- arrhythmia incidence and cardiac freq., ECG recording during athletes' sleep 9-43860
- arrhythmia monitor, solid state delay unit 9-25126
- arrhythmia sorting, oesophageal electrode for atrial electrogram 9-39574
- arrhythmias, comparison of incidence and prevalence in acute myocardial infarction 9-39380
- atrial electrical activity, triaxiacardiometric analysis 9-39585
- atrial electrical activity evaluation, external method 9-44030
- atrial electrogram monitoring for diagnosis of complex cardiac dysrhythmias 9-39567
- atrial septal defect differential diagnosis by vectorcardiogram and computer 9-44040
- atrioventricular and His bundle conduction disorders in noncoronarygenic diseases 9-43848
- atrioventricular sequential demand pacemaker, R-wave sensing methods (*Japanese*) 9-5406
- biological precision rate calibrator 9-20731
- bipolar suction electrode catheter for intracavitary ECG 9-44018
- blood pool, dynamic radio-isotopic images, time-motion display 9-5347
- body surface and epicardial activity, computer-aided meas. system 9-39551
- body surface ECG potential mapping, data acquisition system 9-29653
- body surface mapping of cardiac field, computer-aided pattern recognition 9-39553
- body surface potential image recording and processing methods 9-20704
- cardiac conduction system, noninvasive external recording of activity 9-39548
- cardiac contraction kinetics recording method 9-12025
- cardiac event sequence following mental loading, spectral anal. 9-29516
- cardioelectrical field, human, intraindividual variability obs. 9-39404
- cardiotopological data reduction 9-39392
- clinical decision support systems, automated medical signal anal. 9-34685
- complex ECG and triaxiacardiometric recording and analogue processing 9-44023
- computer-evaluated ECG parameter correlation with constitutional variables in infants and children 9-39406

electrocardiography continued

- computerised ECG monitoring system, features (*Swedish*) 9-44005
- computerised systems, current status and future trends (*Japanese*) 9-44013
- computerised ECG diagnostic system validity experiences 9-39571
- congenital cardiac disease VCG processing, right ventricular hypertrophy criteria 9-39575
- coronary artery disease, ^{201}Ti perfusion scintigrams compared to ECG 9-25069
- coronary artery disease, clinical value of ^{201}Ti stress test compared to ECG 9-29595
- coronary artery disease, serial VCG and ventriculogram sensitivity to infarct size 9-44044
- coronary artery disease diagnosis, exercise ECG, VCG and body surface mapping 9-44046
- data processing development, status, and trends 9-39558
- diagnostic efficiency improvement by cardiovascular system model dynamic optimisation 9-39569
- diagnostic information from HF notches 9-39570
- diagnostics automation problems 9-39577
- distributed microprocessor system for cardiac arrhythmias detection and diagnostic 9-25142
- Einthoven, Willem, (1861-1927), electrocardiological work 9-35514
- electric field probabilistic model 9-39387
- electrical generator, integral characts. meas. by automatic cylindrical coordinator 9-29646
- electrocardiology 4th International Congress, Balatonfured, Hungary (Sept. 1977) 9-39384
- electrophonocardiographic systolic time intervals, influences on 9-34681
- EM field computation, method of secondary sources 9-39391
- engineering in medicine and biology, conf. Atlanta, USA (Oct. 1978) 9-39332
- epicardial activation sequence rel. to body surface maps, right bundle branch block induced in dogs 9-39402
- exercise ECG quantitative analysis system (*Japanese*) 9-29652
- exercise ECG repolarisation phase, T-wave amplification obs. 9-43845
- exercise rehabilitation of cardiac defect patients, QRS complex affinity assay 9-43854
- exercise vectorcardiogram, spatial velocity and magnitude ECG correlation 9-43846
- exercise vectorcardiogram changes rel. to left ventricular function at rest 9-43859
- Frank ECG correlates of left ventricular ejection fraction 9-39405
- frequency spectrum anal., clinical usefulness 9-25147
- Graphic Interactive System for Processing of Electrocardiographic Maps 9-39552
- heart rate and sinus arrhythmia obs. during health-resort treatment 9-43855
- His-Purkinje system pots., effects of filtering 9-48355
- hypertensive left ventricular hypertrophy, orthogonal ECG multivariate analysis 9-39579
- industrial health service automated ECG analysis results 9-39563
- initial QRS vector displacement in healthy young adults 9-43856
- intra-atrial conduction block vectorcardiogram diagnosis 9-44036
- intracardiac ECG trends 9-44031
- inverse electrocardiology regularisation method, isolated canine heart expt. 9-39393
- ischemic cardiac disease determ., heartbeat interval analysis and questionnaire evaluation 9-39580
- ischemic heart disease, conventional and orthogonal-lead ECG comparison by coronary angiogram discriminance analysis 9-44043
- ischemic myocardial reactions, triaxiacardiometric obs. 9-43844
- ischemic myocardium ST segment electrical alternans obs. 9-43857
- ischaemic triaxiacardiographic changes induced by exercise 9-39407
- isopotential surface map data reduction 9-39557
- juvenile T-wave pattern incidence rel. to age and QRS transition zones 9-43849
- Karhunen-Loeve expansion, automatic phase alignment 9-48356
- latent cardiac arrhythmia detection, His bundle electrogram and long-term ECG methods 9-44033
- leads X+20 $^{\circ}\text{H}^{\circ}$ and Z+20 $^{\circ}\text{H}^{\circ}$, additional information 9-44037
- left septal fascicular block, conduction disturbance obs. 9-43851
- left ventricular aneurysm, triaxiacardiometric criteria 9-39586
- left ventricular hypertrophy and bundle branch block, vectorcardiogram interpretation 9-44028
- left ventricular hypertrophy with bundle branch block, ECG/VCG and echocardiogram correlation 9-44035
- left ventricular potential quantitative assessment rel. to echocardiographic meas. 9-44042
- left ventricular volume rel. to QRS voltage and Frank vectorcardiogram 9-44029
- magnetocardiogram recording on normal subjects, morphological and multipole analysis 9-39426
- magnetocardiography in hospital environment, normal aspects 9-39550
- map reconstruction computer system 9-39561
- minicomputer-aided ECG diagnostic system 9-44024
- Monitor DK54T-01 system, surveillance of severely ill patients 9-34679
- multiterminal ECG processing system experiences 9-39573
- myocardial contractility, real time meas. by analogue computer with digital displays (*Japanese*) 9-44015
- myocardial electrical activity modelling, dialogue mode (*Russian*) 9-2021
- myocardial imaging using ^{201}Ti , characterization of ECG-synchronized images 9-39473
- noninvasive His bundle and sinoatrial node activity recording system 9-39560
- online cardiograph processing and display (*Italian*) 9-25135
- P-wave, a new method of detect. in electrocardiograms 9-48360
- pacemaker therapy, importance of R-vector direction 9-44049
- pacemaker transmembrane potential generation in fish heart sinoatrial cells 9-39395
- pacemaker-induced T-wave inversion obs. 9-44063
- paroxysmal ischaemia, vectorcardiogram and rheokinotocardiogram relationship 9-44047
- patient safety using opto-electronic appls. 9-44016
- pill electrode for cardiac arrhythmia study 9-39566
- Pipberger program QRS onset and offset determ. algorithm parametrisation 9-39559
- polarcardiography, triaxiacardiometry and other displays 9-39581
- posterior myocardial infarction, right ventricular hypertrophy, and normal variation differentiation 9-44045

electrocardiography continued

- posterodiaphragmatic myocardial infarction diagnosis, Frank lead Y reliability 9-44038
 power spectra, effect of random freq. modulation 9-48237
 preauricular O wave, embryonic origin 9-39390
 precordial lead belt, general-purpose ECG 9-48361
 primary T-wave determ., spatial ventricular gradient change factors 9-43850
 processing A/D convertor control by microprocessor (*Bulgarian*) 9-25123
 R-R interval prediction models, comparison of 9-39549
 radionuclide kymography, assessment of regional myocardial wall motion 9-39478
 random noise influence on signals, quantitative assessment of program accuracy (*Slovenian*) 9-25143
 rate-dependent left bundle branch block patients, atrial pacing expts. 9-44019
 real time data compression, realisation techniques (*Italian*) 9-5389
 RF powered cage system for implanted biotelemetry 9-20737
 RF powered telemetry system 9-48358
 rhythm analysis, long-term ECG data storage and multipass scanning 9-39578
 right bundle branch block, cardiac and noncardiac patient vectorcardiograms 9-43853
 right bundle branch block aetiology, morphological and clinical aspects diagnosis 9-43852
 sick sinus syndrome 24-hour Holter ECG monitoring 9-39562
 signal shape parameter automatic meas. (*Russian*) 9-25134
 single myocardial fibre model, source-field relationships 9-39385
 singular value decomposition, electrical heart activity observability 9-11913
 solid angle interpretation, myocardial fibre orientation implications 9-39397
 spatial modulus and velocity ECG variation with age 9-43847
 spectral analysis in contusive myocardial injury 9-43997
 sphero-cardiogram applicability of vectorcardiographic and polarcardiographic infarct criteria 9-39582
 strain gauge transducer for myocardial stimulation and recording 9-48357
 supraventricular tachycardia, diagnosis and management, instrumentation and therapeutic techniques, review 9-39598
 surface mapping, gradient and potential data acquisition system 9-39555
 tachometer, instantaneous cardiac, with extendable range 9-20700
 technology development, analogue instrumentation and digital signal processing (*Italian*) 9-25136
 thoracic electrical impedance, cardiac-associated changes in man 9-25128
 thoracic surface, human, heart potentials distrib. with left bundle branch blocks 9-39403
 torso model for potential distrib. from VCG data 9-39401
 transient cardiac arrhythmia detection, 24-hour ECG recording 9-44020
 triaxicardiometric system polarcoordinate sensitivity 9-39587
 triaxicardiometry, clinical use 9-39584
 ungulate cardiac electrical activity peculiarities and evaluation methods 9-39394
 vector and isopotential maps, convertibility and comparison 9-39554
 vectorcardiogram, human, computer dialog modelling 9-39389
 vectorcardiogram and ECG correlation with angiocardigraphic left ventricular mass 9-44027
 vectorcardiogram and ECG correlation with coronary arteriogram and left ventriculogram 9-44041
 vectorcardiogram diagnostic algorithm improvement by outlier elimination 9-39572
 vectorcardiogram parameter sensitivity to digital filtering 9-39576
 vectorcardiographic discrimination of left bundle branch block, descriptive statistical methods 9-44026
 vectorcardiographic P loop correlation with left atrial volume echocardiogram 9-44025
 vectorcardiographic systems compared, Akulinitchev and McFee 9-44039
 ventricular, left, ejection fraction from gated images count rate 9-29605
 ventricular hypertrophy diagnosis, three-orthogonal-lead ECG criteria 9-44034
 ventricular myocardial excitation, elec. field theory and integral topogram analysis 9-39386
 ventricular surface excitation wave spread and collision obs. in dog 9-39398
 video-sync mixer for cassette videotape recording of computer images 9-29604
 waveform automatic processing using syntactic methods 9-44006
 Woodward polarcardiographic service for ECG diagnosis improvement 9-39583

electrocataphoresis *see electrophoresis***electrochemical analysis**

- see also electrochemistry; polarography; voltammetry (chemical analysis)*
 austenitic solid solution, chem. evaluation of B and its correlations with hardenability and hardness (*German*) 9-39230
 coulometric analysers with controlled potential, review 9-39244
 coulometric data unit, oxygen, long lifetime 9-39243
 coulopotentiography, new method 9-34391
 current injector for Coulomb titration of chloride 9-29684
 data interpolation, fast Fourier transform method 9-16061
 gas trace monitor with ion sensitive electrodes, continuous and highly responsive (*German*) 9-24878
 glue in Cu refinery electrolyte 9-48021
 ion sensitive FET, ion selectivity and temp. depend. 9-34409
 isotachophoretic analysis, development of data processing system (*Japanese*) 9-24873
 lactate concentration meas., enzymatic and electrochem. methods (*German*) 9-2169
 methylhydrazine, electrochem. oxidation on Au, appl. to gas monitoring 9-39248
 MIS structures, review of applications, ion sensitive techniques 9-33353
 ozonesonde, conc. cell, performance characts., atm. appl. 9-21039
 review of progress 9-43661
 semiconductor gas sensors, selectivity to CO and CH₄ 9-34407
 Al, molten, determination of H content, using electrochemical probe 9-11843
 Fe-Cr (25wt.%) alloy, surface comp. rel. to passivation phenomena (*French*) 9-34379
 Li-B alloys, Li extraction and determ. using potentiometric titration 9-48016
 Mo-Re alloys Re determ., electrochem. method 9-16073

electrochemical analysis continued

- N₂H₄, electrochem. oxidation on Au, appl. to gas monitoring 9-39248
 Na-selective electrodes in marine geochemical studies 9-12312
 Pu, determ. by automated coulometric method, apparatus 9-16114
 TiH₂ film electrode, oxidation, electrochem. and surface analytical characterisation 9-39034
 U, determ. by computer-controlled titration system, evaluation 9-16113
 W-Re alloys, Re determ., electrochem. method 9-16073
 ZrO₂, electrochemical cells for O₂ sensing, EMF oscills. 9-47999

electrochemical batteries *see cells (electric)***electrochemical electrodes**

- see also electrochemistry*
 batteries with gaseous electrodes, research and development, state of the art review (*Czech*) 9-39292
 catheter-tip electrode for continuous pO₂ and pCO₂ meas. 9-34693
 chlorophyll *a*-lecithin mixed monolayer coated electrodes, highly efficient quantum conversion, solar energy appl. 9-39314
 cylindrical, metals heating by electrolytic plasma, temperature distribution obs. (*Russian*) 9-1045
 disc type, current distrib., analogue model investig. 9-34321
 double layers, image forces influencing capacitance and interaction 9-29367
 double-layer capacitance freq. dispersion 9-20379
 electrode materials, for photoelectrolysis of water 9-29478
 fluidised bed cathodes, for electrowinning of metals, const. current density operation 9-24456
 fluidised bed cathodes, for electrowinning of metals 9-24455
 gas evolving electrodes, heat transfer concept 9-34314
 graphite fibres, polymer coating by electropolymerisation 9-15644
 ion selective electrochemical electrode with MOSFET 9-34411
 ion-sensitive solid-state-membrane electrodes-properties and applications (*German*) 9-1954
 liquid metal electrode, polarographic max. current theory, electrochem. and hydrodynamic instability 9-24750
 liquid metal electrode, polarographic max. current theory, hydrodynamic instability 9-24749
 metal-polymer splices, adhesive bond destruction and strength w.r.t. electrochem. interaction 9-20339
 perovskite type compounds, electrode catalysts for cathodic reduction of O₂ 9-29371
 pH meas. instruments and appls. (*Dutch*) 9-29435
 pipe wall electrode, for diffusion coeff. meas. of electrochem. solns. 9-14947
 reaction rate in presence of surface-active substances on electrodes 9-43597
 reticulate, three-dimensional, mass transfer characts. obs. 9-1958
 semiconductor electrode/surface state charge transfer in photoelectrolysis of water 9-28405
 semiconductor electrodes for photoelectrolysis of water, appl. to solar energy conversion 9-29477
 semiconductor oxide O₂ electrode characts. 9-24073
 steel, C, rotating disc electrode in 3 wt.% NaCl solution, corrosion rate meas. (*French*) 9-43470
 three-dimensional gauze in new cell design, mass transfer enhancement by counter-electrode gases 9-43590
 vitreous C electrodes, potentiostatic growth of PbO₂ 9-43596
 Ag, emersed, electrorefl. spectra 9-28788
 Al reduction cell, C cathode intercalation props. 9-43559
 Au, emersed, electrorefl. spectra 9-28788
 Au film electrode, electrochem. adsorp. of O₂, elec. resist. obs. (*French*) 9-29372
 Au, single cryst., (100), solid and thin-layer, differential-pot. capacity curve with NaF aq. soln. (*French*) 9-47932
 BaTiO₃, surface comp. changes during photoelectrolysis, XPS obs. 9-7894
 C cathode, intercalation props. in Al reduction cell 9-43559
 Cu electrocrystallisation from CuSO₄ solns., current density/overvoltage curves (*Russian*) 9-8236
 Cu electrocrystallisation from CuSO₄ solns., exptl. methods (*Russian*) 9-8235
 Cu, electrodeposition from nitrate solns., cathode polarisation obs. (*Russian*) 9-47937
 Cu, photopotentials, rel. to corrosion 9-24648
 Cu-Ni(Al) alloys, photopotentials, rel. to corrosion 9-24648
 Ga_{1-x}Al_xAs, interface capacitance meas., flatband pot., conduction and valence band boundaries (*French*) 9-33339
 GaAs in acetonitrile solns., photoelectrochem. behaviour 9-4600
 GaAs_{1-x}P_x, interface capacitance meas., flatband pot., conduction and valence band boundaries (*French*) 9-33339
 GaP, n-, p-type, electrode, impedance in alkaline medium (*French*) 9-43586
 H⁺ concentration meas. (*German*) 9-16083
 Hg coated graphite, anodic stripping voltammetry, environmental sample analysis appl. 9-11836
 In₂O₃ semiconductor electrode, sensitised photocurrent by energy and electron transfer in dye monolayers 9-38119
 InP in acetonitrile solns., photoelectrochem. behaviour 9-4600
 Li-Al-Mg alloy electrodes, polarisation behaviour and struct. 9-43588
 LiAl-NaAlCl₄-MoCl₅ thermal battery evaluation and optimisation 9-29458
 Na-selective electrodes in marine geochemical studies 9-12312
 Ni, appl. in rotating multipolar wiper-blade cell 9-43751
 Ni electrodeposition from alkaline citrate electrolytes, cathodic process rate (*Russian*) 9-8440
 Ni, oxide growth, effect on breakdown voltage and efficiency 9-4766
 PbO₂(Pb) electrode, anodic impedance during suspension-electrolysis leaching of β -ZnS in 1N H₂SO₄ soln. (*Japanese*) 9-43594
 Pt 9-48340
 Pt electrodes, chemisorbed H, anion effects on multiple states, reflection spectra obs. 9-43634
 Pt, powdered, aggregation in disperse system 9-11830
 ReO₄⁻, liquid electrode, anal. appl. 9-16073
 rotating Ni cylinder, mass transfer investigation 9-43589
 RuO₄, catalyst at anode of solid polymer electrolyte cell, corrosion 9-20376
 S electrode performance in Na-S battery 9-29463
 Sb thin film, pH sensitivity and electrode potential (*Japanese*) 9-39159
 SnO₂ electrodes, dye-modified, erythrosin, attachment, X-ray photoelectron, photocond. investigs. 9-43600

electrochemical electrodes continued

- SnO₂, of totally illuminated thin-layer Fe-thionine photogalvanic cell, electrochromic phenomena 9-20374
 Ta-Pt, electrospray alloying for obtaining stable effective electrodes (*Russian*) 9-39157
 Ti anode, with RuO₂-TiO₂ active film, Cl overvoltage, γ -irrad. effects 9-16005
 Ti film electrode, oxidation, electrochem. and surface analytical characterisation 9-39034
 Ti-Pt, electrospray alloying for obtaining stable effective electrodes (*Russian*) 9-39157
 TiH₂ film electrode, oxidation, electrochem. and surface analytical characterisation 9-39034
 TiO₂ doped polycrystalline electrodes, for photo-assisted electrolysis of water, spectral response 9-29370
 TiO₂, reduced anodes, photoelec. props. 9-28371
 V₂O₅ cathode, used in Li-V₂O₅ reserve cells, microstruct. optical reflectance, elec. cond. meas., chem. anal., SEM obs. 9-43752
 Zn, shape change resulting from cell cycling, quantitative study 9-43591
 Zn/ZnSO₄/Zn system, laser interferometric study of corrosion of coated and uncoated metals, technique standardisation 9-35815

electrochemical machining *see electrolytic machining***electrochemical polishing** *see electrolytic polishing***electrochemistry**

- see also Debye-Huckel theory; electrical conductivity of electrolytic liquids; electrochemical analysis; electrochemical electrodes; electrolysis; electrolytic devices; electrophoresis*
 absolute electrode potentials, determ., concepts and theory 9-5161
 absolute electrode potentials, determ., theory 9-5160
 acid, weak, ionisation in aq. soln., rate const. meas., elec. field jump method errors 9-43611
 bacteriochlorophyll *b* and phytyl pair redox potential obs. 9-39338
 calculations, programmable microprocessor-linked calculator appl. 9-43592
 cation-exchange membranes, electrochem. props. rel. to interfacial polarization during electrodialysis 9-16038
 charged, surface pressure, electrostatic contrib. of divalent ions 9-24752
 charged plates interaction in electrolyte soln. 9-43595
 chlorophyll in aqueous solns., electrochem. behaviour, cathodic reduction 9-29373
 chlorophyll monolayer electrodes, light energy conversion, photosynthesis electrochem. simulation 9-43833
 coupled fluxes, concentration distributions near electrodialysis membranes 9-47974
 data interpolation, fast Fourier transform method 9-16061
 diffusion coefficients, determ. using pipe wall electrode 9-14947
 diffusion controlled electrochemical processes, mass transfer rate,* drag reducing additives effects 9-43593
 displacement reactions, electron microscope obs. of nucleation and growth, comparison of Cu/Fe and Cu/Al cementation systems 9-47939
 dye laser tuning range extension using electrochem. reaction products 9-31895
 electrode potentials 9-43599
 electrodialysis polarisation, rotating disc studies 9-47933
 fluorenone derivatives as electron transport materials, electron affinity and electrochemistry, rel. to photocond. 9-38127
 impedance meter, high-speed, for electrochem. system obs 9-30490
 ionic mass transport, cathodic gas evolution influence 9-34323
 ionic surfactants, conductance stopped flow study of micellar equilibria 9-43642
 kinetic model for renewal of the elements of a set leading to stable space segregation 9-20373
 laser-induced photoelectrochem., photoemission related currents depend. on laser charact. 9-20390
 latent and sublatent images, alternation of electrochemical props. 9-20405
 liquid metal electrode, polarographic max. current theory, electrochem. and hydrodynamic instability 9-24750
 liquid metal electrode, polarographic max. current theory, hydrodynamic instability 9-24749
 magenta pyrozone azomethine dye, electrochemistry of fading mechanism 9-24761
 membranes, ion flow, step pot. change, conc., current responses 9-5177
 metal ultrathin foils, laser monitored electrothinner (*German*) 9-34219
 metal-inactive electrolyte interface, double layer capacity 9-43598
 metallic films, vapour deposited on polymer, ageing, adhesion, elec. cond., electrochem. pot. (*Russian*) 9-33362
 metals, electrochemical surface treatment method for reducing H₂ absorption (*Russian*) 9-15858
 photoelectrophoretic imaging, mechanisms 9-24758
 photographic development rate, effect of developer ion charge 9-24753
 polymer solutions, turbulent, mass transfer rate, frictional force (*French*) 9-37357
 PTFE, anisotropic electrochemical attack 9-39004
 reaction kinetics, in presence of surface-active substances, eqn. selection 9-34322
 seawater deaeration procedure for conducting electrochemical expt. 9-29366
 semiconductor p-n junction, conversion of chem. energy into elec. power thermodynamic props. 9-11219
 solid state storage batteries, investigation 9-43754
 steel, C, potentiodynamic behaviour, in conc. NaOH, cyclic voltammetric obs. 9-16006
 steel, C, rotating disc electrode in 3 wt.% NaCl solution, corrosion rate meas. (*French*) 9-43470
 steel, stainless, austenitic, surface films grown in Cl⁻ solns., ellipsometric investig. 9-20261
 surface processes, kinetics simulation 9-16004
 thermal battery, react. prods., electron probe anal. 9-43601
 three dimensional gauze electrode in new cell design, mass transfer enhancement by counter-electrode gases 9-43590
 transition metal complex ion in aqn. soln. HCl, temp. effect on electrophoretic behaviour 9-24757
 AgI-Ag oxosalt systems, solid electrolytes with glass-like struct., thermodynamic and electrochem. props. 9-10978
 Al, sacrificial anode dissolution, Hg effect study using ion implantation 9-39016
 Al-As₂Se₃-Al, photographic process based on electrochem. reactions (*Russian*) 9-6213

electrochemistry continued

- Al-Zn-Hg alloy, cathodic protection charact., surface free energy, lattice struct. 9-29281
 Au, anodic dissolution in aqueous alkaline cyanide 9-20375
 B fibre reinforced Al composites, corrosion, electrochem. behaviour 9-20225
 Cu₂S, Cu chem. diffusion, and nonstoichiometry, 400°C, electrochem. determ. 9-28132
 Dy³⁺+O₂(SO₂⁻)(SO₂), in H₂SO₄ soln., electrochemiluminesc. emitters quenching by electrolysis products 9-1794
 FeV₂O₆, free energies of form., 1400-1750K, electrochem. method determ. 9-43613
 Ga, liq., surface tension, low-temp. H₂ plasma influence, elec. double layer form. 9-33160
 Hg-electrolyte interface, polarizability, dynamics of double layer 9-24756
 In, liq., surface tension, low-temp. H₂ plasma influence, elec. double layer form. 9-33160
 LaNi₅ alloys, aspects of electrochem. storage of H 9-24917
 Li cells, electrochemical charact. of VSe₂ 9-1959
 LiCl-KCl:Ln³⁺, fused eutectic, electrolytic behaviour (*Japanese*) 9-16009
 MgSO₄.7H₂O, thermo-electrochemical H₂ prod. using solar energy (*French*) 9-24918
 Na₂O-Al₂O₃ (CaO)-SiO₂ glass, surface charge in aqueous electrolyte soln. 9-29245
 Ni electrodes, electrochem.-ellipsometric studies of oxide films formed during O₂ evolution 9-16007
 Ni, Flade potential as thermodynamically reversible pot. 9-5159
 Ni rotating cylinder electrodes, mass transfer investigation 9-43589
 Ni-Co-Mo-Al-Cr, melt, effect of Al, Cr on O₂ activity, electrochemical determ. 9-11556
 Ni-hypophosphite developer, physical development as function of pH 9-24760
 NiO films, on Ni (100) electrodes, oxide defect sites role in breakdown 9-43587
 SF₆, arc discharge, decomposition products for SF₆ with H₂O and organic gas contaminants 9-10743
 Si film, porous, form. and oxidation by anodic reaction 9-28966
 SiO₂, fused, surface charge in aqueous electrolyte soln. 9-29245
 SnO₂, electrochemical determination of free energy of formation 9-11797
 Tb³⁺+O₂(SO₂⁻)(SO₂), in H₂SO₄ soln., electrochemiluminesc. emitters quenching by electrolysis products 9-1794
 Ti-Pd, dil., ion implanted, corrosion rate and electrochemical props. 9-43467
 TiO₂ doped polycrystalline electrodes, for photo-assisted electrolysis of water, spectral response 9-29370
 ZnO particulates, Dember effect 9-20380
- electrochromic devices**
see also electrochromic devices
 image converter, liq., cryst., with memory effect 9-23711
 information display technology, symposium, San Francisco (1978) 9-9209
 H₃PO₄(WO₃)₁₂ electrochromic cells 9-15436
 IrO₂, heat-treated anodic films, pH depend. of electrochromism 9-8120
- electrochromism**
 benzene, excited state props., by electrochromism in polymer matrix 9-22737
 excited state props., by electrochromism in polymer matrix 9-22737
 glass film compositions, electrochromism (*Russian*) 9-28721
 triphenylene, excited state polarisabilities, electrochromism and pot. energy curves 9-7034
 Au-WO₃, cermet, optical and electrical props. 9-33674
 Au-WO₃ electrochromic cermets, resist. and optical density meas. 9-8201
 IrO₂ anodic films, electrochromism, on transparent substrates 9-19861
 IrO₂ heat-treated anodic films, pH depend. of electrochromism 9-8120
 Li₂O-B₂O₃-WO₃ glass, photochromic and electrochromic props. 9-28787
 MoO₃ film, evaporated, electrochromism (*Japanese*) 9-38686
 Pt-WO₃, cermet, optical and electrical props. 9-33674
 WO₃ film, anodically formed, electrochromism 9-1752
 WO₃ film, evaporated, electrochromism (*Japanese*) 9-38686
 WO₃-MoO₃ film, evaporated, electrochromism (*Japanese*) 9-38686
 WO₃(WO₃-UF)(WO₃-MoO₃) glass film compositions, electrochromism (*Russian*) 9-28721
- electrodeposited coatings** *see electrodeposits*
- electrodeposited films** *see electrodeposits*
- electrodeposited layers** *see electrodeposits*
- electrodeposition**
see also electrodeposits; electroplating
 diamond containing electroless Ni coatings, fabrication and props. 9-47795
 electrowinning, using fluidised bed cathodes, const. current density operation 9-24456
 electrowinning, using fluidised bed cathodes 9-24455
 metal, electrodeposited from molten salts, faceting rel. to texture axis direction 9-28969
 metals, electrochemical nucleation, potentiostatic obs. 9-15038
 Permalloy film, electrodeposition with zero magnetostriction composition, technological control 9-33955
 polymer graphite fibre electrodes, coating by electropolymerisation, adhesion to epoxy matrix 9-15644
 quartz, electrodeposition mech., onto metal electrodeposit, cermet prop. 9-33992
 review 9-43162
 steel, boriding, electrolytic, effect of iron oxides 9-39042
 Ag, electrodeposition, influence of specific adsorp. of S 9-20001
 Au anodic electrodeposition from liq. NH₃ solns. 9-28957
 Au, electroless plating on GaAs for fast characterisation of epitaxial layers 9-33347
 Au, plating assessment for printed circuits 9-43163
 C fibre reinforced Ni, hot pressed and electrodeposited, strength 9-38898
 CaB₆, electrodeposition from molten salt baths, cathodic behaviour 9-11529
 Co, Co alloy, HCP films, chem. reduced, electrodeposition on Cu, Ni FCC crystals, struct. 9-11527
 CrB₂, electrodeposition mech., onto metal electrodeposit, cermet prop. 9-33992
 Cu, deposits on Cu (110) electrode, morphology and crystal growth 9-47644
 Cu electrocrystallisation from CuSO₄ solns., current density/overvoltage curves (*Russian*) 9-8236
 Cu electrocrystallisation from CuSO₄ solns., current density under stationary surface diffusion (*Russian*) 9-8237

electrodeposition continued

- Cu electrocrystallisation from CuSO_4 solns., exptl. methods (*Russian*) 9-8235
 Cu electrocrystallisation from CuSO_4 solns., expt. and slow surface diffusion theory (*Russian*) 9-11505
 Cu, electrodeposition, influence of specific adsorpt. of S, Cl 9-20001
 Cu, electrodeposition from nitrate solns., cathode polarisation obs. (*Russian*) 9-47937
 Cu, electrodeposition from cyanide solns., interaction with 2-butyne-1,4, obs. (*Russian*) 9-47936
 Cu-Sn alloy chemical deposition process (*Russian*) 9-47642
 Fe, powdered compacts and Armo, electrolytic boriding 9-39044
 Fe-Ni powder, Ni clad Fe grains, exam. of electrochemical formation process 9-33974
 GaP epitaxial layers, stable growth conditions, by molten salt electrodeposition on Si and GaP substrates 9-20000
 InP, solvent systems, low melting point comps. in alkali metal metaphosphate/fluoride systems 9-28079
 LaB_6 electrodeposition, cathodic behaviour 9-20378
 Li, Na/PO₃F and Li/K/PO₃F systems, low melting-point comps. for electrodeposition appl. 9-43662
 γ -Mn electrodeposition influence of Cu, Ag, and Be impurities (*Russian*) 9-47938
 Mo alloys with Fe group metals, induced codeposition from aqn. soln. (*Japanese*) 9-4924
 Mo₂Si, layer growth, effect of DC density, temp. 9-43160
 Mo₂Si₂, layer growth, effect of DC density, temp. 9-43160
 Na/K/PO₃F system, low melting-point comps. for electrodeposition appl. 9-43662
 Na₂La_{1-x}B₆, electrodeposition 9-47643
 NbO₂ hollow needles, and continuous coatings of crystallite NbO₂, electrodeposition from molten fluorides, SEM study 9-24423
 Ni electrodeposition from alkaline citrate electrolytes, cathodic process rate (*Russian*) 9-8440
 Ni electrodeposition from alkaline citrate electrolytes, coating impurity quantities and props. (*Russian*) 9-8252
 Ni electrodeposition from alkaline citrate electrolytes, Ni/electrolyte interaction (*Russian*) 9-11796
 Ni electrodeposits, influence of Ni sulphamate operating parameters on impurity content and props. 9-28971
 Ni films, electrodeposition, current modulation, pulse freq. rel. to struct., props. (*German*) 9-11528
 Ni-Co-Mo alloys, electrodeposition, struct. 9-28970
 Pb, cathodic deposition on Ag (111) and (100) surfaces, potentiostatic obs. (*German*) 9-15616
 PbO₂ potentiostatic growth on vitreous C electrodes 9-43596
 SiC, electrodeposition mech., onto metal electrodeposit, cermet prop. 9-33992
 Sn-Pb alloys, inhibited electrocrystn. (*German*) 9-38753
 Ti, cathodic deposition on Ag (111) and (100) surfaces, potentiostatic obs. (*German*) 9-15616

electrodeposits

- see also *electroplated coatings*
 metal, electrodeposited from molten salts, faceting rel. to texture axis direction 9-28969
 Permalloy film, electrodeposition with zero magnetostriction composition, technological control 9-33955
 stress meas. in plate, X-ray methods 9-29298
 Au-Co electrodeposit, struct. and hardness characts. 9-28245
 C fibre reinforced Cu, electrodeposited, tensile strength (*Japanese*) 9-43333
 Co, and Co alloy, HCP films, chem. reduced, electrodeposition on Cu, Ni FCC crystals, struct. 9-11527
 Co, electrodeposited coating, struct. and magnetic props. 9-46985
 Co-Mo alloy electrodeposits, codeposited impurities rel. to H₂ permeation, props. 9-19493
 Co-P amorphous alloy, ferromagnetic reson. exam. 9-28620
 Co-P amorphous alloys, electrodeposited, magnetic anisotropy 9-28568
 Cr electrodeposit on steel, stress meas., X-ray methods 9-29298
 Cr₂O₃ films, black, microstruct. depend. of optical props., SEM, XPS, and sputter depth-profiling 9-43049
 Cu, work function, heating temp. influence 9-33331
 Cu-Al₂O₃ composite coating, electrodeposited, exam. of particle-cathode adhesion during formation 9-33954
 Cu-Al₂O₃ electrodeposits, dispersion hardened, props. 9-28258
 Fe coatings, microhardness, H_A design appl. 9-39069
 Ni, electrodeposit, linear defect obs., TEM study 9-4304
 Ni electrodeposition from alkaline citrate electrolytes, coating impurity quantities and props. (*Russian*) 9-8252
 Ni electrodeposition from alkaline citrate electrolytes, Ni/electrolyte interaction (*Russian*) 9-11796
 Ni electrodeposits, influence of Ni sulphamate operating parameters on impurity content and props. 9-28971
 Ni electrodeposits on (001)Cu films, growth and mag. anisotropy 9-42810
 Ni films, electrodeposition, current modulation, pulse freq. rel. to struct., props. (*German*) 9-11528
 Ni-Al₂O₃ composite coating, electrodeposited, exam. of particle-cathode adhesion during formation 9-33954
 Ni-Co-Mo alloys, electrodeposition, struct. 9-28970
 Ni-Mo alloy electrodeposits, codeposited impurities rel. to H₂ permeation, props. 9-19493
 Ni-P, electrodeposited films, amorphous and crystalline, electron microscopy, in-situ crystallisation 9-11043
 Ni-SiC composite coatings, phase composition calc., wear resistance (*Russian*) 9-11709

electrodes

- see also *anodes; cathodes; electrochemical electrodes; microelectrodes; welding electrodes*
 bio-selective membrane electrode using tissue slices 9-48387
 biochemical sensor devices, review (*Japanese*) 9-12050
 cardiac electrodes, safe voltage limits 9-16344
 Chang electrode profile elec. field distrib., CO₂ laser theory 9-3675
 chronic sphenoidal electrodes, material improvement 9-16328
 conductivity meter for in situ ocean meas., development, testing and calibration 9-5671
 crystallographic orientation, effect on iodide ion adsorption on Au surface 9-15020
 cylindrical electrode under corona discharge, elec. field intensity meas. 9-23473

electrodes continued

- defibrillator permanent implantable system, transvenous catheter and subcutaneous plate electrodes 9-39599
 diagonal-type nonequilibrium plasma MHD generator, resistive electrode and mag. flux distrib. effects 9-41884
 EMG surface power density spectral bandwidth rel. to electrode parameters 9-29517
 equipotential, plane meridional field analysis (*Russian*) 9-45880
 erosion and aggregate condition near discharge, cellular structure effects (*Russian*) 9-37557
 gastroelectric surface signal analysis, phase-lock system design 9-34687
 gastroelectric surface signal analysis, phase-lock system performance 9-34688
 general reciprocity theorem for conducting media 9-31770
 high press. gas discharge prebreakdown processes, electrode surface inhomogeneity effects 9-14628
 high-current electron-optical systems, asymptotic synthesis 9-7067
 ion selective electrodes, appl. 9-44022
 liquid and spherical particle permittivity meas. by dielectrophoretic levitation 9-17447
 MHD generator metallic electrodes, arc discharge of near-cathode region 9-1346
 neurological coaxial depth electrode development 9-29687
 pH measurement, continuous, enamel electrode design (*German*) 9-34413
 pill electrode for cardiac arrhythmia study 9-39566
 point-plane systems, short, breakdown phenomena critical survey 9-4206
 polarisation noise effect on flow transducers in electromagnetic flowmeters 9-7426
 precordial lead belt, general-purpose ECG 9-48361
 suspension of charged sphere, electrode geometry choice (*Russian*) 9-10240
 sweat test equipment safety improvement 9-29649
 X-ray streak camera electrode design using a plasma simulation code 9-30632
 C electrode damage in arc, and current densities 9-23468
 Cu, degradation in coaxial plasmatron by thermal shock, microscopic shock formation 9-14629
 Cu, erosion due to high-current pulses, effect of media 9-10735
 GaAs electrodes in aqueous electrolytes, localised avalanche breakdown 9-4599
 GaAs:Cu electrode photographic device, CO₂ pulsed laser output high-speed meas. 9-14008
 Hg drop electrode in MOS struct., Na-induced work function shift 9-42652
 Ni, electrochem.-ellipsometric studies of oxide films formed during O₂ evolution 9-16007
 Ru electrodes, reversibility and growth behaviour of surface oxide films 9-20263
 SnO₂ electrodes, dye-modified, erythrosin, attachment, X-ray photoelectron, photocond. investigs. 9-43600

electrodynamics

- see also *electron beams; electron optics; electron tubes; ion beams; ion optics; ion sources; quantum electrodynamics*
 AC forces acting on conductors of bifilar lead (*German*) 9-41281
 accelerators, circular, transverse coupling impedance meas. 9-36446
 adiabatic hypothesis, old quantum theory, rel. to classical electrodynamics, zero-point EM radiation 9-2661
 adiabatic invariant motion, charged particle in space periodic wave, variable length pendulum (*Russian*) 9-2623
 Born-Infeld theory, review (*Polish*) 9-35576
 charge bunch radiation losses in pill-box resonator, time domain numerical computations of EM fields 9-31781
 charge radiation in waveguide with transversally moving walls, anal. (*Russian*) 9-888
 charged particle in field of quantised plane wave (*Russian*) 9-890
 charged particle in quasisomochromatic wave, drift theory of motion (*Russian*) 9-891
 charged particles, equilibrium space distrib. (*Russian*) 9-22887
 charged scalar particle in field of running electric wave (*Russian*) 9-889
 classical electrodynamics of point particles, energy tensor struct. 9-21566
 classical motion of extended charges, eqn. of motion energy balance determ. 9-10250
 classical recombination cross section 9-25876
 classical stochastic electrodynamics, positive temp. random EM field 9-40382
 coherent excitations interacting in dispersive medium, envelope-soliton propagation 9-2639
 conducting mag. top, fast rot. in inhomogeneous alternating mag. field 9-41264
 conventionality of simultaneity without one-way velocity assumptions 9-12594
 covariant electrodynamics in a medium, formulation 9-70
 cylindrically symmetric electrovac universes satisfying vacuum field eqns. 9-17303
 elastic dipole, in periodic struct., free oscils. 9-27145
 elastic scattering and bremsstrahlung theory of fast charged particles in crystals (*Russian*) 9-28853
 electrodynamics, Coulomb law, extension to 4-dimens., confining potentials 9-36012
 electron, motion in canted hyperbolic elec. field and homogeneous mag. field 9-27146
 electron autoreson. motion, effect of longitudinal wave field (*Russian*) 9-7063
 electron-dipole system, semiclassical quantisation, for teaching 9-25799
 electroslog welding, electromechanical and thermal flow phenomena 9-11758
 ellipsoidal charged particle bunch, self-consistent motion, approx. soln. 9-13881
 EM vector potential, interpretation, for teaching 9-25809
 integral transport theory for charged particles in electric and magnetic fields 9-26006
 interplanetary submicron grain orbits, gravit. attraction, radiation press. and electrodynamics 9-8879
 ion resonance acceleration, in attenuating mag. field (*Russian*) 9-22885
 ionosphere, global scale electrodynamic coupling of auroral and equatorial dynamo regions 9-44297
 laser amplifier, free-electron type, exact classical electron dynamics 9-41362
 longitudinally inhomogeneous travelling waves in nonlinear electrodynamics 9-10348

electrodynamics continued

- moving bodies, equivalence of proposed formulations 9-35574
- moving bodies, nonequivalency of 'right' and 'left' 9-25841
- multi-spiral electron current, interaction with EM wave, nonlinear anal. (Russian) 9-22886
- nematic liquid crystal, traversing weak EM wave in static mag. field, electrodynamics 9-14680
- nonlinear, three-dimensional soliton solution (Russian) 9-22884
- nonlinear electrodynamics, new variant (Russian) 9-5990
- nonstationary, class of nonlinear media 9-21567
- particle accelerator, nonidentical resonators with narrow coupling slits, dispersion and field distrib. characts. 9-41047
- particle-classical field interaction, appl. to linearised gravitation and symmetric electrodynamics 9-5992
- point electric and mag. charge, nonAbelian gauge invariant classical Lagrangian formalism 9-12627
- Proca generalisation, rel. to charged universe cosmology 9-25766
- radiation generated by charged beam near plane flanged waveguide 9-13880
- relativistic electron ring train behaviour under longitudinal compression 9-7065
- resonant medium, coherent radiation generation by relativistic charged particle 9-33857
- rotating conducting sphere in mag. field, ideal conductor approx. 9-18324
- spherical electrostatic spectrum, props. of Keplerian orbits in inverse-square field 9-13581
- stochastic theory of cosmic ray particle acceleration by background radiation 9-21117
- tachyons, monopoles and related topics, book 9-44718
- tensor spherical harmonics on S^2 and S^3 as eigenvalue problems 9-17324
- thermoelastic solids, field-matter interactions, book 9-30270
- Thomas precession, geometrical kinematical origin 9-6
- transition radiation and transition scatt., review 9-27143
- vortex motion, integrals of hydrodynamic equations, Helmholtz 1858 paper 9-9072

electrodynamometers *see* **dynamometers****electroencephalograms** *see* **electroencephalography****electroencephalography**

- see also bioelectric potentials; biomagnetism; brain*
- alpha rhythm, result of corneal-retinal potential modulation obs. 9-34535
- alpha wave asymmetry in coherence and power, effects of task and gender 9-39378
- alpha-detection system, feedback stimulation and data analysis system 9-29642
- analogue multiplexer for FM tape recording 9-34691
- auditory evoked potentials, averaging and FM 9-34574
- auditory evoked sustained potentials, nature of response 9-34572
- auditory evoked sustained potentials, stimulus relationships 9-34573
- biofeedback conditioning, signal detection methodologies 9-29656
- centro-occipital power and asymmetry, preprocessing by factor anal. 9-43996
- cerebral abnormality localisation, multivariate pattern recognition techniques 9-16327
- children, 24 hr, 4 channel recording using miniature tape recorder and computer anal. 9-34697
- chronic phenoloidal electrodes, material improvement 9-16328
- clinical seizure, long term time-lapse video monitoring system, synchronised with EEG 9-39461
- computerised signal averager, flexible and low cost 9-43998
- current dipole model, central nervous system disease diagnosis applications 9-48238
- electrocorticography, clinically effective spike recognition program 9-44000
- engineering in medicine and biology, conf. Atlanta, USA (Oct. 1978) 9-39332
- evoked frequency stabilisation in cat brain electrical activity 9-34533
- eye movement artifacts, spectral method for removal 9-16184
- eye movement tracking and regulation test station (German) 9-16321
- field plotting method for isopotential maps 9-39542
- hemispheric differential activation during complex visuomotor performance 9-16183
- IC four-channel EEG amplifier 9-39535
- identification of isolated events, automatic system 9-5400
- intracortical EEG relationship model (German) 9-16180
- meaningful information extraction, comment on previous article with authors' reply 9-11911
- multielectrode biotelemetry, for remote monitoring and stimulation of ambulatory subject 9-5386
- neurological disorders, closed EEG feedback system 9-34703
- olfactory bulb and cortex, spatial props. 9-16223
- paradoxical sleep, occipital spikes and eye movement activity, visually defective children 9-16185
- polysomnographic recording techniques, sleep disorder diagnosis 9-34696
- ponto-geniculo-occipital waves, correlative evidence for neuronal generation 9-24975
- real-time analysis of EEG using Walsh transforms 9-12020
- recording variability, quantification method based on power spectrum anal. 9-8561
- scotomata, effect on responses to pattern reversal in one half visual field 9-39417
- segmentation techniques for electroencephalographic records 9-8562
- signal processing, frequency domain and time domain anal. 9-34676
- somatosensory cerebral evoked potential changes under constant mag. field 9-39383
- somatosensory evoked potentials, recovery function of short latency components, cat 9-34534
- somatosensory evoked potentials obs., human and monkey 9-43842
- subcortical spiking frequency, power spectral density estimates 9-24972
- telemetry time-multiplex unit, ambulatory patients 9-44007
- visual cortical evoked potentials by dynamic random-dot stereograms 9-43876
- visual event related potentials of the late positive complex in visual discrimination tasks 9-39416
- visual evoked potentials, during hypothermia, prolonged circulatory arrest 9-16204
- visual evoked potentials in neurological disorders 9-24981
- visual evoked response, diagnostic tool in demyelinating diseases 9-20538
- visual evoked response, provoked visual impairment in multiple sclerosis 9-16202

electroencephalography continued

- visually evoked cortical response obs., infants and adults 9-43873
- visually evoked potentials, visual anomalies in human ocular albinos 9-43875
- visually evoked responses in children, intermittent photic stimulation (French) 9-16201
- wrist actigraphic measures of sleep and rhythms 9-16315
- electroendosmosis** *see* **electrophoresis**
- electroerosive machining** *see* **spark machining**
- electrofluidynamics** *see* **electrohydrodynamics**
- electrofluorescence** *see* **electroluminescence**
- electroforming**
 - No entries
- electrogas dynamics** *see* **electrohydrodynamics**
- electrohydrodynamics**
 - aerosol, electrostatically charged, particle deposition in hollow cast of human larynx-tracheobronchial tree 9-43953
 - cholesterol nonanoate-MBBA mixture, anomalous behaviour of electrical dissipative power 9-4237
 - colloidal cylinders, charged, electrophoresis in salt solns., in transverse elec. field 9-1955
 - conducting drop, in conducting fluid, induced motion and drop deformation in elec. field 9-7415
 - contacts, asperity interactions 9-20215
 - droplet, EHD produced, specific charge and size 9-32696
 - electroconvective instabilities overstable 9-27706
 - electrolyte layer, convection onset condition 9-14492
 - insulating oils, co-field motion, effect of dissolved gases, organic additives and field configuration 9-37407
 - inversely normalised frequency, rel. to Prandtl number 9-23369
 - lifting surface theory, high elec. cond. fluids 9-27695
 - liquid charged, parametric surface wave excitation by AC field 9-23375
 - liquid crystal, EHD instabilities, director relax. time depend. on wave number near WD pt. (Japanese) 9-32700
 - liquid crystals, EHD instabilities, principle of conservation of moment of momentum study 9-46566
 - liquid mixing across diaphragm in normal electric field 9-10615
 - magnetohydroelectric waves in fluid dielectric 9-27703
 - MBBA, anomalous behaviour of electrical dissipative power 9-4237
 - MBBA, nematic, EHD instabilities, director-fluctuation autocorrelation and power spectrum 9-41944
 - MBBA, nematic, EHD instabilities, director-fluctuation second moment 9-41943
 - MBBA, nematic liq. cryst., secondary dynamic scatt. mode, light transmission and microscopic obs. 9-4246
 - MBBA, Williams mode in EHD, applied voltage depend. 9-37620
 - MBBA nematic crystal, EHD instability, damped oscill. of current and flow patterns 9-46562
 - MBBA-EBBA mixture, nematic liquid crystal, anisotropic effects in dielec. cond. of thick samples 9-10795
 - mixtures, flowing, motion in EM field (Russian) 9-32686
 - nematic liquid crystal, electroconvective flow, vel. and orientation deform. angles (Russian) 9-37621
 - nematic liquid crystal, microstructural EHD model, constitutive eqns. 9-10791
 - nematic liquid crystal, ZhK-440, new type of electrohydrodynamic instability 9-14677
 - nematic liquid crystals, electrohydrodynamic effect in alternating elec. field 9-14676
 - nematic mixtures, Merck 5 and 7a, EHD, ion mobility 9-33104
 - plane stagnation point flow in the presence of transverse magnetic field 9-32702
 - pump, expt. investigation (Russian) 9-37405
 - relativistic electromagnetic fluids and Ricci collineations 9-35605
 - smectic C liquid crystal, storage effect, memorisation of oriented picture of EHD instability 9-37615
 - smectic mesophases, viscoelastic properties and field instabilities 9-27904
 - superluminal flow, EM wave refl. 9-27138
 - tube flow, charged particle suspension deposition 9-37416
- electrojets**
 - see also ionosphere*
 - aaural, geomag. dipole tilt angle influence on development 9-16744
 - aaural, parameters from mag. vars. along meridian 9-25395
 - aaural current system oscillations, Earth induction effects on Pc 5 pulsations vertical polarisation 9-12355
 - aaural electrojet and aaural infrasonic waves 9-35023
 - counter electrojet and f_oF_2 diurnal var. at equatorial latitudes 9-48600
 - equatorial, effects of cond. channel between India and Sri Lanka 9-25189
 - equatorial, physical process and associated plasma instabilities, review 9-8750
 - equatorial, radar obs. of two dimens. turbulence, nighttime type 1 waves 9-35038
 - equatorial, two-stream irregularities, neutral atm. motions effects 9-16742
 - equatorial electrojet, radar obs. rel. to aaural and equatorial dynamos global scale coupling 9-44297
 - equatorial electrojet axis in India, position variability 9-35046
 - ionosphere moving current systems, EM induction in Earth 9-16370
 - magnetic var. of aaural electrojets during Geomagnetic Meridian Project 9-29936
- electrokinetic effects**
 - see also electrodynamic; electrophoresis*
 - biological materials separation in space environment, electrokinetic phenomena and electrophoresis 9-48351
 - cation-exchange membranes, electrochem. props. rel. to interfacial polarization during electro dialysis 9-16038
 - isotachopheresis process 9-25784
 - quartz glass-water suspensions, electrolytes effect on viscosity, pH and zeta pot. props. 9-34365
- electroluminescence**
 - see also phosphors*
 - anthracene:9-vinylanthracene, electroluminesc. at room temp. 9-15532
 - 2-chloroanthracene:acridine, electrolum. at 300K 9-15531
 - diamond, electroluminescence, thermoluminesc., photocurrents 9-38675
 - diamond, ion implanted, p-i-n structure, double injection of carriers 9-1214
 - information display technology, symposium, San Francisco (1978) 9-9209
 - metal film, electroluminescence mechanism (Russian) 9-47523

electroluminescence continued

- metal film, luminescence, electron beam excited (*Russian*) 9-47526
 MIS tunnel junction, light emission via inelastic tunnelling effect 9-24076
 tetracene, spatial distrib. of electrolum. and recomb. process 9-19938
 tetracene, thin cryst., electrolum. detection and determ. of spatial distrib. 9-19937
 TGS, switching induced electrolum. 9-38669
 thin organic crystals, electrolum., detection and determ. of spatial distrib. 9-19937
 tunnel junction, small-particle type, light emission, local plasmon modes 9-19676
 ZnS:Mn,Cu, thin-film phosphors, LV DC electroluminescence 9-11472
 AlGaAs DH stripe geometry lasers, spontaneous radiation, carrier conc., and threshold current, luminesc. meas. 9-36898
 Al_{0.5}Ga_{0.5}As-GaAs, quantum-well MO-CVD heterostructure lasers, band-filling props., electrolum. spectra 9-22954
 Al_{0.5}Ga_{0.5}Sb, LED, 1.54 μ m efficient emission at 300K reproducible fabrication 9-42636
 BaS:Cu phosphor, photo- and electro-luminescence 9-43030
 CdS:Nd, Cu, phosphor, electroluminesc., spectral characts. 9-19936
 DyF₃:Mn films, electroluminesc. meas. (*French*) 9-11471
 Fe³⁺+O₂(SO₃²⁻)(SO₂), in H₂SO₄ soln., electrochemiluminesc. emitters quenching by electrolysis products 9-1794
 GaAs p⁺-n diode, radiative hot carrier recomb., photoluminesc. and electroluminesc. meas. 9-38676
 GaAs:Si LED p-n structures, speed (*Russian*) 9-43044
 GaAs-Ga_{1-x}Al_xAs-Ga_{1-x}Al_xAs n⁺-i-n heterostructure, electroluminesc. characts., 80 to 330K (*Russian*) 9-28404
 GaAs-ZnS p-n heterojunction, struct., multibeam electron microscopy obs. 9-11031
 GaAs_{0.5}P_{0.5}, liquid phase epitaxial growth on GaP, growth and properties 9-47641
 GaP:N VPE LED, deep level centres, DLTS studies 9-42493
 Ga:Si p-n struct., on n-Ga_{1-x}Al_xP and n-GaP substrates, electrolum. spectra 9-24368
 InGa-GaSe interface, microplasma electrolum. at 300K 9-11469
 InGaAs-In_{1-x}Ga_xAs_yP_{1-y} DH laser, LPE fabrication, electroluminesc., lasing characts. 9-3709
 KH₂PO₄, electrophotoluminescence obs. 9-47521
 α -SiC:Al diodes, ion implanted, transient characts. of electrolum. 9-24369
 SrS:Cu, phosphor electroluminescence characts. 9-33838
 Tb³⁺+O₂(SO₃²⁻)(SO₂), in H₂SO₄ soln., electrochemiluminesc. emitters quenching by electrolysis products 9-1794
 Te₃₀As₃₆Si₁₇Ge₇P₁ amorphous film, electroluminescence from on state 9-8188
 n-TiO₂-electrolyte interface, electrolum. obs. 9-47520
 Y₂O₃Br₂, excitation of luminesc. by AC elec. field 9-38670
 Y₂O₃:Eu sintered slice, DC electroluminesc., impact excitation 9-47522
 ZnO, pure and rare earth doped, photo- and electroluminesc. 9-28803
 ZnO:Nd, electrolum. brightness waves, 93 to 363K 9-33839
 ZnO:Pr(Gd)(Er), phosphors, photoluminesc. and electroluminesc. spectra 9-11457
 ZnS, electrolum. phosphors, surface phenomena occurring during ageing (*Russian*) 9-33842
 ZnS Schottky-barrier diodes, blue light emission 9-38671
 ZnS:Cu, Gudden-Pohl effect, flash kinetics 9-24367
 ZnS:Cu,Er,Cl film, ageing and forming, DC electroluminesc., impact excitation 9-47522
 ZnS:Er diodes, electrolum. 9-33840
 ZnS:Mn, AC thin film electroluminesc., filamentary emission and memory effect 9-38672
 ZnS:Mn, Cu powder devices, DC electroluminesc. 9-38674
 ZnS:Mn film, AC electrolum., memory effects 9-38673
 ZnS:Mn film, electroluminescence theory 9-11470
 ZnS:Mn film in SnO₂-ZnS-Cu₂S-ZnS:Mn-Al₂O₃-Al struct., electrolum. 9-33837
 ZnS:Mn films, photoluminesc. and electroluminesc., excitation mechanism of luminesc. centres 9-11459
 ZnS:RF₃ film, AC electrolum., memory effects 9-38673
 ZnS:Cu, polycryst., influence of alternating elec. field and UV light on struct. defects, electrolum. expts. 9-43041
 ZnS-CuGaS₂ heterodiodes, LPE, emission spectra 9-33335
 ZnS_{1-x}Se_x:Cu,Br ceramic, current oscils. and electrolum. under high elec. fields 9-38677
 ZnSe, electroluminesc. exam. high voltage pulses 9-15533
 ZnSe MOS diodes, injection luminesc., edge emission 9-28842
 ZnSe surface barrier diode, hot charge carriers, elec., photoelec., and electroluminesc. props. (*Russian*) 9-33841
 ZnSe:Mn thin film, AC electrolum. 9-47519
 ZnSe:Mn(Al)(I), Schottky diode, direct impact excitation of luminescent centres 9-7900
 ZnTe, electro- and cathodoluminesc., impurity segregation 9-43042

electrolysis

- see also anodisation; electrical conductivity of electrolytic liquids; electrodeposition; electroforming; electrolytic dissociation; electrolytic ion mobility; electrolytic machining; electrolytic polishing
 acetate aqueous soln., polarisation curve anal., Pt electrode (*Japanese*) 9-34319
 anodic dissolution of metal turbulent stream of electrolyte, laws (*Russian*) 9-39156
 aqueous solutions, electrode effects, high-speed camera obs. (*French*) 9-24751
 electroanalysis polarisation, rotating disc studies 9-47933
 electrolyte flocculation of stabilised potassium 9-43638
 limiting current density, water-splitting, ion fluxes 9-47974
 photoelectrolysis of water using semiconductor electrode, surface state charge transfer 9-28405
 reticulate electrodes appl., three-dimensional, mass transfer characts. obs. 9-1958
 seawater, electrical energy tapping 9-3504
 ultrapure water electrolytic conductivity meas. 9-24755
 waste fixing solutions, investigation using volt-ampere curves (*Russian*) 9-29374
 weightlessness expts., ERNO space research, with vertical Skylark rocket (*German*) 9-19980
 Al electrolysis units, air washing tests (*French*) 9-29493
 CO₂, photoelectrocatalytic reduction in aq. suspensions of semicond. powders 9-39141

electrolysis continued

- Fe, strengthening in H₂SO₄, H₂ hardening rel. to struct., anodic behaviour (*Russian*) 9-15855
 H diffusion in electrolytic Ni, coeff. determ. (*Russian*) 9-8441
 Pt 9-48340
 Pt anode, impedance behaviour study in β -ZnS suspension-electrolysis leaching in 1N H₂SO₄ soln. (*Japanese*) 9-24754
 TiO₂ doped polycrystalline electrodes, for photo-assisted electrolysis of water, spectral response 9-29370
 Zn/ZnSO₄/Zn system, laser interferometric study of corrosion of coated and uncoated metals, technique standardisation 9-35815
 β -ZnS, suspension-electrolysis leaching in 1N H₂SO₄ soln., anodic impedance of PbO₂(Pb) electrode (*Japanese*) 9-43594
 ZrO₂-Y₂O₃, Faradaic reaction kinetics, impedance dispersion anal., electrode/electrolyte interface process 9-11798
- electrolytes**
 for solid electrolytes see superionic conducting materials
 see also electrolysis; superionic conducting materials
 alkaline citrate, Ni electrodeposition, cathodic process rate (*Russian*) 9-8440
 aqueous solutions, wetting angle of quartz meniscus movement depend. 9-37899
 binary solns., nonideality, thermodynamics 9-39155
 Brownian dynamics approx., time evolution and transport props. 9-37604
 charged hard spheres, distrib. function, mean spherical approx. 9-4222
 charged hard spheres, pair correlation function, mean spherical approx. 9-4223
 concentration meas. instrum. using laser diode, optimisation of parameters 9-20488
 Coulombic fluid, correlation function critical behaviour Ornstein-Zernike theory 9-1957
 Debye-Huckel ionic atmosphere, number density of ions 9-29369
 Debye-Huckel theory of model polyelectrolytes 9-5162
 DNA, calf thymus, flexible polyelectrolyte, elec. birefr. meas. 9-16126
 double layer, aqueous, at charged plane interface, theories comparison 9-34317
 double layers, electrostatic and steric repulsion effects in thin aqueous layers between solid surfaces 9-29375
 electrical force between permeable charged sheets, in electrolyte soln. 9-43605
 free energy, charged hard sphere system, restricted primitive model 9-27890
 free energy, hard core pot. effects for charged particles in continuous dielec. medium 9-37600
 free energy, of electrolyte, due to Coulombian and hard core pots. 9-23748
 hydrothermal stability, thermochromism 9-39187
 ionic fluid, equilb. props. using-corresponding states concepts 9-27889
 ionic mass transport, cathodic gas evolution influence 9-34323
 ionic solution, charged square well model, virial osmotic coeffs. 9-4217
 layer, convection onset condition 9-14492
 macromolecules, scatt. methods, conf., Prague, Czechoslovakia, (July 1976) 9-1764
 mean spherical approx. for arbitrary hard ions and dipoles, soln. for electrolytes 9-1380
 molten salt, Pt, Ir and Pt-Ir alloy electrodeposition 9-24640
 multicomponent solutions, thermodynamic and transport props. 9-16008
 osmotic coeffs., mean spherical approx. refined model 9-1965
 paired ion model, conductance-conc. function 9-37603
 polar fluid, long range and short range dipole correls., separation 9-1376
 polarisable dielectric spheres model, struct. around ions in soln. rel. to ionic solvation and activity coeff. 9-29368
 polyelectrolyte, anionic, catalyst for spontaneous aquation of CO(NH₂)₂Br₂²⁺ volume of activation 9-39206
 polyelectrolyte, coil configuration, neutron scatt. under different constraints 9-10778
 polyelectrolyte, plasticised, effect of ion placement and struct. on props. 9-7679
 polyelectrolyte soln., small ion self-diffusion coeffs., cell model 9-19385
 polyelectrolyte solutions, activity coeffs. and osmotic coeff., higher-order limiting laws 9-29387
 polyelectrolytes in soln., conform., small-angle neutron scatt. investigs., review 9-873
 polymethacrylic acid, colloidal cylinders in solns., electrophoresis, random orient. in elec. field 9-1956
 polymethacrylic acid semi dilute solutions, conformation and organisation, small-angle neutron scatt. 9-10782
 polymethacrylic acid stabilised aq. paraffin oil emulsion, mech. props. 9-39223
 potassium oxyacid salts, aq. electrolytes, apparent molar heat capacities and vols. 9-23744
 sodium oxyacid salts, aq. electrolytes, apparent molar heat capacities and vols. 9-23744
 solution, tracer and mutual diffusion, open-end capillary method 9-28119
 solutions, 1-1 and 1-2, extended mean spherical approxs. 9-4216
 solutions, diffusion coeffs. meas., conductometric method 9-23753
 solutions, in ethylene carbonate viscosity and conductance meas. at 40°C 9-28122
 US velocity, ionic drift depend. in aq. soln. 9-19327
 weakly conducting fluid, separation by thermal diffusion in elec. field (*Russian*) 9-16117
 Wien dissociation, Gauss's divergence theorem in Onsager's theory 9-47934
 Cu refinery electrolyte, glue determ., electrochem. method 9-48021
 Fe(NO₃)₃, aq. soln., Fe (III) hydration shells, X-ray diff. 9-29337
 Hg-electrolyte interface, polarizable, dynamics of double layer 9-24756
 LiAl-NaAlCl₄-MoCl₅ thermal battery evaluation and optimisation 9-29458
 Mg(NO₃)₂, aq. soln., ionic coordination by X-ray diff. 9-29338
 Na-S cell, solid electrolytes, apps. (*German*) 9-29460
 Na₂AlF₆-LiF-CaF₂-AlF₃-Al₂O₃, electrolyte, exam. of phase equilibria, review 9-11590
 Ni electrodeposition from alkaline citrate electrolytes, Ni/electrolyte interaction (*Russian*) 9-11796
 Pt anode, impedance behaviour study in β -ZnS suspension-electrolysis leaching in 1N H₂SO₄ soln. (*Japanese*) 9-24754
 RbAgI₃, solid electrolyte, Rayleigh-Brillouin and low-frequency Raman spectra 9-33720
 RuO₄, catalyst at anode of solid polymer electrolyte cell, corrosion 9-20376

electrolytes, solid *see* superionic conducting materials

electrolytic capacitors

No entries

electrolytic conductivity of liquids *see* electrical conductivity of electrolytic liquids

electrolytic deposition *see* electrodeposition

electrolytic devices

cathodic device for electropolishing and etching metallographic sections, in situ 9-39067

concentration cell, 1/f noise theory 9-47940

HTGR, electrolytic feed adjustment for separation of Np, Pu (*German*) 9-3229

resistor, 1/f noise theory 9-47940

electrolytic dissociation

see also electrolytic ions

H₂O, H₂ prod. by fusion reactor-high temperature electrolysis system 9-18041

TiO₂ doped polycrystalline electrodes, for photo-assisted electrolysis of water, spectral response 9-29370

electrolytic ion mobility

see also electrophoresis

isotachophoresis process 9-25784

membranes, ion flow, step pot. change, conc., current responses 9-5177

AgBr, far IR spectra, cond., cation local motion 9-1754

Ag_{0.85}Cu_{0.15}Br, far IR spectra, cond., cation local motion 9-1754

At⁺, in KNO₃ soln., ion vel., carrier free 9-34318

AtO₃⁻, in KNO₃ soln., ion vel., carrier free 9-34318

AtO₄⁻, in KNO₃ soln., ion vel., carrier free 9-34318

β -CuBr, far IR spectra, cond., cation local motion 9-1754

MgSO₄, aq. soln., electrolytic conduct. affected by US waves 9-23997

electrolytic ions

see also electrical conductivity of electrolytic liquids; electrolytic dissociation; electrolytic ion mobility

No entries

electrolytic machining

see also electrolytic polishing

metal, electroerosion and electrochemical treatments compared (*Russian*) 9-15846

metals heating by electrolytic plasma, temperature distribution obs. (*Russian*) 9-1045

Mo electrolytic dissolution at high anodic potentials, surface quality (*Russian*) 9-39025

Ti alloy, hydrogenation during electrochemical treatment (*Russian*) 9-39024

W electrochemical treatment, current distrib. and metal throughput (*Russian*) 9-15849

electrolytic polishing

see also electrolytic machining

metallographic sections, in situ, cathodic device 9-39067

metals, AC current influence obs. (*Russian*) 9-1922

steel, stainless, 316, surface finish effect on low-cycle fatigue at 400°C 9-29277

steel, stainless, stress corrosion cracking in high temp. water, surface prep. effect 9-5088

Al, chemical polishing, electrochem. props. of soln. 9-29282

Al, polishing, electrolytic and chemical, SEM exam. of gassing defects 9-34206

Cu, horizontal cylinder, electropolishing in phosphoric acid 9-47835

Cu, single cryst., deform. process, effect of surface layer 9-8315

Si film, porous, form. and oxidation by anodic reaction 9-28966

Ti, in perchloric acid-acetic acid soln., AES study of anodic films 9-5072

Ti, in perchloric acid-acetic and soln., polarisation behaviour, stoichiometry 9-5073

Zr base alloys, formation of phases precipitated from β solid solutions (*Russian*) 9-1869

electromagnetic absorption *see* electromagnetic wave absorption

electromagnetic compatibility

civilian standards and regulations 9-31777

exploding-wire photon testing of Skynet satellite 9-25433

nuclear and space radiation effects, conf., Albuquerque, USA (Jul. 78) 9-19276

Skynet system-generated EM pulse response, spontaneous discharges, electron charging effect 9-25432

system-generated EM pulse boundary layer, time-dependent, scaling behaviour 9-23641

electromagnetic corrections

"electromagnetic corrections" is distinguished in use from "radiative corrections", by application to elementary particle and nuclear interactions

see also radiative corrections

hadron backward scatt. at high energy (*Russian*) 9-3028

hadron charge exchange at high energy (*Russian*) 9-3028

hadron scatt., calc. by general dispersion reln. method 9-9378

QED, electron anomaly, radiative corrections, vac. polarisation insertions, ladder graphs 9-2959

radiative corrections in charge-exchange and backward hadron scattering 9-17727

radiative corrections to β and μ decays in SU(2)_L×U(1) models involving 2n flavors 9-40778

radiative corrections to motion of e⁻ in non-monochromatic EM field (*Russian*) 9-22002

e⁺e⁻→e⁺e⁻($\mu^+\mu^-$)($\pi^+\pi^-$), radiative corrections to cross sections, valid in α^2 -approx. 9-17726

$\gamma\gamma$ collision radiative corrections from e[±]e[±] processes 9-40777

$\mu\mu\rightarrow e\nu\bar{\nu}$, full electron polarisation vector radiative corrections 9-36055

$\pi^+\pi^-\gamma$, Ps=orthopositronium, π^0 lifetime, O(α) EM correction (*Russian*) 9-45089

electromagnetic decays

charmonium atomic physics, ψ , ψ' , η_c , η_c' masses and $\psi\rightarrow\eta_c\gamma$ decay 9-40740

chiral SU(4)×SU(4) breaking scheme, vector mesons radiative decays 9-22099

hyperon weak EM decays, 27th Hamiltonian component contribution 9-22101

M1 radiative meson decays, QCD corrections 9-17718

meson radiative decay, decay widths, relativistic quark models anal. 9-13118

meson radiative decays, higher order effects 9-13131

electromagnetic decays continued

mesons, radiative transitions and gluon-exchange contributions in QCD 9-45074

neutrino radiative lifetimes, limits from supernovae 9-16785

OZI rule, pseudo-dimension rule and $\psi(3770)$ decay 9-40724

quark mass effects as isospin and SU(3) violations in radiative decays of vector mesons 9-22091

SU_c×SU_f calibrating theory, weak and EM interactions appl. (*Russian*) 9-35964

SU(2)_C×U(1) gauge model, strange baryon weak radiative decays and CP violation 9-6260

SU(3) quark sectors, weak hadronic and radiative decays of nonstrange charmed baryons 9-22092

tensor mesons, EM decay possible source of photons and leptons 9-13130

vector meson mass spectrum, radiative decay, QCD nonrelativistic potential model 9-36046

vector meson radiative decay, $\delta(980)$ scalar meson contributions 9-36083

vector meson radiative decay, off-shell factors in vector dominance model 9-22084

vector mesons, leptonic and radiative decays, Schwinger model with U(3) symm. breaking 9-379

$\chi(345)$, radiative M1 transitions with charmonium model 9-13132

D₁₅→ $\rho\gamma$, SU(6) selection rule violation from quark hyperfine interactions 9-6329

$\eta\rightarrow\mu^+\mu^-\gamma$, mass spectrum 9-9367

η_c , production cross sections in e⁺e⁻ colliding beams, two-photon processes 9-36089

f₂(3.55) absolute γ -decay rates from tensor meson dominance and QCD pds. 9-9377

J/ ψ , radiative M1 transitions with charmonium model 9-13132

K⁰→K^{0*} γ , quark anomalous mag. moments 9-17693

$\omega\rightarrow\pi\pi\gamma$, three body decay width 9-36083

$\phi\rightarrow\pi\pi\gamma$, three body decay width 9-36083

$\phi\rightarrow KK\gamma$, three body decay width 9-36083

π decays and π electromag. form factor, σ -model with quarks 9-22100

$\pi\rightarrow e\nu\gamma$, vector form factor, quark masses and isospin breaking 9-13111

π^0 decay, Compton electron scatt., 0.1 to 5.0 GeV 9-397

$\pi^0\rightarrow\gamma\gamma$, Ps=orthopositronium, π^0 lifetime, O(α) EM correction (*Russian*) 9-45089

$\pi^+\pi^-N$, 217 GeV, dimuon prod., prod. of γ associated with $\chi\rightarrow\psi\gamma$ 9-36081

$\psi\rightarrow\eta\gamma$, vector dominance model of radiative decays 9-26330

$\psi\rightarrow\eta\gamma$, vector dominance model of radiative decays 9-26330

ψ , radiative M1 transitions with charmonium model 9-13132

$\psi(3684)\rightarrow\gamma\gamma J/\psi(3093)$, cascade decays, evidence for new C=+ intermediate state 9-13115

$\rho\rightarrow\pi\pi\gamma$, three body decay width 9-36083

$\rho\rightarrow\pi\gamma$, EM decay rates, spectrum generating SU(4) approach 9-26334

$\rho\rightarrow\pi\gamma$, quark anomalous mag. moments 9-17693

$\Sigma^+\rightarrow p\gamma$, radiative weak decays of baryons as single-quark transitions 9-40776

T(t) decay into Higgs scalar and photon 9-36082

T→3 γ , IR and collinear divergences, cancellation in one-loop corrections to QCD cross sections 9-40730

T(9.55b), decay into Higgs scalar and photon 9-36082

T(9.5) props., SU(4)×S₃^a scheme in siraton model (*Chinese*) 9-9347

V→ $\gamma\gamma$, use of QCD in OZI-violating radiative decays 9-26302

X(2.83), radiative M1 transitions with charmonium model 9-13132

Z⁰→2 γ , radiative weak decays of baryons as single-quark transitions 9-40776

electromagnetic energy *see* electromagnetic waves

electromagnetic field theory

see also electromagnetic waves; electromagnetism

adiabatic hypothesis, old quantum theory, rel. to classical electrodynamics, zero-point EM radiation 9-2661

advanced potential solution, status anal. 9-17248

causal independence in local relativistic free quantum fields 9-21894

charged extended body interaction with mag. field 9-13879

classical electrodynamics of point particles, energy tensor struct. 9-21566

Coulomb-like quantization of the electromagnetic field on spacelike hyperboloids 9-306

covariant representation of microscopic charge and current densities in terms of polarisation and magnetisation fields 9-71

current induced on crossed cylinders excited by plane EM pulse 9-13873

Dirac's veto, classical Lagrangian theory of Dirac's monopole 9-40383

education, simplified relativistic force transformation equation 9-25791

effective electric field in an inhomogeneous medium 9-13869

Einstein's nonsymmetric unified field theory extension, geom. props. 9-44833

Einstein-Maxwell, field theory with teleparallelism and Dirac electron (*German*) 9-9168

electric dipole radiation interactions, implications of gauge invariance 9-30268

electromagnetic and gravitational Hertz potentials 9-2680

ellipsoidal charged particle bunch, self-consistent motion, approx. soln. 9-13881

EM wave reflection on periodic corrugated solid media, anal. 9-13875

equilibrium equations and duality 9-879

field problem with a non-linear condition 9-18326

finite-difference method, for crossed (doubly-periodic) gratings 9-1002

Finslerian space-time with absolute parallelism, scalar and EM fields 9-40436

infinite conservation laws for EM and asymptotic gravitational fields 9-21613

integral transport theory for charged particles in electric and magnetic fields 9-26006

LF fields in linear media, two-dimensional finite element analysis 9-41297

lossy anisotropic inhomogeneous media, variational formulation of EM problems 9-13866

magnetic field meas., precision, using Ampere's law 9-21720

magnetic oblique rotator production of EM field, lowest order solns. 9-21176

Maxwell's eqn. soln. for any static axisymmetric vac. space time 9-25874

Maxwell's eqns. in electromech., numerical resolution by finite element anal., eddy current effects (*French*) 9-30269

Maxwell's eqns. with mag. charges, conformal invariance 9-44756

Maxwell's equations, variational principles 9-2641

Maxwell field, quantisation and Poincare group extensions of zero mass representations 9-30685

electromagnetic field theory continued

- measuring units system, electromagnetic phenomena, relativistic aspects (*Rumanian*) 9-17382
- multiply charged periodic classical systems and random EM radiation, statistical equilib. 9-2621
- multipole matrix elements from classical field with sources 9-9504
- multipole radiation, elementary sources 9-17249
- non-empty space-times, conformal EM fields 9-30331
- nonlinear classical EM theory 9-5991
- nonradiating primary planar sources of finite extent, question of existence 9-10247
- nonsymmetric unified field theory, physical interpretation and light propag. 9-21618
- one-dimensional medium with space-time inhomogeneities, spectral-correlation characts. evolution (*Russian*) 9-2634
- penetration into conductor, mean time constants calc. (*German*) 9-3613
- ponderomotive forces, past controversies, discussion 9-41263
- presymplectic manifolds and the Dirac-Bergmann theory of constraints 9-2652
- quasistationary time-varying field, diffusion into spherical shell 9-13870
- radiating cylinder, gravitational field anal. 9-30332
- Reissner Nordstrom singularity, spherically symmetric clusters of charged particles 9-12672
- scattering by irregularly shaped perfectly conducting or dielectric cylinders 9-13878
- simultaneously radiating elec. and mag. sources, generalised EM field props. (*Russian*) 9-27131
- sphere between two planes, field distrib., substitute diagram synthesis (*Polish*) 9-3611
- stationary, anal. by Trefftz's method, using quasiharmonic polynomials (*German*) 9-27128
- transversal field configuration, in conducting plates (*Polish*) 9-3612
- transverse mag. dipole field diffraction on sphere with circular hole (*Ukrainian*) 9-31761
- unification of Maxwell, Dirac and Yang-Mills eqns., octave algebra 9-2967
- uniform asymptotic theory and uniforms geometrical theory of diffraction, comparison 9-13872
- vector field decomposition by scalar potentials 9-12625

electromagnetic fields

- anisotropic cylindrical shell within solenoid, EM response 9-13867
- anisotropic media, calc. (*Russian*) 9-7054
- anomalous penetration along phase division boundary (*Russian*) 9-41284
- behaviour of magnetodielectric edgels with appl. to design of elect. and electronic devices (*German*) 9-45885
- charge bunch radiation losses in pill-box resonator, time domain numerical computations of EM fields 9-31781
- cylindrical conductor, AC excited, with circumferential electrodes, boundary-value problem 9-7055
- Earth, freq. and transient responses of EM fields created by currents in confined conductors 9-29702
- Earth EM field sounding, appl. of composite obs. patterns in near field (*Russian*) 9-44270
- Earth scattered EM fields from buried wires 9-16369
- electric field strength measurement, broadband antenna probes (*Polish*) 9-21722
- ELF field strength meas. in Connecticut in 1975, summary 9-48557
- horizontal electric wire source of arbitrary length, EM fields 9-27130
- lightning return strokes, EM radiation simulation, tortuosity effects 9-8672
- localised RF fields, duct propag. along inhomogeneous magnetoplasma column 9-46453
- Maxwell's equations in anisotropic space 9-44758
- momentum of EM field very close to plane interface 9-13936
- near field power density meas. (*Polish*) 9-21721
- nonlinear electrodynamics, three-dimensional soliton solution (*Russian*) 9-22884
- nonradiating linear combination of quasihomogeneous current correlations 9-18327
- nonsinusoidal, nondestructive materials testing appl. (*Czech*) 9-20311
- open oscillating circuit, resonance characts., effect of spatial inhomogeneity of medium 9-41283
- scattering by cylindrical inhomogeneity in homogeneous medium, time harmonic computation 9-41286
- sea surface, ULF/ELF EM fields generated by submerged vertical harmonic mag. dipole 9-48400
- variational methods for stationary fields 9-36815
- vertical magnetic dipole over vertically inhomogeneous Earth, EM fields components 9-34736

electromagnetic induction

- see also inductance*
- Alaska pipeline, auroral zone elec. currents induction 9-39645
- analogue model expts. for elongated structures (*German*) 9-25199
- ball bearing electric motor, for teachers 9-21488
- circuit-breaker induction calc. using standard finite element software 9-41906
- conducting cylinder motion in solenoid field, contactless elec. cond. meas. (*Russian*) 9-214
- conducting plate surface element models 9-41290
- conducting stratified medium, numerical analysis 9-34740
- current induced on crossed cylinders excited by plane EM pulse 9-13873
- displacement current, historical study 9-27132
- Earth, alternating EM field perturbs. by cond. inhomogeneities 9-39653
- Earth, EM induction by moving ionospheric current systems 9-16370
- Earth, freq. and transient responses of EM fields created by currents in confined conductors 9-29702
- Earth, low resistivity, polarisable, EM transients formulae (*Russian*) 9-39644
- Earth, model refinement for one-dimensional EM induction problem 9-44096
- Earth, scale model results for inductive logging near single and multiple conductive bodies 9-16696
- Earth, two-dimension induction in thin surface sheet of variable integrated cond. 9-16372
- Earth conductivity model and source fields, perturb. and induction arrows calc. 9-20751
- Earth EM sounding, induced polarisation data inversion 9-16695
- Earth induction, effects on vertical polarisation of Pc 5 pulsations recorded in auroral regions 9-12355
- eddy current induction in thin curved sheets, calc. 9-41299

electromagnetic induction continued

- electric generator, wave activated, design 9-20866
- electronic circuits implanted in freely moving animals, wireless power supply 9-29682
- exterior regions containing moving conductors, finite element models 9-41291
- Faraday's law problem, including nonlinear term, rel. to perturbation theory, for teaching 9-35470
- field distribution, induced by current in conducting sphere between two planes, substitute diagram synthesis (*Polish*) 9-3611
- general reciprocity theorem for conducting media 9-31770
- gyrating conducting sphere, in mag. field 9-10241
- history of EM induction discovery, teaching 9-44682
- impulsive field build-up, current skin-layer thickness anal. (*Russian*) 9-41285
- law of induction from view point of relativistic mechanics (*German*) 9-41287
- lightning transient anal. for aircraft, flux induced voltage transients on low-loss transmission lines 9-36814
- magnetotelluric investigations, induction effects detect. methods appl. in Sakhalin and Yakutia (*Russian*) 9-39642
- nonhomogeneous conducting sphere, secondary electromagnetic field analysis (*Russian*) 9-45887
- ocean, baseless method of electric field meas. (*Russian*) 9-39900
- oceanic induced electric fields, coastal edge corrections calc. 9-25253
- oceans, arbitrarily shaped, of finite conductivity, EM induction solns. 9-16371
- rotating conducting sphere in mag. field, ideal conductor approx. 9-18324
- scattering by irregularly shaped perfectly conducting or dielectric cylinders 9-13878
- scattering current and small hole coupling for thin finite cylinders 9-18325
- singularity expansion method applied to perpendicular crossed wires over a perfectly conducting ground plane 9-36813
- transversal field configuration, in conducting plates (*Polish*) 9-3612
- wire rope NDT, EM field perturbation by internal void in conducting cylinder 9-34213

electromagnetic interference

- see also radiofrequency interference*
- conducting screen, excitation of object through aperture 9-13871
- heart pacemakers, interference due to amateur radio installations, cars, domestic appliances 9-25155
- microwaves appl. in biological medical therapy/diagnosis, bio-clutter interference effects 9-11992
- power line radiation effects on magnetosphere, transmitter simulation 9-12348
- power station fibre-optic system installation 9-37028

electromagnetic lenses *see magnetic lenses***electromagnetic oscillations**

- see also cavity resonators; lasers; masers; ring lasers*
- astrophysical nonlinear dynamos, multiple period dynamo wave oscills. and solar cycle modulations 9-16813
- wind generator oscillation modes in large power systems 9-29446
- Ag-MgF₂-Ag layered system bounding dielec., ATR ang. spectra, assoc. reson. EM oscills. 9-15541

electromagnetic radiation *see electromagnetic waves***electromagnetic theory of light**

No entries

electromagnetic wave absorption

- see also electromagnetic wave propagation in plasma; gamma-ray absorption; light absorption; spectra; X-ray absorption*
- biological cylindrical tissue models excited by loop antenna 9-39446
- D-region, mid-latit., energetic particles precip. during baylike absorpt. disturbance 9-12333
- diffraction gratings, crossed, theory of diffraction and absorption 9-18337
- ELF normal mode reflection and absorption, nighttime ionosphere effects 9-8754
- ferroelectric with orientational transition, coupled elastic, EM and polarisation oscill. spectrum 9-8103
- gyrotropic sphere, EM wave scatt. and absorpt. 9-41305
- HF radiowave absorption variation in ionosphere (*Spanish*) 9-16735
- ionosphere, radiowave absorpt. obs. at mag. equator using A₁-technique 9-21099
- ionosphere absorption near 100 km height, travelling (wave) disturbances 9-25392
- ionosphere vertical incidence absorption during winter anomaly, calcs. using electron density profiles 9-21098
- IR attenuation by atm. H₂O, lab. study of role of mol. and aerosol contrs. (*Russian*) 9-34945
- long-path light absorption cell meas., automation, optical alignment 9-17491
- NGC 1499, H II region, decametre wavelength absorpt. obs. rel. to nebula parameters (*Ukrainian*) 9-40243
- nonspherical extinction and absorption efficiencies 9-7074
- radiowaves, ionospheric equatorial absorption, lunar tides 9-44286
- semiconductor, degenerate, absorpt. due to electron-phonon collisions in quantising mag. field 9-7795
- superconductor, long thin, resistive domain of small cross section in microwave EM field 9-28446
- troposphere, attenuation statistics at 15 and 35 GHz for very low elevation angles 9-8674
- two coupled oscillators, decaying in the same bath, absorpt. line shape 9-10088
- Ar-Xe mixture, microwave absorption, collision-induced 9-22626
- KCl, 10.6 microns absorption, calorimeter round robin meas. 9-35748
- Ne-Xe mixture, microwave absorption, collision-induced 9-22626

electromagnetic wave attenuation *see electromagnetic wave absorption; electromagnetic wave scattering***electromagnetic wave diffraction**

- see also electromagnetic wave propagation in plasma; gamma-ray diffraction; light diffraction; X-ray diffraction*
- antenna boundary value problems, null field approach, computational method 9-13877
- arbitrary complex aperture in conductive screen 9-45893
- black hole, plane EM wave diffraction by spherical gravit. lens, Poynting vector calc. 9-25945

electromagnetic wave diffraction continued

- circular cylinders with longitudinal slots, rigorous solution of excitation problem (*Russian*) 9-18340
- conducting plates, nonintersecting, integral Fredholm eqns. 9-10248
- diffraction gratings, crossed, theory of diffraction and absorption 9-18337
- geometrical theorem and Keller's diff. coeff. (*French*) 9-41307
- gratings, plane metallic, anal. 9-10245
- hologram grating, boundary conditions for diffracted EM fields 9-3660
- hologram grating, dephasing measure in plane wave diff. 9-3659
- homogeneous medium, moving areas, EM wave diff. and scatt. (*Russian*) 9-27141
- inclined dividing boundary between dielectric materials in rectangular waveguide 9-885
- ionosphere, diff. from discrete and homogeneously structured irregularities 9-48612
- ionosphere, mid-latit., geostationary satellite signals scintillation at 137 MHz 9-25388
- metal grating, at dielec.-semicond. interface, plane EM wave diff. 9-27139
- microstrip waveguide, theory of radiated waves using asymptotic wave diff. theory 9-18339
- microwave transmission characts. (*Norwegian*) 9-29834
- numerical anal. of reverse case of diffraction on impedance loaded cylinder (*Russian*) 9-31778
- perfectly conducting biaxial periodic surface, simplified theory of diff. 9-41303
- by periodic waveguide gratings, reson. effects (*Russian*) 9-887
- plane angular sector, geometrical theory 9-45896
- plane wave, diff. by flanged parallel-plate waveguide and slit in thick screen 9-45891
- radio signals diff. by isolated ionosphere irregularities 9-35049
- sinusoidal ring current EM wave, diff. by cond. cone 9-27140

electromagnetic wave diffusion *see electromagnetic wave scattering***electromagnetic wave interference**

- see also atmospheric; electromagnetic wave interferometers; electromagnetic wave interferometry; electromagnetic wave propagation in plasma; light interference; Moire fringes*
- epitaxial magnetic film thickness meas., interferometric method 9-35675
- IR spectra, interference fringe elimination, computer method 9-12872
- oscillator ensemble with embedded impurity oscillator, absorption spectrum windows 9-6045
- radiowave propagation along lunar surface, anal. 9-5768
- rain attenuation, Earth to satellite radio links statistical study (*Japanese*) 9-5555
- site diversity effect on Earth to satellite radio links, statistical study (*Japanese*) 9-5555

electromagnetic wave interferometers

- see also electromagnetic wave interferometry; light interferometers*
- IR spatial interferometer, space-borne, exposure time 9-35131
- maser, multiple-beam interferometer, construction and exptl. results (*French*) 9-45919
- microwave, for biomedical appl., physiological movements meas. 9-25137
- microwave Michelson interferometer for respiration monitoring 9-8557
- SQUID, with RF bias, fluctuation characts. 9-9229
- X-ray interferometer with divergent polychromatic beams 9-27867
- X-ray interferometers in quartz crystal (*Russian*) 9-44995

electromagnetic wave interferometry

- see also light interferometry; Moire fringes*
- astronomy, tropospheric limitations of coordinate measurements using phase and fringe freq. 9-44375
- coal, bituminous, elec. props. meas. as function of freq., polarisation, EM wave direction and temp. 9-12113
- CW phase comparison technique for determ. of remote layer thickness 9-35662
- fringe fractions, meas. by means of time intervals method 9-17478
- radio sources, compact, in bright galaxies, very long baseline interferometry 9-48943
- radioastronomy, aperture synthesis meas. processing, tangent-plane aberration, new transform 9-8847
- radioastronomy, atmospheric delay fluctuations with scale sizes >1 km 9-8675
- radiointerferometric frequency and coordinate meas. accuracy, tropospheric fluctuation constraints 9-8848
- radiointerferometric phase meas. ambiguity detection, recurrence relationship (*Russian*) 9-25513
- spinor, phase factor obs. by NMR spectroscopy 9-4731
- Sun, quiet, interferometric obs at 8 millimetre wavelength 9-40149
- transatlantic long base line interferometry at 10680 MHz 9-48390
- Venus wind velocities, vector determ. by radio interferometry 9-48722
- VLBI using geostationary satellite link 9-29968
- water, cooled, radiation stratified, temperature structure (*German*) 9-41687
- X-ray interferometry preliminary results for crystallography, Si lattice constant 9-7522
- X-ray interferometry with divergent polychromatic beams 9-27867

electromagnetic wave propagation

- see also atmospheric electromagnetic wave propagation; atmospheric light propagation; backscatter; electromagnetic wave absorption; electromagnetic wave diffraction; electromagnetic wave interference; electromagnetic wave propagation in plasma; electromagnetic wave reflection; electromagnetic wave refraction; electromagnetic wave scattering; guided electromagnetic wave propagation; light propagation; light transmission; radiowave propagation*
- absorbing medium, with multiple discontinuities, inverse problem 9-31780
- boundary waves on perfect conductors, Maxwell eqn. solns. 9-44757
- chiral media, macroscopic objects embedded in dielectric 9-31775
- compression by anisotropic crystal giving zero reflection coefficient (*Russian*) 9-883
- conducting medium in const. mag. field, two EM waves secondary field generation 9-36828
- conference on electromagnetic wave scattering in radiocommunication, Cambridge, MA, USA (Oct. 1977) 9-29836
- corrugated cylindrical waveguide, propagation characts. (*Italian*) 9-17235
- dielectric interface, EM wave tunnelling 9-41306
- dispersive medium, calc. (*Italian*) 9-27133
- Doppler freq. shift of wave in time-varying inhomogeneous anisotropic medium 9-40016
- double ray refraction, in moving anisotropic media (*Russian*) 9-18329

electromagnetic wave propagation continued

- evanescent EM wave behaviour under Lorentz transformation 9-22880
- focusing media with random-axis misalignments, second and higher order moments 9-17236
- Gaussian beam at normal incidence on dielectric sandwich slab 9-7062
- good conducting media, matched electromagnetic pulse transmission 9-36823
- Helmholtz eqn. within wedge, Green's functions 9-9130
- horizontal electric dipole antenna, quasi-static range propag. within conducting slab 9-48515
- hydrodynamically responsive medium, model pulse propag., closed form soln. 9-17237
- inhomogeneous dielectric, EM wave scatt. and propag., Born approx. 9-41308
- inhomogeneous lossless dielectric slab, permittivity profile reconstruct. from reflection coeff. spectral anal. 9-36819
- in inhomogeneous media, strong and weak inhomogeneities 9-31774
- inhomogeneous medium with large-scale random inhomogeneities statistical characts. (*Russian*) 9-882
- magnetoelectric medium, standing wave pattern form. when magnetoelec. constant is nondiagonal tensor 9-27135
- massless scalar field in a de Sitter universe and its thermal flux 9-127
- nematic liquid crystal, traversing weak EM wave in static mag. field, electrodynamics 9-14680
- non-Minkowskian spacetime, polarisation plane rot. 9-35115
- nonlinear wave in turbulent medium, with random inhomogeneities (*Russian*) 9-27134
- one-dimensional medium, propagation in periodic structs., theory 9-45892
- one-dimensional medium with space-time inhomogeneities, spectral-correlation characts. evolution (*Russian*) 9-2634
- perfect crystals, propag. of EM signals generated by localised EM current distrib. 9-36817
- plane monochromatic waves, propagation through polarised interface (*French*) 9-7057
- radiowaves, troposcatter aperture-medium coupling loss 9-29840
- random media, coupled EM and elastic waves 9-28579
- random slab problem of wave propag. through random medium 9-36827
- real ray tracing when ray direction is complex 9-9126
- Reissner-Nordstrom black hole, reflection and absorpt. of EM and gravit. waves 9-44820
- relativistic magneto thermo viscoelastic medium, effect of mag. and thermal fields on plane wave propag. 9-2637
- stratified composite medium, surface EM waves, wave phase velocity (*Russian*) 9-45889
- superluminal flow, EM wave refl. 9-27138
- surface wave propag. on rectangular bonded wire mesh over lossy ground 9-7060
- turbulent medium with smooth space-time fluctuations, absorpt. effects on statistical characts. (*Russian*) 9-18330
- two-dimensionally inhomogeneous media, Maxwell eqns. decoupling 9-41302
- water surface EM wave excitation 9-13893

electromagnetic wave propagation in plasma

- see also ionospheric electromagnetic wave propagation; light propagation in plasma; magnetospheric electromagnetic wave propagation*
- absorption and transformation in inhomogeneous plasma 9-23424
- Alcator Tokamak submillimetric-wave emission obs. 9-32816
- AM/FM radio signal diffraction in homogeneous dispersive medium, space time geometric theory 9-4149
- anomalous skin effect in bounded plasma 9-19043
- antenna system, multilayered, electronically scannable, for space communication 9-4151
- barrier penetration, in inhomogeneous magnetised plasma 9-19030
- beam-plasma system, instability due to whistler mode EM waves 9-14564
- colum rot. and particle transport, travelling EM wave and neutral beam heating (*Russian*) 9-27798
- combustion bomb microwave cavity, electrically loaded with propagating flame front electron plasma, theory and expt. 9-20369
- continuous transverse EM waves, in weakly dissipative plasma, nonlinear effects 9-10672
- cross focusing of coaxial Gaussian beams in magnetoplasma, plasma wave generation 9-32779
- curvature radiation, from laser heated dense plasma, spectrum 9-41834
- density discontinuity in plasma, s-polarised wave absorpt. 9-23425
- density profile steepening at reson. absorpt., hydrodynamic model 9-46434
- dipole radiation of longitudinal waves in infinite plasma 9-4153
- education, plasma-laser beam self focusing using paint stripper flame 9-9066
- effective Compton cross sections of hot plasma 9-37501
- electron beam interaction with EM wave, stochastic oscill. (*Russian*) 9-46460
- electron cyclotron maser interaction in cavity 9-19045
- electron plasma, parametric instability excitation by high-freq. EM waves 9-19031
- envelope solitons of relativistically strong electromagnetic waves (*Russian*) 9-37503
- extraordinary mode nonlinear propag. in magnetoplasma 9-14555
- F-region irregularities from plasma reson. phenomena obs. by rocket-borne relax. sounding expt. 9-8767
- finite amplitude whistler wave solitons and filaments, properties and propagation 9-41836
- Gaussian ripple on uniform EM beam, growth on magnetoplasma 9-19041
- HF discharge plasma, resonantly sustained, by Tonks-Dattner resonance 9-4142
- high power level plasma waveguide mode excitation 9-41839
- inhomogeneous plasma stimulated Raman scatt. spectrum 9-7449
- inverse magnetic bremsstrahlung around the electron-cyclotron frequency 9-27781
- ionisation nonlinearity medium, TE wave energy flux limitation effect and regime transitions (*Russian*) 9-1315
- ionosphere, heating due to parametrically excited Langmuir waves, short-scale field-aligned density striations form. 9-8766
- Langmuir soliton weak EM wave scatt., Doppler shift and reflection coeff. calc. (*Russian*) 9-7467
- localised RF fields, duct propag. along inhomogeneous magnetoplasma column 9-46453
- longitudinal waves excitation by obliquely incident EM waves in semi-limited plasma (*Russian*) 9-1314

electromagnetic wave propagation in plasma continued

low-frequency radiation, from elec. dipole in isotropic plasma 9-46436
 magnetoparametric instabilities, appl. to Crab nebula 9-8829
 magnetoplasma, plasma wave generation and SHG by Gaussian EM beam 9-37479
 microwave propagation effects in randomly ionized plasma, experimental system 9-27784
 moving plasma, total refl. of EM waves 9-37458
 neutral radiant gas, kinetic eqns. with allowance for radiation polarisation 9-23399
 nonlinear interaction with relativistically strong EM waves 9-1316
 nonlinear ion-sound waves excitation, by whistlers and Alfvén waves (*Russian*) 9-27783
 nonlinear propag. of EM wave, modulational instability 9-19047
 nonlinear self-distortion in magnetoplasma 9-40031
 nonlinear transmission and reflection, plasma layer in longitudinal field (*Russian*) 9-19040
 oblique incidence of waves on an inhomogeneous plasma with spatial dispersion (*Russian*) 9-37498
 optical absorption wave propagation in gases, struct., propag., effects 9-10629
 ordinary mode stability to electron heat flux, solar wind appl. 9-30049
 parametric absorption of EHF radiation in magnetoactive plasma (*Russian*) 9-32790
 parametric excitation of standing waves along plasma boundary (*Russian*) 9-41856
 penetration in collisional plasma half-space with diffuse reflection 9-19039
 penetration into magnetoactive wave 9-23420
 pinched discharges, runaway electron model for X-ray emission 9-46497
 plane parallel plasma layer, EM field penetration, reflective index, absorpt. coeff. (*Russian*) 9-14551
 plane wave propagation in radiative plasma, elec. props. anisotropy effects 9-14522
 Poynting's theorem for moving media, Lerche's relativistic theory 9-48660
 radio emissions from plasma waves and type III solar bursts 9-44454
 radio waves self action in ionospheric plasma, nonstationary theory (*Russian*) 9-48604
 raman side-scatter instability in nonuniform plasma 9-32751
 random EM wave field in magnetoplasma, anal. of six component meas. 9-27782
 ray tracing in the electron-cyclotron frequency range 9-1317
 reflection from lossy plasma half-space 9-23422
 relativistic electron beams in plasma-filled waveguide, microwave radn. generation (*Russian*) 9-14566
 relativistic magnetised plasma, negative absorpt. and energy distrib. function of hot electrons 9-4143
 resonance cones near lower hybrid freq. 9-46487
 resonance reflection and absorption of electromagnetic waves incident on a magnetoactive plasma layer (*Russian*) 9-37499
 RF localised field, refl. near electron plasma freq. layer 9-19044
 RF wave interaction, mag. field generation in collisionless plasma 9-7466
 self magnetic field generation by interaction with intense microwave radiation 9-27788
 self-focusing of an electromagnetic wave propagating along a conductor in a plasma 9-19048
 stimulated backscattering of electromagnetic ordinary waves from extraordinary waves below the upper hybrid frequency 9-32748
 stimulated Brillouin backscatt. in inhomogeneous plasma 9-19046
 stimulated Raman backscattering of circ. polarised EM waves propagating along mag. field 9-37465
 stochastic photon diffusion in unstable, turbulent magnetoplasma 9-48662
 strong EM wave propagation in cold electron plasma 9-4147
 time-varying medium, EM wave reflection anal. 9-25385
 TM modes in lossy plasma filled waveguides 9-23423
 transparency increase in electron cyclotron absorpt. range, in mag. field (*Russian*) 9-4150
 turbulent plasma, dispersion eqn. 9-14553
 two-plasma decay, profile modification, produced by 10.6 micron radiation, at $1/4$ -crit. density 9-19061
 unmagnetised plasma column, anomalous skin effect, finite element calc. 9-14552
 wave excitation by fast electron cloud, simulation of type III solar radio bursts 9-44455
 weak resonance radiation, collisional redistrib. function 9-794
 whistler pulse, self-distortion in plasma 9-46456
 whistler wave, filamentation instability due to ponderomotive force 9-14538
 Ar, dense plasma, complex refractive index 9-23397
 Ne afterglow, recombination processes, microwave quenching 9-14624

electromagnetic wave reflection

see also electromagnetic wave propagation in plasma; light reflection; X-ray reflection
 cholesteric liquid crystals, Bragg reflection (*Russian*) 9-4235
 corrugated reflector model for one-hop oblique propagation 9-35041
 diffuse radiation emerging from semi-infinite medium, intensity accounting for inner refl. (*Russian*) 9-8637
 Doppler freq., quasi-specular beam effect of Earth's surface elec. props. (*Russian*) 9-45890
 ELF normal mode reflection and absorption, nighttime ionosphere effects 9-8754
 Gaussian beam at normal incidence on dielectric sandwich slab 9-7062
 HF fading ionospheric reflection channel, delay and Doppler power spectra 9-8765
 inhomogeneous lossless dielectric slab, permittivity profile reconstruct. from reflection coeff. spectral anal. 9-36819
 inhomogeneous media, conductivity profile determ. by time domain reflectometry 9-36820
 inhomogeneous medium with large-scale random inhomogeneities statistical characts. (*Russian*) 9-882
 ionosphere, partially reflected radio signals (*Russian*) 9-48603
 ionosphere E-region, reflected radio waves arrival direction 9-25387
 isotropically scattering semi-infinite medium, diffusely reflected radiation intensity (*Russian*) 9-34948
 lakes, ice-covered (North Slope, Alaska), radar return differences 9-2298
 localised RF fields, duct propag. along inhomogeneous magnetoplasma column 9-46453

electromagnetic wave reflection continued

magnetolectric medium boundary, semi-infinite, power refl. ratio and transmission coeff. 9-31776
 microwave transmission characts. (*Norwegian*) 9-29834
 microwaves reflection from air-water interface, appl. to absorpt. and spreading films detect. 9-5690
 nomogram for reflection coefficients for plane waves against flat surfaces 9-18338
 nonlinear, incident to plasma layer, in longitudinal field (*Russian*) 9-19040
 nonlinear absorbing medium, plane wave reflection (*Russian*) 9-984
 nonlinear medium, incident radiation parameters dependence (*Russian*) 9-18328
 nonuniform helical delay system anal. (*Russian*) 9-18336
 on periodic corrugated solid media, reflected wave anal. 9-13875
 probabilistic model for the reflection of waves from a rough surface 9-40380
 radiowaves, tropospheric reflection of differently polarized transient signals 9-29839
 reflection gratings, perfectly blazed with rectangular grooves, EM reflection characts. 9-10246
 Sommerfeld integral, range of applicability of Van der Pol's evaluation 9-36822
 superluminal flow, EM wave refl. 9-27138
 time-varying medium, EM wave reflection anal. 9-25385
 transform-pair relationship between incident and scatt. fields from arbitrary reflector 9-7058
 troposphere VHF radar echoes, appl. to velocities and irregularities study 9-16701
 VHF radar obs. of stratosphere, specular reflection 9-39822
 volume phase grating, reflection, Mathieu functions theory 9-14113
 Si, surface, selectively roughened, polarimetry of specular and non-multiple scatt. EM radiation 9-13904

electromagnetic wave refraction

see also electromagnetic wave propagation in plasma; light refraction
 dielectric interface, EM wave tunnelling 9-41306
 double ray refraction, in moving anisotropic media (*Russian*) 9-18329
 ionosphere, refr. scatt. as explanation for SHF scintillations 9-48615
 microwave propagation in standard atmosphere, ducting, subrefraction effects, radio links appl. (*Norwegian*) 9-29835
 microwave transmission characts. (*Norwegian*) 9-29834
 nonlinear medium, incident radiation parameters dependence (*Russian*) 9-18328
 radar return from radar-acoustic sounding system, refractive turbulence effect 9-39821
 radiowave propagation research, using radiosonde data 9-2350
 troposphere, refractive index gradients study, new approach 9-25322

electromagnetic wave scattering

see also backscatter; electromagnetic wave propagation in plasma; gamma-ray scattering; light scattering; X-ray scattering
 active objects, negative and zero extinction cross-sections 9-13874
 atmosphere, wave scatt. by turbulent flows in wake of artificial satellites 9-8730
 backscatter from conducting rectangular corrugations, radar appls. 9-18332
 backscatter of large rotating conducting cylinder of arbitrary cross section 9-18331
 cluster of spheres, scatt. problem, soln. using Debye potentials 9-31800
 conducting screen, excitation of object through aperture 9-13871
 conference on electromagnetic wave scattering in radiocommunication, Cambridge, MA, USA (Oct. 1977) 9-29836
 cylinder of finite conductivity, symmetry group and natural resonances 9-45888
 cylinders of finite geometry, singularity expansions 9-7056
 D-region, negative ions effect on Thomson scatt. in presence of electron heating 9-16739
 dielectric cylinder scattering, extension of boundary condition 9-18333
 dielectric grating, numerical anal. 9-886
 dielectric spheroids, forward and backward scatt. 9-13876
 diffuse radiation emerging from semi-infinite medium, intensity accounting for inner refl. (*Russian*) 9-8637
 direct scattering from one-dimensional inhomogeneous media, anal. 9-10244
 Earth EM scattering from buried wires 9-16369
 echo width meas. 9-3614
 effective electric field in an inhomogeneous medium 9-13869
 forward/backward scattering from liquid/solid hydrometeors, Rayleigh approx. 9-25321
 gyrotropic sphere, EM wave scatt. and absorpt. 9-41305
 by homogeneous material body of revolution 9-36818
 homogeneous medium, moving areas, EM wave diffr. and scatt. (*Russian*) 9-27141
 by ideally conducting bodies in rectangular waveguide (*Russian*) 9-884
 incoherent scatter results for co-ordinated special intervals at St. Santin (France) 9-2416
 inhomogeneous dielectric, EM wave scatt. and propag., Born approx. 9-41308
 integral eqn. resonant solution elimination 9-45895
 ionosphere, Arctic, European Incoherent Scatter (EISCAT) project (*French*) 9-2437
 ionosphere, backscatter echo spectral analysis and radio transmission forecasts (*French*) 9-29912
 ionosphere, refr. scatt. as explanation for SHF scintillations 9-48615
 ionospheric backscatter sounding method using spatial and spectral sampling, for investigation of plasma inhomogeneities (*French*) 9-29911
 Kirchhoff approximation in horizontally polarized backscatt. from random surface 9-7061
 medium scale broadcasting satellite for experimental purposes, rain-scatter interference 9-8668
 mesosphere, VHF radar scatt. and vertical vels. meas. at temp. latits. 9-16572
 mesosphere incoherent scatter spectrum, ion component meas. in 60 to 90 km region over Areibo 9-16569
 mm wave scattering from precipitation particles, calcs. 9-22882
 moment-method solutions, convergence improvement using interpolants 9-18335
 Moon, radar scatter data rel. to surface parameters from images 9-40100
 N sphere assembly in Rayleigh approx., scatt. properties 9-41304
 nonspherical extinction and absorption efficiencies 9-7074

electromagnetic wave scattering continued

- perfectly conducting cone, transient and time-harmonic dyadic Green's functions 9-18334
- periodic deformed cylinder scattering, smoothing process on mode-matching method 9-36825
- plane grating with reflector, point matching soln. 9-45894
- plane wave, by conducting rectangular cylinder, E polarised wave case 9-31779
- plane wave scattering in inhomogeneous turbulence 9-39857
- pulsar signal scattering by turbulent interstellar plasma 9-5854
- radar remote sensing of Earth's surface, techniques, review 9-12294
- radiowave, broadband communication, tropospheric scatt. mechanisms and channel characterization 9-29837
- radiowave ducting by stratified troposphere 9-29842
- radiowave scatt. theory appl. to radio meteor obs. in upper atm. 9-5696
- radiowave scatter communications, review 9-34935
- radiowave signal processing in ionosphere, incoherent, computerised spectral analysis (*Russian*) 9-5621
- radiowaves, multiple scattering, iterative treatment method 9-8709
- radiowaves, pulse delay and distortion by random scattering in ionosphere 9-29934
- radiowaves, trans-ionosphere, due to equatorial F-region irregularities 9-29933
- radiowaves, troposcatter aperture-medium coupling loss 9-29840
- radiowaves, troposcatter channels and appls. of adaptive equalization techniques, statistical anal. 9-29841
- raindrop induced forward and backward scattering amplitudes, tabulations 9-34884
- reciprocity identity for periodic surface scattering 9-36821
- relativistic electron beam in waveguide 9-10249
- response of anisotropic conducting cylinder to external source 9-7059
- scattering by irregularly shaped perfectly conducting or dielectric cylinders 9-13878
- sea surface, radar scatt. coeff. meas. via SEASAT-A satellite scatterometer (SASS) 9-5680
- soft particles, Mie series appl. 9-36824
- spherical mirror scatt. theory (*Chinese*) 9-10243
- transform-pair relationship between incident and scatt. fields from arbitrary reflector 9-7058
- trilateral surface cell modelling of conducting scatterers 9-36826
- troposphere, attenuation statistics at 15 and 35 GHz for very low elevation angles 9-8674
- troposphere scatter path loss, new formulas 9-48556
- uniform asymptotic theory and uniform geometrical theory of diffraction, comparison 9-13872
- upper atmosphere, incoherent scattering, physical processes (*Portuguese*) 9-2417
- vector wave equations for scattering by inhomogeneous spherical particles 9-27137

electromagnetic waves

- see also *bremsstrahlung*; *Cherenkov radiation*; *electromagnetic field theory*; *electromagnetism*; *gamma-rays*; *heat radiation*; *light*; *microwaves*; *radiofrequency cosmic radiation*; *solar radiofrequency radiation*; *sunlight*; *synchrotron radiation*; *transition radiation*; *undulator radiation*; *whistlers*; *X-rays*
- biological effects of EM waves, interdisciplinary and international contribs. 9-48288
- biological response to non-ionising EM radiation, research perspectives 9-48289
- channelled relativistic particles, possible resonance radiation (*Russian*) 9-23661
- general physics and heat, book 9-25814
- gravitational waves interaction, general relativity soln. (*Russian*) 9-21605
- multi-spiral electron current, interaction with EM wave, nonlinear anal. (*Russian*) 9-22886
- nonradiating primary planar sources of finite extent, question of existence 9-10247
- polarisation, rot. induced by non-Minkowskian spacetime 9-35115
- radiation generated by charged beam near plane flanged waveguide 9-13880
- radiation pressure, object experiencing force perpendicular to EM wave direction 9-22881
- Reissner-Nordstrom gravitational field, electric dipole (*Russian*) 9-21611
- ripple radiation in extragalactic compact radio sources, rel. to low-freq. variability 9-21450
- spectrum at low freqs., theory 9-44350
- stimulated EM shock radiation, book contrib. 9-27149

electromagnetism

- see also *electric fields*; *electrodynamics*; *electromagnetic field theory*; *electromagnetic induction*; *electromagnetic oscillations*; *electromagnetic waves*; *magnetic fields*; *magnetism*
- boundary waves on perfect conductors, Maxwell eqn. solns. 9-44757
- capacitor, mag. field between discharging plates, Ampere's law, for teachers 9-21490
- charged homogeneous cosmologies, theory 9-25767
- classical Lagrangian theory with radiative reaction, monopoles and positrons in Rohrlich formalism 9-72
- conducting media, eddy current phenomena, neglect of displacement current 9-13868
- diffraction theory for transmission phase with deep rectangular grooves, Maxwell's eqns. method 9-10257
- Fresnel equations, improved treatment 9-27136
- gravitation, in plane space, equivalence, massive bodies of electromag. struct. (*Russian*) 9-21610
- Maxwell's equations, for teachers 9-21487
- local conserved currents in unified field theory 9-17307
- magnetic oct. theory by analogy with electric cts. 9-27123
- magnetothermoelastic waves, propag. in initially stressed conducting layer 9-63
- Maxwell's equations, variational principles 9-2641
- Maxwell equations, new invariance group 9-35575
- metal, semi-infinite, nonlinear interaction of oppositely travelling surface plasmons 9-28393
- monopoles, elec. and mag., without strings, heuristic pot. theory, teaching approach 9-5931
- null-plane analysis of electromagnetism with magnetic charges 9-31767
- ponderomotive forces in dielectrics, validity of accepted expression 9-881

electromagnetism continued

- Rayleigh waves, magnetothermoelastic, with thermal relaxation, theory 9-62
 - vortex motion, integrals of hydrodynamic equations, Helmholtz 1858 paper 9-9072
- electromagnets**
- see also *coils*; *superconducting magnets*
 - 18 GeV electron-positron storage main ring magnet system 9-31267
 - 30 T pulsed solenoid construction and life tests 9-31297
 - 34MW 120MJ pulsed DC supply for Divertor & Injection Tokamak Expt. 9-31214
 - acoustic wave transducer, periodic magnet noncontact transducer theory and application 9-46150
 - Adone storage ring transverse wiggler magnet design 9-41054
 - air gap field configuration rel. to pole piece geometry and material inhomogeneity 9-30500
 - artillery projectile inspection by noncontact EM transducers 9-47872
 - CERN Proton Synchrotron focus control, pole face winding design and field correction 9-31299
 - CERN Super Proton Synchrotron beam-splitting steel septum magnets 9-31295
 - CERN Super Proton Synchrotron extraction channel septum magnets 9-31296
 - colliding ring solenoidal detector magnetic system design and fabrication 9-31298
 - distributed computing system THESEUS for mag. field analysis 9-41293
 - fusion reactor coil insulation and winding techniques 9-31210
 - high-resolution NMR spectrometer field homogeneity rel. to pole tip edge saturation 9-30522
 - high-resolution nuclear spectrograph magnet developments 9-31317
 - ion optic precision magnet homogenising surface coils 9-41329
 - LAMPF mineral-insulated magnet experience 9-31248
 - magnetic spectrograph performance 9-31316
 - magnetic spectrograph for very heavy ions 9-31315
 - NMR gaussmeter for measuring field distributions of electromagnets 9-2797
 - noncontact EM transducer design improvement 9-46151
 - planar explosion mag. generator with resistive load, work performance optimisation 9-6156
 - polarity reversing control current magnet power supply with triangular waveform 9-12827
 - pole-piece design, air gap field computation 9-41295
 - Proton-Electron Tandem Ring Accelerator magnet field meas. 9-31271
 - pulsed high field magnet construction (*Japanese*) 9-17456
 - pulsed multipole mag. field with zero skin depth, anal. method, nonstandard electrode optimization 9-13863
 - ring magnet power supply, for 500 MeV synchrotron 9-18068
 - SAW EM transducer harmonic operation 9-46152
 - scanning microprobe electron instrument deflection system based on electromagnet 9-2878
 - sectorial, mag. field inhomogeneities along central ray 9-31768
 - spherical multipole electromagnet development 9-31208
 - storage ring magnet of third muon ($g-2$) expt. at CERN 9-22504
 - structural vibration testing, using electromag. forcing device, use of feedback to reduce harmonics 9-20298
 - Synchrotron Radiation Source booster magnet power supply 9-31272
 - Synchrotron Radiation Source booster synchrotron combined-function magnets 9-31269
 - Synchrotron Radiation Source storage ring multipole magnet prototype 9-31268
 - temperature distrib. in conductor in pulsed mag. field, influence of surface layer 9-31773
- electromechanical effects**
- Maxwell's eqns. in electromech., numerical resolution by finite element anal., eddy current effects (*French*) 9-30269
 - metal, electroplastic effect 9-24589
 - thermal stress, high-current pulse in conducting rod 9-7287
 - water-nitrobenzene interface, mechano-electrical energy conversion using interfacial tension changes 9-14982
 - Cd, electroplastic deform., stress relax. meas. (*Russian*) 9-38894
 - LiTaO₂ and SiO₂/LiTaO₃ struct., Rayleigh waves, piezoelectric leaky surface waves, temp. depend. 9-46905
 - Pb, electroplastic deform., stress relax. meas. (*Russian*) 9-38894
 - Zn, electroplastic deform., stress relax. meas. (*Russian*) 9-38894
 - ZnSe, mech. of electroplastic effect 9-28035
- electrometers**
- see also *charge measurement*
 - amplifiers, errors and nonlinearity in low-current meas. 9-6142
 - capacitors, PTFE film, temp. effects on potential difference 9-6141
 - temperature control of electrometer varactor-bridge amplifiers 9-9219
- electrometry** see *electrometers*
- electromigration**
- aerosols, highly dispersed, with elec., acoustic fields, collision rates 9-47986
 - membranes, ion flow, step pot. change, conc., current responses 9-5177
 - metallic thin films, book contrib. 9-1521
 - simple cubic lattice, drift mobility correlation of interacting ions 9-37868
 - Au, thin film, electrotransport-induced failure site, minor constituents effects 9-23763
 - Cu, Ag impurity diffusion coeff., 759 to 1081°C 9-10982
 - Fe-C, dil., Hall-field electrotransport of C, effective valence numbers 9-28148
 - GaAs, liquid-phase electroepitaxial growth kinetics, Peltier effect and solute electromigration 9-42401
 - K₂O-SiO₂ glass, AES obs. of K⁺ electromigration to surface under electron bombardment (*French*) 9-33869
 - Mo-Ni (40 at.%), exam. of ion transfer (*Russian*) 9-28127
 - Nb, of H, D, electromigration measured by resistance method 9-23783
 - Ni, of H₂, effective valency effects (*French*) 9-23781
 - P-Se glass, effect of Ag electrode diffusion on volt-ampere characteristics 9-7869
 - Si, annealing in elec. field behaviour of second phase inclusions (*Russian*) 9-23779
 - Si device technology, thin film interaction effects, book contrib. 9-1620
 - SiO₂-Al₂O₃-CaO-MgO-Na₂O, ion exchange and electrode diffusion of Li ions in surface layer 9-20227
 - V, electro- and thermo-self-transport, 1480-1822°C 9-42297
 - V, of H, D, electromigration measured by resistance method 9-23783
 - Zn, dislocation mobility under action of current pulses, selective etching meas. 9-19259

electromotive force *see electric potential*

electron absorption

see also beta-ray absorption
No entries

electron accelerators

see also betatrons; electron ring accelerators; microtrons

5 MeV electron accelerator modulator charging system 9-13563
anode for an accelerator with an inductive energy accumulator 9-26785
ARAKS expt., accelerator for electron beam injection 9-21141
circular, with strong mag. field, metrological props. 9-6779
collective acceleration methods based on high-current relativistic electron beams 9-18063
coupled Marx-Tesla circuit for production of intense relativistic electron beams 9-17558
Hall accelerator, azimuthal drift current, induction meas. method 9-23465
Harwell 136 MeV electron linac, slow neutron production, optimisation calcs. 9-41048
heavy electron scattering expts. from intermediate energy linear accelerators (*Dutch*) 9-22502
high power, low energy electron linac, radiation processing appl. 9-45472
industrial electron accelerators, beam energies above 150 keV, problem review 9-31243
linac, 600 MeV, Saclay, 40000 hrs. of operation, recent improvements (*French*) 9-688
linear, equipment and methods (*Russian*) 9-13562
linear, multisection, freq. characts. calc. method 9-13560
linear 35 MeV accelerator at Univ. of Tokyo (*Japanese*) 9-26786
linear acceleration two-conductor struct., moving EM wave refl. 9-26788
linear accelerator, computer prediction and diagnosis of failures of systems 9-693
linear accelerator, efficiency of calorimetric method 9-6778
linear accelerators, health physics aspects of 20 to 40 MeV operations 9-45482
linear ALIN accelerator, waveguide system (*French*) 9-9925
nanosecond electron beam, particle dynamics in linear accelerator 9-26787
nanosecond-pulsed, 600 keV, using pulsed-charging of storage capacitors 9-691
para- and orthopositronium prod. by electron accelerators (*Russian*) 9-13846
pulse-power particle beam sources as fusion drivers, review 9-18066
pulsed high current 60 keV electron accelerators 9-26784
pulsed high-current, pulsed, for stimulation of compressed gases 9-692
relativistic electron beams simulation 9-26789
superconducting bar-loaded resonator for electron accelerator application 9-36434
synchrotron, beam lifetime increase using pulsed mag. field 9-3265
Therac 6 linear accelerator, computer controlled evaluation for X-ray therapy 9-5363
Therac 6 linear accelerator, field elongation effects on depth-dose curves, central-axis output of X-rays 9-5361

electron affinity

bromanil, electron affinity, bound and excited negative ion states, lifetimes, electron and alkali metal collisions 9-869
chloranil, electron affinity, bound and excited negative ion states, lifetimes, electron and alkali metal collisions 9-869
chlorofluoromethane negative ion products, in 0-10 eV near-monoenergetic electron impact 9-41245
conjugated heteroaromatic molecules, ionisation pot. and electron affinities, semiempirical MO theory 9-6843
cyclopentadiene, HAM/3 calc. of ionis. and excitation energy and electron affinity 9-26894
diatomic hydrides of first and second row elements, PNO-CI and CEPA calcs. 9-768
ethylene, and perfluoro derivatives, negative ion states, electron affinities, ionisation pots., overlapping spheres $X\alpha$ calc. 9-26885
fluoranol, electron affinity, bound and excited negative ion states, lifetimes, electron and alkali metal collisions 9-869
fluorenone derivatives as electron transport materials, electron affinity and electrochemistry, rel. to photocond. 9-38127
fluorobenzenes, negative ion states and π -electron affinity 9-10206
furan, HAM/3 calc. of ionis. and excitation energy and electron affinity 9-26894
molecular ions, negative, polar, thermally stable 9-7033
negative electron affinity devices, semiconductors (*Japanese*) 9-38710
nitrofuranes, substituted, electron affinity, HAM/3 calc. 9-27109
nitroimidazoles, substituted, electron affinity, HAM/3 calc. 9-27109
parabenzoquinone, and perfluoro derivatives, negative ion states, electron affinities, ionisation pots., overlapping spheres $X\alpha$ calc. 9-26885
pyrrole, HAM/3 calc. of ionis. and excitation energy and electron affinity 9-26894
tetracyanoethylene molecule with high electronegativity on field polarisation 9-27111
transition metal atoms and ions, electron affinities and ionis. pots. MS $X\alpha$ calcs. 9-10031
 Al^- , metastable, electron affinity calcs. 9-31439
 As_2S_4 , electronic struct. and vertical electron affinities, INDO-type ASMO SCF calcs. 9-31402
 $As_2S_4^-$, electronic struct. and vertical electron affinities, INDO-type ASMO SCF calcs. 9-31402
 As_2Se_4 , electronic struct. and vertical electron affinities, INDO-type ASMO SCF calcs. 9-31402
 $As_2Se_4^-$, electronic struct. and vertical electron affinities, INDO-type ASMO SCF calcs. 9-31402
 B^- , metastable, electron affinity calcs. 9-31439
 Fe^- , electron affinity, nonstatistical fine-struct. detachment intensities at 488 nm, laser electron spectra 9-41144
GaInAs, photocathode with negative electron affinity, photoemission, influence of strong elec. field 9-8227
 H_2^- , metastable, electron affinity calcs. 9-31439
 H_2^+ , metastable, electron affinity calcs. 9-31439
 He^- , metastable, electron affinity calc. 9-31439
 $In_2O_3-Si(Ge)(GaAs)(InP)$ heterostructure solar cells, photovoltaic and rectifying props., electron affinity determ. 9-1618
Ni clusters, electronic props. and implications for chemisorption 9-23886
 P^- , metastable, electron affinity calcs. 9-31439
 S_2N_4 , electronic struct. and vertical electron affinities, INDO-type ASMO SCF calcs. 9-31402

electron affinity continued

$S_2N_4^-$, electronic struct. and vertical electron affinities, INDO-type ASMO SCF calcs. 9-31402
 $p-Si-As_2S_3$ isotype crystalline-amorphous heterojunctions, electrophysical props. 9-24063
 WF_6 , electron and fluoride affinities, ICR spectra 9-39130
ZnO surfaces, work function, band bending, and electron affinity 9-47145

electron annihilation *see electron-positron interactions*

electron attachment

air, dry, O_2 electron attachment coeff. meas., O_2 partial press. depend. (*German*) 9-13821
air wake, hypersonic, ionised, free electron attachment coeff. meas. 9-27835
bromanil, electron affinity, bound and excited negative ion states, lifetimes, electron and alkali metal collisions 9-869
chloranil, electron affinity, bound and excited negative ion states, lifetimes, electron and alkali metal collisions 9-869
chlorofluoromethanes, negative ion form. by 0.10 eV near-monoenergetic electron impact 9-41245
fluoranol, electron affinity, bound and excited negative ion states, lifetimes, electron and alkali metal collisions 9-869
freon- N_2 low-pressure mixture prebreakdown current obs. 9-18995
perfluoro-1,2-dimethylcyclobutane, electron attachment, elec. field and energy depends. 9-36759
perfluoro-1,3-butadiene, electron attachment, press.-reduced elec. field and energy depends. 9-36758
perfluoro-1,3-dimethylcyclohexane, electron attachment, elec. field and energy depends. 9-36759
perfluoro-2-butene, electron attachment, press.-reduced elec. field and energy depends. 9-36758
perfluoro-2-butene, electron attachment, press.-reduced elec. field and energy depends. 9-36758
perfluorocyclobutane, electron attachment, press.-reduced elec. field and energy depends. 9-36758
perfluorocyclobutene, electron attachment, press.-reduced elec. field and energy depends. 9-36758
perfluorocyclohexane, electron attachment, elec. field and energy depends. 9-36759
perfluorocyclopentane, electron attachment, elec. field and energy depends. 9-36759
perfluoromethylcyclohexane, electron attachment, ≤ 3 eV, rel. to perfluoro-1-heptene 9-36755
perfluorotoluene, electron attachment, elec. field and energy depends. 9-36759
positive column, of electroneg. gas, transverse stability, effect of dissoc. attachment 9-23475
tetrafluoromethane, electron impact excitation, resons. and dissoc. attachment 9-7020
tetraphenylcyclobutane, in hexamethylphosphoric triamide soln., pulse radiolysis, optical absorption decay obs. 9-16019
 Cl_2 , electron impact total ionis. and electron attachment cross sections 9-3589
 Cl_2 , electron-attachment rate const., room temp. and 250°C in $N_2(Ar)$ discharges 9-45841
 F_2-N_2 mixtures, electron attachment rate to F_2 , elec. cond. meas. 9-7019
 H_2 , dissociative attachment cross sections, interference struct. around 14 eV 9-45856
 H_2 , electron impact, dissociative attachment, vibr. and rot. state depend. 9-18298
 H_2 , electron impact, dissociative attachment, vibr. and rot. state depend. 9-13829
 H_2^- , variational calcs. of resonant states 9-3571
 H_3 , correl., ionis. and attachment operators, diagrammatic method calcs. (*French*) 9-22607
 H_3^+ , correl., ionis. and attachment operators, diagrammatic method calcs. (*French*) 9-22607
 H_2O and D_2O , Feshbach-reson. and dissoc. electron attachment 9-41246
 H_2S , dissociative electron attachment, H^- energy and ang. distrib. 9-31710
 He , electron scatt., He^- resonances in post collision interaction 9-13820
 NO_2 , electron attachment, ECR obs. (*German*) 9-10201
 N_2O , gas phase electron attachment, temp. depend., pure, and in ethane and neopentane mixtures 9-36757
 N_2O-CO_2 (-ethane), gas phase thermal electron N_2O attachment mechanism, 5-120 torr 9-27085
 O_2 , interactions with slow electrons 9-45848
 O_2 , three-body electron attachment, Boltzmann eqn. method 9-855
 P , in K seeded flame, electron attachment, compound form. 9-11794

electron avalanches

laser beam with retractable focus, ionis. path form. in gases 9-18992
noise, in particle flux, due to reduction and multiplication processes 9-21672
optical materials, laser induced breakdown, breakdown thresholds and multiphoton absorpt. coeffs. 9-3735
n-InSb, electron mobility at 77K in avalanche regime 9-33295
 SF_6 , compressed in space-charge stabilised nonuniform fields, corona threshold computation 9-19118

electron beam absorption *see electron absorption*

electron beam applications

see also electron beam deposition; electron beam lithography; electron beam machining; radiation therapy
aerospace propulsion, large payloads launching into Earth orbit by relativistic electron beams 9-21135
ARAKS expt., accelerator for electron beam injection 9-21141
beam-plasma parametric amplifier, nonlinear hydrodynamic amplifier 9-23462
gas-chemical dosimetry, limitations of use of strong pulse electron beams 9-31231
intense, avoidance of current limitations, fusion, ion accel. appls. 9-45898
laser, electron beam controlled, space-time evolution of cathode layer 9-10288
laser electron beam excited systems, high temp. high press. vapour cell design 9-13951
metal surface finish meas., using backscattered electron intensity (*Japanese*) 9-4465
pulsed laser electron beam sources 9-36913
 $Bi_{12}Ge_{20}$, electron beam recording 9-32075
 CO_2 electron-beam-controlled gas-flow laser, CW and pulse periodic lasing 9-7111

electron beam applications continued

- NO decomp. in industrial exhaust gases by electron beam irradiation 9-29490
 Xe_2 , simple VUV high press. laser, with coaxial electron beam pumping 9-974
 XeF, electron beam controlled Ne stabilised laser 9-972
 ZnSe-ZnS semiconductor waveguide laser, electron beam excited, blue emission 9-18447

electron beam deposition

- high rate, theoretical and expt. work 9-24440
 interference coating production, new ideas 9-32098
 ionised atom and cluster beam thin film deposition, apparatus 9-28950
 ionised-cluster beam epitaxy, film form. mechanism 9-28949
 metal film, ionised-cluster beam epitaxy, film characts. 9-28230
 protective coating production, principles and technology 9-24439
 refractory coatings, deposited by electron evaporation, struct. and props. 9-23871
 Al, high rate deposition on strip steel 9-24440
 Al/Al₂O₃ vacuum deposited laminates, struct. and mech. props. 9-28219
 Al-Si alloy metallisation by rate controlled dual electron beam gun evaporator 9-11516
 B, rotatable support for ultrahigh vacuum system 9-40586
 CdS(Se)(Te), evap. onto electron bombarded NaCl substrates, epitaxial growth and characts. 9-28948
 Co-Cr-Al-Y coated turbine airfoils, effect of electron beam deposition rate on struct. 9-23870
 GaP, ionised-cluster beam epitaxial growth on GaP and Si, characts. for LED 9-28951
 Nb₃Ge superconducting film preparation and props. 9-11515
 Nb₃Sn-Cu superconducting composite, electron beam co-evaporated, TEM study 9-28247
 NiCr film, evaporation, gas phase analysis (Polish) 9-20492
 Si film, for solar cell appl., heat exchanges and columnar growth 9-15609
 Si:H, evaporated amorphous film, prep. elec. cond. and photocond. 9-38201
 ZnSe, evap. onto electron bombarded NaCl substrates, epitaxial growth and characts. 9-28948

electron beam effects

- see also *beta-ray effects; cathodochromism; cathodoluminescence; electron impact; plasma-beam interactions*
 absorbed dose for electron irradiation for polymeric part of electrical wire 9-46708
 alkali halides, electron irradiated depth distrib. profiles of colour centres 9-27977
 alkaline earth glasses, 45RO.5Al₂O₃.50P₂O₅, (R=alkali earths), electron beam irradi., exam. of charge accumulation and light-sum kinetics 9-4336
 alkaline earth glasses, 45RO.5Al₂O₃.50P₂O₅, (R=Mg,Ca,Sr,Ba), electron beam irradi., temporal change in electric field produced 9-4760
 alkaline earth glasses, RO-Al₂O₃-P₂O₅, R=Mg, Ca, Sr, Ba, exam. of electron beam irradiation effects 9-4253
 aluminophosphate glass, electron irradi., EM pulses during thermooxidation 9-42107
 biological specimens, electron probe analysis, effects of electron irradi. of sample 9-43969
 biological specimens, reduction of radiation damage in electron microscope exam. 9-34718
 α -brass, electron irradiated, vacancy migration props., effect on enhanced atomic mobility 9-46829
 coal fly ash precipitators, improved performance by electron beam ionisation 9-44918
 α -copper phthalocyanine, struct. and susceptibility to radiation damage 9-32986
 diacel solid state track detector 9-750
 diamonds, natural, paramagnetic centres with S=5/2 9-47334
 DNA strand breaks, lymphoma cells, detected by hydroxyapatite chromatographic technique 9-43819
 Duralumin constructional material, gas evolution obs. (Russian) 9-1460
 dynamic response of materials to pulsed beam, measurement using laser interferometer 9-42102
 E. coli, DNA repair in radiation resistant and radiation sensitive strains 9-34489
 EBIC technique, resolution limits in determ. of diffusion lengths in semiconductors 9-21865
 electron irradi., defects, elec. and optical props. 9-19282
 electron-sensitive materials, apparatus for measuring sensitivity and data-density 9-35893
 energy loss spectroscopy, tutorial 9-21872
 ferroelectric ceramic, optical modulation by electrostriction during electron beam charging, spatial characts. 9-7224
 ferroelectric materials, repolarisation in SEM 9-15424
 glass electrets obs., bonded, under corona discharge and electron irradiation conditions (Russian) 9-4759
 graphite, wall and limiter material for Tokamaks, induced desorption diffusion and gas production by 100 eV electrons and ions 9-675
 Hastelloy-X, electron irradi., void swelling 9-14822
 hydrocarbons, in gas phase, chemical effects 9-43602
 II-IV-V₂ phosphides, cond. compensation by electron bombardment 9-15151
 Inconel 675, wall and limiter material for Tokamaks, induced desorption diffusion and gas production by 100 eV electrons and ions 9-675
 membranes in pulsed electron beam, temp. and ultimate load calcs. 9-45484
 6-mercaptopurine, electron beam irradi., free radical formation at 77K 9-5165
 metal slab, relativistic electron beam exciting Langmuir turbulence 9-10878
 metal surface, electron beam impact, time-varying evaporation, metastable state lifetime 9-10943
 metal surface, electron beam impact, time-varying evaporation 9-10942
 microcircuits, radiation hardness design, SEM as diagnostic tool 9-21869
 MNOS capacitors, effect of 2 MeV electrons at 80K 9-19668
 MOS thin capacitors, electron-beam irradi., enhanced flatband voltage recovery 9-19670
 n-p junction solar cell, anal. of short circuit currents generated by electron beam 9-39308
 nucleation of defect clusters in crystalline solids 9-42051
 plasma, inhomogeneous, space charge wave generation 9-41845

electron beam effects continued

- PMMA, optical waveguide, direct writing of gratings by electron beam 9-46091
 polyethylene films, electron beam irradi., carrier mobilities 9-1600
 polymer films, photoelectric emission and contact charging, surface states 9-33885
 polystyrene, inelastic interaction of electrons, mean free path, stopping power and CSDA ranges 9-23663
 quartz, fused and cryst. samples, transient absorpt. on pulse electron irradi. 9-1779
 sealing materials, friction and wear tests (German) 9-38987
 seedlings, Vicia faba, effects of different radiation types on growth (German) 9-43961
 semiconductor, localised defects, theory of SEM charge-collection imaging 9-1374
 semiconductor, low temp. electron irradi., multipurpose cryostat 9-35755
 semiconductor surface, plasma oscillation instabilities (Ukrainian) 9-33318
 solid film, passage of electrons, linear transport theory in one-velocity approx. 9-14865
 steel, austenitic stainless, fusion reactor, first wall material, radiation damage by simultaneous accelerator microscope irradi. 9-45402
 steel, austenitic stainless, HVEM irradi., point defect trapping influence on void swelling 9-23652
 steel, stainless, wall and limiter material for Tokamaks, induced desorption diffusion and gas production by 100 eV electrons and ions 9-675
 steel 45 microstruct. and hardness after electron bombardment 9-38956
 steel austenitic stainless, Cr-Ni 316 type, electron irradiated, void swelling 9-42104
 steel constructional material, gas evolution obs. (Russian) 9-1460
 STEM/SEM cold storage specimens, electron beam heating temp. profiles 9-5422
 stilbene, single cryst. under pulsed electron excitation, spectral and elec. characts. 9-7838
 TEM, specimen damage and dehydration, struct. retrieval, instrumental limitations in biological struct. anal. 9-20735
 vinyl ester adhesive/Al lap shear specimens, electron beam curing 9-20337
 void swelling, role of bulk point-defect recombination 9-42105
 α -Ag-Zn, electron irradi., atomic mobility enhancement by defects, dynamic characts. 9-37871
 Ag-Zn, electron irradi. self-interstitials, migration and elimination characts. 9-37872
 Ag-Zn (24 at.%), electron-irradiated, free migrating defects, rate of production (French) 9-10877
 Al alloy 6061 9-675
 Al disk, US wave excitation by electron beam 9-14888
 Al, interstitial clustering following electron irradiation at low temp. 9-19243
 Al target, C contamination, in high vacuum electron excitation X-ray tube 9-44996
 α -Al₂O₃, radiation damage in HVEM, temp. depend. of displacement threshold 9-46706
 α -Al₂O₃, radiation damage in HVEM, at high temp. and high dose 9-46707
 Au, electron irradiated, low temp., Frenkel defects, diffuse X-ray scatt. study (German) 9-23601
 B and B-rich borides, protective coatings, in situ prep. for controlled nuclear fusion devices 9-3238
 Bi, electron irradi., displacement threshold energy (French) 9-23649
 BiTe crystals, eutectic decomp. in transmission electron microscope 9-20024
 CaF₂, anion-void superlattices (Danish) 9-14796
 CdCr₂Se₄ film, electron irradiated, struct. 9-15032
 CdGeAs₂, electron irradiated, change in electrical props. 9-7829
 CdGeP₂, cond. compensation by electron bombardment 9-15151
 CdS, single cryst., bound excitons in surface layers, luminesc. obs. 9-28294
 CdS:Cu,Pb reflectivity of Ni-salt coated powder, pre-irrad. effect on defect form. 9-27973
 CdS-PbTe and CdS-Te heterojunctions, electron irradi. effect on electrophys. props., prep. conditions depend. 9-28421
 CdS(Se) films, electron irradi. effect on electrophys. props., prep. conditions depend. 9-28421
 CdTe metal-semicond.-metal detectors, degradation characts. due to ϵ and γ irradiation 9-45543
 Cr, atomic displacements in electron irradi. cryst. 9-46705
 Cu constructional material, gas evolution obs. (Russian) 9-1460
 Cu, defect annealing around stage III, $\gamma\gamma$ ang. correlation expt. 9-14846
 Cu, electron irradiation, vacancy clustering study by small angle X-ray scatt. 9-14845
 Cu, fast electron transmission, contrib. of high-angle deflections 9-28024
 Cu, formation of Frenkel pairs 9-23598
 Cu, Frenkel defects, diffuse X-ray scatt. obs. (German) 9-23600
 Cu₂O foils, electron microscope exam., Cu precipitates and CuO form. 9-1462
 Dy, electron irradiated, defect annealing, recovery spectra 9-23648
 Er, electron irradiated, defect annealing, recovery spectra 9-23648
 Fe, Armco, microstruct. and hardness after electron bombardment 9-38956
 Fe target, neutron and photon dose equivalent meas., PEP IR hall scale model 9-31227
 β -FeOOH, akaganeite, struct. changes due to radiation damage 9-28014
 α -Fe(111), adsorption of water under the influence of 2.5 keV electrons 9-28199
 GaAs, electron bombardment, absorption of energy 9-14847
 GaAs shallow junction solar cells damaged by electron irradi., recovery of short cct. current 9-29471
 Gd, electron irradiated, defect annealing, recovery spectra 9-23648
 n-Ge, energy levels 9-28316
 Ge, p-type, and n-type converted to p-type by irradiation at 77K, defect form. mechanism 9-23651
 n-Ge:Sb, fast electron irradi. at 77K, radiation defect changes by annealing at 220K 9-37737
 Ge-Te-Se/Si amorphous film-cryst. heterojunction, electron-beam-induced current 9-24060
 Hg halides in aq. soln., pulse radiolysis, emission species 9-24764
 Ho, electron irradiated, defect annealing, recovery spectra 9-23648
 InSb, high-purity, electron irradiation effects on transport props. 9-23650
 n-InSb, hole mobility temp. depend. after electron bombardment 9-33290
 KCl, electron impact, colour centre distrib., channelling 9-14866

electron beam effects continued

- LiNbO₃:Fe, electron irradi., photoinduced charge transfer and hologram recording 9-36859
 Li₂WO₄, electron irradi., reduced species form., XPS 9-11498
 Lu, electron irradiated, defect annealing, recovery spectra 9-23648
 MgCl₂, partially hydrated powder surface, electron beam effects, XPS obs. 9-33900
 MgF₂, M-centre, dissociation kinetics after pulse electron irradi. 9-7601
 MgF₂, optical absorption following pulsed electron irradi., 100-500K 9-8164
 MgO:Li, TEM studies 9-29069
 Mg₂SiO₄:Tb TLD, response to X-ray and electron irradi. 9-3285
 Mo, and oxides, AES expts., chem. shift and beam effects 9-15566
 Mo, electron irradiated, recovery studies of pure and radiation doped crystals 9-19280
 MoO₃, AES expts., chem. shift and beam effects 9-15566
 Na₄Al₃Si₉O₁₂Cl:Br,Ge, sodalite, reflectance and luminescence obs. 9-4839
 Na₈Al₆Si₆O₂₄Cl₂, radiolytic radiation damage, TEM obs. 9-7628
 NaCl, electron impact, colour centre distrib., channelling 9-14866
 Nb foil, oxidized, electron irradiation damage, AES study 9-28015
 Nb₂O₃, electron irradiation damage, AES study 9-28015
 Ni-Al alloys, effects of electron irradiation in precipitation, nucleation and dislocation loop growth, TEM study 9-42106
 RbNgF₃, radiation defect F,M,R-centre absorpt., emission, excitation spectra 9-43000
 SF₆, gas, electron beam irradi., delayed elec. breakdown 9-4200
 Si, electron bombardment, absorption of energy 9-14847
 n-Si, electron irradi., defect energy levels, energy depend. 9-33262
 p-Si, electron irradi., influence of acceptor impurity conc. and irradi. temp. on defect formation 9-19281
 n-Si, electron irradi., surface defect distrib., deep-level transient spectroscopy 9-1459
 n-Si, interaction of disordered regions with point defects 9-19296
 Si MOS diode, surface state charact., obs. (*Japanese*) 9-42646
 Si, MOSFETs, Shubnikov-de Haas oscils. from electron irradi. induced two-dimens. leakage channel 9-19671
 Si, paramagnetic defects produced by electron irradi., EPR 9-19779
 p-Si photoresistor, compensated with radiation centres, current responsivity and detectivity 9-17492
 p-Si, radiation defects by annealing, kinetics anal. 9-33018
 Si:B, ionisation-assisted annealing 9-23628
 n-Si:p, secondary defects produced by high-temp. electron irradi. 9-33017
 Tb, electron irradiated, defect annealing, recovery spectra 9-23648
 Tm, electron irradiated, defect annealing, recovery spectra 9-23648
 UO₂, neutron and electron irradiated, imperfect dislocation loops (*French*) 9-7606
 VO₂, film, metastable metallic phase due to laser and electron beam irradi., refl. spectra 9-19944
 W (011) surface, adsorbed H₂, disordering effect of electron irradiation (*Russian*) 9-7744
 W, Frenkel pair creation and stage I recovery of electron irradi. cryst. near threshold 9-1463
 YIG, substituted, effect of electron bombardment on mag. and elec. props. 9-42103
 ZnGeP₂, cond. compensation by electron bombardment 9-15151
 ZnGeP₂, electron irradi., elec. and optical props. 9-33743
 ZnO, electron irradi., vacancies and interstitials, EPR meas. 9-14803
 ZnSe, electron irradi., dislocation climb, TEM obs. 9-1461
 ZnSiAs₂, electron irradi., defects, elec. and optical props. 9-19282
 ZnTe film, electron irradi. effect on electrophys. props., prep. conditions depend. 9-28421

electron beam impact *see electron impact***electron beam lithography**

- field emitter electron beam exposure system for semiconductor fabrication 9-30624
 microbridge Josephson junction, fabrication 9-28457
 microlithography, deflection and focusing system, optimization of principal parameters (*French*) 9-41319
 microstructure fabrication, using STEM and X-ray lithography and reactive ion etching, appl. 9-15844

electron beam machining

- Fe₂O₃-NiO-ZnO-CoO (15.1, 17.6, 0.6 wt.%) ferrite, effect of electron beam machining on surface layer 9-34178

electron beams

- see also electron impact; electron optics; Schwarz-Hora effect*
 betatron beam, characterisation for dosimetry calcs. 9-39519
 Bohm-Aharonov experiment without an electron microscope 9-894
 Brillouin electron beam critical current rel. to vacuum level 9-7068
 coupled Marx-Tesla circuit for production of intense relativistic electron beams 9-17558
 current meas., fast response magnetic loop current monitor 9-35791
 cyclotron maser instability, self-consistent theory for intense hollow electron beams 9-4129
 cyclotron maser instability for general mag. harmonic number, appl. to electron beam propag. 9-4130
 cyclotron-wave instability freq. up-shift, on a relativistic electron beam 9-22883
 deceleration in hollow cathode, plasma production and props. 9-27794
 deflection system for adjustment, scanning of electron beams 9-2878
 differential evacuation system for electron beam emission into atmosphere 9-35890
 EM wave scattering, from relativistic electron beam in waveguide 9-10249
 externally maintained discharge with gasdynamic window for low energy electron beam 9-32843
 fast, transition from non-selfmaintained volume discharge to spark discharge (*Russian*) 9-23466
 focusing theory, nonlinear differential eqns. (*Chinese*) 9-31783
 high current, energy spectrum in neutral gas 9-12885
 high current particle beam prod. by low pressure spark discharges, accelerator 9-31247
 high energy, production using proton synchrotrons (*Russian*) 9-41058
 industrial electron accelerators, beam energies above 150 keV, problem review 9-31243
 intense, avoidance of current limitations, fusion, ion accel. appls. 9-45898
 ion density distribution, simplified anal. 9-41318
 ion neutralisation, probe beam diagnostics 9-27157
 magnetically confined, counterstreaming, instability suppression by externally introduced turbulence 9-32768

electron beams continued

- merged electron-ion beam profile scanning system 9-35891
 microwave ponderomotive effect on transverse electron beam, expt. 9-13886
 nanosecond electron beam, particle dynamics in linear accelerator 9-26787
 NBS positron annihilation in flight facility, positron beam calibration 9-31306
 nonrelativistic, injection into drift space 9-895
 point focusing through different vacuum lines 9-45499
 pulsed, picosecond, electron beams (*Japanese*) 9-27152
 relativistic, mag. focusing, equilib. surface ripples 9-3618
 relativistic, single electrode monitor, position monitoring appl. 9-6216
 relativistic, stationary state in ionised gas, force-free motion 9-13887
 relativistic beams in vacuum lines, mag. self-insulation (*Russian*) 9-27158
 relativistic electron beam, induction auto-correl. 9-22889
 relativistic electron beam injected into drift tube, limiting currents 9-10699
 relativistic electron beams, appl. to large payloads launching into Earth orbit 9-21135
 relativistic electron beams simulation 9-26789
 rod pinch diodes, intense electron-beam pinch form. and propag., ion generation 9-14589
 space charge effects in electron probe devices 9-27154
 spin-polarised electron source, features, appls. 9-17559
 striations, in strong current beam 9-896
 transport through gas, high-current microsec. beam 9-22890
 turbulent perturbations, caused by crossed mag. fields 9-10252
 X-ray source spectral distrib., FLASH code 9-22524

electron capture

- see also charge exchange; electron attachment*
 A^{z+}+atom, electron capture cross section into arbitrary principal shell, approximation scheme 9-18287
 continuum electron capture at high vels., non-relativistic differential cross section determ. 9-3558
 ion-atom collision, electron capture, at. expansion method 9-45833
 radiative electron capture, photon ang. distrib., retardation effects 9-41234
 upper atmosphere, cross sections calc. 9-5693
 Ag(I) ions, in methyl cyanide, electron loss and capture, ESR spectra 9-33531
 C⁺+H(H₂), 0.1-13 keV electron capture cross-sections meas. 9-36761
 C⁶⁺+Ar, electron capture to continuum states, forward ejected electron spectra 9-45831
¹²Cn⁺, partially stripped, energy straggling in thin Al foil, 3-36 MeV 9-41237
 C¹⁰⁺+Cu, effect on projectile charact. X-rays and REC of target thickness 9-45662
 D⁺+Ar, electron capture to continuum states, forward ejected electron spectra 9-45831
 F⁸⁺+He, X-ray prod. cross sections resulting from electron capture and electron excitation of F⁸⁺ ions 9-3557
 H+B⁴⁺(C⁵⁺)(O⁷⁺), excitation distrib. following electron capture 9-36763
 H+H⁺, fast proton total electron capture cross section, fixed scattered approx. 9-22819
 H+H⁺(He²⁺)(Be⁴⁺)(O⁸⁺), electron capture into n, l levels, 100 keV/amu 9-22826
 H+proton, high-Rydberg state high-impact-velocity forward charge transfer as classical process 9-22824
 H⁺+⁴He²⁺, electron capture cross sections 9-10198
 H⁺+H₂, electron capture cross-section, anal. evaluation 9-36756
 H⁺+H-like ion, electron capture, Coulomb-Born approx. 9-45838
 H⁺+H(He)(Ar), K-electron capture, cross section scaling, high energy 9-41236
 H⁺+He(Ar)(O₂), charge transfer to H(n=2), mixed parity elec.-dipole oscillations 9-31678
 H⁺+inert gas, charge transfer into excited states, 10-150 keV, target at. struct. depend. 9-45830
 H₃⁺+H₂, 10 keV electron capture, electronically excited H₃ form. 9-41204
 He, electron impact ionis., 35 eV, triple differential cross section 9-36777
 He+H⁺, electron capture coherent electron density distrib. oscillations 9-10200
 He+multiply charged ions, electron capture and impact-ionis. cross sections, Monte Carlo calcs. 9-27083
 He⁴⁺+H₂(N₂), 25-90 keV, fast He beam form., ²³S population 9-31740
 He⁴⁺+He, electron loss cross section 9-27080
 He⁴⁺+He, K-electron capture, cross section scaling, high energy 9-41236
 He⁴⁺+Li, electron capture, ionis. cross section, low-vel. He⁺(3l) production, X-ray production 9-22822
 N⁺+H(H₂), 0.1-13 keV electron capture cross-sections meas. 9-36761
 N²⁺+He(Ne)(Ar), electron capture, product ion energy loss spectra 9-36762
 Neⁿ⁺+Ar(Kr), (n=1, 2, 3, 4), energy spectra of electrons produced 9-45822
 Neⁿ⁺+inert gas atom (z=1-4), radiative and non-radiative deexcitation after electron capture 9-7008
 O⁺+H(H₂), 0.1-13 keV electron capture cross-sections meas. 9-36761
 O⁸⁺+He(Ar)(Ne), electron capture to continuum states, forward ejected electron spectra 9-45831
 SF₆, electron capture, laser radiation influence, possible laser isotope separation appl. 9-22856
 Si+F⁺, q=3-9, Si K-shell ionis., electron transfer cross sections, solid targets 9-10192
 Si^{q+}+Ar, electron capture to continuum states, forward ejected electron spectra 9-45831

electron capture, nuclear *see nuclear electron capture***electron density**

- see also carrier density; current density; electron density (metals); plasma density*
 air, hypersonic wake, electron recomb. coeff., temp. depend. meas. 9-27834
 air wake, hypersonic, ionised, free electron attachment coeff. meas. 9-27835
 atmosphere, columnar electron content at Ootacamund, India, from ATS-6 satellite radio beacon meas. 9-48611
 auroral ionosphere meas. in Antarctic by sounding rockets 9-8760
 V1016 Cygni, electron density from forbidden Fe VI emission 9-8970

electron density continued

- V1500 Cygni (Nova 1975), shell electron temps., densities and other props. 9-30068
 D-region, electron density profiles from gyrowave interaction expt., error anal. 9-5705
 D-region, ionisation effects from cosmic X-ray sources 9-35048
 D-region, ionisation meas. rel. to mesosphere NO concs. 9-8651
 D-region, low- and mid-latit. electron density profiles comparison 9-44302
 D-region, polar electron density profiles during solar proton event, from VLF refl. height vars. 9-8764
 D-region, positive ion chemical scheme for electron density profile 9-40007
 D-region, time vars. in winds and electron densities at Sastakoon, Canada 9-25389
 D-region electron density during winter anomaly, temp. and NO density vars. effect 9-21087
 E-region electron density gradients from reflected radio waves arrival direction 9-25387
 E-region 10E storm time var. at low latit. station 9-44295
 equatorial spread-F, role of steepened struct. and drift waves 9-2431
 EUV spectroscopic method for electron density determ. in stellar atms. 9-16836
 exosphere, night time meas., 2500 km altitude 9-16730
 F_2 -layer, hmF_2 , NmF_2 , high-latit. behaviour along noon-midnight meridian under quiet conditions 9-40004
 F_2 -layer, travelling disturbances prod. by gravity waves, Hooke perturbation formula testing 9-40005
 F-region irregularities from plasma reson. phenomena obs. by rocket-borne relax. sounding expt. 9-8767
 glow discharge, crossed-field type, electron energy distrib. diagnostics 9-27851
 HF second-step discharge meas. and equivalent cct. 9-7505
 International Reference Ionosphere, goals and status 9-5714
 interstellar matter in front of χ Ophiuchi, optical obs. and electron density 9-25673
 ionosphere, daytime positive storm effects at middle latits., prod. by travelling atmospheric disturbances 9-25394
 ionosphere, density vars. due to solar EUV flux changes, calcs. 9-44293
 ionosphere, electron densities and temps. from Intercoms-10 Langmuir probe expts. (German) 9-2469
 ionosphere, electron density determ. from topside ionograms, comparison of methods 9-39978
 ionosphere, electron density profiles during winter anomaly vertical incidence absorpt. 9-21098
 ionosphere, electron prod. and loss rates, satellite meas. 9-35047
 ionosphere, gravity wave-induced density fluctuations and radio waves phase path changes 9-35043
 ionosphere, high-latit., electron densities rel. to aurora and particle precip. 9-40000
 ionosphere, models, review 9-48617
 ionosphere, nocturnal topside, midlatit. electron density enhancements, longit. inequalities 9-16746
 ionosphere, photoelectron flux calcs. 9-21103
 ionosphere, total electron content during 1971-4 period above Melbourne 9-5712
 ionosphere, travelling disturbances obs. by auroral zone incoherent scatter radar 9-48610
 ionosphere E-region, latit., geomag. storms effect on electron density 9-44294
 ionosphere electron content data, mixing freq. components identification by multiplicative homomorphic filtering 9-29929
 ionosphere electron content in S.Atlantic geomag. anomaly region, east-west asymmetry 9-21097
 ionosphere electron density in S hemisphere middle latits., Universal Time effect model 9-25396
 ionosphere equatorial bubbles, topside sounder obs. 9-16737
 ionosphere F-region, auroral, neutral winds and particle precip. rel. to electron density 9-44296
 ionosphere total electron content, lunar var. at Luning 9-21100
 ionosphere travelling disturbances, wave-normal depression and disturbance amplitude height depend. 9-40006
 ionosphere unstable polar cap, electron density and temp. rel. to electrostatic waves 9-29927
 ionospheric, meas. by radio wave scattering, by artificial plasma inhomogeneities (Russian) 9-5636
 ionospheric F_1 -layer, electron density profiles rel. to dynamical effect 9-12340
 Jupiter magnetosphere, thermal electron density 9-40133
 laser, free electron type, small-signal gain, space charge effect 9-920
 magnetosphere, electron density and temp. meas. by GEOS-1 mutual impedance expt. 9-35071
 magnetosphere, lower, electron densities and temps. from Intercoms-10 Langmuir probe expts. (German) 9-2469
 magnetosphere electron density, small scale struct. from plasma resons. on-line tracking 9-35073
 NGC 1499, H II region, electron density from decametre wavelength obs. (Ukrainian) 9-40243
 nonneutral plasma microstate, synchrotron radn. meas. 9-46486
 novae, spectrophotometric estimate of electron density in rapidly rot. accretion discs 9-16968
 planetary nebulae, 10 micron props. rel. to electron density 9-48879
 plasma, collisionless, determ. by CO_2 laser 9-41879
 plasma, HF discharge, resonantly sustained, by Tonks-Dattner resonance 9-4142
 plasma, inhomogeneous, electron density profile leading edge data., algorithm 9-41880
 plasma, local high-press. regions production in vac. spark, diagnostics 9-19104
 plasma, of electrons, finite-length thermal equilb. 9-32801
 plasma, vibration-insensitive He-Ne laser interferometer for electron density meas. 9-14610
 plasma density determ. using microwave interferometers, modulated transmission and reflection types comparison 9-37546
 plasma diagnostics based on coherent four-photon light scatt. by ionic sound 9-14618
 plasma electron density and mag. field meas. by far IR polarimeter-interferometer 9-32817
 plasmons, wakes, and clusters, charged particle moving in medium, electron density fluctuations 9-47032
 S187, H109 α recomb. line obs., core envelope type struct. 9-8965

electron density continued

- scaling laws, width-luminosity correls., Wilson-Bappu effect 9-40177
 solar atmosphere, density depend. of O I like ions emission lines 9-40165
 solar corona, density determ. from Fe IX lines 9-44429
 solar corona, electron densities from line ratios in N I isoelectronic sequence 9-16906
 Sun, quiet regions and polar coronal holes, electron density from EUV line intensity ratios 9-21245
 Sun, XUV flare kernels, electron density meas. 9-16913
 total electron content at low latitudes 9-16749
 Venus, polar ionosphere, Pioneer orbiter radio occultations, electron density 9-48706
 wake, hypersonic, free electron distrib., RF method 9-27833
 Ar plasma, ion confinement and heating, by negative plasma potentials produced by supplemental electron emission 9-41861
 C foil + $H^+(C^+)(N^+)(O^+)(Na^+)(Mg^+)(S^+)(Kr^+)$, charge-state distrib. effect on photon emission, 100-400 keV 9-22814
 CO CW gas lasers, effect of Xe addition on room temp. operation 9-18407
 Cu/CuCl double pulsed laser, extrema by electron density and output pulse energy 9-10283
 Fe XXI as electron density diagnostic in solar flares 9-44435
 H-like ions, emission spectrum, depend. on electron density in laser plasma 9-27248
 He plasma, in low-press. discharge, He I and He II line struct. 9-14523
 He- CO_2 -Xe plasma discharge electron conc. and temp., optical diagnostics method 9-41871
 Kr(-He) arc, wall-stabilised, atm. press. 9-46503
 O II and S II forbidden lines as determinant of reddening and electron density, astron. appl. 9-30114
electron density (crystallography) *see crystallography*
electron density (metals)
 colloidal particles, interaction force, calc. of electronic component 9-11829
 Cr-Ni, high temp. strength, interatomic bonds ionic component correlation (Russian) 9-15761
electron density of states *see electronic density of states*
electron density of states (condensed matter) *see electronic density of states*
electron detachment
 Ag(I) ions, in methyl cyanide, electron loss and capture, ESR spectra 9-33531
 Br + He(Ne)(Ar)(Kr), total electron detachment cross sections, near threshold energies 9-3555
 C⁺, electron impact detachment, cross-section, 10-1000 eV 9-31702
 Cl⁺ + He(Ne)(Ar)(Kr), total electron detachment cross sections, near threshold energies 9-3555
 Cl⁺⁺ + Xe(Ar)(N₂), 20 MeV, electron loss cross sections, pot. model data anal. 9-27082
 F⁻, electron impact detachment cross sections, test of classical scaling theory 9-31693
 Fe⁺, electron affinity, nonstatistical fine-struct. detachment intensities at 488 nm, laser electron spectra 9-41144
 H⁺, electron loss in passing through inert gases 9-13805
 H⁺, photodetachment cross section, perturbation-variation method 9-6921
 H⁺ + H⁺, electron detachment cross sections 9-13818
 H⁺ + N₂ (inert gas), charge transfer, ejected electron spectra 9-45828
 He⁺, electron loss in passing through inert gases 9-13805
 I³⁺ + Xe(Ar)(N₂), 20 MeV, electron loss cross sections, pot. model data anal. 9-27082
 O⁻, electron impact detachment, cross-section, 10-1000 eV 9-31702
 O⁻, photodissoc. and photodetachment in O₂/CH₄/H₂O mixtures, 3500-8600 Å 9-45776
 O₂, interactions with slow electrons 9-45848
 O₂⁻, photodissoc. and photodetachment in O₂/CH₄/H₂O mixtures, 3500-8600 Å 9-45776
 O₃⁻, photodissoc. and photodetachment in O₂/CH₄/H₂O mixtures, 3500-8600 Å 9-45776
 O₄⁻, photodissoc. and photodetachment in O₂/CH₄/H₂O mixtures, 3500-8600 Å 9-45776
 OH⁻, and OD⁻, photodissoc. and photodetachment in O₂/CH₄/H₂O mixtures, 3500-8600 Å 9-45776
 O₂⁻, H₂O, photodissoc. and photodetachment in O₂/CH₄/H₂O mixtures, 3500-8600 Å 9-45776
 O₃⁻, H₂O and O₃⁻, 2H₂O, photodissoc. and photodetachment 9-833
 S⁻, photodetachment in mag. field 9-41143
electron detection and measurement
 anthracene, scintillation decay time determ. using low energy spectra 9-9964
 atmospheric electrons, MeV range registration instrument 9-5645
 avalanche multistep chamber 9-9965
 backscattered electron detector, small solid angle, cryst. orientation contrast and contrast reversal in SEM 9-17579
 cascade shower, 350 MeV, angular distrib. meas. by streamer chamber 9-6802
 differential calorimeter for electron radiation 9-6795
 drift chamber in strong mag. field, electron drift angle meas. 9-3299
 electron and γ interaction ranges, Monte Carlo calc. (Russian) 9-12370
 high density proportional counter, medical imaging of e⁺ radioisotope distrib. 9-5399
 high rate 4π β - γ coincidence counting system 9-45588
 high-vacuum gas-discharge electron counter 9-18086
 internal conversion electron measurement following the decay of ¹⁵²Eu 9-36460
 internal pair formation high resolution in-beam studies with magnetic-Si(Li) spectrom. 9-18073
 liquid acoustic dosimetry for ionizing radiation 9-18060
 liquid Ar calorimeters, props. of EM and hadronic showers 9-45599
 liquid xenon proportional scintillation counter, detection of ²⁰⁷Pb conversion electrons 9-45563
 medium-energy electron-streams, cathodoluminescence/photoresistor composite detect. characts. (Russian) 9-41080
 MWPC positron camera, two detector, appl. medical imaging 9-5398
 MWPC with analogue read-out, high energy e⁻/ γ detection 9-13593
 p-i-n photodiode, time resolution 9-14608
 Voyager Cosmic Ray Experiment, telescopes, electron energy meas., pulse height analysers 9-48643
 wide-angle electron detector 9-21144
 Mg₂SiO₄:Tb, TLD response to e⁻ irradi. 9-13536
 Mg₂SiO₄:Tb TLD, response to X-ray and electron irradi. 9-3285

electron detection and measurement continued

- NaI(Tl) scintillator, electron detection efficiency for electrons and gamma-rays > few keV 9-36461
 Si semiconductor counters, response to relativistic pions, electrons and protons 9-13597

electron device manufacture

- see also semiconductor device manufacture*
 cylindrical ceramics-metal laminated components, X-radiography 9-5123

electron device noise

- 1/f noise, amplitude distribution 9-24042
 backscattered electron detector, solid state, operating at TV scan rates in scanning electron microscope 9-18089
 burst noise, physical sources 9-24033
 conference, Bad Nauheim, West Germany (Mar. 1978) 9-24031
 forward biased junctions, excess noise sources due to defects 9-38154
 gravitation radiation detection, active resonant antennas, sensitivity and noise 9-30346
 injection laser, noise props. due to reflected waves 9-36897
 Josephson microwave source, short term emission fluctuations 9-15263
 microbridge SUPRAMPS, phase instability noise in Josephson junctions 9-26124
 optoelectronic device S/N ratio optimisation 9-26133
 SCLC diode, hot carrier effects on thermal noise 9-24036
 semiconductor generation-recombination noise 9-24032
 SQUID, DC, noise limitations 9-21784
 thermal TV camera, noise, synchronisation, spatial resolution and lifetime chars. 9-35833
 GaAs MESFET, epilayer hot carrier noise 9-24035
 GaAs, p-i-n avalanche photodiode, excess noise factor 9-35835
 Ge, p-i-n avalanche photodiode, excess noise factor 9-35835
 InP, far IR LPE photodetector performance 9-30546
 Si p-i-n avalanche photodiode, excess noise factor 9-35835
 Si:B, low noise avalanche photodiode fabrication by channelling implantation 9-35827
 Si(Li) high resolution spectrometer, with thermoelectric cooling 9-26813
 VO₂, switch, fluctuations of current and switching time 9-38137
 n-ZnSe-p-GaAs heterojunction high-detectivity threshold photodetectors 9-6181

electron device testing

- see also electron tube testing; integrated circuit testing; semiconductor device testing*
 neutron sensor performance testing, automatic counting channel and analysis system 9-13612
 photodetectors, highspeed, performance testing, optical communication appl. 9-26129
 solar arrays, for Intelsat V appl. 9-48135
 solar cell arrays, telecommunication satellites appl. 9-48137
 Pt resistance thermometer response time testing in situ 9-13484

electron diffraction

- see also electron diffraction crystallography; electron diffraction examination of materials; gas phase electron diffraction; high energy electron diffraction; low energy electron diffraction*
 Schrodinger equation separation in electron diff. and channelling, case of systematic refls. 9-46522

electron diffraction crystallography

- see also crystal atomic structure; Debye-Waller factors*
 amorphous solids, atomic scale determ., direct methods, review 9-37623
 atomic aggregates, symmetry aspects in electron diff. patterns and optical transforms using computer simulation 9-7525
 bicrystal, electron diff. from near coincidence twist boundaries 9-7526
 crystal defects and disorders, dynamical theory for electron scattering 9-23505
 electron density distribution, and other densities in crystals, problems of resolution and bias in experimental determ. 9-23490
 electronometric method of meas. intensities, efficiency 9-27881
 FCC crystal, electron diff. anal. of twin and HCP phase (Chinese) 9-10763
 industrial camera, type EMR-100 9-2842
 Kikuchi structures, energy analysis by intensity profiles (German) 9-7528
 microdiffraction methods, comparison, using STEM 9-19129
 STEM, phase determination, of inner dynamical reflections 9-14660
 surface crystallography, reliability of LEED 9-37910
 transition metal chalcogenides, diffuse intensity contours, electron diffraction patterns 9-23504
 twin interfaces, contrast using weak beam technique 9-46524
 Al-Cu, anal. of electron diff. micrographs using Patterson function (French) 9-20044

electron diffraction examination of materials

- see also gas phase electron diffraction; high energy electron diffraction; low energy electron diffraction; reflection high energy electron diffraction*
 alkali halide, brittle fracture of single crystals and active struct. of cleavage surfaces 9-28039
 brass, B₂, nonradial diffuse streaks and complex diffuse scatt. patterns of electrons 9-7527
 carbon tetrafluoride+SiC(Si), reaction, metastable C phase prod. 9-29393
 cermet film, as solar selective absorbers, production, struct. and optical props. 9-29485
 α -copper phthalocyanine, struct. and susceptibility to radiation damage 9-32986
 diamond, ultradisperse, obtained by high temp. synthesis in explosion, struct. 9-29003
 electron microscopy, application in modern science, review 9-26182
 ferrogarnet crystal, surface layer damage thickness meas. 9-5106
 ferromagnet, electron scatt. in presence of mag. surface reconstruction 9-1705
 films, metal-semicond. and metal-metal studies in ultra high vacuum scatt. chamber 9-2780
 graphite formation on C-Ni(No)(Fe) solid solns., high-temp. metallography investig. 9-29306
 liquid metallic thin film, supercooling, electron diffraction study (French) 9-7676
 lonsdaleite-graphite phase transform. mechanism, electron diff. expts. 9-28099
 metal, FCC, He ion irradiat., He gas bubble lattice obs. 9-14858
 metal crystallites, polyhedral, growth in inactive gas, review 9-27934
 naphthalene derivatives, film struct., electron microscope and diff. obs. 9-11029

electron diffraction examination of materials continued

- poly- γ -methyl-D-glutamate, α -helical form, annealing effect, morphology 9-14702
 polyethylene, ultraquenched, electron diff., morphology and thermal anal. 9-15640
 polymer glasses and melts, struct., review of expt. results 9-37636
 rare earth oxide film, struct., electron microscope and diff. obs. 9-11028
 rare-earth dihydride epitaxial films, growth and struct. 9-37936
 refractory coatings, deposited by electron evaporation, struct. and props. 9-23871
 semiconductor films, structure, influence of laser beam 9-7761
 single crystal, anomaly in electron and photon emission and scattering (Japanese) 9-37581
 solid state chemistry problems, appl. of electron microscopy and diff. 9-46527
 spinel, space group, electron diff. pattern anal. 9-7594
 steel, alloy and C, ion nitrided and ion-softnitrided, comparison of compound layers (Japanese) 9-8386
 steel, machining, adhesion mechanism of built-up edge and layer on rake face of cutting tool 9-47784
 steel, maraging, 18Ni300, ageing, electron diff. and microscope obs. (Polish) 9-34070
 tetraglycidyl 4,4' diaminodiphenyl methane epoxy, diaminodiphenyl sulphone cured, struct., deform. mode, failure 9-29141
 vinyl stearate multilayers, struct. determ. 9-4469
 Ag, dynamic theory of electron diff. including inelastic scatt. (German) 9-23921
 Ag-liquid Ga interface, γ -phase interlayer growth, two-dimens. electron diff. 9-19487
 Ag₃Mg, long-period alloy, ordered struct. 9-27949
 Ag₃TiS₂, intercalation cpd., Raman scatt. and electron diff. meas. 9-24321
 Al-Cu, anal. of electron diff. micrographs using Patterson function (French) 9-20044
 Al-Cu-Ni, vacancy ordering, electron microscope and electron diff. obs. 9-27954
 Al-Mg-Si, precipitation of cube-shaped phases, electron diff. study using TEM (Japanese) 9-43251
 Al-Pd, rapidly solidified, new ordered phase, electron microscope obs. 9-11645
 Al-Pt (2 at.%), splat cooled, AlPt₃ phase, electron diff. obs. 9-15657
 α -Al₂O₃, radiation damage in HVEM, at high temp. and high dose 9-46707
 β -Al₂O₃-H₂O⁺ protonic cond., struct. investig. 9-19213
 β -Al₂O₃-NH₄⁺, protonic cond., struct. investig. 9-19213
 As₂Se₃, amorphous, laser radiation induced struct. changes, electron microdiff. obs. 9-10874
 Au, epitaxial growth and nucleation on NaCl during ion bombardment 9-11024
 Au film, on Si and CaF₂ substrates, interphase coincidence boundaries 9-1560
 Au/Pt interface, diff. studies of conc. variations 9-42322
 α -Ni (30 at.%), singularities of struct. state, diffuse electron and X-ray scatt. (Russian) 9-4945
 AuCu II, periodic antiphase struct. (French) 9-14937
 Au₂Mn, high resolution dark field electron microscopy exam. of ordering 9-7615
 Au₂Zn, ordered alloy, long-period antiphase boundary struct., growth mechanism 9-19262
 BaTiO₃, vacuum condensates, epitaxial growth on SrTiO₃ crystals, electron diff. and TEM anal. 9-15051
 Bi island films, effect of surface press. on lattice spacings 9-11045
 Ca₂OH(PO₄)₂, powder, precise study of electron diff. patterns, diff. interpretation at high tension (French) 9-37594
 CdCr₂Se₄ film, electron irradiated, struct. 9-15032
 CdS, defect struct., dark-field microscopy, anal. of decoration patterns 9-23506
 CdS film, polycrystalline, photosensitive, struct., pseudoreplica method, using electron microscopy and microdiff. 9-15030
 CdS(Se)(Te), evap. onto electron bombarded NaCl substrates, epitaxial growth and chars. 9-28948
 Cd_{1-x}Zn_xS, film, technical data, for low cost solar cell 9-48127
 Co, HCP, relationship of effects of systematic reflections to the crit. voltage 9-41916
 Cr, deformation waves and spin density waves, electron diff. obs. (Russian) 9-19721
 Cr₂Ge₃, amorphous film, short-range-order struct., electron diff. meas. 9-15047
 CrO₂, ferromag. films, epitaxial growth in air, electron diff. and SEM obs. 9-42410
 Cs₂VF₃ (x=0.25,0.19), cryst. struct. examination by electron diff. using TEM 9-23583
 Cu, thin single cryst. films, growth from vapour, electron diff. examination 9-33932
 Cu/Ni interface, diff. studies of conc. variations 9-42322
 Cu-Ni, initial oxidation study by microprobe-AES method (Japanese) 9-15867
 Cu₃Ga, interpretation of diffuse contours in electron diff. (French) 9-19377
 Cu_{2-x}S, digenite related phases, electron microscope study 9-10840
 Cu₃Sb, formed by saturation of Cu grains with Sb, electron diffraction exam. of diffusion layer (Russian) 9-33119
 CuSe film, phase transforms. and decomp., electron diff. obs. 9-42418
 Eu_{0.14}Si_{0.31}O_{0.55} glass, optical, magnetic, and magneto-optical props., chemical clustering 9-42951
 Fe, whiskers, high strength, polycrystalline, microstruct. obs. 9-33214
 Fe-C martensite, crystal struct. and morphology of ordered phase 9-42011
 Fe-C solid solution, martensite, carbide decomposition, electron microscopy and X-ray diff. obs., review (Russian) 9-33998
 Fe-Mn-C, γ - ϵ - α' martensitic transform. 9-24523
 Fe-Ni (32.86, 30.65 wt.%), chars. of quenched struct. formed in textured sheets, TEM and optical microscopy study 9-34084
 Fe-Ni two-phase films, alloy component redistrib. during annealing, electron diff. anal. (Russian) 9-20053
 Fe-Ni-(Cr)(Ti)(Al) austenite, high N content, cryst. struct. electron diff. and electron microscope anal. (Russian) 9-24490
 Fe-Si-Al (5,10 wt.%) struct. anal. (Chinese) 9-11618
 Fe₃Pt, premartensitic phenomena (French) 9-8297
 Fe_{1-x}Se, phase relation 9-14926

electron diffraction examination of materials continued

- FeSi₂ films, structural and Anderson transitions, cond. and IR reflectance meas. 9-15200
- Fe₃Sn_{1-x}, amorphous alloy stability, comp. and temp. depend. 9-19156
- p-GaAs:Be, ion implanted, annealing characts., defect cond. profiling, electron diff. obs. 9-4318
- Gd₂O₃, 'monoxide' film reidentified as sesquioxide formed by oxidation by hydride 9-19474
- Ge-Ag, exam. of structure using electron microscope (*Russian*) 9-14738
- Ge-metal film, polycryst., struct. props. determ. 9-4494
- H₂-D₂ vacuum deposited solid films, struct. study transmission electron diff. obs. (*Russian*) 9-11035
- In, recrystallisation of films prep. by vacuum evap. 9-4488
- In-Cd, shape memory (*Japanese*) 9-43243
- InAs epitaxial layers, on GaAs substrate, electron diff. and SEM exam., electronic props. 9-1552
- In₂O₃:Sn, thin films, prep. by pyrolytic method, charact. by SEM, electron diff. and SIMS, solar energy appl. 9-43143
- KCl:Ba, defect struct., dark-field microscopy, anal. of decoration patterns 9-23506
- K₂VF₃ ($x=0.25, 0.19$), cryst. struct. examination by electron diff. using TEM 9-23583
- MgIn, atmospheric corrosion, SEM, electron diffraction and electron probe obs. 9-24681
- Mn-Bi film, amorphous, form. and crystn. 9-28923
- Mn₂Ga, formation of DO₂₂ superstruct. and para-antiferromag. transition 9-19737
- MoO₃, reduced crystals, planes of crystallographic shear, TEM study 9-46683
- NbH(D), ordered, TEM obs. of anisotropic lattice distortions 9-7579
- Nb₂Sn diffusion layer material, characterisation 9-38213
- Ni sputtered films, hexagonal and amorphous, O incorporation, ESCA and electron diff. meas. 9-11046
- Ni-Al film, high-temp. condensed, electron diff. and elec. resist. (*Russian*) 9-4485
- Ni-Mo (5.8-24 at.%) solid soln. struct. and strength characts. (*German*) 9-4975
- Ni-S, defect control by heat-treatment in S atmos. 9-43293
- β -Ni-Ti, struct. changes during annealing, TEM and selected area diff. 9-34081
- Ni-Ti alloy, near equiatomic, pretransform. lattice instability, TEM and electron diff. 9-11616
- PLZT, thin film epitaxial growth and characteris. 9-28918
- PbS, epitaxial layer, structural nonuniformities and dislocation struct. 9-23852
- PbTe film, epitaxial, patterns of diffuse bands on electron diff. patterns 9-11021
- RbCl/KCl interface, diff. studies of conc. variations 9-42322
- Rb_{0.25}VF₃, cryst. struct. examination by electron diff. using TEM 9-23583
- Sb, film growth mechanism, action of residual gases rel. to deposition conditions 9-23850
- Si, Kikuchi structures, energy analysis by intensity profiles (*German*) 9-7528
- Si, monocryst. dynamic theory of electron diff. including inelastic scatt. (*German*) 9-23921
- Si:B₂O₃, analytic study of Si-B phase formed 9-19269
- Si:Ne(Ar)(Kr), ion implantation damage, annealing, comparative study 9-10867
- Si-Au(Cr)(Pd), contact reactions between amorphous Si and metallic films, TEM, transmission electron diff. obs. 9-23846
- Si-Ge heteroepitaxial system, imperfections and morphology, electron microscope and electron diff. obs. 9-42420
- β -SiC, heteroepitaxial growth on Si substrate using SiCl₄-C₃H₈-H₂ system, reflection electron diff. anal. 9-24445
- SiO₂ film, on Si, structure determ. by electron diff. anal. 9-15050
- SiO₂ layers, anodic oxidation growth on p-Si, transmission electron diff. obs. 9-28241
- Sm₂O₃, 'monoxide' film reidentified as sesquioxide formed by oxidation by hydride 9-19474
- SnO₂:F, thin films, prep. by pyrolytic method, charact. by SEM, electron diff. and SIMS, solar energy appl. 9-43143
- SnSe, single crystals., growth by Bridgman technique, electron diff. anal., lattice const., carrier conc. 9-47616
- Ti-Al₂O₃ system mixed films, prep., phase comp., struct. and elec. props. 9-37930
- Ti-Mo-Zr-Sn-Fe-C-Si alloy, β -III, cold deform. and annealing, effect on struct. and mech. props. (*Russian*) 9-24533
- Ti-Nb-Ta-Ge (40,20,0.8 wt.%) foil, dispersion hardening, TEM and electron diff. obs. (*Russian*) 9-1873
- Ti-V-Mo alloy system, phase equilibria and interstitial effects, TEM and X-ray diff. study 9-43204
- Ti-W/Au, metallisation on Al, temp. stability, barrier props., TEM obs. 9-23868
- Tl_{0.25}VF₃, cryst. struct. examination by electron diff. using TEM 9-23583
- TmSe, nonstoichiometry, high temp. chem. and valence instability (*German*) 9-23743
- VO_x, defect ordering, electron diff. obs. 9-23595
- W, texture and grain boundary struct., primary misorientation function, expt. deform. 9-1876
- WS₂, single crystals., growth by direct vapour transport method, X-ray and electron diff. study 9-28904
- Y₂O₃-Al₂O₃, thin film, electron diffraction exam. of phase transformations (*Russian*) 9-34025
- Zn-Al, dislocation slip peculiarities during superplastic deform. 9-20102
- ZnS, defect struct., dark-field microscopy, anal. of decoration patterns 9-23506
- ZnSe, evap. onto electron bombarded NaCl substrates, epitaxial growth and characts. 9-28948
- ZnTe:Cu, voltage depend. on precip. contrast 9-1433
- Zr base alloys, formation of phases precipitated from β solid solutions (*Russian*) 9-1869
- ZrO₂:CaO(MgO)(YO_{1.5}), partially stabilised, growth morphology of tetragonal phase 9-4968

electron-electron double resonance see ELDOR

electron-electron interactions

- see also electron-electron scattering
- jets, rel. to ψ particle expts. (1975, 1976) (*Czech*) 9-26288

electron-electron interactions continued

- $\gamma\gamma$ collision radiative corrections from e^+e^- processes 9-40777
- He, contact interactions, parity-violating and parity-conserving, new evaluation techniques 9-26872
- electron-electron scattering
- see also electron-electron interactions
- polarised beams, properties of cross sections 9-372
- weak lepton interaction influence, weak, EM and interference ratio (*Russian*) 9-6333
- He, contact interactions, parity-violating and parity-conserving, new evaluation techniques 9-26872
- electron emission
- see also cathodes; electron field emission; exoelectron emission; photoemission; secondary electron emission; spin polarised electron emission; thermionic electron emission; work function
- cathode workshop, conf., Washington, DC, USA (Jan.-Feb. 1978) 9-43068
- Tokamak fusion reactor, electron emission effect at divertor target 9-660
- triboelectrification process in vacuum, high-energy electron emission phenomena 9-11197
- electron energy bands see band structure
- electron energy loss spectra
- acetylene, electron energy loss spectra, C K-shell excitation, vibr. struct. 9-22851
- acetylene, inner shell electron energy loss obs. 9-45853
- AES, electron energy loss struct. 9-47559
- alkaline earth metals 9-28310
- anal. appl., processing requirements 9-43692
- benzene adsorbed on Pt(111) and Ni(111) surfaces, vibr. loss spectra 9-23838
- biological materials, electron energy loss spectroscopy anal. appl. 9-39269
- biomembrane architecture obs. 9-25177
- 1-butyne, and propyne, electron impact spectra, comparison with acetylene 9-3585
- cathode workshop, conf., Washington, DC, USA (Jan.-Feb. 1978) 9-43068
- conference on solid-vacuum interface, Amsterdam, Netherlands (June 78) 9-42342
- 1,3,5,7-cyclooctatetraene, electron impact energy loss spectrum 9-10214
- ethylene, electron energy loss spectra, C K-shell excitation, vibr. struct. 9-22851
- fluorobenzenes, negative ion states and π -electron affinity 9-10206
- 1,3,5-hexatriene, electron scatt. at low-energy, vibronic struct. of triplet state 9-3574
- magnetic spectrometer for TEM energy analysis 9-26190
- metal adsorbed molecules, low-energy electron inelastic scatt. 9-46526
- metallic thin films, fast electron scatt. with core electron excitation, plasmon satellite 9-33873
- methane, electron energy loss spectra, C K-shell excitation, vibr. struct. 9-22851
- microanalysis, operating parameter selection 9-24879
- microbeam anal., conf., Ann Arbor, MI, USA (June 1978) 9-39258
- nitromethane, low lying electronic states, electron energy loss spectra, singlet-triplet excitation 9-27093
- PMMA, electron energy loss spectra, optical props. 9-10887
- PMMA film, Monte Carlo simulation of electron penetration 9-23659
- poly-2-vinylpyridine, core excitons and dielec. response function, 1-400 eV 9-15569
- polystyrene, core excitons and dielec. response function, 1-400 eV 9-15569
- propyne, and 1-butyne, electron impact spectra, comparison with acetylene 9-3585
- quantitative energy-loss spectroscopy, treatment of inner-shell electron energy losses 9-12905
- review, electron spectroscopy appls. (*Japanese*) 9-40645
- surface analysis, atomic beam scatt., SIMS, and vibr. spectra, book contrib. 9-42357
- surface analysis, spectroscopic methods, review (*Chinese*) 9-34414
- tetrafluoromethane, electron energy loss spectra, C K-shell excitation, vibr. struct. 9-22851
- thin film analysis and characterisation, conf., Les Arcs, France (Jan. 1978) (*French*) 9-8466
- thin specimen sections, electron microscopic chemical analysis, review (*French*) 9-8469
- Ag, plasmons, influence of cryst. orientation on intensity, electron energy loss meas. (*German*) 9-23921
- Al, bulk and surface plasmon loss intensities in XPS, Auger and electron energy loss spectra 9-38012
- Al, polycrystalline, multiple plasmon excitation, in energy loss spectrum 9-4872
- Au small particles, size effects studied by electron energy loss anal. 9-47567
- C, amorphous and graphite, extended fine struct. in K-ionis. edge 9-47566
- CO adsorbed on Ni, energy depend. of vibr. excitation, electron energy loss spectra 9-28201
- CO, chemisorbed on Ni(111), adsorption sites and long range order, vibr. spectra 9-46946
- CO, electron energy loss spectra, C K-shell excitation, vibr. struct. 9-22851
- CO₂, electron energy loss spectra, C K-shell excitation, vibr. struct. 9-22851
- CO₂, electron impact spectra, 35 keV electrons, Bethe surface and Compton profile 9-27091
- COS, electron energy loss spectra, C K-shell excitation, vibr. struct. 9-22851
- CdS-metal interface, chemical reactions and local charge redistrib. 9-19661
- CdSe-metal interface, chemical reactions and local charge redistrib. 9-19661
- Cs monolayer on Cu(111), dilution of electron gas by O adsorption, plasmon energy losses 9-47036
- D₂, electron Compton profiles from energy loss spectra 9-7013
- EuO (100), disordered, LEED and electron spectroscopy 9-28178
- FeCl₃-intercalated graphite, plasmon spectra 9-38011
- GaAs (110) surface, chemisorption of O₂, electronic struct. theory, oxidation, electron spectra interpretation 9-42376
- GaSb_{1-x}As_x alloy surface states obs. 9-15202
- H₂, electron scatt., energy deposition and energy degradation, 2, 10 and 30 keV 9-31709

electron energy loss spectra continued

HCN, inner shell electron energy loss obs. 9-45853
 HCN, K-shell excitation by electron energy loss spectroscopy 9-31712
 HCl and HBr, low-lying reson. states in 0.25-1.15 eV electron scatt. 9-45844
 H₂O, Monte Carlo calcs. of spectra and yields, biological implications 9-7641
 In film, vol. plasmon dispersion and damping, electron energy loss spectra 9-7797
 In-In₂O₃-Pb tunnel-junction barriers, evidence for chemical annealing effects 9-42701
 In_{1-x}Ga_xAs, alloy surface states obs. 9-15202
 LiF film, guided wave excitation by fast electrons 9-24384
 NH₃, Compton defect for 35 keV electrons 9-27092
 Ni (100), O and S chemisorption, surface vibrs., electron energy loss spectra 9-33173
 Ni (100) surface, clean and gas-covered, electron energy loss spectra 9-47570
 Ni (110), interaction with O₂, electron energy loss spectra and AES obs. 9-47826
 Ni (111), adsorption of acetylene, identification of CH species by electron energy loss spectra 9-15022
 Ni film, inelastic electron scatt. 9-15570
 Ni-Si, intergranular segregation of Si, electron energy loss spectrometers, X-ray anal. (*French*) 9-8388
 Ni(111), chemisorption of methanol, methoxy species, electron energy-loss spectra 9-29391
 OH adsorbed on Ni, energy depend. of vibr. excitation, electron energy loss spectra 9-28201
 Pd, catalyst, Z-contrast, in STEM 9-46530
 Pt, adsorbed CO, adsorbate induced electron losses 9-46959
 Pt, adsorption of O₂, surface struct. depend., LEED, AES, and electron energy loss spectra 9-46934
 Pt, catalyst, Z-contrast, in STEM 9-46530
 Pt(111), adsorbed ethylene and benzene, electronic energy losses 9-46931
 Ru (001) surface, chemisorbed O₂, high resolution electron scatt. spectra 9-11013
 Ru (001) surface, clean and CO(O₂) adsorbate covered, characteristic slow electron energy loss meas. 9-47562
 Ru(001) surface, chemisorbed CO+O₂, and surface reaction 9-46924
 SCVO₄, primary excitation processes in cathodolum. 9-11490
 SF₆ electron scatt., total absolute cross sections, 0.5-100 eV, incl. reson. struct. 9-45843
 Si, amorphous, clean and O₂ adsorbed, light sensitive electron laser meas. 9-24396
 Si, optical properties of monocrystal by electron energy loss meas. (*German*) 9-24283
 Si, plasmons, influence of cryst. orientation on intensity, electron energy loss meas. (*German*) 9-23921
 Si, single-electron excitations, image contrast from delocalised excitations 9-46529
 Si, surface, (111) 2X1, cleaved, O₂ adsorption, low-energy electron loss spectra 9-15840
 Sn, chemisorption of O₂, AES and EELS study 9-46917
 TaC surface, effect of C oxidation on work function, 1250-2000K, AES 9-24054
 UF₆, excitation spectra after electron impact, 30-75 eV impact energy 9-45854
 W (001) surface, electron loss spectra 9-33872
 W (100), adsorbed H-induced lattice reconstruction, surface vibr. obs. 9-19445
 W (100), adsorpt. of acetylene, room temp., electron spectroscopy obs. 9-7749
 WF₆, excitation spectra after electron impact, 30-75 eV impact energy 9-45854
 W(100), chemisorbed H, vibr. excitation of hydrogenic modes, angle dependent electron energy loss meas. 9-46914
 W(211), adsorption of Be, work function changes and scatt. electron energy losses 9-46947
 ZnO, (0001) surface, clean and O adsorbed, AES and refl. electron energy loss spectra 9-46927
 ZnTe (110) and (111) surfaces, O₂ adsorption, electron energy loss and Auger spectra 9-47568
 ZnTe (110) and (111) surfaces, electron energy loss spectra, bulk and surface losses 9-43080

electron energy states (condensed matter)

see also band structure; band theory models and calculation methods; deep levels; defect electron energy states; dopplers; electron energy states of amorphous solids; electron energy states of liquid metals; electron energy states of liquid semiconductors; electron gas; electron traps; electronic density of states; exchange interactions (electron); excitons; Fermi level; Fermi surface; field interactions (condensed matter); helicons; hole traps; impurity electron states; Landau levels; localised electron states; magnetic breakdown; magnons; metal-insulator transition; metal theory; plasmons; polar semiconductors; polarons; positron states; ripplons; spin-orbit interactions; spin-phonon interactions; surface electron states; triplet state
 Bloch functions, by projection technique 9-15060
 Bloch waves, semiclassical wave propagation matrix method 9-101
 correlation holes, number-sum rules and infinite system 9-23916
 cubic crystal, perfect, non-Bloch electron states, incompletely symmetric 9-23877
 diatomic one dimens. lattice with δ potentials, electron energy spectrum (*Russian*) 9-19497
 effective electron-electron interaction in a group-theoretical diagram technique 9-28303
 electron theory, empirical, for solids and molecules (*Chinese*) 9-15061
 energy density functional approach, kinetic energy model 9-31357
 extended systems, Hartree-Fock orbital and total energies 9-4498
 FCC lattice, density of dynamical observables, incompletely symm. non-Bloch states 9-23879
 heavy elements, photoemission characs. (*Dutch*) 9-1811
 interacting electron system, time-dependent density-functional formalism 9-28306
 metal cluster, electronic spectrum fluctuations, appl. to Ni and Ti 9-19501
 organic free-radical solid conductors and semiconductors, electronic structure 9-35496
 periodic potential with slowly varying envelope, effective Hamiltonian theory 9-23880

electron energy states (condensed matter) continued

semiconductors, Benard effect, influence of external elec. field (*Russian*) 9-1750
 solid-state, atomic and molecular theory, conf., Flagler Beach, Florida, USA (Mar. 1978) 9-31356
 solid-state theory, introduction, book 9-33215
 superconductor, theory of tunnel injection (*Russian*) 9-47198
 H₂, metallic, liq., ground state energy at zero temp. 9-38006
electron energy states of amorphous solids
see also Anderson model
 all-trans-polyene, ground state props., ab initio studies 9-47002
 alloys, disordered, charge density function calculation method 9-42433
 amorphous semiconductor, tetrahedrally bonded, effects of quantitative disorder on electronic struct. 9-47003
 chalcogenide glass, localised gap states, Mott-street model 9-37968
 energy band model, electron physics of vitreous materials (*French*) 9-33225
 glass systems, electronic props. 9-42495
 molecular crystal, exciton density of states, effect of struct. disorder 9-28288
 semiconductor, local order as determined by electronic and vibrational spectroscopy 9-37627
 semiconductors, elec. and optical props. (*Japanese*) 9-23979
 As₂S₃, amorphous, XPS, electronic struct. calcs. using scattered wave method 9-11502
 Bi₂Si₂O₁₂, eulytine, change in band structure on transition to amorphous state 9-15081
 GeAsS, X-ray photoelectron spectra, valence electrons density of states (*Russian*) 9-15583
 Se, amorphous, O impurity addition rel. to elec. cond. 9-38067
 Si, amorphous, electronic struct. and optical dielec. function, LCAO calc. 9-42478
 Si, amorphous film, Fermi energy shift with substitutional doping 9-46998
 Si, electron-beam-evaporated amorphous thin films, noise meas. 9-24091
 Si:H, amorphous, electronic states of hydrogenated Si, theory 9-42494
electron energy states of glassy solids *see electron energy states of amorphous solids*
electron energy states of liquid metals
 Al, radial distrib. function calc., pseudopot. method (*Russian*) 9-19138
 Cd, electron energy states calc. (*Russian*) 9-4506
 Hg, electron energy states calc. (*Russian*) 9-4506
 Li, electron energy states calc. (*Russian*) 9-4506
 Sn, electron energy states calc. (*Russian*) 9-4506
 Zn, electron energy states calc. (*Russian*) 9-4506
electron energy states of liquid semiconductors
 No entries
electron field emission
 adatom lattice instability and fluctuation of field emission current 9-15024
 cathode energy conditions in explosive electron emission 9-19111
 MIM structure, emission current density in second intermediate region of Christov 9-33360
 polymer film, in MSM struct., thermionic field emission from metal 9-1629
 vacuum conductivity in high voltage gaps, emission mechs. 9-41905
 Al-Al₂O₃-Au thin-film cathode anomalous electron emission 9-8232
 Cu (001) and (110), electronic wave functions by spherical wave method, vel. to field emission 9-42604
 EuS, ferromag., on W, electron field emission 9-8230
 Ga-In liq. alloy, repetitive pulses electron emission 9-24416
 Mo (100), surface resonances, photoemission and field emission meas. 9-4593
 NaCl, thin single-crystal film, hot electron emission 9-15244
 Ni, (100) and (111) planes, electron field emission, energy distribution, effect of adsorption of CO 9-8231
 Pd-Si-Cu metallic glass tips, appl. as electron field emission source 9-8229
 Si, whisker, amorphous, growth method for field desorption mass spectrometry 9-28262
 W (100), surface resonances, photoemission and field emission meas. 9-4593
 W (100) surface, with adsorbed Au, Cu layers, unmasked surface reson. 9-15595
 W (110), mobility of adsorbed O, 300 to 800K, field emission current meas. 9-33187
 W, point target, temp. depend. of electron emission caused by laser illumination 9-43107
 W(110), field emission, absolute tunnelling current density 9-38724
electron gas
see also cathode ray tubes; electron optics
 Anderson transition, elementary approach 9-28279
 charged two-dimensional isotropic Fermi liq., static and dynamical props. 9-19532
 classical electron gas theory 9-17335
 classical electron surface layer, dynamic struct. factor 9-40443
 correlation holes, number-sum rules and infinite system 9-23916
 Coulomb gas, classical, two-dimens., screening props. from sine-Gordon eqn. 9-4524
 degenerate, distrib. function in periodic external field 9-23914
 degenerate Anderson model, Fermi liq. theory 9-19715
 degenerate semiconductor, intervalley phonon scatt., energy loss rate and momentum relax. time 9-15139
 density functional theory, proof that $\partial E/\partial n_i = \epsilon_i$ 9-42474
 dielectric response of solids, approxs. for treatment of local field effects 9-47033
 disordered solids, light scatt. from configurational fluctuations, appl. to free electron gas with fluctuating density 9-11428
 electron-positron gas in external mag. field, polaris. tensor (*Russian*) 9-35982
 Fermi hypernetted chain equations, optimal correl. function 9-40870
 ferromagnetic, short-ranged correlations 9-7798
 grand partition function, first order term temp. depend. anomaly 9-21656
 ground state, spin-charge density functional method (*Russian*) 9-1574
 inhomogeneous, density functional approach 9-44854
 inhomogeneous relativistic electron gas 9-28304
 ionic solids, lattice and defect props., modified electron gas approx. 9-42054
 jellium metal surface densities, electronic density, variational calc. 9-15205

electron gas continued

- long thin superconductor, resistive domain of small cross section in microwave EM field 9-28446
- long-range order Hartree-Fock states with different magnetic properties 9-42476
- magnetised, confinement effects 9-28494
- metals, electron gas model for lattice vibrations 9-14894
- multipole surface plasmons, bulk-selvedge coupling theory 9-28394
- neutrally charged with surface, props. 9-38144
- neutrino bremsstrahlung in an intense magnetic field 9-30055
- nonuniform, energy loss of charged particles 9-37748
- one-component plasma ground state, two and three dims. Monte Carlo study 9-33248
- one-dimensional conductors, Fermi gas model, review 9-47090
- orthogonality catastrophe due to local electron interaction 9-1566
- pair correlation function and correlation energy using Tripathy-Mandal dielec. function 9-19536
- renormalised collision integral (*Russian*) 9-1575
- scaling and multiplicative renormalising in solid state physics (*Hungarian*) 9-11289
- self consistent screening and approximate residual Landau interaction functions 9-19537
- semiconductor, hot electrons, photoexcited in quantizing mag. field, energy distrib. calcs. 9-42586
- solid-state theory, introduction, book 9-33215
- two-dims. electron gas high-freq. cond. determ. 9-40463
- two-dimensional, Hartree-Fock soln. of CDW in mag. field 9-28302
- two-dimensional, nonequilibrium statistical mechanics 9-31317
- two-dimensional electron fluid, collective modes, dynamic struct. factor 9-4523
- Ag, electron inelastic mean free paths and energy losses, electron gas statistical model 9-46733
- Al, electron inelastic mean free paths and energy losses, electron gas statistical model 9-46733
- Al, electron inelastic mean free paths and energy losses, electron gas model 9-46732
- Au, electron inelastic mean free paths and energy losses, electron gas statistical model 9-46733
- Bi, stationary I-U curve, falling portion under phonon generation conditions 9-15195
- CO+Ar(He)(Ne)(Kr)(Xe), intermol. pot. energy surfaces from electron gas model, ang., distance, and vibr. depend. 9-3520
- Cd,Hg, γ ,Te, strong elec. field effect on galvanomagnetic effects, degenerate electron gas heating 9-11159
- Cs monolayer on Cu(111), dilution of electron gas by O adsorption, plasmon energy losses 9-47036
- Cu, electron inelastic mean free paths and energy losses, electron gas statistical model 9-46733
- H $_2$, metal phase, state eqn., correlation energy of uniform electron gas (*Hungarian*) 9-1573
- He, liq., effect of short-wave surface excitations on damping in two-dims. electron gas (*Russian*) 9-10995
- Ni, electron inelastic mean free paths and energy losses, electron gas statistical model 9-46733
- Si, electron inelastic mean free paths and energy losses, electron gas statistical model 9-46733

electron guns

- Brillouin electron beam critical current rel. to vacuum level 9-7068
- diffraction radiation generator, starting currents, dynamic and static electron shiftings influence, theory and expt. (*Russian*) 9-3617
- emission instability, grid aperture contamination in guns using directly heated LaB $_6$ sources 9-12907
- field emission, SEM appls. (*Czech*) 9-6240
- field emission gun, electron optical characteristics (*German*) 9-893
- field emission systems, using single-pole magnetic lenses 9-31784
- glow discharge, cold-cathode, for pulsed ionisation of high-pressure CO $_2$ laser 9-27269
- glow discharge electron gun, with plane-frustrum cold cathode, characts. 9-7495
- helical electron beams, extended and intense with space-charge forces, trajectory anal. (*Russian*) 9-918
- HV electron gun power supply protection 9-44989
- low energy anticontamination, for surface originating contamination elimination in electron microscopes 9-30622
- pulsed, four-electrode, with emission of stream of large cross-section 9-35889
- pulsed electron gun with Ta cathode, for linear accelerator (*Russian*) 9-9924
- pulsed laser electron beam sources 9-36913
- repetitively pulsed CO $_2$ lasers, electron gun operation 9-31943

electron-hole avalanches *see impact ionisation***electron-hole drops**

- condensation of droplets, phase transition in open system 9-37993
- damping of movement of drop with vel. close to that of sound (*Russian*) 9-19529
- exciton condensation in electron-hole drops (*Russian*) 9-19522
- ground state energy of small electron-hole drops 9-47024
- nucleation theories for exciton condensation 9-33239
- phase diagrams for electron-hole droplet condensation in semiconductors 9-38001
- semiconductor, electron-hole drop mobility, effect of Coulomb interaction 9-15096
- semiconductor with complex band structure, two-component electron-hole liquid 9-15099
- semiconductors, recombination, conference, Southampton, England (Aug.-Sept. 1978) 9-38087
- shape in mag. field and strain induced potential well 9-23903
- stability of spherical form (*Russian*) 9-42464
- CdSe, optical gain spectra, exciton collision processes and electron-hole plasma 9-28814
- GaAs, electron-hole liquid form., luminesc. 9-33804
- GaP, camel's back induced stabilisation of electron-hole liquids 9-19524
- GaP, electron-hole drop, luminesc. 9-33812
- GaP, electron-hole plasma luminesc. 9-38651
- GaP, luminesc. from electron-hole drops, 2 to 77K 9-11454
- Ge:P:N, luminesc. from electron-hole drop 9-33813
- Ge, binding energy, optical threshold studies 9-38652
- Ge, direct gap recombination, at high excitation level and low temp. 9-38650
- Ge, electron hole drop diffusion const., hysteresis effect determ. 9-23902

electron-hole drops continued

- Ge, electron-hole correlation density depend., in electron-hole liq., under uniaxial stress 9-15090
- Ge, electron-hole drop formation, nucleation phenomena 9-33240
- Ge, electron-hole droplet scattering of acoustic phonons, total scatt. rate and anisotropy 9-33241
- Ge, electron-hole droplets, variation of α_3 electron density at constant stress 9-47025
- Ge, electron-hole drops, inflammation radiation under action of ultrasound (*Russian*) 9-7788
- Ge, electron-hole drops, motion in low mag. fields 9-23904
- Ge, electron-hole drops, resonant power absorpt., Alfvén wave anal. 9-42569
- Ge, electron-hole drops, size distrib., light scatt. meas. 9-28292
- Ge, exciton condensate and electron-hole droplet, metastable state, effect of illumination and high-frequency heating 9-15097
- Ge, in superfluid He, threshold phenomena (*Russian*) 9-42462
- Ge, inter-valence-band absorption in electron-hole droplets 9-4515
- Ge, magnetoplasma reson. spectra, electron-hole drop shape effects 9-1712
- Ge, Mott distortion of the electron-hole fluid phase diagram, luminesc. meas. 9-42457
- Ge, pure, large, electron hole drops, microwave heating and evaporation 9-28287
- Ge, pure and doped, electron-hole drops net charge, photocond. and photoluminesc. 9-38589
- Ge, recombination luminesc. spectra from hot and cold carriers in electron-hole drops 9-38608
- Ge, rest friction of electron-hole drops (*Russian*) 9-42463
- Ge, strain-confined electron-hole liquid, lifetime and radiative efficiency vs density 9-38000
- Ge, strained, crit.-point for electron-hole droplets 9-4516
- Ge, stressed, α_1 and α_2 electron-hole droplet luminesc. 9-28820
- Ge, stressed cryst., props. of strain-confined electron-hole liquid 9-7787
- Ge, unstrained, electron-hole drop shape in mag. field 9-42458
- Si, Auger recombination, localized and free carrier comparison 9-38090
- Si, electron-hole droplet condensation, phase diagram and surface tension 9-19521
- Si, electron-hole droplet luminesc., laser excitation threshold meas. 9-33821
- Si, electron-hole droplets nucleation at swirl defects 9-15095
- Si, electron-hole drops, nucleation, luminesc. threshold obs. 9-33822
- Si, intrinsic, phonon replicas of electron-hole liq. luminesc. line 9-28831
- Si, strained, crit.-point for electron-hole droplets 9-4516
- SiC (15 R), polypoly, many valleyed polar semicond., electron-hole-liquid, obs. from excitation and time delayed spectra 9-28289
- SiC, luminesc., electron-hole drop 9-38606
- ZnTe, single cryst., electron-hole drop conc. (*Russian*) 9-11460

electron-hole recombination

- see also carrier mobility*
- conference, luminescence, Paris (July 1978) 9-33755
- disordered semiconductors, recomb. radiation spectrum (*Russian*) 9-4855
- electron-hole drop shape in mag. field and strain induced potential well 9-23903
- halides, vacancy-interstitial pair prod. by electron-hole recomb. 9-4530
- III-V semiconductor, acceptor levels, anisotropy of Zeeman splitting and polarization of luminesc. in mag. field 9-24365
- III-V semiconductors, Auger coeffs. calc. 9-15160
- kinetics, many-particles correlation 9-47502
- laser, single heterostruct., spatial distrib. of radiative recomb. rate, time delays and Q-switching 9-22953
- Onsager model, time-depend. quantum efficiency 9-11194
- p-i-n structure, forward biased, with band to band Auger recombination, numerical simulation 9-7879
- p-i-p structure, two-dimensional carrier transport at high injection rate 9-15213
- photoconductivity, rate and continuity equations solution, for time region before excited carriers recomb. (*Japanese*) 9-4584
- radiative and nonradiative recomb. at metal ions, core struct. effects, review 9-4834
- semiconductor, Auger recombination, carrier density depend. 9-38089
- semiconductor, donor-acceptor pair in elec. field, anomalous Stark shift of ground state energy 9-19564
- semiconductor, elec. parameters determ. by electron probe method 9-9259
- semiconductor, electron-donor recombination, Monte Carlo studies of transitions between excited donor states 9-38093
- semiconductor, hot electrons, photoexcited in quantizing mag. field, energy distrib. calcs. 9-42586
- semiconductor, multiphonon recombination processes 9-38643
- semiconductor, ODMR appl. to recombination processes 9-42871
- semiconductor, photoluminescence, deep level recombination temp. depend. 9-47497
- semiconductor, recomb. centre distrib., scanning photocurrent microscopy 9-35822
- semiconductor, recombination and generation mechanisms, band-type models exhibiting phase transitions 9-47049
- semiconductor, recombination at deep traps, review 9-38100
- semiconductor, recombination enhanced defect reactions 9-38094
- semiconductor, recombination radiation mag. depolaris., spin level quadrupole splitting of lattice nuclei (*Russian*) 9-38666
- semiconductor, with high quantum yield and recomb.-radiation reabsorpt., induced-current, in SEM 9-11140
- semiconductor generation-recombination noise 9-24032
- semiconductor laser, atom displacement as result of nonradiative recomb., defect form. mechanism 9-10308
- semiconductor laser, stimulated emission threshold, surface recombination influence 9-10311
- semiconductor stable electron-hole plasma, diffusion in magnetic field 9-24001
- semiconductors, Auger recombination processes 9-38091
- semiconductors, radiative two-electron transitions 9-43026
- semiconductors, recombination, conference, Southampton, England (Aug.-Sept. 1978) 9-38087
- semiconductors, recombination processes, review 9-38088
- SOS films, carrier recomb. props., magnetosensitive method 9-38186
- SOS films, surface recomb. profile and transport parameters 9-33357
- tetracene, spatial distrib. of electrolum. and recomb. process 9-19938
- threshold switching as a generation-recombination induced non-equilibrium transition 9-33314

electron-hole recombination continued

AgBr, electron-hole kinetics 9-24005
 AgBr, recombination process in photolysis 9-24789
 Al-Al₂O₃-InSb MIS structures, recomb. processes and carrier lifetimes 9-38177
 Al-SiO₂-Si Schottky barrier solar cells, recomb. effects 9-39310
 CaF₂:Co, X-irrad., luminesc. spectra 9-28801
 Cd_{1-x}Hg_xTe, photodetectors, recomb. processes, photoconductive decay obs. 9-38129
 CDS, laser thresholds and stimulated emission, intrinsic recomb. processes 9-15489
 CDS pulsed optically detected resonance, time depend. recomb. processor study 9-38411
 CDS:Li, TSC and optical photocurrent quenching spectra, Auger excitation of recomb. centres 9-33294
 CDS-CuInSe₂ solar cells, grain boundary and interface recomb. effects 9-39311
 n-CdTe films, uniform trap distrib., transient photocond. effects 9-28423
 p-CdTe:Cl, mech. of electron recomb. 9-11176
 CsI:Na, tunnelling recomb. of electron-hole pair, optical detection of ESR and circ. dichroism 9-47360
 CuGaSe₂, photoluminesc. spectra at 76K 9-38655
 GaAlAs DH laser, optimum p-n junction depth, photoluminesc. method 9-4598
 GaAlAs DH lasers, electron-hole recomb. effects 9-45944
 GaAs, Gunn effect, carrier generation-recomb. processes 9-38080
 GaAs LED, optimum p-n junction depth, photoluminesc. method 9-4598
 GaAs p⁺-n diode, radiative hot carrier recomb., photoluminesc. and electroluminesc. meas. 9-38676
 GaAs, point defect generation by electron-hole recombination at dislocations 9-37699
 n-GaAs, surface recomb. vel. meas., diff. from transient optical grating 9-1604
 GaAs, surface recombination velocity, diff. from picosecond transient free carrier gratings 9-47109
 GaAs:C, Zeeman effect of effective mass acceptor, polarised luminesc. 9-4541
 GaAs:Ge, stress depend. of donor-acceptor recomb. energy 9-15113
 GaAs-Al_{0.3}Ga_{0.7}As double heterojunctions, dark-line defects and recomb. centres, scanning photocurrent microscopy 9-35822
 GaN:Zn, cathodolum. obs., recomb. model 9-11474
 GaP, electron-hole plasma luminesc. 9-38651
 n-GaSb:Te, heavily doped, spontaneous radiative recomb. vel., photoluminesc. spectra 9-11458
 GaSb_{1-x}As_x, disorder-enhanced Auger recomb. 9-43014
 GaSe, electron beam excited free exciton luminesc., rel. to band struct. 9-19940
 n-GaSe, photomagnetoelc. and photocond. current spectral distrib. 9-42585
 p-GaSe, single cryst., negative photocond. induced by elec. field 9-19623
 GaSe:Sn, single crystal, transient photoconductivity (*Russian*) 9-11171
 Ge (111), adsorption of polar molecules, surface recomb. centre neutralization 9-38147
 Ge, adsorption of water, neutralization of surface recomb. and fast capture centre 9-33184
 Ge, energy-gap narrowing and state filling under laser irrad. 9-42441
 Ge, low temp. recombination into shallow donors, transient case 9-38092
 Ge microcond. mag. field transducer, cast, galvanomag. recomb. effect 9-19609
 Ge, recombination at dislocations 9-38023
 Ge recombination characteristics used in design of semicond. devices (*Russian*) 9-42557
 Ge, strain-confined electron-hole liquid, lifetime and radiative efficiency vs density 9-38000
 Ge, stressed cryst., props. of strain-confined electron-hole liquid 9-7787
 nHg_{1-x}Cd_xTe, single-phonon and plasmon recomb. lifetime effect, with magnetically tuned bandgap 9-38098
 III-V alloys, disorder-enhanced Auger recomb. 9-43014
 InAs_{1-x}Sb_x, disorder-enhanced Auger recomb. 9-43014
 InP, n- and p-type, surface recomb. vel. meas., diff. from transient optical grating 9-1604
 InP, surface recombination velocity, diff. from picosecond transient free carrier gratings 9-47109
 n-InSb, electron recombination between Landau-levels 9-38096
 InSb, magnetoconcentration effect, nonlinear current carrier recomb. 9-33298
 n-InSb, recomb. of hot electrons, photoelectromag. and dynamic photocond. meas. 9-38081
 MgO, pure and doped crystals, X-ray stimulated luminesc. 9-28802
 NaCl:Cu, X-irrad., thermoluminesc., F-centres 9-33849
 PbSnTe-like semicond., Auger recomb., nonparabolic approx. 9-15161
 Pb_{1-x}Sn_xTe, epitaxial layers, carrier lifetime meas. 9-42559
 Pb_{1-x}Sn_xTe, small-gap, recomb. mech. 9-38099
 PbTe epitaxial films, carrier recomb. and deep levels, photocond., Hall effect, and luminesc. meas. 9-38024
 PbTe, epitaxial layers, carrier lifetime meas. 9-42559
 Si, amorphous, mag. field depend. of luminesc. 9-43034
 Si, Auger recomb. coeff. meas. using laser excitation 9-38654
 Si, Auger recombination, localized and free carrier comparison 9-38090
 Si diode, transient switching duration, linear carrier lifetime, emitter efficiency and Auger recomb. coeff. determ. 9-11207
 n-Si, electron recombination, role of intervalley scatt. (*Russian*) 9-19605
 Si, heat treated, spin-depend. recomb. at dislocations 9-47122
 n-Si, hot carrier noise and generation-recomb. noise 9-38140
 n-Si, interaction of disordered regions with point defects 9-19296
 Si MOS capacitors, pulse response anal., lateral depletion region around gate area 9-38187
 Si, nonradiative recombination and luminesc. 9-33770
 Si, p-n junctions, current-voltage relation 9-42632
 Si, recombination at dislocations 9-38023
 Si recombination characteristics used in design of semicond. devices (*Russian*) 9-42557
 Si, spin dependent recomb. at dislocations, EPR and photocond. 9-38095
 Si surface, metal doped, recomb. of nonequilib. carriers at high excitation rates 9-7835
 Si:B, bound multiexciton luminesc., recomb. kinetics 9-38591
 Y₂O₃:Sb, cathodoluminesc., nonlinear depend. on activator concs. 9-8190
 ZnO, electron-hole recombination emission, temp. depend. and phonon repetitions (*Russian*) 9-15521

electron-hole recombination continued

ZnO, laser thresholds and stimulated emission, intrinsic recomb. processes 9-15489
 ZnO, luminescent, phonon detection by shallow electronic trap states 9-14902
 ZnO, negative photocond. by excitation of exciton-impurity complexes, recomb. mechanism (*Russian*) 9-28379
 ZnO:Pr(Gd)(Er), phosphors, photoluminesc. and electroluminesc. spectra 9-11457
 ZnS, pulsed optically detected resonance, time depend. recomb. processor study 9-38411
 ZnS, time resolved ODMR, electron-hole recombination 9-42872
 ZnS:Ag, photon counting statistics of cathodoluminesc. light emission 9-24371
 ZnTe, laser thresholds and stimulated emission, intrinsic recomb. processes 9-15489
 ZnTe-In Schottky diodes, photocapacitance determ. of electron-hole recomb. (*French*) 9-47119

electron impact

see also atomic electron impact excitation; atomic electron impact ionisation; molecular electron impact dissociation; molecular electron impact excitation; molecular electron impact ionisation; secondary electron emission
 crystal, fast electron reson. scatt. (*Russian*) 9-47569
 dynamic response of materials to pulsed beam, measurement using laser interferometer 9-42102
 elastic reflection of electrons from solid surface, Boltzmann eqn. 9-43078
 electron probe analysis, spatial distrib. of electrons in homogeneous, isotropic target 9-43687
 electron scattering, in the scanning electron microscope 9-21880
 ionisation spatial distrib. for 0.5 to 500 keV electron bombarded solids, empirical eqns. 9-19956
 metal surface, oxide covered, primary electron beam effect on secondary emission coeff. (*French*) 9-47563
 thin films, thickness determination, using backscattered electrons as tool 9-21704
 WO₃, (100) and (111) layers, electron stimulated desorption of O⁺, LEED obs. 9-23840
 Al film, (e, 2e) reaction, ang. correlation functions, plasmon satellites 9-19955
 He-like three-electron atoms and ions, inelastic-reson. quasiprojection operators 9-3581
 KBr(I), sputtering, depend. on beam energy and target temp. 9-1804
 Mo surface, anisotropy of elastic refl. of electrons from single cryst. 9-28870
 N₂, solid, interaction of 1-3 keV electron beam, range and secondary emission 9-15568
 RbBr(I), sputtering, depend. on beam energy and target temp. 9-1804
 Ru (001), chemisorption of CO, electron stimulated desorption ion ang. distrib. bonding geometry and bending vibrs. 9-33189
 W surface, elastic refl. of slow electrons 9-28869

electron interactions *see elastic scattering of electrons by atoms and molecules; electron-electron interactions; electron impact; electron-nucleon interactions; electron-nucleus reactions; electron-positron interactions; hadron electroproduction; neutrino-electron interactions*

electron ionisation *see electron impact*

electron lenses

see also aberrations; electron microscopes; electron optics; electrostatic lenses; magnetic lenses
 anastigmatic electron deflection system between beam-shaping lens and probe target 9-27155
 cathode lenses, with combined elec. and mag. fields, third order aberration theory 9-41317
 chromatically corrected objective lens, of electron microscope, test (*German*) 9-892
 HICOREX, for low magnification TEM with wide field, features 9-17564
 moving objective lens and Fraunhofer condition for predeflection 9-41316
 TEM multilens imaging system design for minimum distortion at low magnifications 9-12897

electron lifetime (metals) *see electron relaxation time (metals)*

electron mean free path (metals)

disordered and spinodally decomposed alloy, residual elec. resist. 9-19569
 film, grain boundary scattering model 9-15234
 film, Hall coeff. in mean free path model 9-11240
 Ag, Fermi surface and thermoelec. power, de Haas-van Alphen calc. 9-4503
 Al-Cu, dil., anisotropic scattering of conduction electrons on dilute Cu impurities 9-47082
 Au, Fermi surface and thermoelec. power, de Haas-van Alphen calc. 9-4503
 Cd foil, monocrystalline, anisotropy of size effect 9-38048
 Cu, Fermi surface and thermoelec. power, de Haas-van Alphen calc. 9-4503
 Gd, thermoelectric power anisotropy at high temp. 9-23952
 In, electron MFP, conduction electrons injected from ferromag. 9-15135
 Ta film, oxidation in ambient conditions, resist. and ellipsometric meas. 9-34209
 Tb, thermoelectric power anisotropy at high temp. 9-23952
 Y, thermoelectric power anisotropy at high temp. 9-23952

electron micrographs *see electron microscope examination of materials; electron microscopy*

electron microprobe analysers *see electron probe analysis*

electron microprobes *see electron probes*

electron microscope applications

see also electron microscope examination of materials; scanning electron microscope applications
 biological data processing and synthesis 9-25180
 contaminant identification by energetic beams 9-39250
 electron emitter integral emission characts. determ. 9-9263
 field emitter electron beam exposure system for semiconductor fabrication 9-30624
 film thickness measurement, of amorphous and crystalline thin films 9-26186
 interaction energy, procedure for precision meas. of condensed bodies under various physicochem. conditions 9-21736
 semiconductor surface potential distrib. meas. using mirror electron microscope 9-35784

electron microscope applications continued

- two-dimensional mag. microfield electron microscopy 9-6239
ultrahigh vacuum, in situ meas. of thermal EMP 9-26184

electron microscope examination of materials

- see also *electron microscope applications*; *electron microscopy*; *scanning electron microscope examination of materials*; *scanning-transmission electron microscope examination of materials*; *transmission electron microscope examination of materials*
Al-Cu (4wt.%), θ' precipitation, effect on Young's modulus, electron microscope obs. (French) 9-47689
austenite, hot-worked, subgrain struct., X-ray diffr. and electron microscope obs. (Russian) 9-15698
biological materials, high-resolution imaging, radiation damage, review 9-5331
biological specimens, reduction of radiation damage by superconducting lens system 9-34718
Birbeck granule-containing cells of mice, occurrence of cored tubule 9-34515
blood cells, red, human, frozen section prep. for electron probe anal., fracturing or cutting 9-39625
carbon tetrafluoride + SiC(Si), reaction, metastable C phase prod. 9-29393
cell wall struct., *Bacillus subtilis*, S/N enhancement by interactive computation 9-5427
ceramic compact, morphological investigations significance 9-33988
cermet film, as solar selective absorbers, production, struct. and optical props. 9-29485
chromatin, DNA-protein complexes, electron microscope visualisation, book contrib. 9-5434
conference, Nancy, France (May 1978) (French) 9-41915
 α -copper phthalocyanine, struct. and susceptibility to radiation damage 9-32986
dislocation core geometry, electron microscopy (French) 9-42072
dislocation mobility, core struct. by electron microscopy (French) 9-42071
dislocations, dissociated, weak-beam technique, appl. to quartz, Al_2MgO_4 (French) 9-42070
DNA and chromatin molecule preparation for electron microscopy 9-25171
DNA structure, meas. by several techniques 9-24948
ferrofluid, particle size distrib. parameters 9-1687
ferromagnetic film, domain wall width meas. with electron microscope, astigmatism effects 9-19753
free cells, preparation technique for electron microscopy using conical glass tube for centrifugation 9-34711
garnets, concentrational inhomogeneities, appl. of vacuum decoration method 9-14835
graphite- FeCl_3 intercalation compounds, form. kinetics and microstruct. (German) 9-43560
graphitic carbon, electron microscope imaging of isolated individual sheets 9-2890
leucocytes, differential counts, comparison between light and electron microscopic results 9-5429
liquid crystals, defects, struct., optical, electron microscopy (French) 9-46567
lung, rapidly frozen under controlled physiological conditions, prep. technique 9-39619
mercury acetate, direct observation of Hg atoms in make-up of heteroorganic compound 9-35898
metal, BCC, fine particles formed by gas-evap. technique, cryst. struct. and habit 9-27935
metal crystallites, polyhedral, growth in inactive gas, review 9-27934
metals, submicroscopic surface relief after finishing 9-29276
metals and alloys, close-packed, temp. depend. of stacking fault energy 9-19266
muscovite, natural cryst., submicroblock struct., electron microscopy 9-14816
myelin, frog nerve, comments on the paracrystalline nature 9-16161
naphthalene derivatives, film struct., electron microscope and diffr. obs. 9-11029
Ni-Cr-Mo and Ni-Cr, impact strength, effect of modified ausforming (Japanese) 9-11692
Permalloy film, submicroscopical magnetisation structs. induced by fields normal to film plane 9-1697
Permalloy-Co film, domain walls, magnetisation ripple (Russian) 9-47314
photographic emulsion, solarization, elimination by adding halogen acceptors, electron microscopy investigation 9-24790
phthalocyanine, metal-free, molecular imaging and phase transformations using electric microscopy 9-33198
polyethylene, adhesion to Cu, reactions of CuO with Cu or polymer 9-39118
polyethylene, structural changes induced by high elec. field (Japanese) 9-23532
polyethylene, structure change on uniaxial compression (Russian) 9-34119
polymer, porous, prep., appl. as stationary phase in gas chromatography (German) 9-29434
polymer electrophoretic coating, effect of silicone additive on electrophys. props. (Russian) 9-15615
polymers, morphological study, using C replicas, wide angle electron scatt. (Russian) 9-32923
polypropylene, structure change on uniaxial compression (Russian) 9-34119
polystyrene latex, particle size determ. by electron microscopy 9-21698
PVC, plasticised, processing-morphology-mech. props. relation 9-8264
PVC, rubber-modified, stress whitening and yield mechanism 9-8324
PVC, suspensions, melts, rheological props. rel. to struct. 9-3983
pyrocarbon, low temp., isotropic, permeability study (French) 9-7549
radiation-damage artefacts in biological electron microscopy, technique for visualisation 9-20726
rare earth metal oxide films, crystallisation, electron microscope obs. 9-15034
rare earth oxide film, struct., electron microscope and diffr. obs. 9-11028
rare-earth dihydride epitaxial films, growth and struct. 9-37936
ribosomal particles, electron microscopic investigation using tilting technique 9-34514
Rochelle salt, ferroelec. thin crystals, struct. investig. 9-27962
ruby, concentrational inhomogeneities, appl. of vacuum decoration method 9-14835

electron microscope examination of materials continued

- sapphire, concentrational inhomogeneities, appl. of vacuum decoration method 9-14835
solid state chemistry problems, appl. of electron microscopy and diffr. 9-46527
sputtered coatings, metallurgical characterisation 9-15056
stacking fault, antiphase boundary energies, investig. methods, review, appls. to FCC metals (French) 9-42080
steel, 37Kh12N8G8MFT, precipitation hardening, hardness meas. and electron microscope exam. (Russian) 9-38843
steel, austenitic, Cr-Mn, Kh4G18F, microstruct. and mech. props. during tensile deform. (Russian) 9-20114
steel, Cr, and Cr-Mo-Ni, austenite decomposition, deform. effects, ferrite reaction 9-1842
steel, hypoeutectoid, C22, recrystn., influence of carbides distrib., electron microscope exam. (German) 9-38850
steel, low C, 10Kh2G3M, development of plastic deform., slip and dislocation struct. (Russian) 9-15722
steel, maraging, 18Ni300, ageing, electron diffr. and microscope obs. (Polish) 9-34070
steel, medium C, fatigue crack propagation under repeated two-step loadings above and below threshold condition (Japanese) 9-38945
steel, Mn-C, formation of filamentary V(C,N) precipitates during diffusional γ - α transform (Russian) 9-1865
steel, Mn-Mo-Nb-C, transform. charact. and struct. during continuous cooling 9-29057
steel, Ni-Cr, temper embrittled, electron microscope and X-ray microstruct. obs. 9-38870
steel, reinforcing wires, high strength, microstruct. obs. (Czech) 9-43342
steel, stainless, dislocation structure, of $\Sigma=9$ related coincidence boundary 9-27994
steel, stainless, ferritic, electron microscope obs. of precipitation hardening (French) 9-34049
steel, stainless, grain boundaries, electron microscope obs. (Russian) 9-4311
steel, stainless, used as reactor cladding material, void swelling obs. by HV electron microscope (Japanese) 9-42108
steel, types 10G2 and 18G2F, formation of transform. microtwins in ferrite (Russian) 9-1866
steel, white layers forming at high rates of friction, struct. props. (Russian) 9-15800
steel 120Kh3G3, lattice defects during γ - α - γ transform., electron microscopy obs. (Russian) 9-47681
tetraglycidyl 4,4' diaminodiphenyl methane epoxy, diaminodiphenyl sulphone cured, struct., deform. mode, failure 9-29141
TGS, interaction of γ -irrad., induced defect electron microscope expts. 9-10876
Tishomingo Fe meteorite, microstructural study 9-16898
tissue, Sephadex spheres used for localising specific regions 9-5428
triacetoxymercuaurine, direct observation of Hg atoms in make-up of heteroorganic compounds 9-35898
V-VI-VII ferroelectric semiconductor film growth, effect of artificial nucleation centres 9-11032
wire conductors, explosion, investigation of resulting particles (Russian) 9-37558
Zircaloy-4, polytype struct. of intermetallic precipitates, electron microscope obs. 9-43250
 α -Zr, crystalline anisotropy in α -phase, charact. by thin oxide film form. (French) 9-20269
Ag epitaxial film, twin boundaries of recrystn. type, electron microscope obs. (Russian) 9-4484
Ag, fine particles prep. by vacuum evap. onto running oil substrate 9-28925
Ag, rolled, dislocation struct. and recovery during annealing (Russian) 9-29084
AgCl film, on complementary cleavage planes of TGS, morphology, electron microscope obs. 9-15031
AgI-Ag oxy salt high cond. glasses, struct. obs. 9-32908
Al alloy, fatigue crack propagation under repeated two-step loadings above and below threshold condition (Japanese) 9-38945
Al alloy D16, supersaturated solid soln., decomp. process, electron microscope obs. and acoustic anal. (Russian) 9-15650
Al binary alloys, exam. of dislocation structure, using diffraction electron microscopy (Russian) 9-10857
Al, creep and rupture, in torsion, mech. (Russian) 9-5030
Al, single crystal, superplasticity 9-1901
Al-Ag, struct. of two-layer film 9-23851
Al-Cu-Mg (1.3, 1.3 at.%) alloy, natural ageing, meas. of quenching vacancy dislocation loops 9-15704
Al-Cu-Ni, vacancy ordering, electron microscope and electron diffr. obs. 9-27954
Al-Mg-Si, heavily rolled, electron microscope obs. of cube oriented region, rolling texture 9-29093
AlCu, electron microscope spot prep. of deform. bands 9-15922
 $\text{Al}_2\text{Ga}_{1-x}\text{As}$ epitaxial films, microanal. in photoemissive electron microscope 9-16068
 Al_2O_3 , layer, obtained by reactive evap., surface struct. and morphology (Polish) 9-28242
 Al_2VO_3 , reduced, microstruct., crystallographic shear planes, electron microscope obs. 9-1443
 $\text{As}_2\text{S}_3\text{-PbS}$ glasses, structural props. 9-27925
Au, condensation kinetics on KCl substrate, evolution of size distrib. function 9-28243
Au, effect of intermittent deposition on nucleus formation and growth on alkali halide substrates 9-23853
Au, epitaxial growth and nucleation on NaCl during ion bombardment 9-11024
Au epitaxial layer, grain boundaries obs. 9-11025
Au film, on complementary cleavage planes of TGS, morphology, electron microscope obs. 9-15031
Au island films, forming process, I-V charact., and switching 9-11242
Au single cryst., nearly aberration-free lattice images in HV microscopy 9-32865
Au, thin film bicrystal, annealing twin form. by boundary dissociation 9-47729
Au-SiO₂-Ge, sandwich structure, exam. of image structure using mirror electron microscopy (German) 9-11019
AuCu II, periodic antiphase struct. (French) 9-14937
 Au_4Mn , fully ordered, microstruct., high resolution electron microscopy 9-1439

electron microscope examination of materials continued

Au₂Mn, high resolution dark field electron microscopy exam. of ordering 9-7615
 Au₂Mn₂, monoclinic, ordering, high resolution electron microscopy 9-43290
 Au₂Zn, ordered alloy, long-period antiphase boundary struct., growth mechanism 9-19262
 BN, high pressure synthesis, exam. of relationship between synthesis condition, and crystal shape, size (*Japanese*) 9-20018
 BPO₄-AlPO₄, non-equil. phase diagram, electron microscope obs. 9-43225
 BaO films on Ir, thermionic props., Auger, LEED, and emission microscopy 9-43089
 BaTiO₃, donor doped, exam. of heterogeneous microstructure (*German*) 9-24632
 BaTiO₃, single crystals, electron microscope study of domain and defect structs. 9-15425
 BeO powder, sinterable and unsinterable, sintering processes, electron microscope exam. 9-33986
 Bi, epitaxial films, grain boundary struct., electron microscopy obs. (*Russian*) 9-46671
 Bi, epitaxial growth, decoration of Sb surface 9-28227
 Bi-Sb, bicrystal rearrangement of grid of nonconformity dislocations on (111) interface during heating 9-28215
 Bi₂W₂O₉, layered struct., 1 MV high-resolution electron microscopy obs. 9-27955
 CdI, polytypes, defect struct., electron microscopy 9-14809
 CdS film, polycrystalline, photosensitive, struct., pseudoreplica method, using electron microscopy and microdiff. 9-15030
 CdS film, precipitation from solns., form. characts. 9-11524
 Co film, magnetic domain wall width, shadow and interf. electron microscope exam. 9-11330
 Co, HCP, relationship of effects of systematic reflections to the crit. voltage 9-41916
 CrO₂, synthesis and morphology 9-24481
 CsI:Na, crystal, kinetics of decay of surface solid soln. 9-23810
 Cu, deposits on Cu (110) electrode, morphology and crystal growth 9-47644
 Cu, dislocation etch pit obs. on {111} surfaces 9-10861
 Cu film growth on amorphous C, energy characts., in situ electron microscope determ. 9-11027
 Cu, heavily rolled, electron microscope obs. of cube oriented region, rolling texture 9-29093
 Cu, rolled, dislocation struct. and recovery during annealing (*Russian*) 9-29084
 Cu, single cryst., deform. process, effect of surface layer 9-8315
 Cu-Ag, deformed, recrystallization nucleation at second phase particles, electron microscope obs. 9-34059
 Cu-Ni alloy, dislocation density during deform., comparison of electron microscopy and X-ray diff. (*Russian*) 9-5002
 Cu-Sn, deformed, martensitic transformation (*Russian*) 9-15668
 Cu-Ti alloys (0.5 to 4.0 wt%) ageing charact. determ. 9-20089
 Cu-W composite powder, prod. by H₂ reduction of CuWO₄ 9-20006
 CuAu, exam. of streaming due to intrinsic fluctuations 9-11602
 Cu₂MnAl, plastically deformed, domain struct., X-ray diff. and electron microscope obs. (*Russian*) 9-20110
 CuPt, quenched, state of local order 9-47722
 Cu₂-S, digenite related phases, electron microscope study 9-10840
 Fe, Armco, flat-rolled and annealed, dislocation struct. and mech. props. (*Russian*) 9-20062
 Fe, fracture mechanism in various temperature and stress intervals (*Russian*) 9-24600
 Fe, grain boundaries, electron microscope obs. (*Russian*) 9-4311
 Fe, oxidation and domain structure, electron microscope exam. (*Russian*) 9-1437
 Fe, single crystals, effect of hydrostatic pressure on plastic flow props., dislocation distrib. 9-38887
 Fe-B, rapidly solidified, metastable phases (*German*) 9-29045
 Fe-C, dil. alloys, softening, conventional and in situ expt. 9-47744
 Fe-C, dilute alloys, softening, conventional and in situ expt., HVEM obs. 9-47743
 Fe-C martensite, crystal struct. and morphology of ordered phase 9-42011
 Fe-Co (33 wt.%), oxidation and domain structure, electron microscope exam. (*Russian*) 9-1437
 Fe-Co-Ta for semipermanent magnets (*French*) 9-47675
 Fe-Gd films, crystallisation, electron microscope obs. 9-15034
 Fe-Mn-C, γ - ϵ - α' martensitic transform. 9-24523
 Fe-Mn(Ni), fracture mechanism in various temperature and stress intervals (*Russian*) 9-24600
 Fe-Ni-C, HVEM study of strain induced martensite 9-20047
 Fe-Ni-(Cr)(Ti)(Al) austenite, high N content, cryst. struct. electron diff. and electron microscope anal. (*Russian*) 9-24490
 Fe-Si (3 wt.%) layers, with ceramic coating, interface struct., electron microscopy and Mossbauer obs. (*Russian*) 9-28216
 Fe-Si alloy, deformed by slip, polygonal boundary form. (*Russian*) 9-24534
 FeAl, order parameter, atomic scattering factor, thickness fringes in electron micrographs 9-10832
 Fe₃₀Co₇₀, disordering by laser irradiation, Mossbauer transmission spectroscopy and electron microscopy study (*French*) 9-23639
 Fe₂MnAl, plastically deformed, domain struct., X-ray diff. and electron microscope obs. (*Russian*) 9-20110
 α -Fe₂O₃, mutual orientations and morphology obs. (*French*) 9-37647
 α -Fe₂O₃, prep. by evaporative decomposition of Fe(NO₃)₃·6H₂O soln. 9-20011
 β -FeOOH, akaganeite, struct. changes due to radiation damage 9-28014
 Fe, Sn-x, amorphous alloy stability, comp. and temp. depend. 9-19156
 Fe₂VO₂, reduced, microstruct., crystallographic shear planes, electron microscope obs. 9-1443
 Ga-As-Se, exam. of phase diagram, rel. to LPE of GaAs:Se 9-1849
 GaAs, dissociation of dislocations 9-46665
 Ga₂VO₂, reduced, microstruct., crystallographic shear planes, electron microscope obs. 9-1443
 Ge alloy, amorphous film, formation and stability criteria 9-10799
 Ge, amorphous, in situ meas. of thermal EMP, by ultrahigh vacuum electron microscopy 9-26184
 Ge-Ag, exam. of structure using electron microscope (*Russian*) 9-14738
 Ge-S-In, chalcogenide glass, determ. of glass phases, phys. props. meas. 9-23526

electron microscope examination of materials continued

KCl:Sr, single crystal, thermally stimulated topochemical reactions 9-28011
 KH₂PO₄, ferroelec. thin crystals, struct. investig. 9-27962
 KNO₃, ferroelec. thin crystals, struct. investig. 9-27962
 LiF single crystals, exam. of void morphology effects on their disappearance kinetics 9-10843
 LiF:Co²⁺, solid soln. decomp., precip. of new phase, electron microscope expt. 9-11619
 Mg-Ga, metastable cryst. and glassy phases, X-ray struct. anal. and electron microscopy (*German*) 9-46601
 MgO, dislocation motion 9-4309
 MgO, dissolution, surface roughening effects and mechanism distinction 9-47975
 MgO, multiple-beam dynamic effects, in Kikuchi patterns 9-46528
 MgO, slip line struct. using replica electron microscope technique 9-7605
 MgO-CaO-Al₂O₃-SiO₂-(TiO₂) systems, glass-ceramics, crystn. kinetics (*Russian*) 9-37626
 Mn₂Ga, formation of DO₂₂ superstruct. and para-antiferromag. transition 9-19737
 MnS-Y₂S₃, chem. twinning, electron microscopic study 9-46678
 Mo, cellular structure, initial stages of formation in rolled single crystals 9-23611
 Mo, grain boundaries, electron microscope obs. (*Russian*) 9-4311
 Mo-Re alloy MR47-VP, dislocation struct. and fatigue damage during room temp. deform. (*Russian*) 9-20111
 Mo-Zr-C (0.63, 0.06 wt.%), quenched and deformed, structural changes during heating to ageing temp. (*Russian*) 9-1879
 MoO₃, ultrafine crystals, exam. of reduction using electron microscopy (*Russian*) 9-29394
 NaCl, cleavage of single crystals, investigation of fast electrical processes 9-24045
 NaCl cleaved surface structure, electron microscope 9-7735
 NaCl, single crystal, surface markings, left by unsteady cleavage crack propag. 9-46746
 NaCl, with dispersed Au particles, age hardening of surface, double decoration obs. 9-11634
 NaCl:OH⁻, additively coloured, form. and decay of defect clusters and elec. double layers, Au decoration obs. 9-10850
 NaNO₂, ferroelec. thin crystals, struct. investig. 9-27962
 Na₂O-B₂O₃-SiO₂ glass, phase separated, HCl leaching rate and microstruct. 9-29242
 Nb-Ti(Zr)(Hf)-N, exam. of phase equilibrium using electron microscopy and X-ray analysis (*Russian*) 9-15654
 Ni, defect cluster evolution, ion implanter adaption on 100 kV electron microscope 9-2888
 Ni electrodeposits on (001)Cu films, growth and mag. anisotropy 9-42810
 Ni, electrolessly deposited, structural comparison with electroplated films 9-23869
 Ni, rolled, dislocation struct. and recovery during annealing (*Russian*) 9-29084
 Ni-Co-Al (1, 35.2 at.%), tempered martensite, new ordered phase 9-11560
 Ni-Cr-Mg alloy, KhN70VMTyu, Mg effect on grain boundary struct., props. 9-19261
 Ni-P, electrodeposited films, amorphous and crystalline, electron microscopy, in-situ crystallisation 9-11043
 Ni₆₂Co₄Al₃₄, fine struct. of martensite, electron microscope obs. (*Russian*) 9-46672
 Pb, superconducting film, intermediate state, shadow electron microscopy 9-11276
 PbO-B₂O₃-SiO₂, glass enamel, heat treated, exam. of microstructure and chemical durability 9-29254
 Pb₃(PO₄)₂, ferroelastic phase, structure domains, electron microscope obs. 9-42078
 PbS, epitaxial layer, structural nonuniformities and dislocation struct. 9-23852
 PbS epitaxial layers, ion bombardment effects on struct., and annealing 9-10882
 Pd particle array, on amorphous SiO₂ substrate, model catalyst, electron microscopy and UPS expts. 9-4899
 RuO₂, catalyst at anode of solid polymer electrolyte cell, corrosion 9-20376
 Sb, film growth mechanism, action of residual gases rel. to deposition conditions 9-23850
 Sb₂S₃, film, defect struct., electron microscope mode 9-28224
 Se film, amorphous, block formation during crystn., electron microscope obs. 9-11030
 Si crystals, images of atoms projected onto (110) plane using high resolution techniques 9-32866
 Si film, polycryst., electron microscopic investigation of initial stage of growth 9-23849
 Si film, polycryst., substruct. 9-23848
 Si, ion implantation of noble gases, high fluence retention 9-23627
 n-Si:P, secondary defects produced by high-temp. electron irradi. 9-33017
 Si-Ge heteroepitaxial system, imperfections and morphology, electron microscope and electron diff. obs. 9-42420
 SiC-B eutectic alloys, struct. of crystallising graphite 9-38829
 SiO₂-Na₂CO₃, sodium Erevant-25, sintering, struct. 9-43284
 SmCo₅ sintered magnets, periodic struct. and coercive force (*Russian*) 9-28554
 SmO₂Pt_{0.5}Co₅ sintered magnets, periodic struct. and coercive force (*Russian*) 9-28554
 Sn island film, melting and crystn. kinetics, dark field electron microscopy 9-11026
 steel, C, eutectic, YU8, effect of segregating structurally free ferrite (*Russian*) 9-15677
 Ta₂O₅, ion-bombarded cryst., structural and compositional changes 9-46724
 Ti, fatigue cracking, initial stage under bending and torsion (*Japanese*) 9-20165
 Ti-Al-Cr-Mo-V alloy VT-22, effect of heating rate on phase recrystallisation (*Russian*) 9-34077
 Ti-Mo-V (8 wt.%, 8 wt.%), FCC phase, decay of β -solid soln., electron microdiff. 9-15670
 Ti-Mo-Zr-Sn-Fe-C-Si alloy, β -III, cold deform. and annealing, effect on struct. and mech. props. (*Russian*) 9-24533
 TiN, gaseous phase, crystallisation, effect of temp., vapour-gas mixture conc., and deposition time 9-33910

electron microscope examination of materials continued

- Ti₆O₁₁, electron-optical imaging, at 1.6 Å point-to-point resolution 9-46531
 UO₂, neutron and electron irradiated, imperfect dislocation loops (*French*) 9-7606
 V-V-Zr (2 wt.%), internally oxidised, neutron irradiated, annealing effect on mech. props., elec. cond. and electron microscope obs. (*Japanese*) 9-15701
 V foil, air-oxidised, reversible switching, mechanism determ. 9-28387
 VO₂, reduced, microstruct., crystallographic shear planes, electron microscope obs. 9-1443
 V₂O₃, crystallographic structure changes due to phase transition, electron microscope study (*French*) 9-7688
 YAG, interrelationship between mech. props. and elec. relief on surface layer 9-23821
 ZnO-Al₂O₃-SiO₂ glass, crystalline phase precipitation, crystallisation (*Japanese*) 9-32916
 ZnTe:Cu, voltage depend. on precip. contrast 9-1433
 Zr, deformed at 77K, effect of fast-neutron irradiation on deformation twinning, TEM and optical microscopy obs. 9-37741
 Zr-Nb-V-Al (Fe) alloys, decomp. of β solid soln., metastable and equil. phases 9-11632
 Zr-Nb-V-Fe (12 wt.%, 6 wt.%, 4 wt.%), struct. changer during decay of BCC β solid soln. 9-15669
 ZrO₂-CaO(MgO)(YO_{1.5}), partially stabilised, growth morphology of tetragonal phase 9-4968

electron microscopes

- see also *electron microscopy; field emission electron microscopes; scanning electron microscopes; scanning-transmission electron microscopes; transmission electron microscopes*
 calibrating using grating replica 9-2893
 chromatically corrected objective lens, of electron microscope, test (*German*) 9-892
 column of EM-300 electron microscope, power supply system 9-12888
 conference, Tashkent, USSR (Oct. 1976) 9-6219
 curved axis electron optics of 3-dimens. imaging microscope (*German*) 9-13889
 electrostatic decelerator (*German*) 9-30620
 electrostatic lens design 9-35894
 HV, EM-300, design characts. 9-6220
 image interpretation, instrumental, environmental conditions (*Polish*) 9-30623
 introduction to operating principles 9-35899
 ion implanter adaption on 100 kV electron microscope for in situ expts. 9-2888
 objective lens using solid-state props. of dielectrics 9-2886
 with optical diffractometer for immediate image analysis 9-6225
 photoemissive, electrostatic retarding-field energy analyzer 9-12890
 power supply instability, theory and exp. estimate 9-6230
 solid surface characterisation, combined SEM-XPS-micro AES methods 9-30625
 stabilisers, Hg-Zn battery as reference voltage source 9-9262
 superconducting lens system for radiation damage reduction 9-34718
 surface originating contamination elimination, using low energy anticontamination electron gun 9-30622
 X-ray microanalysis facility, electron microscope 9-12887

electron microscopy

- see also *electron microscope applications; electron microscope examination of materials; electron microscopes; field emission electron microscopy; metallography; scanning electron microscopy; scanning-transmission electron microscopy; specimen preparation; transmission electron microscopy*
 autoradiographs, iterative anal., sample sizes and confidence limits 9-35896
 autoradiographs, iterative anal. method 9-35895
 conference, Tashkent, USSR (Oct. 1976) 9-6219
 decoration, of Sb surface, with epitaxial Bi condensates 9-28227
 defocus spread and illumination aperture effect, in brightfield electron microscopy 9-231
 direct observation of Hg atoms in make-up of heteroorganic compound 9-35898
 dislocation pile-ups, plane, electron microscope contrast 9-27986
 elastically-anisotropic cubic crystals, image contrast of inclined dislocations 9-27991
 electrical relief, on crystal surface during cleavage 9-24045
 electron-sensitive materials, apparatus for measuring sensitivity and data-density 9-35893
 ferromagnetic film, domain wall width meas. with electron microscope, astigmatism effects 9-19753
 fibre sizing using Fraunhofer diffraction 9-171
 filament measurement, micrometer clamp 9-21700
 fixative, using formaldehyde- and formaldehyde glutaraldehyde-OsO₄ mixtures 9-17404
 focused image production through visible-optics convection of defocusing and spherical aberration 9-6231
 FREINT, an integration routine calculating Fresnel diffraction 9-30612
 Fresnel diffraction effects on high-resolution images, spherical aberration effect 9-27153
 high resolution imaging of isolated individual sheets of graphitic carbon 9-2890
 high voltage, New York State Dept. of Health facility 9-44986
 HV electron microscopy, total scatt. cross-section obs. 9-21859
 hydrocarbon molecules, strongly adsorbed, contamination rate reduction 9-1550
 image contrast, crystallographic structure changes due to phase transition, of V₂O₃ (*French*) 9-7688
 image correction methods, exptl. anal. 9-12889
 image processing, man-machine interactive digital, of HV electron micrograph images 9-17568
 image processing 9-30613
 image reversal process for films 9-2892
 imaging, at 1.6 Å point-to-point resolution 9-46531
 interface, for elec. field distrib. meas. 9-17567
 Kikuchi patterns, multiple-beam dynamic effects 9-46528
 LV, practical appls. 9-6223
 micropositioning stage, piezoelec. driven, 50 micron range, subnanometer resolution 9-17407
 multilayer heterostructures, prep. and ion etching of thin foils for electron microscopy 9-12779

electron microscopy continued

- oblique illumination stereoscopy, using shadow electron microscopy 9-21862
 phase retrieval from intensity meas., uniqueness question 9-13915
 protozoan cell specimen preparation, freeze-drying technique 9-20724
 radiation-damage artefacts in biological electron microscopy, technique for visualisation 9-20726
 Schrodinger equation separation in electron diff. and channelling, HV, case of systematic refs. 9-46522
 stereo electron micrographs restitution, approximate soln. 9-26189
 weak beam calculations, effects of column approximation 9-32863
 Al₂O₃ supermicrogrid for high resolution electron microscopy 9-17563
- electron mobility**
 see also *carrier mobility; electron mobility (metals)*
 biological systems, advantage to low mobility 9-39346
 butane liquid, high-field electronic conduction obs. 9-4587
 cyclohexane, gaseous, crit. and liq., density and temp. effects on electron mobilities 9-27739
 cyclopentane, gaseous, crit. and liq., density and temp. effects on electron mobilities 9-27739
 ethane, thermal electron mobility at high density, electron quasilocalisation 9-27740
 freon-N₂ low-pressure mixture prebreakdown current obs. 9-18995
 gas, drift velocity, density dependence, high press., quantum mech. theory 9-1285
 gas discharge positive column plasma, absolute and convective instability of helical wave, depend. on anisotropy of electron mobility (*Russian*) 9-37478
 n-hexane, gaseous, crit. and liq., density and temp. effects on electron mobilities 9-27739
 hydrocarbons, liq., mobility of localised and quasi-free excess electrons 9-4589
 hydrocarbons, localised and quasifree excess electron mobility, cond. state energy and temp. depend. 9-4588
 liquid ionisation chambers, current status of electron mobility and free-ion yield in high mobility liquids 9-45531
 methane, thermal electron mobility at high density, electron quasilocalisation 9-27740
 methane liq., high field electronic conduction obs. 9-4587
 neopentane, liq., excess electron mobility, elec. field depend., parity and differentiability restrictions 9-38141
 neopentane liq., high-field electronic conduction obs. 9-4587
 tetramethylsilane liq., high-field electronic conduction obs. 9-4587
 Ar, electron drift and diffusion, Monte Carlo simulation 9-7441
 Ar, liq., high-field electronic conduction obs. 9-4587
 Ar-hydrocarbon mixtures, electron drift velocity meas. 9-41079
 CO₂-N₂-He laser mixtures, electron swarm parameters, Boltzmann eqn. anal. 9-18396
 H₂, lateral diffusion to electron mobility ratio 9-1284
 Kr, liq., high-field electronic conduction obs. 9-4587
 N₂, lateral diffusion to electron mobility ratio 9-1284
 Xe, liq., high-field electronic conduction obs. 9-4587
- electron mobility (metals)**
 No entries
- electron multipliers**
 ion source, self-triggered channel type, operating characts. 9-17562
 movable dynode multiplier for radioactive ion detector in on-line mass spectrom. 9-716
 parallel plate electron multipliers, multidetector array 9-31334
 parallel-plate electron multiplier, theoretical and meas. anal. 9-36466
 proton detection, low energy, helical channel electron multiplier, characts. (*Russian*) 9-3324
 single channel electron multiplier, energy distrib. of output electrons 9-35789
- electron nuclear double resonance** see *ENDOR*
- electron-nucleon interactions**
 see also *electron-nucleon scattering; electron-proton interactions*
 deep inelastic scattering asymmetries, gauge theory predictions 9-22104
 deep-inelastic leptonproduction off nucleons, struct. function model in asymptotically free gauge models 9-40786
 exclusive meson electroprod. on nucleon, cross section asymptotics, scaling functions (*Russian*) 9-22111
 odd-parity interactions, electron and quark anapole moments (*Russian*) 9-45093
 scaling violations in electromagnetic and neutrino charged-current interactions 9-17713
 weak interactions, optical experiments as a means of verification 9-6313
 ed- π X, polarised deep inelastic scatt., test of Weinberg-Salam model 9-22006
 eN deep inelastic scattering, scaling prediction and prod. struct. functions 9-17738
 eN- π ₁+X, test of soft-pion theorem in inclusive pion electroprod. 9-17739
 e⁻N- π X, parity violating asymmetry, constraint on right-handed electron weak charge 9-17734
 ep- π X, electroprod. of forward Λ baryon near/along virtual photon direction 9-22116
²⁰⁹Bi, p violating eN pot., determ. of effects by optical rotation meas. 9-26277
- electron-nucleon scattering**
 see also *electron-nucleon interactions; electron-proton scattering*
 polarised scatt., p-violation, test of unified gauge theories 9-17732
 e d polarised elastic scatt., parity violation 9-36085
 ed, parity nonconservation, SU(2)⊗U(1)⊗U'(1) gauge anal. 9-17731
 ed, polarised e, elastic scatt. asymmetries in SU(2)×U(1) gauge theory 9-40781
 ed, polarized scatt., parity violation Weinberg-Salam model without parton model 9-40787
 ed elastic scatt., d form factors and struct. functions, charge and struct. radius (*Russian*) 9-40841
 ed elastic scatt., recoil d vector polarisation, p-violation 9-398
 ed inelastic scatt., electrodisintegration at high energy and momentum transfer, exchange currents 9-6342
 en, polarised e, elastic scatt. asymmetries in SU(2)×U(1) gauge theory 9-40781
- electron-nucleus reactions**
 for inelastic electron-nucleus scattering, see "electron-nucleus scattering"
 see also *electron-nucleon interactions; nuclear electron capture*
 CERN School of Physics, Austerlitz-Zeist, Holland (June 1978) 9-30857
 electrofission of light nuclei, recent obs. 9-3185

electron-nucleus reactions continued

- electroproduction of light fragments on nuclei, quasielastic knockout by electrons, general theory (*Russian*) 9-13276
- high energy particle-nucleus interactions, discussion 9-30858
- hole states, continuum shell model approach for (p,2p) and (e,e'p) reactions 9-22162
- nucleon motion in nuclei, determ. using high energy electron induced knock-out reactions (*French*) 9-445
- nucleonic mass distrib. using mag. spectrometer (*French*) 9-449
- (e, α), $Z=29-79$, direct and statistical effects, cross sections and ang. distrib. 9-530
- ^9Be , π^+ electroprod., distorted wave impulse approx. anal. 9-17894
- ^{12}C , π^+ electroprod., distorted wave impulse approx. anal. 9-17894
- ^{12}C (e,d), electroproduction cross section, Born approx. (*Russian*) 9-26427
- ^{40}Ca (e,X), deep-inelastic electron scatt. in the transverse region, 150, 200, 250 MeV 9-17895
- ^{140}Ce (e,e'), giant dipole resonance, E1 form factor and breathing mode existence 9-3125
- ^{56}Fe (e, α), 60 and 120 MeV, evidence for α -clusters 9-6569
- ^2H (e, ep)n, spectator momentum distrib., quasielastic knockout mechanism (*Russian*) 9-30817
- ^2H (e,e'p), consistent nonrelativistic treatment including meson exchange currents and isobar configurations 9-40905
- ^2H (e,e'p)n, cross-section, neutron electric form factor 9-3138
- ^3H , influence of structure on cross-section of complete electrosplitting (*Russian*) 9-22272
- He, contact interactions, parity-violating and parity-conserving, new evaluation techniques 9-26872
- ^3He , influence of structure on cross-section of complete electrosplitting (*Russian*) 9-22272
- ^3He (e,e'p) ^2H , 1.2 GeV, p angular distrib., recoil nucleus momentum distrib. (*Russian*) 9-9550
- ^3He (e, π^+) ^3H , cross section from t recoil cross section meas. 9-6574
- ^6Li (e,p), 16 MeV, nonexistence of 16.1 MeV state in (γ ,p) cross section 9-45174
- ^7Li , A=6.7, π^+ electroprod., distorted wave impulse approx. anal. 9-17894
- ^ANi (e, α), A=60,62, 16 to 50 MeV, cross sections, giant reson. decay modes 9-17877
- ^ANi (e,p), A=60,62, 16 to 50 MeV, cross sections, giant reson. decay modes 9-17877
- ^{58}Ni (e, α), 16 to 50 MeV, cross sections, giant reson. decay modes 9-17877
- ^{58}Ni (e,p), 16 to 50 MeV, cross sections, giant reson. decay modes 9-17877
- ^{16}O , π^+ electroprod., distorted wave impulse approx. anal. 9-17894
- ^{28}Si (e,f), alpha cluster model approach, intermediate state to $^{12}\text{C}+^{16}\text{O}$ 9-40972
- ^AU , A=237,238, nuclear excitation rate for low lying states, e and γ induced transitions 9-17856
- ^{238}U (e,e' α), 13.1 MeV, cross section in giant quadrupole resonance region 9-6573
- ^{238}U (e,p), 40 MeV, p spectra, deduced ternary fission cross section 9-9549

electron-nucleus scattering

- see also *electron-nucleon scattering*
- Dirac-Coulomb functions, asymptotic expansions of radial integrals 9-308
- elastic, three body correlations, influence on charge form factor of closed shell nuclei 9-6571
- heavy electron scattering expts. from intermediate energy linear accelerators (*Dutch*) 9-22502
- inelastic scattering, evidence for giant resonances 9-17883
- Lauricella function, analytic continuations 9-17645
- odd-A deformed nuclei, EM and electron scatt. form factors, selection rules 9-9458
- semileptonic weak and EM interactions, nuclear current operators 9-6515
- (e,e), virtual photon intensity and finite nuclear size effects, PWBA calcs. 9-26424
- (e,e) determination of valence nucleon radial distrib., exchange current role 9-40878
- (e,e) on nuclei with quadrupole moment, differential cross section static correction 9-6570
- (e,e'), shift of quasielastic peak 9-6572
- ^{27}Al , inelastic electron scatt., charge distrib., Coriolis band mixing calc., C2 form factors 9-529
- ^{27}Al (e,f), internuclear nucleon effective mass in quasielastic scatt. (*Russian*) 9-3076
- ^{11}B (e,e') 120-250 MeV, excited state form factors, shell and diagram model anal. (*Russian*) 9-40852
- ^9Be (e,e'), internuclear nucleon effective mass in quasielastic scatt. (*Russian*) 9-3076
- ^{12}C , α -cluster deformation, elastic form factors of electron scatt. 9-17829
- ^{12}C (e,e'), 12.71 MeV $0^+ \rightarrow 1^+$ transition, axial isoscalar neutral current, polarisation asymmetry 9-26425
- ^{12}C (e,e'), deep inelastic 60-130°, 160-520 MeV response function 9-13284
- ^{12}C (e,e'), E2 transitions, convection currents and spin magnetisation 9-13244
- ^{12}C (e,e'), internuclear nucleon effective mass in quasielastic scatt. (*Russian*) 9-3076
- ^{12}C (e,e') nuclear struct. anal., depend. of meson exchange currents, high momentum transfer data 9-13283
- ^{40}Ca (e,e), A=40,42,44,48, elastic and inelastic scatt. cross-sections from Hartree-Fock densities (*Russian*) 9-13287
- ^{40}Ca (e,e'), quasi-elastic scatt., scaling law test, knockout process contribution 9-22274
- ^{168}Er (e,e'), 35-350 MeV, coupled channels anal., rot. band excited states, charge densities 9-3139
- ^2H (e,e'), 19.4 GeV, polarized electrons, parity violation 9-13286
- ^2H (e,e'), electrodisintegration at high energy and momentum transfer 9-6342
- ^2H (e,e), charge and structure radius, form factor and structure function (*Russian*) 9-40841
- ^2H (e,e), parity nonconservation, $\text{SU}(2)\otimes\text{U}(1)\otimes\text{U}(1)$ gauge anal. 9-17731
- ^2H (e,e), tensor polarisation and d wave function short range behaviour 9-40900
- He, contact interactions, parity-violating and parity-conserving, new evaluation techniques 9-26872

electron-nucleus scattering continued

- ^3He (e,e), elastic and inelastic cross sections 40-60 MeV, possible 10 MeV state 9-40908
- ^6Li , electron excitation cross sections, short-range correlations (*Russian*) 9-36169
- ^7Li , electron excitation cross sections, short-range correlations (*Russian*) 9-36169
- ^{24}Mg (e,e), $4_1+4.12$ MeV and $2_2+4.24$ MeV level resolution, E2 and E4 form factor meas. 9-17811
- ^{24}Mg (e,e) 80-215 MeV, magnetic moment form factors, M1, M3, M5 transitions 9-40844
- ^{14}N (e,e'), internuclear nucleon effective mass in quasielastic scatt. (*Russian*) 9-3076
- ^{15}N (e,e'), 52-195.3 MeV, giant resonance electroexcitation, C1, C2 strength distrib. 9-510
- ^{93}Nb (e,e), 80-215 MeV, magnetic moment form factors, M1, M3, M5 transitions 9-40844
- ^{150}Nd (e,e'), possible $K^\pi=0^-$ octupole band, e scatt. form factors 9-9447
- ^{20}Ne , α -cluster deformation, elastic form factors of electron scatt. 9-17829
- ^ANi (e, α) A=58, 60, 62, 50 MeV electroproduction and decay of giant resonances 9-26413
- ^{58}Ni (e,e') 5.125 MeV $J^\pi=6^+$ state excitation, isoscalar character 9-22227
- ^{16}O , α -cluster deformation, elastic form factors of electron scatt. 9-17829
- ^{16}O (e,e), internuclear nucleon effective mass in quasielastic scatt. (*Russian*) 9-3076
- ^{26}Si (e,e'), 92 MeV, E2 strength distrib., giant quadrupole 9-36192
- ^{152}Sm (e,e'), 35-350 MeV, coupled channels anal., rot. band excited states, charge densities 9-3139
- ^ASn (e,e') A=116, 120, 124, electric moment distrib., lowest lying quadrupole states excitation 9-6392
- ^{48}Ti (e,e), elastic and inelastic scatt. cross-sections from Hartree-Fock densities (*Russian*) 9-13287
- ^{235}U (1/2 $^+$; 73 eV) isomer (*Russian*) 9-9511
- ^{238}U (e,e,f), 5.5-28.3 MeV, E2 isoscalar giant resonance in photofission cross section 9-512
- ^{90}Zr , giant resonance levels, study by proton and electron scatt. (*Russian*) 9-3127

electron optics

- see also *beta-ray spectrometers; electron beams; electrostatic lenses; ion optics; magnetic lenses; particle optics*
- aberrations, algorithm computation using Chebyshev polynomials 9-27156
- anode for an accelerator with an inductive energy accumulator 9-26785
- beam focusing theory, nonlinear differential eqns. (*Chinese*) 9-31783
- beam transport through gas, high-current microsec. beam 9-22890
- cathode lenses, with combined elec. and mag. fields, third order aberration theory 9-41317
- deflection and focusing system design (*French*) 9-41319
- defocus spread and illumination aperture effect, in brightfield electron microscopy 9-231
- diffraction radiation generator, starting currents, dynamic and static electron shiftings influence, theory and expt. (*Russian*) 9-3617
- electric quadrupole lens, fringing field, conformation mapping method 9-41315
- electron brightness meas. by 2-limiter method, accuracy calc. 9-6234
- electron microscope, 3-dimens. imaging, curved axis electron optics (*German*) 9-13889
- electron microscopy, focused image production through visible-optics correction of defocusing and spherical aberration 9-6231
- electrostatic decelerator for electron microscope (*German*) 9-30620
- electrostatic lens, six electrode crossed doublet, stigmatic operation 9-13888
- electrostatic prism, electron optics for Auger spectrometer 9-29437
- electrostatic prism spectrometer, aberration coeffs. and spectral window 9-40647
- element computation by finite element method 9-31785
- energy analyser, electrostatic, appls. 9-44990
- energy analyzer, two-stage with cylindrical mirrors, aberration reduction 9-40640
- energy loss spectroscopy, spectrometer design, electron optical props. 9-12903
- field emission gun, electron optical characteristics (*German*) 9-893
- Fresnel diffraction effects on high-resolution images, spherical aberration effect 9-27153
- helical electron beams, extended and intense with space-charge forces, trajectory anal. (*Russian*) 9-918
- high-current electron-optical systems, asymptotic synthesis 9-7067
- inverse problem uniqueness, scatt. object reconstruction, book contrib. 9-31824
- inverse source problems in optics, book 9-31821
- magnetic insulation wave, propag. in vacuum coaxial line 9-27144
- microprobe instrument, spherical aberration correction, using zone plates 9-45899
- microscope image interpretation, instrumental, environmental conditions (*Polish*) 9-30623
- multielement system, with third-order aberration, trajectories 9-41321
- paraxial eqn. asymptotic solns., singular perturbation theory, chromatic aberrations of cathode electron optics 9-41320
- phase reconstruction problem for wave amplitudes and coherence functions, book contrib. 9-31823
- pico-femtosecond electron-optical photography 9-18342
- relativistic electron beam, focusing limitations in low-pressure gas 9-41322
- relativistic electron beam, induction auto-correl. 9-22889
- scanning system, for 5 MeV STEM 9-12913
- SEM, REM-200, design and operating characts. 9-6221
- slow-wave system, phase motion of particles in beam-excited self consistent field 9-10253
- STEM cosmic SEM, picosecond pulse, electron optical design 9-21870
- tob com-free alignment using optical diffractograms 9-21860
- Gd₂(MoO₄)₃, ferroelec. temp. depend. of spontaneous birefr. and electrooptic response 9-33662

electron pair annihilation see *electron-positron interactions***electron pair production**

- γ -ray internal pair conversion, form. of monoenergetic e^+ 9-6502
- e^+e^- angular distribution of e^+e^- pairs produced by linearly polarized photons (*Russian*) 9-40904
- electron-photon cascades, Monte Carlo simulation of cascade development 9-44322

electron pair production continued

- electron-positron pair, and photon, formation from photon in nuclear field (*Russian*) 9-22267
 gamma-ray pulsars, curvature radiation-pair prod. model 9-5852
 gamma-ray-detector, form of high energy interaction, effect on spectral peak centroid determ. 9-36468
 hadron-hadron, e^+e^- pair prod. calc., high energy internal conversion of bremsstrahlung photons 9-420
 hadronic collisions, inclusive lepton pair prod., invariated helicity struct. functions anal. 9-13172
 J particle discovery, review (*Hungarian*) 9-17778
 laser radiation pressure for e^+e^- pair prod. 9-40700
 longitudinal electric wave field, e^+e^- prod. (*Russian*) 9-6300
 nuclear pair production in field of bichromatic plane EM wave (*Russian*) 9-6299
 Penrose pair production, in massive extreme Kerr black holes 9-21322
 Penrose pair production in massive Kerr black hole, power source for active nuclei 9-44352
 photon propagator and pair production in steady electric field (*Russian*) 9-9320
 photons, ultrahigh energy, traversing cosmic blackbody photon gas, effective penetration distance 9-5742
 pion-quark scattering model for lepton pair production from $q\bar{q}$ annihilation 9-13056
 pulsar magnetosphere pair prod. 9-44515
 pulsar polar cap, pair prod. rel. to inhomogeneous struct. and radiation processes 9-25623
 quasars, gamma-ray sources rel. to pair prod. and radio components 9-25747
 radio galaxies, gamma-ray sources rel. to pair prod. and radio components 9-25747
 screening corrections in electron pair production by intermediate- and low-energy photons 9-30686
 superheavy ion collisions, slow, spontaneous positron creation 9-9603
 χ production properties from inclusive electron pair and J/ψ prod. at CERN ISR 9-36113
 3D_1 -charmonium decay into $e\bar{e}$ and relativistic effects of constituent quarks 9-3017
 NN collisions, lepton pair prod., $\gamma\gamma$ background of Drell-Yan process 9-13057
 pp- e^+e^-X , 52, 63 GeV, cross section, ψ' prod. cross section, continuum cross section 9-425
 pp- e^+e^-X , limits on prod. of large transverse momentum direct photons 9-9418
 $\pi^+\pi^-p \rightarrow e^+e^-$, 18 GeV, direct pair prod. meas. 9-427
 $\pi^+\pi^-p \rightarrow e^+e^-X$, direct and indirect pair production 9-9419
 Ge, photon induced electron pair prod. cross section (*French*) 9-524
 ^{32}P , β^- decay, energy spectra of positron pairs 9-6506

electron pairs

- see also *electron pair production; positronium*
 free electron pair, possible ferromagnetism of triplet state 9-30272
 internal pair formation high resolution in-beam studies with magnetic+Si(Li) spectrom. 9-18073
 pair conversion particles, angular distribns. 9-6498

electron paramagnetic resonance see *paramagnetic resonance***electron-phonon interactions**

- see also *phonon drag; strong-coupling superconductors; tunnelling spectra; tunnelling spectroscopy; Umklapp process*
 A15 compounds, new aspect of superconductivity, Fermi level rel. to electron-phonon interaction 9-7927
 A-15 compounds, supercond. props., band struct. calcs. 9-33388
 alkali halide, avalanche impact ionisation, in optical breakdown 9-42895
 alkali metal, low-temperature elec. resist., empirical expressions, validity 9-23945
 alloy, dil., thermoelectric effects 9-38054
 alloy, dilute, thermoelectric effects, near cancellation of electron-phonon corrections 9-33283
 alloys, thermoelectric props., effect of electron-impurity and electron-phonon interactions 9-33282
 anthracene, temp.-independent mobilities, phonon-induced electron hopping 9-28347
 Boltzmann eqn., solution for electron-LO phonon scatt. in a static elec. field 9-19586
 CDW distorted linear chain, electronic response and longit. phonons 9-11074
 conducting mol. crystal, electron-phonon interaction, effect on electron energy levels 9-4499
 cyclotron resonance, retarded, effect of electron-phonon coupling (*Russian*) 9-8051
 cyclotron resonance lineshape for two-dimensional electron-phonon system, quantum theory 9-47336
 degenerate semiconductor, intervalley phonon scatt., energy loss rate and momentum relax. time 9-15139
 degenerate semiconductor, Peierls instability in field of strong EM wave 9-15106
 dirty semiconductor limit, microjunction phonon spectroscopy (*Russian*) 9-11272
 disordered semiconductors, resonance Raman scatt. 9-11419
 dispersion self-energy of an electron in a dielectric 9-42461
 electronic system with two-fold degenerate band, free energy change due to electron-phonon coupling 9-42500
 ferroelectricity, vibronic theory 9-38492
 Froelich Hamiltonian, perturbation theory calcs. 9-33247
 Frohlich and Bloch approaches, equivalence 9-46772
 graphite, anomalous galvanomagnetic properties, in strong mag. field 9-23986
 II-VI compounds, Jahn-Teller effect, average phonon energy 9-15122
 III-V semiconductors, optical phonon scatt., review 9-19587
 induced electron tracks and structural phase changes in MCr_2O_4 type cryst. (*Dutch*) 9-1585
 insulator to superconductor phase transition, possibility 9-47190
 intermediate valence compound, pressure-temperature phase diagram 9-28283
 intermediately coupled localised electron-phonon system, transient reson. Raman scatt. Franck-Condon-like excitation 9-8141
 IR lattice band profile, electron spin reversion in mag. field, Nf-R curve 9-28771
 Jahn-Teller cooperative phase transition, helical ordering 9-46778
 large radius polaron model, soliton excitations 9-42470
 laser crystals, theoretical problems, current status (*Chinese*) 9-45948

electron-phonon interactions continued

- lattice thermal resist. due to bound state electrons in doped cryst. 9-46850
 local heating, quantum transitions in coupled electron-vibr. system 9-15514
 localization aspect of electron phonon-coulomb system 9-7793
 metal, cubic, dipole-nuclear acoustic resonance, electron band struct. influence 9-19787
 metal, low temp. impurity cond. temp. depend., kinetic eqn. (*Russian*) 9-7817
 metal, phonon-limited resist., correction from non-Hermiticity of pseudo-potential 9-7815
 metal theory and generator coordinate method 9-28299
 metals, elec. cond., band mixing generalisation 9-38060
 metals, electron-phonon interaction and lattice thermal conductivity 9-42189
 metals, nonlinear vol. photoelectric effect, anal. 9-15593
 metals, RF size effect as tool for cond. electron scatt. investigations 9-23957
 mixed valence compounds, structural phase transitions, effect of electron-phonon coupling 9-33265
 naphthalene, temp.-independent mobilities, phonon-induced electron hopping 9-28347
 naphthalene-TCPA charge transfer triplet states, electron-phonon coupling 9-38601
 narrow band gap semiconductor, electron-phonon interaction, effective mass of carriers determ. 9-11058
 noble metals and their dil. alloys, electronic struct., de Haas-van Alphen studies, book contrib. 9-37967
 one-dimensional system, electron-phonon interaction, soliton solns. 9-23691
 open electron-phonon system, statistical electron transport theory 9-11096
 phonon emission by metal heater film into insulating substrate, spectral distrib., model treatment 9-14896
 phonon-assisted radiative electronic transitions 9-24348
 photoferroelectric phenomena, physical models derivation, electron-phonon interaction modification 9-15407
 piezoelectric material, photovoltaic effect, phonon mechanism 9-7862
 piezoelectric semiconductors, acoustoelectric surface phonon-conduction electron interaction 9-42360
 piezosemiconductor film, surface-mode acoustic wave amplification 9-46907
 polar semicond., secondary radiation intensity oscills., effect of high mag. field 9-19880
 quasi-one dimensional metal, Peierls instability in field of strong EM wave 9-15106
 Raman spectroscopy, semiconductors (*German*) 9-28729
 rare earth chalcogenides, cond. mechanism and thermoelec. efficiency 9-38110
 resonant Raman scattering in systems with localised electron states, theory 9-15455
 semiconductor, Auger transition probability, phonon-assisted 9-15120
 semiconductor, degenerate, electromagnetic wave absorpt. due to electron-phonon collision in quantising field 9-7795
 semiconductor, doped, photoemission, calc. of escape probability of electrons (*Russian*) 9-24408
 semiconductor, electron scattering interaction with coupled plasmon-polar-phonon modes 9-42536
 semiconductor, gapless, magnetophonon reson. for hot electrons and holes (*Russian*) 9-4565
 semiconductor, influence of strong inelastic scatt. on electron energy relax. 9-23959
 semiconductor, ionic., ionisation of doubly charged centres 9-11085
 semiconductor, narrow gap electron-phonon interaction constant 9-7794
 semiconductor, phonon-assisted cyclotron reson., single and two-phonon pinning, review 9-15356
 semiconductor, photoluminescence, deep level recombination temp. depend. 9-47497
 semiconductors, Auger recombination processes 9-38091
 semiconductors, binding energy in exciton-impurity systems, Haynes rule 9-15112
 semiconductors, diamond-type, doped, US attenuation and electron-phonon scatt. in mag. field 9-46771
 semiconductors, doped, IR absorpt. in Drude tail, effect of finite electron densities 9-47449
 semiconductors, multiphonon capture rate 9-38022
 semiconductors, semimetals, electron heating by phonons, acoustic absorpt. and acoustoelectric current quantum oscills. (*Russian*) 9-19639
 semiconductors, weakly polar, intraband magnetoabsorption theory 9-42949
 solid-state theory, introduction, book 9-33215
 squared electron-phonon coupling constant, tight-binding calc. in transition metals and alloys 9-1571
 structural Peierls transition in quasi-one-dimensional systems with anisotropic electronic and elastic properties 9-7671
 structural phase transitions (*Japanese*) 9-4384
 superconducting films, thick, phonon damping of virtual levels 9-4626
 superconducting metal, reliability of tunnel density of states 9-28483
 superconductivity, exchange enhancement of electron-phonon coupling 9-7930
 TMTTF fluoroborate, transmission spectra with electron-phonon coupling phenomenological model 9-19891
 transition metal dihydrides, band struct. and electronic props., electron-phonon coupling 9-47011
 transition metals, lattice dynamics calculations, superconductivity parameters 9-7655
 TTF-TCNQ, electronic props., connection between theory and expt. 9-19581
 TTF-TCNQ, self-energy calcs. 9-4499
 Urbach's rule derived from thermal fluctuations in the band-gap energy 9-33729
 vibronically coupled systems, cluster model 9-19540
 zero-gap semiconductor, ferroelec. phase transitions, effect of Coulomb interaction on RPA calc. 9-28691
 Ag halides, physical props. rel. to photographic processes 9-19555
 Ag, phonon-limited elec. and thermal resistivity 9-42517
 AgCl(Br), multivalent impurities 9-19556
 Al, non-pair inter ion interaction through cond. electrons, inelastic neutron scatt. theory (*Russian*) 9-46773

electron-phonon interactions continued

- Al, press. depend. of electron-phonon interaction rel. to normal state resist. 9-28063
- Al, thick film, supercond., tunnelling charact., geometrical reson. in Al-Pb struct. 9-38260
- Al-Ag(Mg)(Zn)(Ga)(Ge), dil., deviations from Matthiessens's rule, 4-OPW approx. calc. 9-19574
- Al_{1-x}Ga_x-As-GaAs-Al_{1-x}Ga_x-As quantum well, carrier collection 9-15211
- As, thermal resist. associated with electron-phonon scatt., temp. depend. 9-19610
- As₂S₃, temp.-independent mobilities, phonon-induced electron hopping 9-28347
- Au, elec. resist. exam. 9-38042
- Au, phonon-limited elec. and thermal resistivity 9-42517
- BaTiO₃, X-ray diffr. intensities, anomalous temp. depend. (*Russian*) 9-1484
- Be, HCP, electron-phonon interaction, thermal effects 9-33057
- Bi, acoustic waves, giant quantum attenuation at high mag. fields, angular depend. (*Japanese*) 9-4585
- Bi, electrical resistivity due to electron-phonon scatt. on small cylindrical Fermi surface 9-4562
- Bi, hole relaxation time, temp. depend., cyclotron reson. 9-47108
- Bi, Shubnikov-de Haas effect (*Russian*) 9-7840
- Bi, thermal conductivity at ultralow temp. 9-1532
- Bi:Te(Sn), elec. resist., 1.8 to 77K, electron-phonon scatt. mechanism 9-15144
- Bi_{1-x}Sb_x, elec. resist., 1.8 to 77K, electron-phonon scatt. mechanism 9-15144
- Cd, Azbel-Kaner high freq. cyclotron reson. meas. 9-11056
- Cd₃As₂, thermoelectric power and transverse Nernst Ettingshausen coefficient 9-38104
- Cd,Hg_{1-x}Se, carrier mobility, 4.2 to 300K, scatt. mechanisms 9-4561
- CdS:Cu, US absorpt. in heavily doped piezoelec. semicond. 9-11189
- Cs-halide, optical response function from Jahn-Teller systems, F-band absorpt. band shape 9-43005
- Cu, phonon-limited elec. and thermal resistivity 9-42517
- CuO₂, width of reson. Raman scatt. enhancement profiles, phenon-lifetime contrib. 9-19883
- ErS, heat carrier scatt., thermal and elec. cond. from 5-400K 9-14974
- Eu-alloys, mixed valence, role of phonons and Coulomb interactions 9-38032
- Fe-Ni, martensitic transformation, microscopic mechanism (*Russian*) 9-34036
- FeCl₂, electron-phonon coupling, temp. depend. Raman scatt. obs. 9-15451
- GaAs, electron scattering interaction with coupled plasmon-polar-phonon modes 9-42536
- n-GaAs, hot electron distrib. function with LO phonon kink, photoluminesc. 9-19925
- n-GaAs, non-Maxwellian electron distribution function, from electric field-depend. photolum. spectrum 9-11450
- GaAs p⁺-n diode, radiative hot carrier recomb., photoluminesc. and electroluminesc. meas. 9-38676
- p-GaAs, piezoresistance, relax. time for heavy and light holes determ. 9-19599
- GaAs, two-photon interband transitions, carrier drag 9-7858
- GaAs:Cu, electron-phonon interaction in optical transitions between deep impurity level and allowed bands 9-42591
- GaP, donor-acceptor pair spectra, electron-phonon interactions 9-38631
- GaTe, transport anisotropy 9-23975
- p-Ge, bleaching, optical heating and cooling of electrons involving intraband transitions 9-10365
- Ge, electron-hole droplet scattering of acoustic phonons, total scatt. rate and anisotropy 9-33241
- Ge, hot hole distribution function at low densities 9-11138
- n-Ge, internal stress effect on electron-phonon interaction, thermal cond. anal. 9-42468
- Ge:Li, thermal cond., 0.4-20K, Li valley-orbit splitting 9-15111
- Ge:P, peripheral phonons and phonon cond. 9-14973
- HgSe, dielec. function at 2, 95, and 300K, reflectivity spectra meas. 9-15458
- In, RF size effect signals, anomalous behaviour 9-4502
- In-As, transport props., influence of higher energy bands, calcs. 9-19598
- n-InSb, electron recombination between Landau-levels 9-38096
- n-InSb, high power helicon, interaction with semiconductor-free space interface 9-38114
- InSb, polar semiconductor, impact ionisation in crossed elec. and mag. fields 9-28355
- n-InSb, transverse magnetoresist. in strong mag. fields 9-4571
- La_{1-x}Ga_x foils, amorphous, splat cooled, calorimetric and resistive meas. 9-33417
- LaS, heat carrier scatt., thermal and elec. cond. from 5-400K 9-14974
- Mg₂Ge, L, electron-phonon interaction and phonon cond. at low temp. L n-type semicond. 9-14903
- Mg₂Sn, L, electron-phonon interaction and phonon cond. at low temp. L n-type semicond. 9-14903
- NaNO₂:Mn²⁺, zero-field splitting, ferroelec. soft-mode contrib., phase transition, EPR obs. 9-15344
- Nb, electron-coupled phonon spectrum, effects of strain 9-7943
- Nb, Fermi surface, Fermi velocity, electron-phonon interaction parameter 9-7778
- Nb, momentum dependence of electron-phonon interaction 9-7665
- Nb, quasiparticle velocity, anisotropic many-body effects 9-33223
- Nb, single cryst., superconductive tunnelling meas. 9-47203
- Nb, superconducting critical magnetic field and crit. temp. 9-7947
- Nb-V(Ta) alloys, electron-phonon interaction and supercond. transition temp. (*Russian*) 9-28426
- Nb₃Al(Sn), electron-phonon coupling and supercond. crit. temp. 9-33379
- NbSe₂ (2H), electronic response function including electron-phonon matrix elements 9-28300
- Ni, magnetoresistance anisotropy, planar Hall effect 9-23947
- Ni-Cu alloy, magnetoresistance anisotropy, planar Hall effect 9-23947
- Pb, band structure, and electron-phonon interaction, supercond. transition temp. determ. 9-19512
- Pb, press. depend. of electron-phonon interaction rel. to normal state resist. 9-28063
- Pb-Mn, dil., supercond. film, H₂c meas., mag. impurity effects, pair breaking theory 9-42708
- PbI₂ (2H), electronic transport and cyclotron reson. 9-28369

electron-phonon interactions continued

- PbMg_{1/3}Nb_{2/3}O₃, ferroelec., crit. electron-phonon phenomena and diffuse phase transition in elec. field 9-38497
- PbTe, electron scattering interaction with coupled plasmon-polar-phonon modes 9-42536
- Pd, phonon mediated interaction for triplet pairing 9-23911
- PdH₂, CPA calculations of density of states 9-23882
- PrS, heat carrier scatt., thermal and elec. cond. from 5-400K 9-14974
- Si (111) inversion layers, CDWs, effect of four valley interaction terms 9-33324
- n-Si, electron recombination, role of intervalley scatt. (*Russian*) 9-19605
- n-Si, electron-phonon scatt. and high-field transport 9-42552
- n-Si, internal stress effect on electron-phonon interaction 9-42468
- Si, piezo-spectroscopic study of ratio of electron-TO phonon to hole-TO phonon interaction 9-24289
- n-Si, strained cryst., role of phonon reson. scatt. in phonon cond., appl. to Si:Li 9-19407
- n-Si:P, low-compensated, Hall factor, electron-phonon interactions 9-4570
- Si:P, phonon cond., electron-phonon relax. rate 9-46771
- p-SnTe, elec. resist. anomaly in vicinity of struct. phase transform. 9-19597
- TTF-TCNQ, irradiated, libron and phonon equilibration, resistivity meas. 9-42530
- Th, lattice dynamics in reson. model pseudopot. theory 9-19334
- Th, superconducting transition temperature calculation 9-7928
- V, thermal conductivity in ultrapure normal, mixed and supercond. states (*Russian*) 9-4617
- V-Ta alloys, electron-phonon interaction and supercond. transition temp. (*Russian*) 9-28426
- V₂Ge(Si), electron-phonon coupling and supercond. crit. temp. 9-33379
- V₂Si, E_g optical phonon, Raman scatt. meas. 9-24316
- W, ferromagnetic layer coating, longitudinal conduction electron spin waves, Larmor wave 9-33543
- Zn, electron-phonon interaction anisotropy, microcontact spectroscopy (*Russian*) 9-37786
- Zn, Hall effect and phonon scattering in pure crystal 9-23948
- Zn,Cd_{1-x}Te, resonant Brillouin scattering (*Japanese*) 9-15474
- ZnS:Pb current pulses due to elec. field liberation of electrons from trapping centres by tunnel processes 9-28378
- ZnSe/metal, dielectric phonon-metal electron interaction, effect on optical props. (*Russian*) 9-19663
- ZnTe, wavelength-modulated reflectance spectrum, electron-phonon and exciton-phonon interactions 9-11434

electron-positron inclusive interactions

- annihilation, 3.6-5.2 GeV, charged π , K, N inclusive prod. 9-30743
- annihilation, heavy quark fragmentation functions from inclusive hadron spectra (*Russian*) 9-40756
- charmonium potential models, testing Q² duality 9-45082
- diquark and quark jet fragmentation model, appl. to inclusive annihilation 9-2979
- fragmentation functions of heavy quarks into hadrons, ν reactions, e^+e^- annihilation appls. 9-3013
- hadron jets, test for planar events in QCD 9-40794
- hadron jets transverse momentum and ang. distribts. from QCD 9-40793
- jet production by a gluon source in QCD 9-22056
- QCD jet dynamics, hadron and photon prod. at large transverse momentum 9-45077
- quark decay patterns, liberated QCD and confined QCD theory 9-9328
- $e^+e^- \rightarrow \Delta(1232)\chi$, struct. functions and nucleon longitudinal polarisation (*Russian*) 9-22121
- $e^+e^- \rightarrow e^+e^- \eta_c$, two photon process, numerical distrib. studies 9-13142
- $e^+e^- \rightarrow e^+e^- \pi$ 9-13142
- $e^+e^- \rightarrow \eta\chi$, F₂= $\pi\pi$ F meson prod. characts. 9-26338
- $e^+e^- \rightarrow h^+X$, violation Bjorken scaling, momentum fluctuation, range of timelike photon 9-3033
- $e^+e^- \rightarrow \text{hadron}(p)+X$, Callan-Symanzik eqn. for structure function moments 9-21929
- $e^+e^- \rightarrow q\bar{q}X$, free quark existence, theoretical possibilities 9-17744
- $e^+e^- \rightarrow q\bar{q} \rightarrow 3$ gluons $\rightarrow 3$ jets, jet kinematics and observability 9-45070
- $e^+e^- \rightarrow \tau^+\tau^-$, inclusive distribts. of ρ^0 mesons from cascade decays of τ heavy leptons (*Russian*) 9-9390
- $e^+e^- \rightarrow T(9.46)$, electronic width determ., energy spectra for hadron inclusive production 9-26339

electron-positron interactions

- see also electron-positron inclusive interactions; electron-positron scattering; positron annihilation in liquids and solids
- annihilation, is there a QCD test at available energies? 9-40748
- annihilation, QCD perturbation theory test, review 9-326
- annihilation energy correlations, QCD test 9-13141
- annihilation event shapes, QCD perturbation theory calcs. 9-36056
- annihilation radiation at 511 keV from galactic centre direction 9-5902
- baryoniums coupled directly to photon 9-17694
- charged energy fraction data, Drell ratio and second heavy lepton 9-13097
- charm and heavy lepton production by e^+e^- interactions recent results, review 9-26337
- charmonium spectroscopy, spin forces, obs. in $\psi(3.68)\text{-}\psi(3.77)$ struct. in e^+e^- annihilation 9-36047
- galactic cosmic ray positrons, annihilation and gamma radiation spectrum 9-44309
- gluons in e^+e^- annihilation, QCD anal. of strong interaction dynamics 9-9386
- hadron production at 13, 17 GeV CMS, first observation with PLUTO detector 9-36088
- heavy flavoured meson decays, charged Higgs bosons 9-22014
- high energy annihilation, possible signature of charged Higgs particles, SU(2) \times U(1) model 9-35995
- inert gas mixtures, positron annihilation, conc. and elec. field depend. 9-43062
- jet structure in e^+e^- annihilation, deviation variable, QCD calc. 9-9388
- neutral current model examination by diagonal lepton processes anal. 9-6310
- pair annihilation, 1 γ and 2 γ , in strong mag. fields 9-17704
- pair annihilation in strong mag. field (*Russian*) 9-17705
- pseudomesoniums, spectroscopy, prod. and decay props. 9-45058
- QCD and jets in leptonproduction 9-45059
- QCD predictions for e^+e^- annihilation jets, ang. correlations and asymmetries 9-9389

electron-positron interactions continued

- QCD vacuum, effects on hadronic currents, instantons, e^+e^- annihilation and precocious scaling 9-332
 relativistic electron pair model of nucl. particles 9-45042
 semileptonic decay distribts. of next heavy quark 9-45066
 soft π prod. in e^+e^- annihilations, nucleon pole term 9-36090
 Stermann-Weinberg jet formula corrections for e^+e^- annihilation from QCD perturbation theory 9-36086
 W^+W^- and Z^0Z^0 pair production 9-40820
 weak neutral current effects, unified theories (*Hungarian*) 9-9326
 e^+e^- -hadrons, finite energy sum rules in QCD 9-40754
 $e^+e^- \rightarrow \mu^+\mu^-$, high energy total cross sections, Salem-Ward-Weinberg model 9-22086
 $e^+e^- \rightarrow \psi(\chi)$, spin correlations, spin 0, $1/2$, or $3/2$ pair prod. (*Russian*) 9-22117
 e^+e^- , vector and axial vector gluon prod., as signatures for axial chromodynamics 9-40729
 $e^+e^- \rightarrow \mu^+\mu^- \gamma$, neutral current effects and hard photon correction 9-13096
 $e^+e^- \rightarrow 3\gamma$, total cross section, analytic expressions 9-6334
 e^+e^- annihilation, meas. of gluon spin 9-30701
 e^+e^- annihilation, prod. of orbitally charmed hadrons, free quark model anal. 9-22120
 e^+e^- annihilation, search for narrow resonances in mass region 1.4 to 1.75 GeV/ c^2 9-17743
 e^+e^- annihilation, weak mass mixing and CP violation with heavy quarks, V-A model anal. 9-30695
 e^+e^- annihilation and other processes, event shape anal., QCD perturbation theory 9-13140
 e^+e^- annihilation and quark fragmentation functions, Monte Carlo quark-parton model 9-22119
 e^+e^- annihilation to hadrons, overlapping resonances with variable channel struct., ψ prod. 9-22118
 e^+e^- annihilation with polarised beams 9-36111
 $e^+e^- \rightarrow e^+e^-$ + hadrons, double equivalent-photon approx. (*Russian*) 9-403
 $e^+e^- \rightarrow e^+e^-(\mu^+\mu^-)(\pi^+\pi^-)$, radiative corrections to cross sections, valid in α^2 -approx. 9-17726
 $e^+e^- \rightarrow e^+e^-e^+e^-$, $\gamma\gamma$ interactions, partial width upper limit 9-40825
 $e^+e^- \rightarrow e^+e^- \gamma$, large angle final particle emission, energy distribts., Born approx. 9-30722
 $e^+e^- \rightarrow \gamma\gamma$, weak interaction effects, QED tests, $SU(2) \times U(1)$ gauge theory 9-40767
 $e^+e^- \rightarrow \gamma\gamma\gamma$, large angle final particle emission, energy distribts., Born approx. 9-30722
 $e^+e^- \rightarrow \gamma\nu\bar{\nu}$, calc. of number N_ν neutrino types 9-26321
 $e^+e^- \rightarrow$ hadrons, search for narrow resonances in mass region 1.42-1.92 GeV/ c^2 9-17740
 $e^+e^- \rightarrow$ hadrons, total cross sections, c.m. energy range 1.92 to 3.09 GeV 9-45094
 $e^+e^- \rightarrow \mu^+\mu^-$, hypothesis test, purely diagonal single Z boson neutral currents 9-40713
 $e^+e^- \rightarrow \mu^+\mu^-$, neutral current anal., weak and radiative asymmetries 9-26320
 $e^+e^- \rightarrow \mu^+\mu^-$, polarised e^+e^- , ψ/J excitation models 9-13095
 $e^+e^- \rightarrow \mu^+\mu^- \gamma$, large angle final particle emission, energy distribts., Born approx. 9-30722
 $e^+e^- \rightarrow \phi-K^+K^-$, average mass meas. of K^\pm 9-30742
 $e^+e^- \rightarrow \pi^+\pi^-$, 400 MeV, pion form factors (*Russian*) 9-3034
 $e^+e^- \rightarrow \pi^+\pi^-\pi^+\pi^-$, 890-1100 MeV, cross section, πA_1 prod., ϕ branching ratio 9-36087
 $e^+e^- \rightarrow \pi^+\pi^-\pi^+\pi^-$ cross section, current algebra calc., props. of hadronic axial vector current 9-17742
 $e^+e^- \rightarrow \pi^0N\Delta$, contact term model 9-13139
 $e^+e^- \rightarrow q\bar{q}$, high energy total cross sections, Salem-Ward-Weinberg model 9-22086
 $e^+e^- \rightarrow q\bar{q}$, transverse quark polaris., quantum chromodynamics test 9-17741
 $e^+e^- \rightarrow q\bar{q}\gamma$, IR and collinear divergences, cancellation in one-loop corrections to QCD cross sections 9-40730
 $e^+e^- \rightarrow q\bar{q}\gamma\gamma$, IR and collinear divergences, cancellation in one-loop corrections to QCD cross sections 9-40730
 $e^+e^- \rightarrow \tau^+\tau^-$, 3.9-5 GeV, τ lifetime experimental upper limit 9-40826
 $e^+e^- \rightarrow \tau^+\tau^-$, parity violating effects measurement 9-36057
 $e^+e^- \rightarrow \tau^+\tau^-$ near Z^0 pole, heavy lepton polarisation and radiative effects 9-22085
 $e^+e^- \rightarrow \tau^+\tau^- \rightarrow \mu e + 4\nu$, Monte Carlo method for the analysis of low statistics experiments 9-18095
 η_c production cross sections in e^+e^- colliding beams, two-photon processes 9-36089
 ϕ prod. in e^+e^- annihilation and diffractive photoprod., 4 quark state signature 9-6324
 ψ particles and charm, 1975 and 1976 expts. (*Czech*) 9-26288
 Z^0 prod., 4-7 GeV e^+e^- annihilation 9-9387
 τ^+ production in e^+e^- annihilation 9-6336
 Ar, gas, slow positron annihilation and momentum transfer rates 9-22828
 Ar positron scatt., elastic, diffusion and annihilation cross sections 9-36769
 $N_2(-Ne)$, gas, 77K, positron annihilation lifetime spectra 9-10630

electron-positron scattering

- see also electron-positron interactions
 polarised beams, properties of cross sections 9-372

electron probe analysers see electron probe analysis**electron probe analysis**

- accuracy, basic relationships 9-43688
 applications, in mineralogy (*French*) 9-5628
 automated microprobe (*French*) 9-6237
 automation using microcomputer system 9-43703
 biological bulk specimens electron probe analysis, ZAF-correction procedures 9-44073
 biological materials, low-temp. SEM, X-ray microanal. 9-39627
 biological samples, low temperature prep. using biochamber for X-ray microanal. 9-39628
 biological specimens, cryosectioning for X-ray microanal. 9-39626
 biological specimens, electron probe analysis, effects of electron irradi. of sample 9-43969
 biological specimens, hydrated, bulk-frozen, prep. for X-ray microanal. 9-39629
 biological specimens, quantitative electron probe microanal., analysed spot ρX value 9-25169

electron probe analysis continued

- blood cells, red, human, frozen section prep. for electron probe anal., fracturing or cutting 9-39625
 brass, interface segregation in α/β two phase bicroystal and polycrystal (*Japanese*) 9-15675
 cathodoluminescence, bibliography of papers till 1977 9-21482
 coating techniques, for SEM and X-ray microanalysis 9-12783
 computer controlled beam-scanning and camera circuit 9-43706
 corrections, quantitative, effect of electron incidence angle 9-39270
 developments, and appl. to TEM specimens (*French*) 9-5244
 electron beam positioning, computer automated 9-43704
 electron probe anal., energy dispersive/wavelength dispersive combined X-ray system, automated control 9-43705
 elemental concentration, estimations, in small particles using X-ray anal. in SEM 9-16098
 energy dispersive filtration for simultaneous energy and wavelength dispersive analysis 9-12918
 energy dispersive spectrometer systems, quantitative chem. anal. 9-39260
 energy dispersive X-ray spectra, anal., computer techniques 9-43690
 energy loss spectroscopic microanalysis, operating parameter selection 9-24879
 fly ash particles, effect of chem. variability on cell exposure 9-16172
 glass fibres and spheres, microscopic, production and charact. for microanal. 9-24487
 heterogeneous materials, conc. inhomogeneities control, electron and ion probe testing 9-43505
 IC, pattern overlay errors, automatic meas., using EL-1 lithographic system 9-21868
 II-VI semiconductors, thin foils, electron microscopic investigations 9-32864
 III-V semiconductor ternary alloys, VPE growth lattice mismatch effects 9-28220
 instrumentation and techniques, review (*Chinese*) 9-34415
 integrated circuit, MHz, microcomputer controlled stroboscopic SEM, to meas. signal waveform 9-21871
 lyophilised solutions, electron probe anal., calibration curve linearity limits 9-44075
 metallic film thickness measurement by electron probe microanal. (*Czech*) 9-44899
 metallic thin films, thickness meas., electron mode microanalyser 9-2744
 metallurgy, use of combined ion, electron-beam techniques 9-43700
 meteorite, Santa Barbara, mineralogy and petrology 9-25551
 meteorite, Santa-Catharina, Fe-Ni alloy detection (*French*) 9-16895
 microanalyser, computerisation development 9-11859
 microanalysis of solid matter in a scanning electron microscope (*Czech*) 9-8465
 microbeam anal., conf., Ann Arbor, MI, USA (June 1978) 9-39258
 microparticles, quantitative anal. with electron beam instruments 9-21866
 muscle, frog, vacuolation and subcellular comp. in fatigue 9-24963
 Nimonic 105, quantitative STEM chem. anal. using standard and standardless programs 9-17578
 nuclear ceramics, quantitative image anal. using light and SEM obs. 9-12912
 particle size anal., Monte Carlo electron trajectory simulation 9-43693
 particles, new method for X-ray micro-anal., based on peak to background meas. 9-24881
 particulates, quantitatives charact. by computerised high voltage, SEM 9-48036
 phase diagrams, electron microprobe and STEM determ. exam. of techniques 9-6241
 principles and appl. to surface anal. (*French*) 9-48034
 quantitative, correction procedure 9-43686
 Santa Catharina, Fe-Ni (50 wt.%) superstructure obs. 9-30024
 scanning electron microscope with field emission gun for solid surface studies (*Czech*) 9-6240
 semiconductor spectrometers for elemental anal. in electron microscope 9-11838
 semiconductor wafer diagnostics, using computer automated scanning low-energy electron probe 9-4214
 solids, X-ray prod. range by 2 to 15 keV electrons, thin film and bulk targets 9-19298
 spatial distrib. of electrons in homogeneous, isotropic target 9-43687
 spectroscopic techniques, with STEM for electronic props. of defects and impurities in semiconductors 9-14812
 spherical aberration correction, using zone plates 9-45899
 stainless steel, quantitative STEM chem. anal. using standard and standardless programs 9-17578
 steel, machining, adhesion mechanism of built-up edge and layer on rake face of cutting tool 9-47784
 steel, stainless, Ni-Cr-Mo, two-phase, compositional charge of ferrite and austenite (*Japanese*) 9-4948
 steels, austenitic-C steel diffusion couple, diffusion of C, 773-1373K 9-19392
 STEM, chem. anal., principles, instrumentation, resolution 9-39262
 STEM 9-39261
 surface charact., combined ion scattering spectroscopy, SIMS, SEM, energy dispersive X-ray techniques 9-43702
 thermal battery, react. prods., electron probe anal. 9-43601
 tissue sections, electron probe anal., improvement of peak/background ratios 9-39631
 X-ray interferences correction, graphical method 9-43707
 Al, stopping power of valence electrons, Monte Carlo calcs. 9-10886
 BaO-SiO₂-Fe₂O₃ permanent mag. ceramics, exam. of phase diagram, using X-ray analysis, optical microscopy, electron probe anal., and thermal analysis (*German*) 9-29012
 Cd₂F₂Mn₂Y, deconversion due to vacuum heat treatment, elec. resist. and electron probe meas. 9-24025
 Co-Cr-Ni-Ta-Al-Y (25, 10, 5, 3, 0.5 wt%), exam. of hot corrosion 9-20251
 Co-Ga alloys, phase diagrams and cryst. struct., DTA, X-ray diffr. and microprobe anal. (*French*) 9-47660
 ErM₂(BO₃)₄, M=Fe,Ga, quantitative X-ray spectral analysis 9-46635
 Fe-C, dil., Hall-field electrotransport of C, effective valence numbers 9-28148
 Fe-Cr (20 wt.%), high temperature oxidation resistance, effect of rare earth and reactive element additions (*Japanese*) 9-20271
 Fe-Cr-Ni, analysis and synthesis of phase diagrams 9-11563
 Fe-Ni-S, exam. of liquidus surface and tie lines, using electron probe analysis 9-11557

electron probe analysis continued

Fe-Ni-Ti (25.9, 2.15 wt.%), exam. of effect of inhomogeneous solid soln., on martensitic transformation (*Russian*) 9-34034
 Fe_2O_3 -NiO-ZnO-CoO (15.1, 17.6, 0.6 wt.%) ferrite, effect of electron beam machining on surface layer 9-34178
 FeSi-FeSi_2 eutectic, FeSi_2 formation, annealing temp. and time effects 9-24512
Ga-In-As-Sb quaternary system, phase equilib. and heterojunctions 9-34016
n-GaAs wafer, defect studies by ASLEEP, SEM and scanning AES 9-19256
 $\text{In}_{1-x}\text{Ga}_x$ As, LPE growth on InP, electron probe anal. of etched surface 9-23862
 In_2O_3 /Sn, thin films, prep. by pyrolytic method, charact. by SEM, electron diff. and SIMS, solar energy appl. 9-43143
 In_2O_3 /Sn films, doping profiles and elec. props., appl. to optoelectronic devices 9-38203
InP, LPE growth on GaAs, etching and electron probe anal. 9-11526
n-InP wafer, defect studies by ASLEEP, SEM and scanning AES 9-19256
InSb-GaSb alloys, directionally solidified, composition variations, electron probe anal. 9-24513
Mg-Si-Al-O-N, grain boundary segregation, combined X-ray microanal. and lattice fringe imaging determ. 9-15681
MgIn, atmospheric corrosion, SEM, electron diffraction and electron probe obs. 9-24681
Mn nodules, deep-sea, diagenetic features, X-ray spectral and SEM anal. 9-16099
 β -Na $_2$ V $_2$ O $_5$, Bridgman and Czochralski single cryst. growth 9-47618
Na $_3$ nAl $_2$ O $_3$, polycrystalline, Na $^+$ and Ag $^+$ conc. profiles, electron microprobe determ. 9-24737
Nb-Ge system, reaction diffusion, electron probe anal. 9-28152
NdM $_3$ (BO $_3$) $_4$, M=Fe,Ga, quantitative X-ray spectral analysis 9-46635
Ni, corrosion in SO_2 , high temp. 9-20281
Ni-Cr-Mg alloy, KhN70VMTYu, Mg effect on grain boundary struct., props. 9-19261
Ni-Ga alloys, phase diagrams and cryst. struct., DTA, X-ray diff. and microprobe anal. (*French*) 9-47660
NiAl $_3$, quantitative STEM chem. anal. using standard and standardless programs 9-17578
PbS,Se $_{1-x}$, chalcogen interdiffusion, electron microprobe obs. 9-28145
Si wafer, defect studies by ASLEEP, SEM and scanning AES 9-19256
Si-Al-O-N ceramics, grain boundary segregation determ. by X-ray microanal. and lattice fringe imaging 9-15681
Si $_3$ N $_4$, reaction-bonded, internal oxidation processes role in high-temp. mech. props. 9-38915
SiO $_2$ -Al $_2$ O $_3$ -K $_2$ O-Na $_2$ O, exam. of leucite crystal growth 9-19496
Si(111)Al/Si, growth kinetics of (111)Si through Al layer, SEM and electron probe anal. 9-28236
SnO $_2$:F, thin films, prep. by pyrolytic method, charact. by SEM, electron diff. and SIMS, solar energy appl. 9-43143
SrO-SiO $_2$ -Fe $_2$ O $_3$, permanent mag. ceramics, exam. of phase diagram, using X-ray analysis, optical microscopy, electron probe anal., and thermal analysis (*German*) 9-29012
Ti-Cu (Ni), oxidation, high temp., comparative study with Ti (*French*) 9-20285
TiB $_2$, erosion resistant boride coating on Ti and Ti alloys 9-20290
(U-Pu)O $_2$ interaction with stainless steel cladding, corrosion products 9-26524
V foil, air-oxidised, reversible switching, mechanism determ. 9-28387
V-Os system, equilib. phase fields, X-ray diff., elec. resist., DTA, and EPMA meas. 9-47661
V-Ti-C, elemental anal. of second phase carbides using electron loss spectroscopy 9-20500
W-Os coated dispenser cathode, chemical and physical process obs. 9-28885
WC-Co molten Zn reaction, lamellar struct. form. 9-33964
XE bonded fission gas, radial distrib. in mixed carbide fuel pins, electron probe anal. 9-36318
Xe, retained in advanced nuclear fuels, meas. by microprobe anal. 9-40997
YIG, Al- and Ga-substituted, floating zone method growth, interface shape and horizontal variations of Al and Ga contents by electron pulse anal. 9-33929
YM $_3$ (BO $_3$) $_4$, M=Fe,Ga, quantitative X-ray spectral analysis 9-46635
ZnSiP $_2$, growth under nonstoichiometric conditions in gas phase, microanalytical investig. (*German*) 9-33909

electron probe microanalysis *see electron probe analysis*

electron probe microscopy *see electron probe analysis*

electron probes

see also electron probe analysis
automated microprobe (*French*) 9-6237
deflection system for adjustment, scanning of electron beams 9-2878
LSI circuits, appl. of electron beam meas. techniques for verification of computer simulations 9-21875
magnetic lens third-order field geometrical aberration of single slot lenses forming electron probe 9-3619
space charge effects in electron probe devices 9-27154

electron-proton interactions

see also electron-proton scattering
deep inelastic scattering, appl. of quark parton model 9-30715
inclusive interactions flavour symmetry breaking in antiquark distrib. 9-36006
polarised deep inelastic scatt., test of Weinberg-Salam model 9-22006
ep, sea quark and gluon momentum distrib., perturbative vs. asymptotic freedom corrections 9-17736
ep deep inelastic scatt., EM form factors asymptotic behaviour, Fourier transform singularities 9-40789
ep \rightarrow e $^+$ hadron $^+$ X, parton picture from QFT, structure function scaling behaviour 9-402
ep \rightarrow e $^+$ γ+X, QCD predictions for processes involving real photons 9-6330
ep \rightarrow epX, pion struct. function determ. (*Russian*) 9-22097
ep \rightarrow epω, prod. by virtual photons, ω prod. to ρ 0 prod. ratio 9-6344
ep \rightarrow ep $^+$ π $^+$, exclusive ρ 0 prod. by virtual photons 9-22113
ep \rightarrow e $^+$ π $^+$ X, quark-parton model charged π electroprod. 9-13136
p $^+$ e $^+$ π $^+$ N, form factor determ. (*Russian*) 9-9382
ep \rightarrow enπ $^+$, forward π $^+$ electroprod. in Δ(1232) resonance region 9-22115

electron-proton scattering

see also electron-proton interactions
deep inelastic scatt., renormalisation group anal., parton model connections 9-40784
Ep \rightarrow e $^+$ py, 111 MeV, radiation tail spectrum of electrons (*Russian*) 9-30739
e $^+$ p, polarised e, elastic scatt. asymmetries in SU(2)×U(1) gauge theory 9-40781
electron radiation
No entries
electron relaxation time (metals)
A15-compounds, electron lifetime affecting electronic props. 9-15134
film, monocryst., TCR, analytical expression 9-42670
transition metals and alloys, BCC, electron lifetime affecting electronic props. 9-15134
Al-Ag(Ga)(Ge) dil. alloys, Hall coeff., residual resist., and relax. times 9-11107
Cd, Fermi surface, 3rd band sheet, electron effective mass and relaxation time 9-11056
Co, optical consts. and electronic characts., 20 to 1750°C 9-38516
Pb, plastically bent, effect of dislocations on electron relax. time, cyclotron reson. 9-24217
W, total hemispherical emissivity 9-10973
electron ring accelerators
acceleration of ions in electron storage rings 9-18064
ion acceleration in electron storage rings, conf., USSR Acad. of Science, (June 1977) 9-18062
electron scattering *see elastic scattering of electrons by atoms and molecules; electron-electron scattering; electron impact; electron-nucleon scattering; electron-nucleus scattering; electron positron scattering; electron-proton scattering; neutrino-electron scattering*
electron solvation *see solvation*
electron spectra
see also Auger effect; conversion electron spectra; electron energy loss spectra; electron impact; electron spectroscopy; photoelectron spectra
atoms, electron coincidence ionisation spectra, Green's function anal. 9-31714
atoms, photoionisation, electron spectrosc. obs. using synchrotron radiation 9-31485
auroral secondary electrons spectrum at low altitudes, collisionless effects 9-40008
autoionisation-radiative emission interference of at. excited state decay 9-26945
conference, Melbourne, Australia (Aug. 1978) 9-33868
1,3-cycloheptadiene, electron impact, electronic spectra 9-45855
1,3-cyclohexadiene, electron impact, electronic spectra 9-45855
1,4-cyclohexadiene, excited electronic states, electron impact spectrosc. 9-45842
cyclohexane, excited electronic states, electron impact spectrosc. 9-45842
1,3-cyclopentadiene, electron impact, electronic spectra 9-45855
deconvolution, electron loss data as unit impulse response function 9-9265
ethylene, (e,2e), correlation effects, electron momentum distributions in valence orbitals 9-862
heavy ion+atom, outer shell electron emission, differential cross sections 9-45817
magnetosphere, substorm-assoc. particle fluxes and spectra at L=6 to 8, GEOS-1 obs. 9-35067
magnetosphere, thermal/suprathermal plasmas electron and ion spectra obs. by GEOS-1 S-302 expt. 9-35070
magnetosphere polar cusp, precipitating electrons spectra during 1977, September 19 to 21 mag. storm 9-35056
molecular electronic structure, investig., electron coincidence spectrometer appls. 9-30617
molecules, electron coincidence ionisation spectra, Green's function anal. 9-31714
norbornadiene, excited electronic states, electron impact spectrosc. 9-45842
norbornene, excited electronic states, electron impact spectrosc. 9-45842
rare earth metal, 4f levels, obs. by bremsstrahlung isochromat and XPS spectroscopy 9-24411
tetrafluoromethane, electron impact excitation, resons. and dissoc. attachment 9-7020
Ar+C $^{2+}$ (O $^{4+}$)(Si $^{n+}$), n=10,11,12, intense low energy autoionisation lines 9-31674
Ar+H(H $^-$), 0.5 MeV H(H $^-$) ionisation comparison 9-41230
BN, electron spectra, regularisation method (*Russian*) 9-41215
C $^{6+}$ +Ar, electron capture to continuum states, forward ejected electron spectra 9-45831
CO, ejected electron spectroscopy of autoionising states using electron-electron coincidence technique 9-3587
Ca II, electron impact excitation, identification of low energy autoionising levels 9-31703
 ^{60}Co isotopic γ-ray source, quantum yield of electrons from cylindrical casing 9-31289
D $^+$ +Ar, electron capture to continuum states, forward ejected electron spectra 9-45831
H, electron coincidence ionisation spectroscopy, rel. to impulse approx. calcs. 9-31715
H $^+$ +N $_2$ (inert gas), charge transfer, ejected electron spectra 9-45828
H $^+$ +He, proton energy degradation, approx. yield spectrum 9-31643
He, electron impact ionis., 35 eV, triple differential cross section 9-36777
He+He, (2 1 S) and (2 3 S) metastable states, direct and assoc. ionisation rate consts. in afterglow, electron energy spectra 9-13812
K I, electron impact excitation identification of low energy autoionising levels 9-31703
Ne, K-L $_{2,3}$ L $_{2,3}$, post-collision interaction Auger effects 9-45686
Ne $^{n+}$ +He(Ne,Ar,Kr), (n=1, 2, 3, 4), energy spectra of electrons produced 9-45822
Ni sputtered films, hexagonal and amorphous, O incorporation, ESCA and electron diff. meas. 9-11046
O $^{8+}$ +He(Ar)(Ne), electron capture to continuum states, forward ejected electron spectra 9-45831
Ru (001) surface, chemisorbed O $_2$, high resolution electron scatt. spectra 9-11013
Si $^{n+}$ +Ar, electron capture to continuum states, forward ejected electron spectra 9-45831
electron spectrometers
see also beta-ray spectrometers
AES, electronics design 9-30615

electron spectrometers continued

- anthracene, scintillation decay time determ. using low energy spectra 9-9964
 ARAKS expt., spectrometers for artificially injected particles 9-21143
 double pass, cylindrical mirror type, nuclear spectroscopy and atomic phys. appl. 9-713
 electron coincidence spectrometer with position sensitive detectors 9-30617
 electrostatic prism spectrometer, aberration coeffs. and spectral window 9-40647
 energy analyser, electrostatic, appls. 9-44990
 energy dispersive spectrometer systems, quantitative chem. anal. 9-39260
 energy loss spectroscopy, spectrometer design, electron optical props. 9-12903
 internal pair formation high resolution in-beam studies with magnetic-Si(Li) spectrom. 9-18073
 low-energy electron spectrometer using concentric hemispheres and a grid retarding field 9-12894
 magnetic, for TEM energy analysis 9-26190
 microchemical anal. electron spectrometer for 100 kV TEM 9-39251
 SERBE, low-energy (1-16 keV) spectrometer 9-21145
 NaI(Tl) scintillator, electron detection efficiency for electrons and gamma-rays > few keV 9-36461

electron spectroscopy

- see also electron spectra*
 angle-resolved photoemission, expt., Adelaide Univ., 1908 9-30187
 Auger electron spectroscopy, general principles, experiments and appl. (French) 9-8468
 Auger emission, data acquisition control using HP 9845 desktop computer 9-21726
 Auger peaks, bremsstrahlung-induced, utility in spectroscopy 9-30618
 coincidence spectroscopy, orbital shape, charge density, mol. struct. determ. appls. 9-27113
 conference, Melbourne, Australia (Aug. 1978) 9-33868
 contaminant identification by energetic beams 9-39250
 deconvolution methods, review 9-26188
 energy analyzer, two-stage with cylindrical mirrors, aberration reduction 9-40640
 energy band dispersions, absolute determ. using ang.-resolved photoelectron spectrosc., symmetry method 9-15590
 energy loss spectroscopy, spectrometer design, electron optical props. 9-12903
 energy loss spectroscopy, tutorial 9-21872
 ESCA, appls. in industrial research 9-39232
 ESCA apparatus (Dutch) 9-1982
 ESCA-ion scatt. spectroscopy-SIMS, review, chem. appls. 9-43701
 films, metal-semicond. and metal metal studies in ultra high vacuum scatt. chamber 9-2780
 photoelectron spectroscopy, 30-800 eV, using synchrotron radiation 9-31608
 photoelectron spectroscopy, appls. in industrial research 9-39232
 photoelectron spectroscopy, transient species generation methods 9-31739
 photoelectron spectroscopy for investigation of excited molecules formed by HF gas discharge 9-36455
 photoelectron-photoion coincidence spectroscopy, fixed-wavelength, improved resolution 9-18318
 photoion-photoelectron spectroscopy, ion internal energy and reaction 9-30616
 photoionisation branching ratios, photoelectron spectrometric meas. technique 9-31607
 quantitative energy-loss spectroscopy, treatment of inner-shell electron energy losses 9-12905
 radionuclide radiation precision spectrometry using semiconductor detectors (Russian) 9-31305
 review, electron spectroscopy appls. (Japanese) 9-40645
 sample manipulator and heater for ultrahigh vac. 9-44988
 SIMS/AES, instrumentation and appls. in Japan 9-35883
 temperature controller for use in low-energy electron spectroscopies 9-44987
 thin surface layers, depth and composition determ. by depth-selective photoelectron spectroscopy 9-43090
 ultrathin film thickness meas. by AES 9-35663
 X-ray photoelectron spectroscopy, development (1900-1960) 9-12560
 X-ray photoelectron spectroscopy, quantitative, parameters, appls. 9-43697
 XPS/SIMS combined apparatus, system for transferring samples between chambers in UHV 9-12809
 Al complex of glycine, XPS study of glycine binding 9-41196
 Cr, oxide film form., combination anal. using ESCA, AES and SIMS 9-16092
 Fe-Ni-Cr, oxide film form., combination anal. using ESCA, AES and SIMS 9-16092
 GaAs oxide films grown by anodization in electrolytes, electron spectroscopy exam. (German) 9-15837
 GaP oxide films grown by anodization in electrolytes, electron spectroscopy exam. (German) 9-15837
 GaSb oxide films grown by anodization in electrolytes, electron spectroscopy exam. (German) 9-15837
 H₂S, valence momentum distrib., binding energies, binary (e₂e) spectrosc. meas. 9-31713
 InSb oxide films grown by anodization in electrolytes, electron spectroscopy exam. (German) 9-15837
 Ni (111), adsorption of acetylene, identification of CH species by electron energy loss spectra 9-15022
 V-Ti-C, elemental anal. of second phase carbides using electron loss spectroscopy 9-20500
 Zr complex of glycine, XPS study of glycine binding 9-41196

electron spin

- magneto-optical effect, influence of ESR saturation, allowance for dipole-dipole reservoir of electron spins 9-15442

electron spin-lattice relaxation

- carbazole, triplet state of X-traps, ODMR 9-24231
 dibenzofuran, triplet state of X-traps, ODMR 9-24231
 dibenzothiophene, triplet state of X-traps, ODMR 9-24231
 α -diketone radical anions, spin-lattice relax. in soln. 9-22735
 electric-dipole paramag. relax. due to carriers in quantising mag. fields 9-38381
 fast relaxing centres, in paramag. cryst. (Russian) 9-15340
 fluorene, triplet state of X-traps, ODMR 9-24231

electron spin-lattice relaxation continued

- glassy organic matrices, electron spin-lattice relax. of radiation-produced Ag atoms, temp. depend., tunnelling relax. 9-34331
 ice matrices, polycryst., electron spin-lattice relax. of radiation-produced Ag atoms, temp. depend., tunnelling relax. 9-34331
 liquid, electron spin echo phase memory decay, generalised cumulant expansions appl. 9-11334
 measurement, new method for spin-lattice relax. time, inhomogeneously broadened ESR lines 9-15343
 mechanical detection of EPR dispersion signals 9-30520
 metals, electron bottleneck effect, impurity spin relax. and EPR linewidth 9-28589
 molecular crystals, anisotropy at low temperatures and high mag. fields 9-42822
 naphthalene: quinoxaline, isolated triplet mol. direct spin-lattice relax. librational model 9-11444
 naphthalene in durene matrix, spin-lattice relax. of phosphoresc. triplet state, PMDR study 9-27012
 ODMR, spin-lattice relax. and triplet-triplet. absorpt. effects 9-19807
 paramagnetic centre interaction with soft phonon modes 9-28590
 pyrene-d₁₀, EPR line shape of photo-excited triplet state, in cryst. and glass 9-24210
 spectral-diffusion decay in echo experiments 9-1723
 spin diffusion and spin-lattice relaxation in paramagnetic crystals 9-33525
 surface relaxation in CESR, evidence of spin lattice character 9-28615
 1,2,4,5-tetrachlorobenzene, triplet state spin-lattice relax. in cryst. and matrix isolated mol. 9-11449
 Al₂O₃:Cr³⁺, new method for spin-lattice relax. time, inhomogeneously broadened ESR lines 9-15343
 BaWO₄:Er³⁺, spin-lattice and spin-spin relax. times, electron spin echo obs. 9-28609
 Ca₃(PO₄)₂:F: Cr²⁺, spin-lattice relax. time and Debye temp., EPR obs. 9-28601
 CdS:Mn²⁺, temp. depend. of rate of spin-lattice relax. 9-42832
 Gd₂Y₃Ir₂, ESR meas., bottleneck and relax. rates 9-38369
 KCr(SO₄)₂·12H₂O, ESR, spin-lattice relax., ambient gas atm. thermal cond. effect 9-8046
 KMgF₃:Er³⁺, Orbach-Aminor paramag. relax. processes, phonon bottleneck 9-28610
 LaF₃:Er³⁺, spin-lattice relax. meas. in excited ⁴S_{3/2} state by purely optical method 9-19923
 LaRh₂:Nd³⁺ cubic metallic host, spin-lattice relaxation, ESR obs. 9-1710
 Ni(BF₄)₆·6H₂O, EPR, cryst. field symmetry 9-28593
 Si, amorphous, mag. field depend. of luminesc. 9-43034
 Si amorphous film, saturation meas. on ESR signals 9-33535
 Si, spin dependent recomb. at dislocations, EPR and photocond. 9-38095
 SrF₂:Tm²⁺, modulation magnetooptic spectroscopy of cross-relaxation resonances 9-15381
 SrWO₄:Er³⁺, spin-lattice and spin-spin relax. times, electron spin echo obs. 9-28609
 YLiF₄:rare earth, spin-lattice relax. and nuclear polarisation (Russian) 9-8049

electron spin polarisation

see also CIDEF; spin polarised electron emission

- actinide compounds, conduction electron polarisation, model density of states 9-37949
 metals, electric properties calc., book 9-28274
 Mott polarisation analyser, capable of inline meas. 9-17560
 phenanthrene-PMDA, spin polarization of charge-transfer excitons, EPR meas. 9-19766
 rare earth metal, ferromagnet-simple helix transition, cond. electron spin polarisation (Russian) 9-7995
 rare earth-Al₂(Zn), mag. coupling mechanism 9-4655
 ruby, spin dependency of optical feeding into $\tilde{E}^2(E)$ metastable doublet 9-28812
 superconductive tunnelling with spin polarised electrons 9-4627
 surface study appl. (Japanese) 9-37911
 transition metal-rare earth dil. alloy, hyperfine field of rare earth impurity 9-1588
 Cs, photoelectron energy distrib. curves, depend. on light polarization 9-15591
 Fe, spin polarised electron tunnelling results 9-28417
 Fe, thin film, core electron polarisation measurement 9-4756
 KH₂AsO₄·KH₂PO₄, AsO₄⁴⁻ centre, EPR central peak dynamics 9-33523
 NH₄H₂AsO₄·NH₄H₂PO₄, AsO₄⁴⁻ centre, EPR central peak dynamics 9-33523
 Na₂+He(Ne)(Ar), collision induced dissoc. rate, vibr. distrib. depend. 9-22791
 Ni film, ferromagnetic (100) and (110), energy bands photoelectron spin polarisation reversal 9-1630
 Ni film (111), ferromag., energy bands and planar densities of states, LCAO calc. 9-4509
 Pd-Fe alloys, dil., spin polarisation effect on hyperfine interactions, anal. of Mossbauer meas. (Russian) 9-47055
 SmS, mag. susceptibility in semicond. phase, in homogeneity region 9-28502
 UTe, electronic and spin struct. negative spin polarisation of photoelectrons 9-19514
 W (001), electron spin polarisation and intensity in LEED, temp. depend., 1000-300°C 9-14989

electron spin relaxation *see electron spin-lattice relaxation***electron spin resonance** *see paramagnetic resonance***electron states, impurity** *see impurity electron states***electron states, surface** *see surface electron states***electron streams** *see electron beams***electron structure of solids (crystallography)** *see crystallography***electron structure of solids and liquids (energy structure)** *see electron energy states (condensed matter)***electron theory**

see also Dirac equation; quantum electrodynamics

classical electron, impossibility of radiationless motion 9-17247**classical recombination cross section** 9-25876**coherent states of an electron in a quantized electromagnetic wave** 9-22000**coupling constant singularities in QED** 9-21991**Dirac's extended electron model** 9-26269**Dirac particle, supersymmetry and position operators** 9-6305

electron theory continued

- Einstein unitary field theory with tele-parallelism, Dirac's classical theory of electrons 9-12685
 Grassmann functional Schrödinger description for fermions 9-30642
 inertial mass, asymptotic, soln. of Dirac eqn. 9-2961
 magnetic monopole-electron interactions, without Dirac strings, quantum-mech. formulation 9-21994
 motion and radiation of a charge in a plane wave and a magnetic field (*Russian*) 9-21986
 Poincaré stresses, dynamical basis 9-6303
 QED, electron anomalous mag. moment, dispersive approach, 6th order contrib. 9-9316
 QED, electron anomaly, radiative corrections, vac. polarisation insertions, ladder graphs 9-2959
 QED, nonlocal, relativistically invariant, bubble electron model, fundamental length and causality 9-30687
 QED of constant field, radiative effects, mass operator eigenfunctions (*Russian*) 9-17652
 relativistic model 9-35975
 relativistic wave eqn. of electron (*Hungarian*) 9-12928
 unstable electron, lifetime, charge nonconservation, paradoxes 9-6335

electron theory of metals *see metal theory***electron traps**

see also colour centres; hole traps; impurity electron states

- alkane glass, γ -irradiated, charge trapping, isotope and mol. struct. effects 9-5164
 amorphous material, trap-controlled transient current injection, models of trapping level 9-23984
 anisotropic semiconductor, with traps, kinetic theory of acousto-electrical effect in nonhydrodynamic collision region (*Russian*) 9-24019
 anthracene, single crystal, contact charging and photoemission 9-47586
 arabinose, X-irradiated single crystal, intermol. electron trapping, hyperfine ESR pattern 9-39166
 1,4-dibromonaphthalene, proton spin relaxation by optically excited triplet states 9-19810
 dulcitol, X-irradiated single crystal, intermol. electron trapping, hyperfine ESR pattern 9-39166
 forward biased junctions, excess noise sources due to defects 9-38154
 glass, alcoholic and aq., 4.2K, trapped electron photocond. and optical spectra following radiolysis 9-29378
 impurity photoconductivity, monopolar injection (*Russian*) 9-24004
 insulator, arbitrarily distributed traps, SCL currents anal. 9-11132
 insulators, trap struct. anal. by fractional glow technique 9-11078
 ionic crystal:transition metal, excitation and trapping at impurity sites 9-33776
 methanol, dry-electron localisation, impurity trapping, solvated electron rate consts. 9-1990
 MIM structures, thermal dielec. relax. 9-11237
 MNOS, charge distrib. in Si_3N_4 film exam. 9-38184
 MNOS structures, discharge behaviour 9-38174
 molecular crystals, trapping rates for sensitized fluoresc. 9-11455
 MOS capacitors, irradiated and avalanche injected, trapping effects 9-19669
 MOS structure, quenched-in bulk defects and interface states, transient capacitance spectroscopy 9-24081
 MOS structure, trapped charge location in Al implanted SiO_2 , using photo I-V technique 9-15227
 MOS system containing interface traps, equilibrium and nonequilibrium response to linear voltage ramp 9-38173
 multilevel trapping fluctuation processes spectral props. of physical processes of Markov-correlated events 9-21665
 muon, diffusion in presence of traps, spin depolarisation, stochastic theory 9-28666
 naphthalene, deep exponential distrib. of traps, long-time decay of surface pot. 9-47041
 naphthalene- h_8 and - d_8 mixed crystal, two-dimens. lattice, cluster-cluster interactions, model inhomogeneous distrib. 9-23922
 phenanthrene:anthracene, cryst., triplet-triplet annihilation, shallow traps effect, 77-293K 9-11446
 phosphor, stationary recombinatorial luminesc. without thermal transitions, model 9-8193
 polyethylene, elongated low density film, TSC 9-47106
 polyethylene, relation between electrostatic capacity and electronic space charges induced by high field 9-15154
 polyethylene terephthalate electrets, TSC due to injected charges, electron trapping props. 9-4566
 polymer films, photoelectric emission and contact charging, surface states 9-33885
 l-propanol, dry-electron localisation, impurity trapping, solvated electron rate consts. 9-1990
 radiation-induced trapped electron yields, close effects, tunnelling processes 9-39161
 semiconductor, multiphonon recombination processes 9-38643
 semiconductor, photo-EMF during charge carrier trapping (*Russian*) 9-42574
 semiconductor, recombination at deep traps, review 9-38100
 semiconductor laser, self pulsing due to deep level traps 9-22950
 semiconductors, Auger recombination processes 9-38091
 semiconductors, capture of carriers by attractive centres 9-7836
 semiconductors, multiphonon capture rate 9-38022
 semiconductors, recombination processes, review 9-38088
 superlinear filling of traps in crystals due to competition during irradiation 9-33850
 tetracene, polycryst., SCL currents and trap distrib. 9-1603
 1,2,4,5-tetrachlorobenzene, proton spin relaxation by optically excited triplet states 9-19810
 thermally stimulated capacitance method fitting anal. 9-47107
 thermoluminescence glow curves, reflection of electron trap distrib. activation energy 9-43047
 thin insulator, SCL currents, effects of finite contact energy barriers and traps 9-38209
 water, solvated electrons, photon-induced electron transfer transitions 9-8154
 Ag_3SbS_3 , pyrrargyrite, US absorption, influence of illumination, photocond. and photoabsorption of sound 9-42153
 Al_2O_3 , X-irrad., electron and hole traps, TSC and optical bleaching meas. 9-28356
 As_2Te_3 , charge screening length 9-23974
 $\text{As}_{40}\text{Te}_{48}\text{Si}_{12}\text{Ge}_{10}$, charge screening length 9-23974
 Ba_2CaUO_6 , luminescence and energy migration 9-4837

electron traps continued

- BaMnF_4 , luminesc., emission from localised traps 9-33777
 BaTiO_3 , melt grown, drift mobility meas. 9-19596
 BaTiO_3 , pure and doped, photocurrent kinetics 9-42576
 CaSO_4 :Dy phosphor powder, effect of grinding on thermoluminescent sensitivity 9-33852
 CdI_2 , thermoluminesc. of traps (*French*) 9-4856
 CdIn_2S_4 , photocond. and electron trap distrib. 9-28373
 CdS , photocond. cryst. characterisation of electron-trap responsible for acoustic holographic echoes (*French*) 9-19544
 n-CdTe films, uniform trap distrib., transient photocond. effects 9-28423
 CdTe , Schottky diode, trap density determ. 9-7899
 EuS , ferromag., on W, electron field emission 9-8230
 GaAs conducting MIS structures and metal-semicond. structures, effects of ultrathin oxides 9-1626
 GaAs, Gunn effect, carrier generation-recomb. processes 9-38080
 GaAs, LPE, residual impurities and deep levels, FET fabrication 9-28964
 GaAs oxides, appl. of selective chemical reaction concept for controlling props. 9-47790
 n-GaAs, undoped, proton radiation defect detect. by transient capacitance spectroscopy 9-11089
 GaAs:Cr, hot electron relax. process and ionization of traps (*Russian*) 9-28354
 GaAs:O, deep traps, photocapacitance meas., complementary transition energy threshold determ. 9-19550
 GaP:Bi(N), luminesc. decay kinetics 9-38646
 GaP:N VPE layers, thermal emission energies, trapping, and carrier lifetimes, deep level capacitance spectroscopy 9-42487
 n-Ge, electron irradiated, energy levels 9-28316
 Ge FET, fabrication on high purity substrate 9-45579
 Ge, high purity, carrier trapping 9-47104
 Ge, light scattering, by pure single cryst., influence of photoexcitation 9-28780
 Ge p-i-n diodes, deep level transient spectroscopy 9-47105
 Ge- GeO_2 , optical charging memory, influence of doping GeO_2 with metal ions (*Russian*) 9-24077
 $\text{Ge}_2\text{Se}_{1-x}$ chalcogenide glasses, trap-controlled carrier mobility, time of flight meas. 9-4557
 $\text{Ge}_2\text{Se}_{1-x}$ chalcogenide glasses, drift mobility of optically injected carriers 9-19627
 He, liq., electron bound states on surface 9-28166
 InP, deep-level traps and cond.-band struct. 9-19542
 KCl:Ti, effective cross sections ratio of charged and neutral centres for holes and electrons (*Russian*) 9-28319
 KF:Pd^{2+} , pure and doped, two-step photoionisation, laser-active F_2^+ centre form. 9-963
 KMnF_3 , luminesc., emission from localised traps 9-33777
 LiCl , deuterated aq. glasses, pulse radiolysis, trapped electron reactions 9-24804
 LiF , TLD phosphor, Z_3 centre, thermolum. and optical absorption spectra 9-24374
 LiNbO_3 :Fe, electron irradi., photoinduced charge transfer and hologram recording 9-36859
 Mo, quenched sample, UV photoelectron spectra, exoelectron-like emission 9-15587
 NaF:Mn^{2+} , two-step photoionisation, laser-active F_2^+ centre form. 9-963
 PbI_2 , photoelectromagnetic investigation, expt. 9-24010
 $\text{Pb}(\text{WO}_4)_{1-x}(\text{MoO}_4)_x$ mixed crystals, X-irrad., EPR and thermoluminesc. 9-15352
 S:P, ion implanted, defect annealing 450-800°C, deep-level transient spectroscopy 9-47042
 Si, deep level transient spectroscopy (*French*) 9-11079
 Si inversion layers, effective mass variation 9-24050
 Si MOS diode, bulk traps and interface states determ., deep-level transient spectroscopy appl. (*Japanese*) 9-42645
 Si MOS diodes, P^+ implanted, DLTS of bulk traps and interface states 9-33350
 Si, neutron-produced defects, deep level transient spectroscopy 9-47047
 Si resistors, polycryst., elec. props. in nonlinear regime, grain boundary trapping model 9-38204
 Si:Au, carrier capture cross-section at low temp. (*Rumanian*) 9-15163
 Si:B effect of elec. field on carrier capture by attractive centres. 9-11145
 Si:B MOS structures, implanted laser beam irradi. effects on interface electrophys. props. 9-1627
 p-Si: N_2^+ implanted, anneal behaviours of lateral photovoltaic method, trap concentrations 9-14825
 p-Si: As_2S_3 isotype crystalline-amorphous heterojunctions, electrophysical props. 9-24063
 SiO_2 film, Al implanted, in MOS struct., electron traps characts. obs. 9-15226
 SiO_2 , in IGFET struct., thermal reemission of trapped electrons 9-42650
 SiO_2 -Si interface, hot electron capture process, expt. method for study 9-38180
 Si(100)- SiO_2 interface, mobility in Si inversion layers, screening and neutral impurity effects 9-28412
 SnO_2 - $\text{ZnO-Bi}_2\text{O}_3$, ceramic semiconductor, injection currents 9-11141
 ZnO , luminescent, phonon detection by shallow electronic trap states 9-14902
 ZnO , negative photocond. by excitation of exciton-impurity complexes, recomb. mechanism (*Russian*) 9-28379
 ZnO photoelectret, recomb. and trapping kinetics determ. 9-38083
 ZnF_2 , trapping levels, TSC and thermolum. meas. 9-15115
 ZnS:Pb current pulses due to elec. field liberation of electrons from trapping centres by tunnel processes 9-28378
 ZnSe:Al , current switching mechanism (*German*) 9-28385
 ZrO_2 :Ti(Th)(U)(Nb)(Dy), thermoluminescence, traps and emission centres 9-24373

electron tube diodes *see diodes***electron tube rectifiers** *see rectifier tubes***electron tube testing**

X-ray tube kVp meas. with Si p-i-n photodiode (*German*) 9-232

electron tubes

see also cold-cathode tubes; diodes; electron emission; microwave tubes; relativistic electron beam tubes; thermionic tubes; triodes; ultra-high frequency tubes; vacuum tubes; X-ray tubes
 laser electron-beam tube under scanning conditions, using CdS screen 9-13983

electron tunnelling *see* tunnelling

electron valves *see* electron tubes

electron-wave tubes

see also klystrons; magnetrons; travelling-wave-tubes

⌚ No entries

electronegativity

- diatomic molecules, dipole moments, electronegativity and photoemission chem. shifts 9-13655
- infinitesimal perturbation and energy changes 9-22574
- positive column, of electroneg. gas, transverse stability, effect of disoc. attachment 9-23475
- simple compounds, Mulliken electronegativity scale, struct. stability 9-23562
- transition metal alloys, d-band hybridisation, electronegativities, structural stability 9-42007
- transition metal dichalcogenides, of CdI₂-type, electronegativity diff. correlation to reduced length 9-27963
- BeO₂⁻, electron binding, ab initio calc. 9-45628
- Cl-containing molecules, hybridisation, bonding orbitals effects 9-36510

electronic calculators

- for calculator applications see under relevant applications e.g. engineering computing; natural sciences computing*
- gamma-ray detector total efficiency calc., algorithm for small calculators 9-9938
- gamma-ray spectra evaluation, appl. of programmable calculators and minicomputers 9-9956
- microprocessor based interface/controller for desktop programmable calculator 9-35690
- noise level digital recording using programmable calculator 9-23130
- programmable, electrochemical calc. appl. 9-43592
- spectral analysis, programmable calculator as alternative to minicomputer-based analyser 9-9985

electronic component manufacture *see* electron device manufacture

electronic conduction in crystalline semiconductor thin films

- for electronic conduction in amorphous thin films, see "electrical conductivity of amorphous semiconductors and insulators"*
- see also electrical conductivity of amorphous semiconductors and insulators; electrical conductivity of crystalline semiconductors and insulators; electrical conductivity transitions*
- diamond-like C film, plasma stream condensation with RF pot., props. 9-15612
- dimethyl stilbene chloride, organic semiconductor thin film on glass, voltampere charact. (Rumanian) 9-38196
- dislocation superstructures and conduction electron kinetics (Russian) 9-19678
- multilayer spreading resistance anal., high-speed implementation and expt. evaluation 9-4324
- one- and two-dimensional periodic superstructures, possibility of formation in thin films and semicond. surfaces 9-11044
- sputter-deposited materials, electrical and optical props. 9-47181
- BN films, elec. resist., depend. on relative humidity 9-4609
- Ba(Ti,Sn)O₃, thin film elec. and photoconductivity 9-33366
- BaTiO₃ film, sputtered, elec. props. 9-42676
- BaTiO₃, thin film elec. and photoconductivity 9-33366
- Bi, film, evaporated, elect. and elastoresistance props. 9-33367
- Bi_{1-x}Sb_x epitaxial layers, effect of film thickness on elec. props. (Russian) 9-11244
- Bi_{1-x}Sb_x epitaxial thin films, galvanomag. props. in semimetal and semicond. regions 9-11254
- Bi_{1-x}Sb_x thin films, elec. props. 4.2-300K (Russian) 9-24087
- BiTeI-SbTeI, solid solns., phase diagrams, photocond., elec. props. 9-38125
- Cd,Hg_{1-x}Te films, epitaxial growth, optical, elec., and photoelec. props. 9-11512
- CdS, dark- and photo-currents, annealing time effect 9-38199
- CdS:Na, dark- and photo-currents, annealing time effect 9-38199
- CdS(Se), electron irradi. effect on electrophys. props., prep. conditions depend. 9-28421
- CdSb, monocrystalline film, prep., elec. props. 9-43159
- CdSe:Cu-Cl, induced impurity photocond., 0.6 to 1.2 eV 9-24012
- CdTeSnO₄ film, sputter deposition and characterisation 9-43146
- CdTe epitaxial layers on GaAs, cryst. struct. and phys. props. 9-33202
- CdTe, films grown by hot wall epitaxy, elec. props. 9-28420
- CuInS₂ thin films, growth, struct., and elec. props. 9-38729
- GaAs, CVD on W coated graphite, characterisation, and Schottky barrier solar cell characts. 9-28930
- n-GaAs, epitaxial, thermoelec. power, temp. depend. in mm wavelength range 9-23996
- GaAs, heavily doped, strongly compensated, hopping cond. 9-47180
- GaAs, MBE layers, H₂ effect on residual impurities, photolum. obs. and elec. characts. 9-47636
- Ga_{1-x}In_xAs_{1-y}P_yGe(Sn)(Te), epitaxial film, elec. and optical props. 9-11251
- GaP layers, LPE growth, elec. props., residual impurities 9-38202
- GaP:N VPE LED, deep level centres, DLTS studies 9-42493
- GaP:Te on GaAs, LPE growth from Sn, exam. of impurity band conduction effects 9-11249
- Ge film, electrical cond. during laser-induced crystallisation 9-47175
- Ge, in Al/Ge/Al sandwich struct., interdiffusion effect on film cond. 9-23788
- Ge-Si alloy, epitaxial growth by getter sputtering, characts. 9-28915
- InAs epitaxial layers, on GaAs substrate, electron diff. and SEM exam., electronic props. 9-1552
- InAs heteroepitaxial layers, VPE grown, effect of AsCl₃ mole fraction on elec. props. 9-11255
- InAs_{1-x}Sb_x, epitaxial film, carrier recomb., elec. and optical props. 9-15164
- InO₃:Sn film, prep. by spray hydrolysis, struct., elec. and optical props. (Japanese) 9-42678
- n-In₂O₃ film, on Pb(Zr,Ti)O₃ ceramic, ferroelec. field effect 9-47177
- In₂O₃:Sn, transparent conducting films, prep. by InCl₃ thermal decomp., transmittance, resistivity 9-33944
- In₂O₃:Sn transparent cond. films, hydrolysis deposition, elec. and optical props. 9-43144
- In₂O₃:SnO₂, thin films deposited on cold substrates, initial resist. effect on life stability 9-23867
- n-InP film, polycryst., deposited on Mo sheets, elec. props. obs., w.r.t. varying deposition conditions 9-4608
- InP:Si(Mg), ion implantation and PH₃ ambient annealing under VPE conditions 9-42085

electronic conduction in crystalline semiconductor thin films continued

- InP:Sn, LPE growth from Sn soln., elec. props., 80 to 300K 9-11250
- PbSe, film, photoconductivity, temp. depend. 9-38200
- Pb_{1-x}Sn_xTe film, pure and Bi doped, polycryst., struct., elec., optical props. 9-42542
- (Pb_{1-x}Sn_x)_{1+y}Te_{1-y} system, VPE parameters influence on epitaxial film props. 9-28229
- Ru,Ti_{1-x}O₂ films, elec. props. and IR spectra 9-38207
- SbSi-BiSi₂ solid solns., phase diagrams, photocond., elec. props. 9-38125
- Se film, vacuum deposited, struct. asymmetry, reflectivity elec. cond. 9-23855
- Se photoconductive layers, impedance-freq. characts. meas. (Japanese) 9-38120
- Si, elec. props., effect of amorphous to polycryst. transition 9-28425
- Si, electron beam deposited, elec. and struct. props. 9-1632
- Si, lightly doped, cond. mechanisms, correl. with SEM examination of film 9-1634
- Si, thin sheet, Sb impurity profile eval. in p-n diffusion junction by anodisation and resist. meas. 9-46695
- Si:B, polycryst., effect of laser annealing on struct. and elec. props. 9-11243
- SiO₂, polycrystalline layer on Si p-n junction, charge transport and passivation 9-38206
- Si₃N₄ film deposited from SiH₂Cl₂ and NH₃, characterisation 9-11521
- SnO₂, reactive ion-plasma sputtered, elec. and opt. props. 9-42677
- SnO₂:SB,X, X=Fe,Cu,S, CVD thin film, resist. temp. coeff. 9-38198
- SnO₂:Sb, transparent cond. films, hydrolysis deposition, elec. and optical props. 9-43144
- SnTe, film, heat treatment in air, effect on struct., props. 9-11037
- Te film, on TGS substrate, ferroelec. field effect 9-42675
- Te, films, elec. and galvanomag. characts. 9-33365
- ZnIn₂S₄ (I), one-packed polytype, resist., photocond. and luminesc. 9-1608
- ZnO-resin photoconductive layers, impedance-freq. characts. meas. (Japanese) 9-38120
- ZnS:Cu, film effect of Cu valency on cond. 9-11246
- ZnSe, electron irradi. effect on electrophys. props., prep. conditions depend. 9-28421

electronic conduction in insulating thin films

- see also electrical conductivity of amorphous semiconductors and insulators; electrical conductivity of crystalline semiconductors and insulators*
- hexamethylcyclotrisilazane film, glow-discharge-polymerized, in MIM and MIS structs., elec. cond. mechanism 9-42680
- lead phthalocyanine film, switching effects 9-28384
- polyethylene film, high density, anomalous transient currents around 50-70°C 9-33368
- polyethylene films, electron beam irradi., carrier mobilities 9-1600
- polyethylene films, surface pot. decay, appl. of Scher-Montroll method 9-47102
- polyethylene terephthalate, elec. cond., 120-180°C, anal. of results 9-47102
- PTFE films, plasma-polymerized, cond. mechanism, AC cond. and capacitance meas. 9-24093
- sputter-deposited materials, electrical and optical props. 9-47181
- Al₂O₃, DC reactively sputtered, in MIS structs. optical and elec. props. 9-19486
- ErO_x, in MIM struct., nonstoichiometry effects on elec. cond. 9-1635
- GaAs anodic oxide, electrical props. 9-38170
- Pb₃Nb₂O₇, electric cond. and dielect. props. of cathodic-sputtered films (French) 9-33371
- Pb_{1.8}Zn_{0.15}Na_{0.05}Nb_{0.95}F_{0.05}, electric cond. and dielect. props. of cathodic-sputtered films (French) 9-33371
- Si₃N₄ films grown by pyrolytic reaction between silane and ammonia, DC cond. 9-15243
- Si₃N₄, highly insulating film, current cond., CV curves, and IR absorpt. 9-38208
- SiO₂ films, thickness and dielectric const., elec. cond. mech. (Japanese) 9-8084
- SiO₂ layer anodically grown on high resistivity n-Si wafer, improved homogeneity 9-24642

electronic conduction in metallic thin films

- see also discontinuous metallic thin films; electrical conductivity of amorphous metals and alloys; electrical conductivity of crystalline metals and alloys*
- adsorbed impurities, microscopic calc. of elec. cond. at low adsorption coverage 9-15236
- dispersed metallic film, I-V characts., struct. changes (Russian) 9-38195
- evaporated metal film, oxidation resistivity change meas. (Japanese) 9-11723
- Hall coeff. and cond. using Boltzmann transport eqn. 9-11240
- Kubo formalism 9-7909
- TCR of monocrystalline films, analytical expression 9-42670
- vapour deposited on polymer, ageing, adhesion, elec. cond., electrochem. pot. (Russian) 9-33362
- Ag film, chemisorption effects on optical reflectance and elec. resistance 9-33361
- Ag-Au thin film couples, polycrystalline, low temp. diffusion, resist. obs. 9-4435
- Ag-Te amorphous films, effect of annealing on elec. resist., phase transitions 9-11241
- Al epitaxial layers, elec. props. 9-42671
- Al metallization of semiconductor devices by high rate magnetron/plasma-sputtering 9-28919
- Al-Ge film, random percolation, elec. resist. meas. 9-28418
- Au film, electrical resistivity, influence of metallic adsorption (French) 9-19677
- Au film electrode, electrochem. adsorpt. of O₂, elec. resist. obs. (French) 9-29372
- Au island films, forming process, I-V characts., and switching 9-11242
- Au vapour deposited film, attenuation and phase vel. of SAW interacting with charge carriers 9-46136
- CoP metallic glasses, elec. and optical props., annealing effects 9-38565
- Cr island film nonlinear I-V characteristics, 20 Hz to 15 GHz 9-7910
- Cu, discontinuous film, ageing effect on elec. cond. 9-24084
- Fe, adsorption of CO, resistance changes, work function change and thermal desorption meas. 9-19450
- In-Ge film, random percolation, elec. resist. meas. 9-28418
- Mn film, heat treated, lattice distortion energy, resist. meas. 9-19492
- Mn film, resistivity-temperature variation 9-24085

electronic conduction in metallic thin films continued

- Nb-Ni, amorphous thin film, vapour quenched, elec. resistivity and thermoelectric power 9-33275
 Ni film, effects of finite size on crit. phenomena, resistivity anomaly 9-38192
 Ni, size depend. electronic cond., annealing effects 9-47174
 Ni-Ag, thin-film, elec. cond. depend. on substrate film thickness and condensation temp. 9-7911
 Ni-Al, high-temp. condensed, electron diffr. and elec. resist. (*Russian*) 9-4485
 PdH₂ film, elec. resist., comp. depend. 9-1631
 Po-Ge film, random percolation, elec. resist. meas. 9-28418
 Ru₂Ti_{1-x}O₂ films, elec. props. and IR spectra 9-38207
 Ta film, oxidation in ambient conditions, resist. and ellipsometric meas. 9-34209
 Ti film, elec. resist. Hall effect and absolute differential thermoEMF (*Russian*) 9-24083
 Ti-C_x(N_x)₂(O_x), solid soln. film prep. by reactive sputtering, solubility and effect on props. 9-28231
 U film, condensed on cold substrate, electronic props. (*Russian*) 9-7912
 Zn, RF sputtered, thickness 200 to 1100 Å 9-42674

electronic data processing see data processing**electronic density of states**

- A15 compounds, high supercond., T_c, attributed to linear chains or cubic symmetry 9-38221
 A15 compounds, new aspect of superconductivity, Fermi level rel. to electron-phonon interaction 9-7927
 A15 compounds, self-consistent LMTO band calcs. 9-37954
 A15-compounds, electron lifetime affecting electronic props. 9-15134
 A-15 compounds, supercond. props., band struct. calcs. 9-33388
 actinide compounds, conduction electron polarisation, model density of states 9-37949
 alkali halides, U₂ centres, cluster-Bethe lattice calc. for electronic density of states 9-4531
 all-trans-polyene, ground state props., ab initio studies 9-47002
 alloy, disordered muffin tin type, coherent pot. approx. appl. 9-15062
 alloy, substitutional, analytic approximation for Herglotz property 9-37946
 alloys, binary disordered, electronic density of states, optical theorem and multiple scatt. theory 9-4500
 alloys, disordered, charge density function calculation method 9-42433
 alloys, self-consistent cluster theories for diagonal and off-diagonal disorder 9-37950
 amorphous semiconductor, tetrahedrally bonded, effects of quantitative disorder on electronic struct. 9-47003
 amorphous semiconductor, tetrahedrally bonded, gap density of states 9-19545
 binary alloys, electronic density of states, generalized cluster-Bethe-lattice approach 9-42432
 conducting mol. crystal, electron-phonon interaction, effect on electron energy levels 9-4499
 cubic crystal, perfect, non-Bloch electron states, incompletely symmetric 9-23877
 dilute mag. alloy, density of energy states from sp. ht. as function of temp. 9-19741
 disordered alloy, self-consistent boundary site approx. in cluster theories 9-19500
 disordered material, etc. cond. and density of states, scaling relations 9-28329
 disordered semiconductor, 1-dimensional, density of states, 2-band approx. calcs. (*Russian*) 9-7768
 disordered semiconductors, recomb. radiation spectrum (*Russian*) 9-4855
 electron density, bulk and surface atoms, from ab initio model calcs. 9-4590
 FCC lattice, incompletely symm. non-Bloch states 9-23878
 ferromagnetic instability in two-band Hubbard model 9-1653
 heavily doped semiconductors and devices, review 9-47039
 Hubbard model, random one-body approx., higher dims. lattices 9-37945
 Hubbard model, random one-body approx., one-dimens. case 9-37944
 Hume-Rothery Phases, electronic struct., main features 9-23883
 ideal gas, self-trapping of electrons 9-2662
 intermediate valence compound, pressure-temperature phase diagram 9-28283
 ionic solids, variation of shellwise s-electron density at nucleus 9-42507
 liquid-like random Kronig-Penney model, electronic density of states, CPA calc. 9-1567
 low O₂ exposure effects on electronic surface props. 9-47146
 magnetic alloy, highly concentrated, density of states of cond. electrons 9-24134
 magnetic crystal, effect of impurity on local density of states 9-33263
 metal, d-band, shake-off reduction of single particle spectrum in XPS 9-1812
 metal, simple, density profile, potential for spherical voids 9-11077
 metal, XPS angular depend. (*Russian*) 9-38722
 metals, electric properties calc., book 9-28274
 mixed valence state, electronic structure 9-11092
 MOS structure, use of mini-computer for rapid evaluation of C-V-plots (*Russian*) 9-28413
 Mott transition in the multidimensional Hubbard model (*Russian*) 9-28282
 noble metal based, disordered alloy, dil., virtual bound states, reson. model pot. theory 9-23934
 one-dimensional disordered system, average density of states, augmented space method 9-28265
 perovskites, d-band, surface electronic props., π -bands exam. 9-38145
 polar semicond., secondary radiation intensity oscills., effect of high mag. field 9-19880
 poly(2-vinyl pyridine), electronic struct., molecular-ion states and dielectric props. 9-37969
 quasiparticles, in anisotropic flat slab, in effective mass tensor approx. 9-28266
 random alloys, CPA calcs. cluster extensions, appraisal of applicability 9-15063
 random chain, low-energy density of states and long-time behaviour, scaling approach 9-25994
 random chain of oscillators, CCPA calcs. of spectral density 9-37792
 rare earth metal, Δ levels, obs. by bremsstrahlung isochromat and XPS spectroscopy 9-24411
 semiconducting alloy, two-band, electronic and optical props., multiband theory 9-37952
 semiconductor, heavily doped, perturbation potential distrib. and density of states 9-47052
 semiconductor, quantum oscillation amplitude, depend. on spin splitting 9-15066
 superconductor, with overlapping bands, tunnelling density of states, ultrasound attenuation 9-7934
 superconductor-normal metal interface in a finite geometry 9-33404
 surface states, model calcs. using Koster-Slater type surface potential 9-7872
 ternary alloys, disordered, elec. cond. and density of states, CPA calc. (*Russian*) 9-47072
 transition metal, d-series, density of partially delocalised d electron, calc. of equilb. distance between partial dislocations 9-14811
 transition metal alloys, disordered, density of states, elec. cond., extended Hubbard model 9-37948
 transition metal dichalcogenides, layered, electronic band struct. and bonding by atomic orbitals methods 9-15077
 transition metal dihydrides, band struct. and electronic props., electron-phonon coupling 9-47011
 transition metal hydrides, electronic states calc. 9-7769
 transition metal surface electronic states, self-consistent model calcs. 9-42618
 transition metals, acoustic wave induced elec. field gradient 9-38034
 transition metals and alloys, BCC, electron lifetime affecting electronic props. 9-15134
 transition-metal perovskitelike compounds, covalency effects, partial densities of p- and d-states photoelectron spectra 9-38718
 TTF-TCNQ, crit. behaviour near 53K phase transition, Ginzburg-Landau theory 9-33249
 TTF-TCNQ, self-energy calcs. 9-4499
 two-dimensional, Hartree-Fock soln. of CDW in mag. field 9-28302
 zincblende (110), surface relaxation 9-38143
 zone structure in tight binding calc., program 9-42430
 AgI, lattice instability, XPS 9-11500
 Al film, supercond., meas. of effective quasiparticle recombination times, density of electronic states at Fermi level 9-38264
 Al_{1-x}Ga_xAs-GaAs, quantum-well MO-CVD heterostructure lasers, band-filling props. 9-22954
 Al₂O₃, valence band density of states from self-deconvolution of L₂₃VV Auger spectrum 9-47561
 As, amorphous, electronic struct. of even-ring network model 9-23884
 AsF₆-intercalated graphite, mag. spin susceptibility, density of states at Fermi energy 9-7966
 BaCl₂ film, UPS exam. 9-38716
 BaF₂ film, UPS exam. 9-38716
 BaTiO₃, electronic struct., XPS and band struct. calc. 9-38708
 Be-Mg, two-band alloy, electronic and optical props., multiband theory 9-37952
 Bi, Shubnikov-de Haas effect (*Russian*) 9-7840
 CdTe, Schottky diode, expt. determ. 9-7899
 Co, amorphous and liquid, density of electronic states 9-23881
 CoS₂, e_g band, density-of-states curve 9-7990
 Cu (001) monolayer, electronic struct., self-consistent LCAO calc. 9-4606
 Cu atom in bulk, local density of states 9-37947
 Cu, multipole wave functions for photoelectrons, constant-energy-surface harmonics, s-d band appl. 9-37955
 Cu-Ni, disordered muffin tin type, coherent pot. approx. appl. 9-15062
 Cu₂MnAl, alloy, up-spin and down-spin electron density-of-states curve 9-4507
 Cu_xNi_{1-x}, paramag., Bloch spectral functions and partially averaged local density of states 9-19502
 Cu₆₀Zr₄₀ glassy metal, photoemission and mag. susceptibility 9-28896
 Fe, (111), (100) and (110) surfaces, UPS obs. 9-38712
 Fe-Ni alloys, electronic struct. by XPS obs., proposed model density of states 9-33226
 Fe-Rh alloy, nonmag. and mag., band theory 9-37973
 GaAs (110) surface, chemisorption of O₂, electronic struct. theory, oxidation, electron spectra interpretation 9-42376
 GaAs (110) surface states, surface relax. models, tight-binding calcs. 9-4594
 GaSe, band struct. and electron density of states in two-dimens. approx. 9-37987
 GaSe, layer, upper valence bands using bond-orbital model 9-15078
 Ge, stressed, α_1 and α_2 electron-hole droplet luminesc. 9-28820
 Ge-GeO₂, optical charging memory, influence of doping GeO₂ with metal ions (*Russian*) 9-24077
 Hg_{1-x}Cd_xTe, acceptor levels due to local impurity potential 9-11084
 In₂S₃, valence band densities of states, XPS meas. 9-28892
 n-InSb, heavily compensated, hopping cond. in mag. field 9-7842
 InSb:Cr:Zn, cond. band, change in electron density with mag. field 9-15169
 KNbO₃, electronic struct., XPS and band struct. calc. 9-38708
 KTaO₃, electronic struct., XPS and band struct. calc. 9-38708
 La_{1-x}Ga_x foils, amorphous, splat cooled, calorimetric and resistive meas. 9-33417
 LaRh₂:Nd³⁺ cubic metallic host, spin-lattice relaxation, ESR obs. 9-1710
 Li, Auger line shape KVV, energy band theory 9-43074
 LiC₆, band struct., density of states and Fermi surface props. 9-37982
 LiCd_{1-x}Tl_x intermetallic, X-ray and Knight shift meas. of ²⁰⁵Tl and ¹¹³Cd 9-42851
 Mg, bandstruct. using potentials with exchange and correlation, KKR methods 9-11060
 Mo superconducting film, amorphous and crystalline, transition temp. exam. by UPS 9-28433
 Mo₆ clusters, electronic struct., scattered wave-X α calc. 9-11053
 Mo₂Ge, density of states, increase with superconducting T_c 9-15249
 Na₂WO₃, optical props. 9-38515
 Nb, BCC lattice, optical props., energy band calc. of combined density of electron states 9-15075
 Nb films, supercond. props. and electronic density of states (*Russian*) 9-28439
 Nb, optical properties and electronic props. 9-42439
 Nb₃Ge, A15 superconductor, rel. between transition temp. and density of states 9-15247
 Nb₃Ge, α -particle irradi., relationship between density of states and supercond. transition temp. 9-42684

electronic density of states continued

- Nb₂Ge, density of states from critical field meas. 9-42690
 Nb₂Sn, α -particle irradiation, relationship between density of states and supercond. transition temp. 9-42684
 Nb₂Sn, density of states from critical field meas. 9-42690
 Ni, (001) surface, local density of states, asphericity of pot. and charge transfer, ab initio self-consistent calcs. 9-15064
 Ni (100), electronic struct. of c(2 \times 2) and p(2 \times 2) O overlayers 9-47144
 Ni clusters, FCC and icosahedral structs., relax. and stability, cohesive energy minimization 9-42479
 Ni, film (111), ferromag., energy bands and planar densities of states, LCAO calc. 9-4509
 Ni, liq., electronic density of d-states, hard-sphere model and tight-binding approx. calc. 9-15065
 Ni-In(Sn), electrical cond. and magnetic susceptibility of B 8₂-compounds (German) 9-42520
 NpAl₄ clusters, band struct., variational $X\alpha$ calc. 9-4508
 Pb, band structure, and electron-phonon interaction, supercond. transition temp. determ. 9-19512
 Pb film, supercond., meas. of effective quasiparticle recombination times, density of electronic states at Fermi level 9-38264
 PbPo, electronic struct., relativistic band struct. calc. 9-4510
 PdH_x, CPA calculations of density of states 9-23882
 PuAl₄ clusters, band struct., variational $X\alpha$ calc. 9-4508
 (SN)_x, energy band struct., self-consistent calc. by intersecting spheres model 9-28269
 (SNH)_x, density of states, CPA calcs., effect of H impurities 9-42431
 ScM, (M=Ru,Rh,Pd,Ag), electronic struct., self-consistent local density functional calcs., LMT0 method 9-11059
 Se:Te, amorphous, pure and doped, freq. depend. of elec. cond., 150 to 310K 9-42545
 Si (111), adsorption of Cl, electronic energy states, cluster-type calcs. 9-47149
 Si (111) surface, chemisorbed Al, local density of states 9-47142
 Si (111) surface with Al overlayers, electronic struct., self-consistent pseudopotential method 9-4595
 Si, amorphous discharge produced, electronic density of states 9-46992
 Si, Auger line shape L₂₃ VV, energy band theory 9-43074
 Si, electron-beam-evaporated amorphous thin films, noise meas. 9-24091
 Si, heavily doped, characts. of distrib. of density of states 9-15072
 Si MOS diode characts. obs., electron irradiation damage effects (Japanese) 9-42646
 Si:As, amorphous, field effect and thermoelectric power 9-33289
 Si:P, CVD amorphous film, electronic density of states 9-46993
 Si:P, electronic states, NMR of metallic and intermediate samples 9-4511
 Si-SiO₂, intentionally contaminated interface, transient capacitance meas. 9-33349
 n-SiC (6H), density of states effective mass determ., high temp. meas. of elec. props. 9-15073
 SiO₂, valence band density of states from self-deconvolution of L₂₃ VV Auger spectrum 9-47561
 SiO₂ system, cluster plus effective medium tight-binding study 9-33216
 SmS, intermediate valence compound, pressure-temperature phase diagram 9-28283
 Sn, supercond., quasiparticle recomb. time and normal electronic density of states at Fermi surface from tunnel junction exps. 9-24108
 Ta, optical properties and electronic props. 9-42439
 TiH₂, electronic density of states and tetragonal distortion, APW calc. 9-37986
 UAl₄ clusters, band struct., variational $X\alpha$ calc. 9-4508
 UN, band struct. and density of states, PES meas. 9-42454
 US, band struct. and density of states, PES meas. 9-42454
 UTe, electronic and spin struct. negative spin polarisation of photoelectrons 9-19514
 V, optical properties and electronic props. 9-42439
 W (100) surface, adsorbed Au, Cu layers, electron field emission revealing unmasked surface reson. 9-15595
 W, secondary electron emission spectra, angular depend. and phenomenology 9-43076
 WO₃, optical props. 9-38515
 Zn, electronic band struct., pseudopotential calcs. 9-19510
 ZnIn₂S₄, layered semicond., reflectivity spectra 9-8155

electronic density of states of amorphous solids see *electron energy states of amorphous solids*

electronic density of states of liquid semiconductors see *electron energy states of liquid semiconductors*

electronic desk calculators see *electronic calculators*

electronic engineering computing

- see also *computerised instrumentation*
 field effect transistors, computer simulation, student lab expt. 9-44673
 Josephson junction, frequency-agile, biasing for precise freq., analogue computer study 9-28455
 laser amplifier gain, program for programmable calculator 9-18442
 MOS structure, use of mini-computer for rapid evaluation of C-V-plots (Russian) 9-28413
 SEM voltage state prediction 9-40644
 semiconductor wafer diagnostics, using computer automated scanning low-energy electron probe 9-4214

electronic equipment manufacture

- glass fibres for optical communication, low-loss, fabrication technologies state of art 9-10420

electronic equipment testing

- cardiostimulator, implanted, contactless rhythm indicator 9-39602
 conductivity meter for in situ ocean meas., development, testing and calibration 9-5671
 digital phase shift for meter calibration 9-44898

electronic music

- see also *musical acoustics; musical instruments*
 electro-piano, cantilever, harmonization of vibration (Japanese) 9-18634
 organ Boehm Professional 2000, programmable (German) 9-37096

electronic structure, atomic see *atomic structure*

electronic structure, molecular see *molecular electronic states*

electronics applications of computing see *electronic engineering computing*

electrons

- see also *beta-rays; cosmic ray electrons; positrons*
 anapole moments, source of odd-parity electron-nucleon interactions (Russian) 9-45093
 anomalous mag. moment, γ - γ scatt. contrib. 9-433

electrons continued

- auroral E-layer, plasma lines meas. 9-25386
 decay, DD $e^- \rightarrow \nu_e + \gamma$, lower bound of 3.5×10^{23} years (Russian) 9-40827
 ionosphere photoelectrons, Coulomb-collision induced trapping by geomag. field 9-8739
 magnetosheath and magnetotail, energetic protons and electrons simultaneous meas. 9-16760
 magnetosphere morning sector, auroral electron discontinuity location meas. by Molniya-1 satellite 9-8778
 mass, self-energy formula with grav. self-energy 9-9314
 polarisation radiative corrections in muon decay 9-36055
 relations between electron and other leptons (Hungarian) 9-13180
 relativistic electrons, synchrotron radiation oscillatory behaviour 9-26271
 rest energy, using X-ray photoelectron spectrometer, student demonstration 9-25802
 $e-\mu$ spontaneous symmetry breaking and rare τ decays 9-9301
 $\mu \rightarrow e$ transmutation, failure to observe conversion, reasons and results 9-369
 μe problem, mass difference, lepton number and symmetry conservation, forbidden transitions (Chinese) 9-13121
 π^+ p, 21 GeV, prompt e^- associated with strange particle in strong interaction, direct evidence 9-419

electrooptics see *electro-optical effects*

electroosmosis see *osmosis*

electrophoresis

- see also *electrophoretic coating techniques*
 AC cataphoresis meas. techniques and apparatus 9-8442
 biological materials separation in space environment, electrokinetic phenomena and electrophoresis 9-48351
 colloid particle, spherical, electrophoretic mobility 9-34316
 colloid particles with adsorbed polyelectrolyte, electrophoresis 9-47991
 colloidal cylinders, charged, electrophoresis in salt solns., in transverse elec. field 9-1955
 colloidal cylinders in solns., electrophoresis, random orient. in elec. field, polyelectrolyte appls. 9-1956
 colloids, electrostabilisation effect in elec. field 9-39210
 DC glow discharge, periodically pulsed, theoretical model 9-34313
 deposition, industrial prospects (French) 9-47941
 developers for pictorial electrophotography 9-17523
 dielectric spheres, dielectrophoretic force 9-47935
 electrolyte flocculation of stabilised potassium 9-43638
 electrophotographic images, electrophoretically developed, applicability of Siedentopf's law 9-45881
 electrophotography, latent electrostatic images and electrophoretic development 9-17522
 glass, particle size influence on force moving particle in inhomogeneous elec. field, influence of field frequency 9-11795
 Graphon, colloidal dispersion in butanol, stability ratio 9-29413
 isotachopheresis process 9-25784
 isotachopheretic analysis, development of data processing system (Japanese) 9-24873
 liquid and spherical particle permittivity meas. by dielectrophoretic levitation 9-17447
 lymphocyte sensitisation meas., electrophoretic mobility test improvements 9-25138
 photoelectrophoretic imaging, mechanisms 9-24758
 polystyrene, colloidal dispersion in butanol, stability ratio 9-29413

electrophoretic coating techniques

- industrial prospects (French) 9-47941
 porcelain enamel, electrocoating, appl. 9-33947

electrophoretic coatings

- polymer electrophoretic coating, effect of silicone additive on electrophys. props. (Russian) 9-15615

electrophotography

- charge transfer electroradiography, physical processes 9-17594
 charged particle electrophotography, role of radiation and system noise on granularity and DQE 9-17537
 conference, Rochester, USA, 1978, Aug. 9-20394
 conference, Washington, USA (Nov. 1977) 9-2849
 corona charging devices, characterisation and modelling 9-19110
 coronotron, DC two dimens., numerical modelling 9-19109
 development of electrostatic image 9-17539
 electrophoretic processes, increasing the effective sensitivity (Russian) 9-6211
 electrophoretic developers for pictorial electrophotography 9-17523
 electrophoretically developed images, applicability of Siedentopf's law 9-45881
 electrostatic duplication master, using organic photoconductor memory effect 9-17521
 fused xerographic images, optical density model 9-17550
 fusing xerographic toner images against bare metal surfaces, release agent chemistry 9-17528
 fusing xerographic toner images against bare metal surfaces, release mechanisms 9-17527
 half-tone noise characterisation, meas. technique using scanning microdensitometer 9-26151
 image development by an electrode insulated from electrophotographic layer substrate (Russian) 9-26170
 ink transfer analysis 9-17516
 ion modulator imaging process, long-term memory 9-26158
 latent electrostatic images and electrophoretic development 9-17522
 liquid developer, standardisation of props., manuf. process (Czech) 9-30592
 magnetic brush xerographic development, image noise 9-17526
 organic double-layer electrophotographic system, photoconduction mechanism 9-26161
 PET-CdS photoreceptors, air space effects on electrophotographic props. (Japanese) 9-44962
 photocopying appl., improvement of information content 9-21837
 photoinjection in chalcogenide semicond.-PVK systems 9-19633
 photoreceptor, insulator overcoated, electrophotographic processes 9-2858
 photosensor array, solid-state, for electronic imaging 9-21836
 photothermoplastic devices, conventional and self-developing, sensitivity and development 9-44958
 physical processes, review 9-17536
 pictorial electrophotography, image quality and development 9-17538
 poly-n-epoxypropylcarbazole electrophotographic layers, photogeneration and drift mobility 9-19631
 polymer, molecularly doped, photosensitisation processes 9-2857
 relief plate preparation by subtractive development 9-21831

electrophotography continued

- review, history, present status and future potential 9-2854
- solid area imaging response, math. model 9-2856
- spectrographs with electronic pulse readout 9-26147
- toned paper reflectance 9-2855
- toner electric field detachment, development in xerographic system 9-17525
- toner-carrier pair, surface interaction model for triboelectricification 9-17524
- transfer of electrostatic images 9-26162
- transvenous xeroarteriography, peripheral blood vessel angiography (*German*) 9-2126
- xerographic and insulator-photoconductor sandwich systems, comparison 9-17520
- xerographic images on paper, optical model 9-17549
- xeromammography, image optimisation, detailed systems-based anal. 9-39483
- B multidionate acceptors 9-19632
- Se layers, latent electrophotographic image, formation mechanism (*Russian*) 9-26157
- ZnCdS:Cu, high field photoconduction in binder layer 9-47121
- ZnO sensitized photolayer, overall spectra of local electronic levels 9-23933
- ZnO-polystyrene photoreceptors sensitised by β -Cu phthalocyanine 9-17552
- ZnO-resin electrophotographic layers, light decay curve empirical eqn., reciprocity law failure (*Japanese*) 9-39158
- ZnO-resin photosensitive layers, dark decay mechanism of corona charge (*Japanese*) 9-24002

electrophotoluminescence *see* electroluminescence; photoluminescence

electrophysiology *see* bioelectric phenomena

electroplated coatings

- black chrome, electroplated layer, field ion microscopy study 9-28246
- thickness testers, Kocour electronic models, evaluation 9-21702
- thickness tests, Indian and international standards 9-8405
- tinplate, electron reemission Mossbauer spectra 9-19820
- Ag electroplated lead films, surface struct. rel. to bonding behaviour, IC prod. (*German*) 9-11010
- Au electroplated layer, dropwise steam condensation, thickness depend. 9-46791
- Au, immersion plating on Al, adhesion and contact resist. 9-39033
- Au, using polyphosphate, citrate-phosphate and sulphite baths, comparison w.r.t. internal stress and grain size 9-7756
- Au-Co, 'polymer' inclusions, chem. identity obs. 9-37931
- Co-Sn alloy, oxide films, XPS/AES expts. 9-15862
- Cu-Al₂O₃ coatings, electrodeposited, dispersion hardened, exam. of props. 9-34181
- Ni, electrolessly deposited, structural comparison with electroplated films 9-23869
- Ni, electroplated layer, field ion microscope study 9-28246
- Ni-P alloy, amorphous, NMR expts. and interpretation 9-8060
- Pt, Schottky barrier metalisation, Au diffusion, AES obs. 9-14968
- Zn, chromated, electroplate on steel, corrosion, effect of chromate content 9-20286
- Zn, electrodeposited, planar stress relaxation 9-24563

electroplating

- acid-Cu electrolytes, effect of periodic reverse current process on deposit props. 9-33951
- plating discrete microparticles for laser-fusion targets 9-15841
- steel, mild, panels, electrodeposition painting, effect of surface pinholing 9-43493
- Ag halide complexes on In_{2-x}Sn_xO_{3-y} contacts, appl. to display struct. 9-15435
- Ag, manufacture of semiconductor diodes using electroplating 9-33952
- Au, immersion plating on Al, adhesion and contact resist. 9-39033
- Cu, raising temp. by gelatin addition to plating soln. (*Japanese*) 9-38754
- Ir coatings, from molten chloride and cyanide 9-24640
- Ni electrodeless plating, effect of ultrasonic irradiation 9-33953
- Ni-Fe-Cr soft magnetic film plating bath 9-43465
- Pt coatings, from molten chloride and cyanide 9-24640
- Pt-Ir alloy coatings, from molten chloride and cyanide 9-24640
- Zn electroplating process, optimisation 9-43452

electropolishing *see* electrolytic polishing

electroreflectance

- highly conducting material, electroreflectance by deep field penetration 9-19864
- metal-film-electrolyte system, appl. of electroreflectance 9-42945
- Ag electrode, emersed, electrorefl. spectra 9-28788
- Ag film, electroreflectance effects 9-43055
- Ag surface, (111) and (100), crystallographic anisotropy in surface plasmon decay to photoelectrons, electroreflectance meas. 9-24052
- Au electrode, emersed, electrorefl. spectra 9-28788
- Au film, electroreflectance effects 9-43055
- Cu, electroreflectance, influence of surface microtopography 9-15437
- Cu monocrystals, anisotropic surface effects, electrorefl. spectra 9-8123
- GaAs, exciton-polariton reflectance spectra, exciton impact ionization and illum. intensity effects 9-42943
- GaAs film, electroreflectance effects 9-43055
- GaAs, ion-bombarded, energy band struct., electrorefl. obs. 9-19517
- GaP, ion-bombarded, energy band struct., electrorefl. obs. 9-19517
- Ge, electroreflectance spectra, nonparabolicity effects of bands (*Russian*) 9-4791
- Ge film, electroreflectance effects 9-43055
- Ge_{1-x}Si_x, with Si implanted ions, optical and photoelec. props. 9-24014
- GeTe film 9-43055
- In_{0.79}Ga_{0.21}As_{0.54}P_{0.46}, LPE layer, electroreflectance meas. 9-24290
- In_xGa_{1-x}As_yP_{1-y} layers on InP, LPE and opt. props. characteris. 9-28849
- InO₃:Sn film, electroreflectance effects 9-43055
- n-Si, ion implantation causing surface defects, electroreflectance 9-19274
- Sb film, electroreflectance effects 9-43055
- Si, electro- and thermo-reflectance spectra, line-shape anal. 9-24296
- Si, electroreflectance, dielec. function, ellipsometric meas. 9-4790
- n-Si, surface-barrier electroreflection, polarisation anisotropy 9-24295
- SnTe film, electroreflectance effects 9-43055
- TiO₂ films, in Ti-TiO₂-electrolyte system, electroreflectance response 9-42945

electroreflectance continued

- V₂O₅, electronic and band struct. and spectra, CNDO CI cluster method 9-11091
- ZnTe:In(Al), pure and doped, Zn vacancy energy levels, elec. and optical props. 9-4827
- electrospark machining** *see* spark machining
- electrostatic accelerators**
 - see also* Van de Graaff accelerators
 - anode for an accelerator with an inductive energy accumulator 9-26785
 - coupled Marx-Tesla circuit for production of intense relativistic electron beams 9-17558
 - electron, nanosecond-pulsed, 600 keV, using pulsed-charging of tora capacitors 9-691
 - heavy ion generator, 150 keV, for sputtering 9-697
 - implantation type accelerator, 400 kV, energy resolution, stability and calib. using (p,γ) react. 9-30604
 - pulsed high current 60 keV electron accelerators 9-26784
 - ¹⁴C dating of mg geological samples with electrostatic accelerators 9-25361
- electrostatic coatings**
 - relief plate preparation by subtractive development 9-21831
- electrostatic devices**
 - see also* capacitors; dielectric devices; electrostatic accelerators; electrostatic lenses; electrostatic precipitators
 - analyser, for energy spectra in low energy ion scatt., comparison with TOF energy spectra 9-2895
 - cylindrical electrostatic analyser, design procedure 9-13885
 - cylindrical electrostatic mirror analyser, image line aberrational expansion, nonplanar trajectories 9-41327
 - decelerator for electron microscope (*German*) 9-30620
 - fast electrostatic chopper of low power consumption 9-31284
 - filter, inverse corona elimination (*Russian*) 9-1355
 - meter, Smith field mill type, for measurement of fast transient electric fields 9-21723
 - multichannel charge-exchange energy analyser with high time resolution, plasma energy spectrum 9-41882
 - multistage cylindrical analyzer for simultaneous detection of several beams with different energies 9-22891
 - prism, electron optics for Auger spectrometer 9-29437
 - SIMS detector sensitivity improvement using electrostatic energy filter 9-26172
- electrostatic fields** *see* electric fields
- electrostatic lenses**
 - see also* aberrations; focusing; particle beams
 - coaxial probe forming lens suitable for high-energy ion beams 9-31787
 - crossed six-electrode doublet, stigmatic electron optical operation 9-13888
 - design, for electron microscope 9-35894
 - ion beam focusing from quadrupole mass filter using electrostatic lens 9-229
 - lens properties and computational techniques 9-44983
 - microscope objective lens using solid-state props. of dielectrics 9-2886
 - quadrupole lens, fringing field, conformal mapping method 9-41315
 - quadrupole triplet, for 10 mA MeV ion beam, focusing, construction and performance details 9-3621
 - three-electrode emission lens, appl. for secondary ion microscopy 9-41324
 - two cylinder lenses, expression for potential 9-30626
- electrostatic microphones** *see* microphones
- electrostatic precipitation** *see* electrostatic precipitators; precipitation (physical chemistry)
- electrostatic precipitators**
 - aerosol, electrodifffusion precipitation of charged particles onto cylindrical channel walls 9-14463
 - coal fly ash precipitators, improved performance by electron beam ionisation 9-44918
 - corona, point source current distrib. in external field 9-10727
 - corona system, under neg. direct and pulsed voltage, characts. 9-19107
 - hot gases purifier, air temp. influences on negative corona integral characts. (*Russian*) 9-41892
 - particulate emission from calcining of clay, removal using electrostatic precipitator 9-24925
 - prediction of particle separation, statistical reliability (*German*) 9-4072
- electrostatics**
 - see also* electrets; electric charge; electric fields; electrostatic devices; static electrification; triboelectricity
 - aerosol particle electrostatic collection on sphere 9-47994
 - boundary value problem of four strips inside grounded cylinder 9-13862
 - capacitor of staggered parallel strips in bounded space 9-7052
 - Casimir self-stress on a perfectly conducting spherical shell 9-13859
 - charge redistribution in system of conductors in relative motion (*Russian*) 9-41267
 - charged dust grains accretion, role of induced charges 9-8966
 - charged particle in box, nonlinear integrodifferential eqns. with delay, soln. existence 9-27124
 - conducting ribbon, ring shaped, capacitance, exact upper and lower bounds 9-36811
 - coplanar parallel charged strips, electrostatic problems 9-31765
 - coplanar parallel strips, electrostatic problems 9-31766
 - corona discharge effect on spraying mode of liquid (*Japanese*) 9-5186
 - Coulomb's law, simple demonstration expt. 9-5940
 - cylindrical conductor encircled by plane, capacitance calc. 9-36812
 - dielectric ellipsoid, in inhomogeneous field 9-7053
 - education, point charge in three-dielectric medium with planar interfaces, method of images 9-9055
 - electrolyte double layers, electrostatic and steric repulsion effects in thin aqueous layers between solid surfaces 9-29375
 - electrophotography, transfer of electrostatic images 9-26162
 - electrostatic capacity of two unequal adhering spheres, Dirichlet problem solns. 9-27127
 - equivalence charge concept, appl. to electrostatic energy of charges and multipoles 9-18323
 - Faraday's denial of electrostatic action at a distance, conceptual and expt. bases 9-17180
 - force measurement, student expt. 9-17164
 - gravitational mass change in two point charges system, for teaching 9-35460
 - least capacitance region, free boundary optimisation problem 9-13864
 - least capacitance regions, free boundary optimisation problem 9-13865
 - Lichtenberg figures 9-44693

electrostatics continued

- lunar soil electrostatic transport, terminator configuration model 9-35157
- nonlinear electrostatics, three-dimensional soliton solution (*Russian*) 9-22884
- point charge between infinite parallel plates, infinite series evaluation of teaching 9-25803
- point charge electrostatic potential in Reisser-Nordstrom gravitational field 9-30335
- Schwarzschild space-time, electrostatics, electric fields and black holes (*French*) 9-40432
- spheres, almost touching, temp. field or elec. pot. 9-41268
- spherical insulating particle, ionic charging 9-45882
- suspension of charged sphere, electrode geometry choice (*Russian*) 9-10240
- torus, Kelvin transform., axisymmetric charge distrib. 9-36809
- two dimensional, general anal. representation 9-13863
- two-dimensional field numerical solution, using Sander's function 9-878

electrostriction

- see also *piezoelectric materials; piezoelectricity*
- ferroelectric ceramic, optical modulation by electrostriction during electron beam charging, spatial charact. 9-7224
- highly electrostrictive ceramic capacitor 9-47390
- isotropic solid, electrostrictive birefr. induced by high-intensity laser radiation 9-27340
- microelectrostriction in medium ionization (*Russian*) 9-19839
- piezoelectric cryst., excitation and energy flux of acoustic harmonic, amplitude, depend. on electrostrictive nonlinearity 9-15404
- stimulated scattering of ultrashort pulses, electrocaloric effect 9-10358
- $\text{Cd}_2(\text{NH}_4)_2(\text{SO}_4)_3$, X-ray and optical studies of ferroelec. phase transition 9-38495
- Cu-Cl boracite, ferroelec., X-ray study on phase transition 9-33622
- $\text{KD}_3(\text{SeO}_3)_2$, optical and dielec. props. near ferroelastic phase transition 9-38518
- $\text{KH}_2(\text{SeO}_3)_2$, optical and dielec. props. near ferroelastic phase transition 9-38518

electrosynchronisation see *synchronisation***electroviscous effect**

- see also *colloids; viscosity*
- n-hexane/acetone mixtures, electroviscous effect, AC and DC meas. 9-14949

element origin

- see also *cosmic ray origin; cosmology*
- cosmological element formation, inhomogeneity in D prod. 9-21471
- cosmology, nucleosynthesis in charged universe 9-25766
- early universe, nonlinear primordial fluctuations rel. to nucleosynthesis 9-25773
- explosive nucleosynthesis, massive star evolution preceding and during supernova, element abundances (*German*) 9-44469
- formation by β^- decay (*Russian*) 9-8818
- galaxies, two-component, chemical evolution, analytical approach 9-25711
- heavy element, origin in star development supernovae and galactic matter (*German*) 9-44468
- ^{26}Al , prod. from stellar evolutionary sequence 9-5809
- CNO rare isotopes, prod. in novae by explosive hot CNO-Ne cycle H burning 9-44489
- D, galactic radial gradient, rel. to universe origin 9-40232
- Fe meteorites, trace element abundances rel. to superheavy elements fission 9-48742
- ^3He , interstellar detect., no evidence for low-mass stars nucleosynthesis 9-25689
- Kr, fission, in carbonaceous chondrites, origin 9-35199
- N, primary nucleosynthesis rel. to galaxies ages determ. 9-25728
- Xe, fission, in carbonaceous chondrites, origin 9-35199

element relative abundance

- see also *isotope relative abundance*
- absorbing material towards quasistellar object PKS 0528-250, abundance anal. 9-40288
- actinides in English Channel, transfer into S.North Sea 9-48519
- Adelaide meteorite, carbonaceous chondrite chemical anal. and Ca/Al ratio 9-2532
- Antarctic meteorite Yamato 74123, new ureilite 9-35206
- atmosphere, marine, trace elements in size separated aerosols 9-20989
- Chassigny meteorite, cumulate dunite, comp. of hydrous amphibole-bearing melt inclusions 9-21235
- chondritic meteorites, rare-earth abundances 9-21234
- clusters of galaxies, OSO 8 X-ray spectra rel. to intracluster gas Fe abundance 9-25734
- coal 9-48015
- Cocklebidly meteorite, comp. determ. by chemical anal. scheme 9-2483
- cosmic abundances, rel. to universe nonlinear primordial fluctuations 9-25773
- cosmic rays, abundances of elements in $26 \leq Z \leq 30$ interval 9-40044
- curve of growth anal. of HD 161698 Hg-Mn star 9-30070
- diamond, different types, trace elements conc. 9-14838
- diamonds from S.Africa, elemental concs. and Pb and Sr isotopes 9-34775
- DO white dwarfs, atmospheric He/H ratios and effective temps. 9-35249
- Fe in planetary nebulae, abundance rel. to grain condensation and nebula form. models 9-40238
- ferromanganese nodules, oriented, U-Th series nuclides rel. to growth rates and turnover times 9-29740
- galactic centre, Ar overabundance from forbidden Ar II emission obs. 9-48922
- galaxies, absorption features radial gradients rel. to metallicity 9-40254
- galaxies, N/O abundance ratios rel. to ages 9-25728
- galaxies, two-component, chemical evolution, analytical approach 9-25711
- Indian continental shelf, distrib. patterns of Al, Ti, Mn, Cu and Ni in sediments 9-25225
- inert gases in atmospheres of Venus, Earth and Mars, abundances rel. to planetary interiors outgassing 9-48721
- Inman, McPherson County, Kansas, meteorite, mineralogy, petrology and comp. 9-2527
- interstellar abundances in ζ Ophiuchi clouds 9-48875
- interstellar matter in front of χ Ophiuchi, optical obs. and abundances 9-25673
- interstellar medium, Fe, Mn and Mg depletion derived from S 59 obs. of 67 stars 9-2563

element relative abundance continued

- Lewisian gneisses, Sm-Nd systematics and implications for granulites origin 9-20777
- light element abundances, galactic evolution and universal baryon density 9-40302
- light rare earths in composite dike, partitioning between co-existing acidic and basic melts 9-2233
- Lunar Crater, India, chem. study of impact glasses and basalts 9-20836
- Louvem volcanogenic Cu deposit, Quebec, lithogeochem. anomalies 9-5480
- lunar mare basalts, comparison with terrestrial mid-ocean ridge basalts 9-16424
- M32-1, planetary nebula in M32, spectrophotometry rel. to chemical abundances 9-25664
- M82 nucleus, Brackett-line obs. rel. to Ne abundance 9-25704
- Manych meteorite, L-3 chondrite, droplet chondrules comp. and chondrules origin 9-30014
- metagabbro at bottom of Michigan Basin deep drill hole, Rb-Sr geochronologic anal. 9-39680
- metal abundance determ. in late-type stars, new method 9-12405
- metal concs. in soil solns. 9-34824
- metal-enriched sediments from the TAG Hydrothermal Field 9-20805
- metallicity gradient across galactic disk 9-48905
- micaceous kimberlites, micas chemistry 9-16465
- mid-ocean ridge basalts, comparison with lunar mare basalts 9-16424
- NGC 4378, anaemic spiral galaxy, extended rot. curve and evidence for metal enrichment 9-8990
- NGC 6888, circumstellar nebula, He and N overabundances from forbidden N II /H α ratio 9-8964
- nuclear oil well logging using 14 MeV neutron-excited gamma-ray spectrometry 9-48581
- ordinary chondrites, trace element distrib. between mag. and nonmag. portions 9-35205
- plagioclase, zoned, of different magmatic environments, preliminary ion-microprobe anal. 9-34815
- planetary nebulae, C abundances from C IV 1550 Å lines fluxes 9-17051
- planetary nebulae, Fe abundances from forbidden Fe VI emission 9-8970
- planetary nebulae, S and Ar abundances from 10 micron obs. 9-48879
- planetary nebulae truncated composite shell models, chemical comp. rel. to emission line spectra 9-25677
- precious metals, values in interflow sedimentary rocks from Kambalda (W.Australia) komatiite sequence 9-20830
- primary fractionation of elements among Fe meteorites 9-35210
- QSOs, high redshift, metal abundances in emission line regions 9-21458
- rare earth element, abundances in layered Komatiite lava flow, Ontario, Canada 9-29764
- rare earth elements, distrib. in N Atlantic Kimmeridgian black shales 9-44187
- rare earth elements, partitioning between hydrous silicate melt, amphibole and garnet peridotite 9-20775
- refractory-element-rich inclusions in CM meteorites 9-30022
- s-process elements in Ba star HR 774, Reticon spectra 9-25594
- sediments, in Gulf of Kutch, element distrib. 9-48450
- siderophile elements indigenous abundances in lunar highlands, rel. to lunar origin 9-5767
- silicate spherules in deep-sea sediments, extraterrestrial origin 9-48743
- soil pollution elemental deposition downwind of coal-fired power plant 9-20838
- solar energetic particles in corotating events, comp. 9-25414
- solar system, continual matter accretion, elemental heterogeneities 9-2489
- stellar He/H ratios, evidence from eclipsing binaries masses, radii and absolute magnitudes 9-44520
- stratification of elements in the envelopes ejected by type I supernovae 9-16997
- superheavy elements, detection by fission activity detect. (*Russian*) 9-13358
- thermal fluids of Abano region, N.Italy, comp. rel. to sources and circulation paths 9-20883
- trace elements in shergottite meteorites: implications for the origins of planets 9-44420
- trace elements in the fluid phase of the Earth's mantle 9-34779
- trace elements survey, 1977 results for UK air 9-20960
- trace metals in Antarctic snows (1914 to 1974) 9-34867
- Tynes Island, meteorite, comp. of unusual Fe+FeS and silicate clast 9-2526
- unevolved stars, abundances rel. to interstellar gas mixing (*Russian*) 9-40192
- volatiles in Hawaiian tholeiitic submarine basalts 9-34795
- Yamato meteorites (j), (k), (l) and (m) from Antarctica, petrology 9-2528
- $^{241}\text{Am}/^{238,239+240}\text{Pu}$, ratio in water entering N.North Sea, vars. 9-16520
- Ar/Cl in planetary nebulae rel. to galactic abundances 9-5887
- Ar/O in planetary nebulae rel. to galactic abundances 9-5887
- ^{40}Ar concentrations in sialic crust and atmosphere, rel. to form. from upper mantle 9-44153
- B, concs. in carbonaceous chondrites 9-16897
- B/Be ratio in meteorites rel. to interstellar grain synthesis 9-16894
- Br/Cl ratio in Bay of Bengal 9-25267
- Br/Pb ratios in atmospheric particulate matter over Perth, W.Australia, 1971-6 var. 9-34455
- C depletion in interstellar medium, from Cygnus Loop UV spectrum obs. 9-21398
- C overabundances in C star atmospheres 9-21284
- C, primordial retention by terrestrial planets 9-40102
- C/Fe ratio in metal-poor stars from CH features 9-16945
- C/H ratio, on Jupiter, from IR and visible spectrum 9-48729
- Ca excess in snow and rain samples, Japan, from calcite source 9-39766
- Ca/H ratio in RR Lyrae variable stars in globular clusters 9-16962
- Cl/O in planetary nebulae rel. to galactic abundances 9-5887
- F/Cl in Nasu hot spring water (*Japanese*) 9-8648
- Fe abundance in M87/Virgo cluster X-ray source, determ. form 1.1 keV line emission 9-25758
- Fe abundance in X-ray galaxy clusters 9-12530
- Fe in red giant star ϵ Virginis, differential metal atmosphere analysis 9-25604
- Fe, interstellar gaseous depletion, Fe II resonance line UV obs. 9-44584
- Fe meteorites, condensation and comp. 9-30021
- Fe meteorites, cosmic ray produced nuclides, $^{41}\text{K}/^{40}\text{K}$ - $^4\text{He}/^{21}\text{Ne}$ exposure ages and age distrib. 9-30015

element relative abundance continued

- Fe meteorites, trace element abundances rel. to superheavy elements fission 9-48742
 Fe meteorites with low Ga and Ge concs., comp., struct. and genetic relationships 9-21236
 Fe, solar abundance from 300 to 900 nm Fe I lines using precise oscillator strengths 9-40155
 Fe/H abundance ratio in giant stars of G and K type 9-16944
 Fe/H ratio and $^{12}\text{C}/^{13}\text{C}$ ratio correl. in K-type giant stars atms. 9-48798
 Ge/Si and Ga/Al ratios vars. along Reykjanes Ridge and Iceland 9-8617
 H/N ratio in H II regions (*Italian*) 9-21395
 He abundance in H II regions in Galaxy 9-21389
 He enrichment in planetary nebulae 9-21380
 He spots caused by diapiric magma from upper mantle, Matsushiro fault zone, Japan 9-8618
 He/H rel. to N/O in planetary nebulae 9-35326
 $^3\text{He}^+/\text{H}^+$, interstellar abundance ratio and significance 9-25689
 Hg conc. determ. in Arabian Sea waters 9-25268
 I in Yarra River estuary water 9-34855
 Li, Be, B, galactic abundances rel. to cosmic-ray nucleosynthesis and extragalactic matter infall rate 9-17084
 Mn-Hg stars, differential curve-of-growth analyses 9-16971
 N, abundance anomaly in globular cluster 47 Tucanae 9-48867
 N, interstellar abundance from XUV absorption line obs. 9-5741
 N/O in planetary nebulae 9-35326
 Ne in planetary atmospheres, interstellar cloud material contrib. 9-25698
 Ne/O in planetary nebulae rel. to galactic abundances 9-5887
 O, interstellar abundance toward ζ Ophiuchi 9-44583
 P/H ratio in Jupiter atmosphere, results from 10 to 13 μ spectrum 9-8876
 Pb in environment 9-34443
 Pb in hydrosphere, global and regional distrib. 9-16517
 Pr solar abundance from Pr lines in photospheric spectrum 9-44443
 Pt concentration in deep sea Mn nodules from Pacific Ocean (*German*) 9-44169
 Rn concentration in groundwater, continuous monitoring using ionisation chamber 9-21068
 S in rainwater in rural areas of England and Wales 9-16562
 S/Ne/A ratios in NGC 7027, planetary nebula 9-21400
 Si overabundance in chemically peculiar stars and oblique rotator model 9-30067
 Sm II, solar abundance, spectral transition probability, 3000-7000 Å 9-31453
 Th, U, Pu, Cm in solar nebula, condensation and fractionation 9-35154
 U in world rivers, evidence for higher natural content 9-44208
 V/H ratio in early A-type stars 9-21314
 W, concs. in Fe meteorites 9-35200
 ^{129}Xe , excesses in Hawaii lavas olivine phenocrysts and xenolithic dunites 9-34814

elemental semiconductors

- adamantine family of semiconductors, props. and commercial appl. 9-42447
 amorphous, crystallisation and decomposition 9-41959
 amorphous, local order as determined by electronic and vibrational spectroscopy 9-37627
 amorphous, struct. models 9-37628
 atomic diffusion in semiconductors, review 9-4423
 diamond:B, synthetic, current-voltage characteristics, temp. depend. (*Russian*) 9-7825
 diamond:B, synthetic semicond., thermostimulated conductivity (*Russian*) 9-7834
 diamond, different types, trace elements conc. 9-14838
 diamond, electroluminescence, thermoluminesc., photocurrents 9-38675
 diamond, high temp. ion implantation 9-23623
 diamond, ion implanted, p-i-n structure, double injection of carriers 9-11214
 diamond, phonon spectra calc. using dielectric matrix approach 9-4381
 diamond, refractive index dispersion 9-24280
 diamond, structure and motion of self-interstitials 9-37700
 diamond, temperature field dynamics during synthesis 9-38755
 diamond ceramic, elec. cond., thermal cond. rel. to temp. 9-15140
 diamond detectors, elec. props. and performance for α - and β -particles 9-36481
 diamond detectors, transport props 85 to 700K 9-45542
 diamond Ge(B)(B₄C), doping by diffusion at high temp. and press. 9-19273
 diamond Schottky barrier, electronic struct., pseudopotential method, junction model 9-38162
 electroreflectance, dielec. function, ellipsometric meas. 9-4790
 n-Ge, noise and hot carrier diffusion in mag. fields 9-11193
 impurity ion potential, in spatially varying dielec. const. semicond., variation calc. 9-7800
 n-Si:B, ion implanted, rapid identification of faulted loops 9-19254
 n-Si, dislocation images, electron beam induced current, charge collection process 9-17580
 n-Si, donor energy and polarisability in weak mag. field, rel. to hydrogenic atoms 9-3594
 n-Si, elec. cond. in weakly heating alternating elec. field 9-23977
 Si wafer, anomalously transmitted X-ray intensity enhancement by asymmetric diff., appl. to microstructure 9-14647
 superconductor-semicond. device research, future prospects 9-28467
 XX Ge, anisotropic oxidation, ellipsometry meas. (*Russian*) 9-43451
 n-Si, deep levels in p-n junctions or Schottky barriers determ., hybrid method 9-24067
 Au-n-Si-p-Si structure with wavelength depend. photocurrent sign, photodetector 9-12849
 B, properties of α - and β -rhombohedral, and tetragonal types, review 9-42532
 Ga-GaAs heterojunctions, electronic struct., tight-binding and pseudopot. models 9-42633
 Ge, 16 μm generation from phase-matched 4-wave mixing of CO₂, NH₃ lasers 9-3745
 Ge (100) surface, electronic struct., scattering-theory formulation 9-42607
 Ge (111), adsorption of polar molecules, surface recomb. centre neutralization 9-38147
 p-Ge (111) surface, Cs adsorption, work function meas., adsorption site model 9-23839

elemental semiconductors continued

- Ge, acceptors, transitions from second excited state, photocond. meas. 9-11082
 Ge, adsorption of O₂ on surface, degree of freedom of rot. and translational motion of O particles 9-23842
 Ge, adsorption of water, neutralization of surface recomb. and fast capture centre 9-33184
 Ge, Akhieser region, nonlinearity parameter and US attenuation coeffs., temp. depend. 9-37762
 Ge, amorphous, annealing effect on absorpt. edge (*Korean*) 9-15142
 Ge, amorphous, laser reordering of implanted amorphous layer 9-19270
 Ge, amorphous, tunnelling states simulation and sp. ht. 9-37791
 Ge, amorphous and crystn. films, contamination behaviour, XPS examin. 9-1815
 Ge amorphous film, effective medium theory and freq. depend of conductivity 9-24090
 Ge, amorphous film, in situ meas. of thermal EMP, by ultrahigh vacuum electron microscopy 9-26184
 Ge, amorphous film, ion-implanted, regrowth 9-15043
 Ge, amorphous film, optical consts. in near IR range (*Korean*) 9-8137
 Ge amorphous films, self-ion bombard., electronic props. 9-28422
 Ge amorphous solid dielectric loss meas. by submillimetric waveguide laser 9-33603
 Ge, autofocusing of X-rays and γ -rays 9-12916
 p-Ge, bleaching, optical heating and cooling of electrons involving intraband transitions 9-10365
 Ge, capture of carriers by attractive centres 9-7836
 p-Ge, carrier drag by photons, comparison with p-GaAs 9-11185
 Ge coaxial detectors, n-type high purity, construction and performance 9-41075
 Ge coaxial detectors with reverse electrode, radiation damage resistance 9-41076
 Ge, Compton profile anisotropy, pseudopot. calc. 9-28854
 Ge, crystal growth and segregation under zero gravity 9-43130
 p-Ge, detector-grade single crystals, impurity background 9-11088
 Ge detector; high-purity, effect of crystal growth direction on energy resolution 9-45541
 Ge, diamagnetic excitons, fundamental absorption edge, Faraday config. 9-8144
 Ge, direct gap recombination, at high excitation level and low temp. 9-38650
 Ge, dislocation free single crystals, six wave diff. of X-rays, anomalous transmission 9-14650
 Ge, dislocation free single crystal, swinging fringes, six wave diff. of X-rays 9-14649
 Ge, doped, D⁻ band width, influence of resonances 9-11061
 Ge, electric quadrupole sum rules rel. to optical consts. 9-38036
 Ge, electron hole drop diffusion const., hysteresis effect determ. 9-23902
 n-Ge, electron irradiated, energy levels 9-28316
 Ge, electron states below cond. band originating from dissociated 60° dislocations, calc. using effective mass method 9-19546
 Ge, electron-hole correlation density depend., in electron-hole liq., under uniaxial stress 9-15090
 Ge, electron-hole drop binding energy, optical threshold studies 9-38652
 Ge, electron-hole drop formation, nucleation phenomena 9-33240
 Ge, electron-hole droplet scattering of acoustic phonons, total scatt. rate and anisotropy 9-33241
 Ge, electron-hole droplets, variation of α_3 electron density at constant stress 9-47025
 Ge, electron-hole drops, inflammation radiation under action of ultrasound (*Russian*) 9-7788
 Ge, electron-hole drops, in superfluid He, threshold phenomena (*Russian*) 9-42462
 Ge, electron-hole drops, motion in low mag. fields 9-23904
 Ge, electron-hole drops, resonant power absorpt., Alfvén wave anal. 9-42569
 Ge, electron-hole drops, size distrib., light scatt. meas. 9-28292
 Ge, electron-hole drops formation, nucleation theories 9-33239
 Ge, electroreflectance spectra, nonparabolicity effects of bands (*Russian*) 9-4791
 Ge, energy-gap narrowing and state filling under laser irradi. 9-42441
 Ge epitaxial film, misfit dislocations, determination of Burgers vector (*Russian*) 9-33207
 Ge, exciton condensate and electron-hole droplet, metastable state, effect of illumination and high-frequency heating 9-15097
 Ge, exciton condensation in electron-hole drops (*Russian*) 9-19522
 Ge, exciton contrib. to oscillatory magnetophotocond. 9-15180
 Ge far IR photoconductive detector speed, limitation 9-30550
 Ge film, electrical cond. during laser-induced crystallisation 9-47175
 Ge film, electroreflectance effects 9-43055
 Ge film, in Al/Ge/Al sandwich struct., interdiffusion effect on film cond. 9-23788
 Ge film, prep. by low press. reactive deposition process 9-24449
 Ge film black, solar selective absorber surface 9-29484
 Ge films, adhesion to substrates, effect of Ar⁺ ion irradi. 9-11047
 Ge, formation of sulphide layers in S vapour on surface 9-7757
 Ge, free carrier, intervalence band indirect absorpt., at high optically created carrier densities 9-42961
 p-Ge, free-carrier reson., photoconductivity spectra in submillimetre wavelength 9-15353
 p-Ge, freq. depend. of effective temp. of hot carriers 9-11135
 Ge, gamma irradiated, radiation defects, formation kinetics, successive capture of vacancies by impurities 9-10873
 n-Ge, γ -irrad. and subjected to arbitrary excitation and rate, recombination 9-38101
 in-Ge, Hall mobility in strong elec. field, appl. of instrum. for Hall current meas. 9-35779
 p-Ge, heavily doped, anomalous magnetoresist. under uniaxial compression (*Russian*) 9-33302
 Ge, heavily doped, multiplex AC hopping conduction 9-11122
 Ge, high purity, carrier trapping 9-47104
 Ge, high purity melt, stability of oxide second phases 9-47898
 Ge, hole drag current in two-photon transitions due to EM wave momentum 9-15187
 n-Ge, hopping magnetoresistance percolation analysis 9-38106
 Ge, hot hole distribution function at low densities 9-11138
 Ge, hot hole distribution function, effect of impurity and hole scatt. 9-11139
 Ge, ideal vacancy, electronic struct., tight-binding calc. 9-4529
 Ge, impact ionisation by electrons and holes, threshold energy 9-38078
 n-Ge, impurity breakdown field, temp. depend. 9-24263

elemental semiconductors continued

- Ge, impurity modes due to point defects, comparison with IR and Raman meas. 9-4386
- Ge, inelastic X-ray scatt. cross section accompanied by intermediate momentum transfer 9-24387
- Ge, inter-valence-band absorption in electron-hole droplets 9-4515
- n-Ge, internal stress effect on electron-phonon interaction, thermal cond. anal. 9-42468
- Ge, lattice disorder influence on optical spectra in interband transition region 9-43006
- Ge, light scattering, by pure single cryst., influence of photoexcitation 9-28780
- Ge, low temp. recombination into shallow donors, transient case 9-38092
- Ge, low-temperature bolometer, characts. 9-30561
- Ge, magnetic susceptibility of light and heavy holes 9-42734
- Ge, magnetoplasma reson. spectra, electron-hole drop shape effects 9-1712
- Ge, magnetoresistance meas., transverse diffusion currents on source of error 9-7843
- p-Ge, magnetothermal conductivity at low temp. 9-28158
- Ge, many-valley semicond., current-voltage characts., intrinsic magnetoresistance 9-38108
- Ge microconductor mag. field transducer, cast, galvanomag. recomb. effect 9-19609
- Ge, microflaw vol. conc. determ., etching method 9-24688
- Ge, Mott distortion of the electron-hole fluid phase diagram, luminesc. meas. 9-42457
- Ge, multivalley struct., helical instability (*Russian*) 9-47101
- p-Ge, neutron irradi. quenched sample, lattice defects 9-19284
- n-Ge, noise, small signal conductivity and diffusion in strong elec. fields 9-11192
- Ge, non-collinear phase matched 4-wave mixing of CO₂ and NH₃ laser radiation 9-988
- n-Ge, nonlinear absorption of CO₂ laser radiation by nonequilib. carriers 9-32000
- Ge, optical absorption from indirect transitions at high mag. fields 9-47441
- p-Ge, optical cooling and carrier heating, intraband photocond. meas. 9-11174
- Ge optical switch, picosecond pulse generation at 10.6 μm 9-7159
- Ge oscillator, hysteresis effects and N-shaped V-I characts. 9-33306
- Ge, p-i-n avalanche photodiode, temp. depend. characts. 9-35835
- Ge, p-type, and n-type converted to p-type by irradiation at 77K, defect form. mechanism 9-23651
- p-Ge photon drag detector, performance in 2 to 33 μm range 9-35834
- Ge photon-drag detector submillimetric-wave performance 9-30547
- Ge, picosecond Nd laser pulse reflectivity 9-18469
- Ge, picosecond optical absorption, at high optically created carrier densities 9-47462
- n-Ge, plastic deformation, impurities and dislocations interaction, cond. (*Russian*) 9-47100
- Ge, plates, semicond., scribing marks rel. to sclerometric microhardness 9-15891
- Ge, positron annihilation, effect of vacancies 9-24385
- Ge, pure, degree of compensation, capacitance meas., 4.2-150K 9-7624
- Ge, pure, large, electron hole drops, microwave heating and evaporation 9-28287
- Ge, pure and doped, electron-hole drops net charge, photocond. and photoluminesc. 9-38589
- Ge, recombination at dislocations 9-38023
- Ge recombination characteristics used in design of semicond. devices (*Russian*) 9-42557
- Ge, recombination luminesc. spectra from hot and cold carriers in electron-hole drops 9-38608
- Ge, reflectivity, picosec. laser pulses and electron-hole plasma 9-47463
- Ge, refractive index dispersion 9-24280
- Ge, reson. Raman scatt. under uniaxial stress near E₁ gaps 9-42960
- Ge, rest friction of electron-hole drops (*Russian*) 9-42463
- Ge Schottky barrier, electronic struct., pseudopotential method, jellium model 9-38162
- Ge, self-consistent localised electronic struct. 9-42445
- Ge, single crystal, stress-induced phase change 9-23720
- p-Ge, spectral depend. of drag of electrons by photons 9-42590
- Ge, strain-confined electron-hole liquid, lifetime and radiative efficiency vs density 9-38000
- Ge, strain-narrowing of luminesc. line from excitons 9-24356
- Ge, strained, crit.-point for electron-hole droplets 9-4516
- Ge, stressed, α_1 and α_2 electron-hole droplet luminesc. 9-28820
- Ge, stressed cryst., props. of strain-confined electron-hole liquid 9-7787
- p-Ge, stretched along (111) axis, bulk negative differential cond. and current oscils., 78K 9-19601
- Ge, sum rule for intraband optical absorpt. of shallow acceptor impurities 9-28793
- Ge surface, field penetration and band bending in high elec. fields 9-42613
- Ge surface ion implanted far IR composite bolometers 9-30549
- Ge, surface structure, LEED and spot photometric meas. 9-23811
- p-Ge, thermal conductivity, effect of uniaxial stress 9-23792
- Ge, thermal conductivity, low temp. calc. for impure insulators 9-33128
- Ge, thermal expansion coeff., optical mode Gruneisen const. 9-46820
- Ge, thermal rectification and negative differential cond. 9-42554
- Ge, transmission Faraday rot., due to intervalence band transitions 9-38521
- Ge, trapping defects, deep level transient spectroscopy 9-47045
- Ge, two photon absorption of light with optical transitions between heavy- and light-hole states 9-11421
- n-Ge, uniaxially deformed, longitudinal magnetoresist. in quantising mag. field 9-15168
- Ge, unstrained, electron-hole drop shape in mag. field 9-42458
- Ge, Zeeman split acceptor levels, calc. method 9-28322
- Ge⁺, low energy mass analysed ion beam deposition on Ge and Si substrates 9-33946
- Ge:As, interaction of muonium with atoms 9-11373
- Ge:B, epitaxial film, exam. of doping during chemical deposition from gas phase 9-1446
- Ge:Cu, press. effect on energy spectrum of carriers, elec. cond. and Hall coeff. expts. 9-23930
- p-Ge:Ga, heavily doped, elec. resist., 40 mK to 300K 9-38071
- p-Ge:Ga(Sb), proton irradiated, kinetics of accumulation of radiation defects, minority carrier lifetime 9-10885
- Ge:Li, thermal cond., 0.4-20K, Li valley-orbit splitting 9-15111

elemental semiconductors continued

- Ge:Li-O, donor complex EPR and photoelectron piezoelectric spectra, dynamic tunnelling 9-1711
- n-Ge:Ni, negative differential conductance of surface channels 9-11134
- Ge:O, elec. props., O interaction with point defects 9-11081
- Ge:P, peripheral phonons and phonon cond. 9-14973
- Ge:Sb, bolometer element, absorpt. spectra, bias depend. 9-30553
- n-Ge:Sb, fast electron irradi. at 77K, radiation defect changes by annealing at 220K 9-37737
- Ge:Sb, lattice thermal resist. due to bound state electrons 9-46850
- n-Ge:Sb,Cu, exactly compensated, static photocurrent-voltage characts. 9-38131
- n-Ge:Sb,Cu, exactly compensated, unipolar injection influence on photoconductivity 9-42592
- Ge:Sb crystals, purification by zone recrystallisation with temp. gradient 9-4916
- Ge:Sb(Ga), amorphous, doping effects on Fermi level, electrical meas. 9-42546
- Ge:Te, ion-implanted, thermally assisted Xe-flash annealing, Rutherford backscatt. meas. 9-10881
- Ge-Ga_{1-x}Al_xAs, MBE of ultra thin film superlattices on GaAs substrates, TEM study 9-37932
- Ge-GaAs heterojunction, band discontinuities, angle-resolved UPS obs. 9-7878
- Ge-GaAs inter faces, heteroepitaxial, misfit dislocations, TEM obs. 9-23610
- Ge-GaAs interface, surface and interface states of (111) surfaces 9-15206
- Ge-GaAs p-n heterojunction, current fluctuations 9-11209
- Ge-GaAs p-n junction, microparameters determ. 9-11216
- Ge-GaAs p-nn⁺ junction I-V characts., inverse branch, effect of dislocation defects (*Russian*) 9-15217
- Ge-GeO₂, optical charging memory, influence of doping GeO₂ with metal ions (*Russian*) 9-24077
- Ge-Si(GaAs) heterodisorders, interfacial structural defects effect on avalanche breakdown 9-42644
- Ge-ZnSe p-n heterojunctions, effect of interfacial condition on optoelectronic props. 9-24061
- K X-ray prod. for Br ions 9-47547
- n-Si, ion implantation causing surface defects, electroluminescence 9-19274
- S:P, ion implanted, defect annealing 450-800°C, deep-level transient spectroscopy 9-47042
- Se, amorphous, AC cond. magnitude and variation (*French*) 9-47095
- Se, amorphous, O impurity addition rel. to elec. cond. 9-38067
- Se, amorphous, struct. and elec. cond. transitions under high press. 9-42237
- Se, amorphous, trigonal and α -monoclinic, positron annihilation 9-11484
- Se, amorphous film, AC conductivity at radio and microwave frequencies 9-11248
- Se amorphous film, stabilisation by thermal treatment (*French*) 9-47176
- Se amorphous films, structural relax., viscosity, creep, heat capacitors, and IR spectra meas. 9-42424
- Se, exciton luminesc. in trigonal form 9-33802
- Se film, amorphous, block formation during crystn., electron microscope obs. 9-11030
- Se film, resonance Raman spectrum 9-28760
- a-Se, hole form. energy, heating time and cooling rate depend. 9-41958
- Se, liquid-crystal phase transition, elec. cond. changes 9-33310
- Se photoconductive layers, impedance-freq. characts. meas. (*Japanese*) 9-38120
- Se, trigonal, indirect exciton ground states, photoluminescence 9-24361
- Se:As, amorphous, pure and doped, photoelectronic preps. in glass transition region 9-4583
- Se:Cd dilute liquid, perturbed ang.-correl. meas. of motional-correl. time 9-41930
- Se:Te, amorphous, pure and doped, freq. depend. of elec. cond., 150 to 310K 9-42545
- Se:U, cryst. and amorphous, impurity conc. and distrib., solid state nuclear track detection 9-46694
- Si, 1-10 keV H⁺, He⁺ irradi., role of Auger processes in electron emission 9-15579
- Si, (100) and (110), anisotropic etching for fabrication of 3-D microstructures 9-15826
- Si, (100) and (110), anisotropic etching 9-15827
- Si (100) surface, electronic struct., scattering-theory formulation 9-42607
- Si (100)-Pd-Si-Si system, Si epitaxy obs. by ³¹Si tracer and Rutherford backscatt. methods 9-4431
- Si (100)-SiO₂ inversion layers, exchange and correl. contribs. to subband energies 9-42654
- Si (111), adsorption of Cl, electronic energy states, cluster-type calcs. 9-47149
- Si (111), dynamic effective charge and surface reconstruction, soft-mode theory 9-4460
- Si (111), growth and etching vectors, adsorption and step reconstruction 9-23548
- Si (111), surface states and surface struct., angle-resolved PES 9-28390
- Si, (111) 2×1 surface, LEED theory and expt. 9-46895
- Si (111) inversion layers, CDWs, effect of four valley interaction terms 9-33324
- Si (111) surface, 1-3 keV He⁺, Ne⁺, Ar⁺, Xe⁺ bombard., AES obs. 9-33877
- Si, (111) surface, electron inversion layers, obs. of sixfold valley degeneracy 9-38176
- Si (111) surface structs., induced by Ag evaporation, RHEED obs. 9-23814
- Si (111) surface with Al overlayers, electronic struct., self-consistent pseudopotential method 9-4595
- Si (111) surfaces, 2×1 to 7×7 struct. transition during annealing, LEED obs. 9-42352
- Si (111) surfaces, relax. and reconstruction using Si₄H₉ clusters, MINDO/3 calc. 9-42356
- Si, adsorpt. of O, chem. shift of Si 2p core level in SiO_x, relax. contrib. 9-47141
- Si, adsorption of O₂, early stages, AES, LEED, and XPS obs. 9-46937
- Si, amorphised by ion implantation, EPR obs. of mag. ordering 9-24186
- Si, amorphous, asymmetrical profile of ion implanted P 9-46693
- Si, amorphous, clean and O₂ adsorbed, light sensitive electron laser meas. 9-24396
- Si, amorphous, doping effects on cond. in hopping transport regime 9-28424

elemental semiconductors continued

- Si, amorphous, electronic struct. and optical dielec. function, LCAO calc. 9-42478
- Si, amorphous, hydrogenated, pure and B doped, annealing effect on cond. and band gap states (*Korean*) 9-15142
- Si, amorphous, ion irradiated, elec. cond. 9-11127
- Si, amorphous, ion-implanted, hopping parameter at natural phonon freqs. 9-15152
- Si, amorphous, mag. field depend. of luminesc. 9-43034
- Si, amorphous, scatt. intensity and radial distrib. function, random stacking model 9-27919
- Si, amorphous, Schottky barrier and p-n junction props. 9-28407
- Si, amorphous, spin-pairing at defect centres, mechanism in terms of chem. bonding 9-23928
- Si, amorphous, sputter-deposited electrical and optical props. 9-47181
- Si, amorphous, tunnelling states simulation and sp. ht. 9-37791
- Si, amorphous 9-28103
- Si, amorphous discharge produced, electronic density of states 9-46992
- Si, amorphous film, drift mobility and photocond. 9-15143
- Si, amorphous film, ESR, cond. secular change on annealing (*Japanese*) 9-15238
- Si, amorphous film, Fermi energy shift with substitutional doping 9-46998
- Si, amorphous film, hole drift mobility, temp. depend. 9-23973
- Si, amorphous film, interface charge, influence on transfer meas. 9-15237
- Si amorphous film, ion-implanted, regrowth 9-15043
- Si, amorphous film, plasma-deposited, photoluminesc. and EPR meas. 9-4864
- Si amorphous film, saturation meas. on ESR signals 9-33535
- Si amorphous film, sputter-deposited, elec., optical, and photoelectronic props. 9-24433
- Si amorphous films, RF sputtered, appl. as Schottky barrier solar cells 9-34434
- Si amorphous films, self-ion bombard., electronic props. 9-28422
- Si, amorphous hydrogenated, manufacture of Schottky-barrier and MIS tunnel solar cells (*French*) 9-24897
- Si, amorphous ultrahigh vacuum evaporated films, ESR obs., deposition effects 9-33534
- Si, annealing in elec. field behaviour of second phase inclusions (*Russian*) 9-23779
- Si, anomalous field evaporation 9-15596
- Si anomalous muonium states, time behaviour of μ spin polarisation 9-11371
- Si, Auger line shape $L_{2,3}$ VV, energy band theory 9-43074
- Si, Auger recomb. coeff. meas. using laser excitation 9-38654
- Si, Auger recombination, localized and free carrier comparison 9-38090
- Si, axially channelled protons, transmission meas. using two-dimensional position-sensitive detector 9-1471
- Si, band structure selfconsistently determined with X_α potentials using MAPW method 9-33227
- Si, CVD, characterisation and morphology 9-33938
- Si, CVD film, transport props. 9-24089
- Si, CVD mechanism, epitaxial growth, IR obs. 9-23859
- Si, CVD using Si-H-Cl system, theoretical anal. of equilib. adsorption layers 9-23858
- Si, carrier generation in depletion layer, effect of stacking faults 9-23983
- Si, characterisation by photolum. method (*Japanese*) 9-38638
- Si, chemisorbed Al monolayer on (111) surface, local density of states 9-47142
- Si chemisorption of Ga on (111) surface, Ga-induced surface states 9-19644
- Si, coating of mullite ceramic substrate, for solar cell appl. 9-34432
- Si, Compton profile anisotropy, pseudopot. calc. 9-28854
- Si, crack free ingots, by directional solidification using heat exchanger method 9-8242
- Si, critical resolved shear stress, 800 to 1050°C indentation dislocation rosettes 9-24577
- Si cryst., images of atoms projected onto (110) plane using high resolution techniques 9-32866
- Si crystal, high O_2 content, Czochralski growth parameters related to epitaxial stacking faults 9-4314
- Si, crystal growth by floating zone melting, limitations in using KHz radio frequencies 9-19989
- Si, Czochralski crystal growth and charact., oxidation induced stacking faults 9-47621
- Si, Czochralski grown, inhomogeneous O precip. and stacking fault form. 9-14820
- Si, deep level transient spectroscopy (*French*) 9-11079
- Si, deep levels, detection in high power materials and devices 9-28318
- Si, defect form. during high press. low temp. steam oxidation 9-29238
- Si, deformed, defect states associated with dislocations, capacitance transient spectroscopy 9-42483
- Si dendritic web growth, correlation of solute and interface partition coeffs. 9-24427
- Si, dendritic web growth processes for solar cells, computer modelling 9-11508
- Si detectors, high resistivity n-type prod. by neutron transmutation doping 9-45540
- Si device technology, thin film interaction effects, book contrib. 9-1620
- Si, diffusion coeff. of Se, by sheet Hall coeff. meas. 9-46843
- Si, diode, high dislocation density effect on charact. (*German*) 9-33336
- Si diode, transient switching duration, linear carrier lifetime, emitter efficiency and Auger recomb. coeff. determ. 9-11207
- n-Si, diode with Au traps, negative differential conductance 9-11221
- Si, dislocation dynamics during plastic deform., stress-strain characts. 9-27996
- Si, dislocation dynamics in plastic deform., theoretical anal. 9-42077
- Si, dislocation generation, influence of film stress and thermal oxidation 9-23609
- Si, dislocation-free, defect formation, high temp. treatment, growth-band influence (*Russian*) 9-4299
- Si, dislocations, depth distrib. planar channelling anal. with 2 MeV He backscattering 9-7640
- Si, dislocations, stacking faults, swirl defects, production and mechanisms (*Chinese*) 9-46684
- Si, divacancy, hyperfine interactions from ENDOR meas. 9-42868
- Si, early oxidation stages, AES study (*French*) 9-8379
- Si, electro- and thermo-reflectance spectra, line-shape anal. 9-24296
- Si electrolyte interface, energetic barrier height hypothesis 9-19657
- Si, electron bombardment, absorption of energy 9-14847

elemental semiconductors continued

- Si, electron impact ionis., direction depend. of threshold energy 9-42550
- Si, electron inelastic mean free paths and energy losses, electron gas statistical model 9-46733
- n-Si, electron irradi., defect energy levels, energy depend. 9-33262
- p-Si, electron irradi., influence of acceptor impurity conc. and irradi. temp. on defect formation 9-19281
- n-Si, electron recombination, role of intervalley scatt. (*Russian*) 9-19605
- Si, electron-beam-evaporated amorphous thin films, noise meas. 9-24091
- Si, electron-hole droplet condensation, phase diagram and surface tension 9-19521
- Si, electron-hole droplet luminesc., laser excitation threshold meas. 9-33821
- Si, electron-hole droplets nucleation at swirl defects 9-15095
- Si, electron-hole drops, nucleation, luminesc. threshold obs. 9-33822
- Si, electron-hole drops formation, nucleation theories 9-33239
- n-Si, electron-irradi., surface defect distrib., deep-level transient spectroscopy 9-1459
- n-Si, electron-phonon scatt. and high-field transport 9-42552
- Si, electronic states of vacancies, covalent states 9-23926
- Si, electronic vacancy states by chemical pseudopot. method 9-23929
- Si, emission spectra, excitons bound to isoelectronic trap 9-33772
- Si, energy spectrum of Fe group impurities 9-23932
- Si epitaxial film deposition, vapour-phase, small-scale system design and operation 9-43151
- Si epitaxial growth, in $SiCl_4$ -HCl- H_2 system, model based on flow graph 9-42405
- Si, epitaxial growth, novel reactor for high volume, low cost prod. 9-24442
- Si, epitaxial growth from vapour, dopant inclusion model (*German*) 9-42088
- Si epitaxial growth on porous Si layer, struct. 9-1557
- Si, epitaxial layers, cryst. quality improvement by ion implantation, backscatt. and TEM obs. 9-42397
- Si epitaxial layers, dechannelling by stacking faults, channelling effect technique using He^+ and D^+ ion backscatt. 9-4361
- Si epitaxial layers, grown by sublimation in vacuum, TEM study of surface 9-46982
- Si epitaxial layers, X-ray topographic study using Berg-Barrett techniques 9-28221
- Si epitaxial layers on metallurgical-grade polycryst. substrates, characteris. 9-28967
- Si, epitaxial on sapphire substrates, Al conc. as a function of depth using $^{27}Al(p,\alpha_0)$ reson. reaction 9-4328
- Si epitaxial reactor, doping system, transient steady state response, transfer function approach 9-42086
- Si, epitaxial regrowth of thin amorphised layers by laser annealing, absorpt. coeff. influence 9-46968
- Si, etch rate loading effect and temp. depend. in CF_4 plasma 9-34167
- Si, etching by tetrafluoromethane plasma, mechanism 9-15832
- Si, etching using XeF_4 vapour, adsorption/desorption process 9-43449
- Si film, electron beam deposited, elec. and struct. props. 9-1632
- Si film, electron beam evaporation, for solar cell appl., heat exchanges and columnar growth 9-15609
- Si film, lightly doped, polycryst., cond. mechanisms, correl. with SEM examination of film 9-1634
- Si film, plasma etching, role of chemisorpt. of CF_4 , CF_3H , CF_3Cl , CF_2Cl_2 and CCl_4 9-11714
- Si film, polycryst., electron microscopic investigation of initial stage of growth 9-23849
- Si film, polycryst., substruct. 9-23848
- Si film, porous, form. and oxidation by anodic reaction 9-28966
- Si film double-mesa reach-through avalanche photodiode with large gain-bandwidth product 9-12845
- Si films, electron-beam-deposited on W substrates, growth and struct., AES and SEM obs. 9-46972
- Si films, polycryst., annealing of paramag. vacancy-type defects, EPR obs. 9-10848
- p-Si, galvanomagnetic effects 9-33297
- Si gates ion implantation, without implanting ions into SiO_2 insulating layer 9-7619
- Si, growth, chem. transport, transfer inversion using Mo catalyst 9-11517
- n-Si, γ -irrad., galvanomagnetic effect anisotropy rel. to layer inhomogeneity 9-33299
- Si, H^+ and H_2^+ ion implantation profiles determ. by SIMS 9-4334
- Si, heat treated, spin-depend. recomb. at dislocations 9-47122
- Si, heavily doped, bandgap narrowing and diffusion length meas. 9-7781
- Si, heavily doped, carrier diffusion coeff. 9-47099
- Si, heavily doped, characts. of distrib. of density of states 9-15072
- Si, heavily doped, doping density striation effects in studies of metal-nonmetal transition 9-28383
- Si, high capacity arc heater production for solar cell manufacture 9-11509
- Si, high dose Pb^+ and Cs^+ distrib., determ. using low angle Rutherford He ion backscatt. 9-4327
- Si, high level photogeneration, absorpt. and free carrier distrib. 9-33309
- n-Si, high resistivity wafer, oxide layer anodically grown, improved homogeneity 9-24642
- Si high-intensity solar cell, fabrication and AM1 efficiency 9-43760
- Si, high-resistivity, local IR refraction and transmission 9-15429
- Si, homoepitaxy, local selective, at reduced temp. using Si-I transport system 9-24444
- Si, homogeneous plates, theory of arising longitudinal photoeffect (*Russian*) 9-19614
- n-Si, hot carrier noise and generation-recomb. noise 9-38140
- Si, IR photoresponse at 1.15 microns 9-7864
- Si, ideal vacancy, electronic struct., tight-binding calc. 9-4529
- Si, inclusion type defects removal from bulk of single cryst. by elec. fields 9-43126
- Si, inelastic X-ray scatt. cross section accompanied by intermediate momentum transfer 9-24387
- n-Si, interaction of disordered regions with point defects 9-19296
- Si, interband and free carrier absorpt. const. at high-level photoinjection 9-38514
- Si intermixing with Pt(Ni)(Hf) films, ion-beam induced silicide form. 9-46718
- n-Si, internal stress effect on electron-phonon interaction 9-42468
- Si, intrinsic, phonon replicas of electron-hole liq. luminesc. line 9-28831
- Si, inversion layer, $1/f$ noise and percolation in impurity bands 9-24029
- Si inversion layer, Γ and X electric breakthrough interference effect 9-47137

elemental semiconductors continued

- Si, inversion layer, impurity scatt., self-consistent calc. 9-28415
- Si, inversion layer, magnetoplasma reson. lineshape theory 9-1615
- n-Si inversion layers, broken symmetry states 9-15229
- Si inversion layers, effective mass variation 9-24050
- Si, ion implantation, recent progress 9-14831
- Si, ion implantation of noble gases, high fluence retention 9-23627
- Si, ion implanted, difference between ruby and Nd:YAG laser annealing 9-37723
- Si, ion implanted, EPR line shape exam. of amorphous centres 9-28587
- Si, ion irradiated, room temp., depth distrib. of disorder 9-37745
- Si, ion-implanted, laser annealing at 1.06 μm , computer simulation 9-47556
- Si, Kikuchi structures, energy analysis by intensity profiles (*German*) 9-7528
- Si, LO and TO phonon assisted free exciton luminesc. 9-33833
- Si, laser irradi., anisotropic melting and epitaxial regrowth, surface struct. 9-33163
- Si, laser pulse train shaping for polycrystal recovery in self-ion implanted samples 9-47555
- Si, lattice constants anomalous temp. depend. 9-46821
- Si, lattice damage, influence of laser annealing 9-23608
- Si, lattice parameters and perfection (*Japanese*) 9-4300
- Si layers, carrier profiling using four-point probe method 9-37732
- Si, lifetime of free vacancies 9-10851
- Si, low energy Ar ion bombardment, evidence for spike-effects 9-19292
- Si, low press. epitaxial reactor for multi-wafer growth 9-43153
- Si, MBE, state-of-the-art 9-24450
- Si MIS structure, Al-ZnO-SiO₂-Si, charge-transfer device using SAW 9-11229
- Si, MOS charge layer n-channel (001) surface induced valley splitting 9-28414
- Si MOS devices, SEM, electron beam induced currents, Si stacking fault investig. appl. 9-42665
- Si MOS structure, low leakage, determ. of surface- and bulk-generation currents 9-24055
- Si MOSFET, n-type inverted, surface, mag. field depend. of valley splitting 9-19650
- Si, MOSFETs, Shubnikov-de Haas oscills. from electron irradi. induced two-dimens. leakage channel 9-19671
- Si, magnetic susceptibility of light and heavy holes 9-42734
- Si, many-valley semicond., current-voltage characts., intrinsic magnetoresistance 9-38108
- Si, many-valley semiconductor, linear galvanomag. effects of hot electrons 9-11154
- n-Si, many-valley semiconductor, relative displacement of D₁ and D₂ bands under shear deform. influence 9-15080
- Si, mechanically damaged surfaces, EPR meas., role of microcracks 9-42836
- Si, melt and vapour growth for integrated circuits and solar cells 9-47609
- Si, melt surface boundary, mass transfer, influence on crystal habit during growth 9-14712
- Si, minority-carrier diffusion length and drift mobility determ. using a modulated SEM beam 9-19607
- Si, mol. beam and solid-phase epitaxies under ultrahigh vacuum 9-28945
- p-Si, monocryst., diffusion of As, Henry const., temp. depend., 1448 to 1523K 9-42399
- Si, monocrystal, channelling of 5 MeV protons (*Rumanian*) 9-14863
- Si, multiple ribbon growth by EFG 9-8245
- Si, multivalley struct., helical instability (*Russian*) 9-47101
- Si, multiwave Bornmann effect, expt. detect. 9-14648
- Si myonion states, form. probability meas. 9-11370
- Si ⁺ pp⁺ solar cells, back illuminated, internal quantum efficiency 9-34435
- Si, n-channel (100) inversion layers, valley splittings due to elec. break through 9-4592
- Si, n-channel inversion layers, multivalley effective mass theory 9-47136
- Si, n-type, thermally oxidised, natural inversion layer, UV photodiode construction 9-30559
- Si, negative electron affinity surface activation, laser beam scanning obs. 9-4890
- Si, neutron displacement cross section, radiation effects intercalibration, damage coeff. 9-23653
- Si, neutron transmutation doping, detect. and identification of potential impurities activated 9-42090
- Si, neutron-produced defects, deep level transient spectroscopy 9-47047
- Si, nonideal, lifetime and diffusion length rel. to solar cell appl. 9-15192
- n-Si, nonlinear birefr. and dichroism at microwave freqs. and intervalley scatt. 9-19602
- Si, nonradiative recombination and luminesc. 9-33770
- Si, nonsingle crystalline, solar cells, book contrib. 9-43771
- Si, O content and depth profiling, ¹⁶O(α , α')¹⁶O reaction method obs. 9-34408
- Si on ceramic, growth from melt for solar cell appl. 9-11511
- Si on sapphire, deposition kinetics and interface characteris. 9-28234
- Si on sapphire, stacking faults and twins, TEM obs. at early stage of epitaxy 9-28233
- Si, open-tube P diffusion kinetics 9-33117
- Si, optical properties of monocrystal by electron energy loss meas. (*German*) 9-24283
- Si, orientation anal. of polycrystalline samples 9-1438
- Si oxidation, dopant redistrib., Cs⁺ SIMS anal. appl. 9-39265
- Si, oxidation, in dry O₂ and H₂O ambients, initial oxidation regime obs. 9-29240
- Si, oxidation-induced stacking faults, control by Cl implantation 9-46682
- Si, oxide film struct. determ. by electron diff. 9-15050
- Si, p-i-n avalanche photodiode, temp. depend. characts. 9-35835
- Si p-i-n photodiode meas. of X-ray tube kVp (*German*) 9-232
- Si p-n heterojunction, DC sputtering growth, photocond. and photovoltaic effects 9-33337
- Si, p-n junction, solar cell, forward bias capacitance and current meas. for lifetime and band narrowing detn. 9-7892
- Si p-n junction, DC characts. at avalanche breakdown including selfheating 9-42629
- Si p-n junction, passivation by amorphous Si:H layer 9-47155
- Si p-n junction, unified approach to breakdown phenomena 9-42630
- Si, p-n junctions, current-voltage relation 9-42632
- Si p-n step junctions, temp. depend. of capacitance 9-15210
- n-Si, p-type regrowth layer formed by brazing with metal support disc, diode appl. (*Japanese*) 9-15833

elemental semiconductors continued

- Si, paramagnetic defects produced by electron irradi., EPR 9-19779
- Si, Pendellosung fringes in synchrotron X-ray topographs 9-32858
- Si, phonon spectra calc. using dielectric matrix approach 9-4381
- p-Si, photoabsorpt. associated with divacancies 9-15502
- Si, photoconductivity and Dember effect, theory, allowance for long-range fields of charged impurities 9-24013
- Si photodiode, in combination with PbS and PbSe photocells, multicolour detectors (*Czech*) 9-26126
- Si, photoelectret effect, plastic strain induced dislocation relax. time enhancement (*Russian*) 9-15397
- Si, photoemission study of energy depend. of bulk plasmon loss intensity 9-47035
- p-Si, photon drag detector, performance in 2 to 33 μm range 9-35834
- p-Si photoresistor, compensated with radiation centres, current responsivity and detectivity 9-17492
- Si, piezo-spectroscopic study of ratio of electron-TO phonon to hole-TO phonon interaction 9-24289
- Si, piezobirefringence above fundamental edge, Raman scatt. meas. 9-42941
- Si, plasmons, influence of cryst. orientation on intensity, electron energy loss meas. (*German*) 9-23921
- n-Si, plastically deformed, donor action of dislocations, elec. props. 9-11126
- n-Si plate, effect of nonequilibrium carriers on IR transmission 9-38548
- Si, plates, semicond., scribing marks rel. to sclerometric microhardness 9-15891
- Si, polycryst. layers, ribbon-against-drop pulling process 9-8241
- Si, polycryst. with columnar struct., crystn. using casting technique and microstruct., book contrib. 9-43137
- Si, polycrystalline, grain boundary effects on minority-carrier diffusion length and solar-cell efficiency 9-48124
- Si, polycrystalline, neutron transmutation doped, grain boundary zero-bias resistance 9-15153
- Si, porous layer, struct. and heat-treatment effect 9-1557
- Si, positron annihilation, effect of doping 9-24385
- Si, powder, reaction with HF and HF+H₂SO₄ mixture 9-11821
- Si, proton irradiated, IR absorption 9-33742
- Si, RTR ribbon, impact of defects on photovoltaic potential 9-11186
- p-Si, radiation defects by annealing, kinetics anal. 9-33018
- Si, radiation detector, barrier heights, electron and hole currents, Schottky contact effects 9-33293
- Si, radiation-stimulated dissociative diffusion of Au, model 9-23785
- Si, random and channelled energy loss for positive and negative, 2-15 GeV/c pions, kaons and protons 9-3332
- Si, reaction of rare earth impurities with carbon during cryst. growth 9-38733
- Si, recombination at dislocations 9-38023
- Si recombination characteristics used in design of semicond. devices (*Russian*) 9-42557
- Si, reconstructed surface (111)2 \times 1, polarization depend. of optical absorpt. spectrum 9-28396
- Si, refractive index dispersion 9-24280
- Si resistors, polycryst., elec. props. in nonlinear regime, grain boundary trapping model 9-38204
- Si, resonance dechanneling of fast protons in axis to plane transitions 9-14861
- Si ribbon, prep. by rapid quenching 9-33957
- Si ribbon growth, Stepanov technique, recent develop. 9-11510
- Si ribbon growth, technology assessment 1978-1986, computer anal. using PECAN 9-8244
- Si, selective oxidation in high press. steam, using Si₃N₄ mask 9-38997
- p-Si, self-interstitials, influence of white light on annealing process (*German*) 9-19245
- Si, self-supporting polycryst. film deposited by energy beam plasma, for terrestrial solar cells 9-11523
- Si, semiconductor charge densities with hard-core and soft-core pseudopotentials 9-33266
- Si, single cryst., dislocations, computer simulation methods in X-ray topography 9-23484
- Si, single cryst. growth in clear SiO₂ crucibles, heat exchanger method 9-33919
- Si single crystal surface, ang. variations of backscatt. yield with 20 keV proton bombardment 9-4879
- Si, single crystals, devices for resistivity meas. (*German*) 9-12824
- Si, single-crystal, grown-in structural defects 9-10860
- Si single-junction magnetotransistor, characts. 9-24066
- Si slices, application of capacity gauges (*Polish*) 9-2784
- Si solar cells, carrier lifetime meas. from transient photoresponses of pulsed laser (*French*) 9-24898
- Si solar cells, light-enhanced diffusion length obs. by DC photocurrent meas. 9-39301
- Si solar cells, photovoltaic energy conversion efficiency, photoacoustic spectra 9-15178
- Si, solar grade, advances in Dow Corning process 9-8243
- Si, solar grade, by silane pyrolysis, process design and economics 9-8234
- Si, solar grade, directionally solidified using C crucibles, TEM study 9-47617
- Si solar power cell production by capillary action shaping technique 9-34431
- Si, solid phase epitaxial growth through Al film 9-24432
- Si, spin dependent recomb. at dislocations, EPR and photocond. 9-38095
- Si, sputtering by low energy Ar ions, temp. depend. of sputtering coefficient 9-15578
- Si, steam oxidation at any elevation, improved theoretical predictions 9-20230
- Si, strained, crit.-point for electron-hole droplets 9-4516
- n-Si, strained cryst., role of phonon reson. scatt. in phonon cond., appl. to Si:Li 9-19407
- Si, strip-type crystals, growth mechanism, morphology 9-7559
- Si substrate, crystn. of amorphous SiO₂, Si₃N₄ and Si₃O₂N₂ films 9-28225
- Si substrate, low temp. migration into Au/Pt film, with interposed Cr layer 9-10981
- Si substrate, Si₃N₄ growth using anhydrous NH₃ 9-43141
- Si substrate package for integrated GaAs laser arrays, fabrication 9-18555
- Si, surface, (111) 2 \times 1, cleaved, O₂ adsorption, low-energy electron loss spectra 9-15840
- Si surface, field penetration and band bending in high elec. fields 9-42613

elemental semiconductors continued

- Si surface, metal doped, recomb. of nonequilib. carriers at high excitation rates 9-7835
- Si, surface, sputter etched, damage, contamination, ion backscatt. obs. 9-33167
- Si surface barrier detector, Fano factor for protons 9-36480
- Si, surface oxidation, after Ar⁺ bombardment (*Russian*) 9-15028
- Si, surface structure, LEED and spot photometric meas. 9-23811
- n-Si, surface-barrier electroreflection, polarisation anisotropy 9-24295
- Si surfaces and contacts, O distrib. profile, from emitted α -particle energy anal. of ¹⁶O(α,α) 9-5213
- Si, swirl type defects in float-zone and Czochralski single crystals. 9-27992
- Si, temp. rise induced by laser beam, nonlinear heat cond. 9-11487
- Si, testing aspherical atom refinements 9-7516
- Si textured solar cell, hairline crack detect. using focused laser scanner 9-48123
- Si, thermal donor generation in temp. range 600-800°C 9-11121
- Si, thermal expansion coeff., optical mode Gruneisen const. 9-46820
- p-Si, thermal noise, effects of hot carriers 9-24036
- Si, thermal oxidation technology, improved using 1,1,1-trichloroethane as optimised additive 9-29239
- Si, thin sheet, Sb impurity profile eval. in p-n diffusion junction by anodisation and resist. meas. 9-46695
- Si, three-dimensional electron-positron pair momentum density from positron annihilation meas. 9-43059
- Si transistor, defect obs. using stroboscopic SEM 9-9261
- Si transistor damage characs. by neutron displacement cross section 9-42118
- Si, under uniaxial compression, photocond., polarisation effects appl. of exptl. technique 9-4581
- Si, VPE, state of art 9-33937
- Si, VPE growth, in process monitoring and control of doping gas conc. 9-24443
- Si, VPE growth mechanisms 9-28929
- Si vacancy, defect electronic energy levels calc., optimisation 9-28315
- Si vacuum deposition combined with Sb ion implantation, neutron activation anal. 9-47631
- Si, vacuum-crushed surface, adsorption of H₂ and Cl₂, EPR meas. 9-46957
- Si, variation of thermal conductivity with temperature 9-23793
- Si wafer, colour-band generation during high dose ion implantation 9-1449
- Si wafer, defect studies by ASLEEP, SEM and scanning AES 9-19256
- Si, wafer, photovoltaic technique for meas. resistivity variations 9-21783
- p-Si wafer, self-interstitials form. during chemimech. polishing (*German*) 9-34175
- Si wafer, stresses generated by thermomigration of liquid inclusions 9-37875
- Si wafer, thermal neutron irradi., charge carriers behaviour obs. (*Japanese*) 9-42484
- Si wafer diagnostics, using computer automated scanning low-energy electron probe 9-4214
- Si wafers, B predeposited, anal. by combined ion beam techniques and X-ray microanal. 9-5238
- Si wafers, Czochralski grown, crystal defects, photoluminesc. topographic obs. 9-1432
- Si wafers, process-induced in-plane distortion and wafer bowing 9-11048
- Si waveguide photodetector matrix, appl. in integrated-optics demultiplexer 9-32095
- Si, whisker, amorphous, growth method for field desorption mass spectrometry 9-28262
- Si, with various dislocation densities, ang. depend. of X-ray polarisation of curve of 111 Bragg reflection 9-46509
- Si, X-ray absorption K-edges (*Russian*) 9-47541
- Si, X-ray channeling technique anomalous transmission, appl. to microdefects induced by heat treatment 9-19124
- Si:Al, valley-orbit splitting of bound exciton states 9-28290
- Si:Ar, ion implanted, amorphous, epitaxial regrowth 9-10868
- n-Si:Ar(P), single cryst., positron annihilation parameters, energy-band struct. on surface in free-electron approx. 9-15555
- Si:As, amorphous, appl. of EXAFS methods for struct. determ. 9-37624
- Si:As, amorphous, field effect and thermoelectric power 9-33289
- Si:As, ion implanted, anomalous diffusion of As 9-14842
- Si:As, ion-implanted, dislocation loops and etch pits, X-ray diffr. and TEM obs. 9-42068
- Si:As, laser annealing, channelling, optical obs., and resist. meas. 9-1444
- Si:As, SIMS, energy distrib. of sputtered ions 9-38706
- Si:As wafers, laser annealing, Rutherford backscatt., optical, and TEM obs. 9-1445
- Si:As(P), oxidation-enhanced diffusion of impurities 9-46840
- Si:Au, carrier capture cross-section at low temp. (*Rumanian*) 9-15163
- Si:Au, diffusion of Au anal. 9-23786
- Si:Au, IR absorption and elec. resist. meas., impurity centres 9-38580
- Si:Au, thermally stimulated capacitance method fitting anal. 9-47107
- Si:B, annealing mechanism of radiation change and dopants in pulsed laser irradi. ion implanted layers 9-46691
- Si:B, bound multiexciton luminesc., recomb. kinetics 9-38591
- Si:B, diffusion for very shallow defect free p⁺-n junc. for solar cells 9-15218
- Si:B, diffusion of B atoms and growth kinetics of oxidation induced stacking faults, correlation 9-37720
- Si:B, dopant density and temp. depend. of hole mobility and resistivity 9-38075
- Si:B, ESR at zero and small external stress, elastic strengths for point defects 9-19764
- Si:B, hole trapping by B atoms at low temps. 9-7837
- Si:B, implanted, laser-annealed, lattice dilatation 9-46690
- Si:B, ion implantation using B₂O₃-B mixture, Auger spectra, channelling anal. 9-4317
- Si:B, ion implanted, radiation defect accumulation and annealing, X-ray diffr. obs. 9-37726
- Si:B, ion implanted, SOS device struct., nonlinear impurity redistribution. 9-1625
- Si:B, ion-implanted, annealing by incoherent light source 9-19267
- Si:B, ion-implanted, influence of US waves on charged particle channelling 9-23668
- Si:B, ionisation-assisted annealing 9-23628
- Si:B, low noise avalanche photodiode fabrication by channelling implantation 9-35827
- Si:B, many-body exciton-impurity complexes, stress depend. of photolum. meas. 9-28833

elemental semiconductors continued

- Si:B, P, high temp. diffusion, effects of laser irradi. on diffused layer 9-14834
- Si:B, polycryst., effect of laser annealing on struct. and elec. props. 9-11243
- Si:B, RF glow discharge sputtering damage centres, barrier formation 9-33329
- p-Si:B, reduction of vibration noise, suitable orientation of element, rel. to crystallographic axes 9-11123
- Si:B, sputtering influence on distrib. profile of ion-implanted impurities 9-42091
- P-Si:B, US spectroscopy, energy splitting of acceptor ground state 9-33260
- Si:B amorphous film, CVD prep., EPR, elec. and optical props. 9-4558
- Si:B effect of elec. field on carrier capture by attractive centres. 9-11145
- Si:B MOS structures, implanted laser beam irradi. effects on interface electrophys. props. 9-1627
- Si:B₂O₃, analytic study of Si-B phase formed 9-19269
- Si:B⁺, TEM of lateral implantation effects near mask edges in wafers 9-37724
- Si:B(P), ion implanted processing parameters for diffusion redistribution 9-10871
- Si:B(P), recombination spectra of bound multiexciton complexes, Zeeman splitting (*Russian*) 9-38526
- Si:B(P), single crystals, oxidation investigations, 780°-1150°C 9-5068
- Si:B(P) impurity conc. profile determ. by anodic oxidation 9-28010
- Si:B(P)(As)(Sb), ion implanted, redistrib. of dopants by pulsed laser annealing 9-7620
- Si:Co, substitutional Co and Co precipitates, identification by Mossbauer spectroscopy 9-11631
- Si:Cu, segregation effects after laser pulse melting 9-1843
- Si:D, ion implanted, struct. of impurity centre 9-7623
- Si:Fe, photoconductivity and Hall effect 9-4579
- n-Si:Fe 9-28312
- Si:Fe⁰ interstitial localisation, EPR spectrum 9-1582
- Si:Fe(Cr), EPR line intensity and widths, temp. depend. 9-28604
- Si:Ga, LPE on Si, technique and characterisation 9-38751
- Si:Ga, possibility of use in fabrication of fast response photodetectors 9-15184
- Si:Ga(Zn), impurity ground states 9-28313
- Si:Gd, magnetic props. and interaction of impurities 9-11286
- Si:H, amorphous, doped, Fermi level position, photoelectron spectra 9-47592
- Si:H, amorphous, electronic states of hydrogenated Si, theory 9-42494
- α -Si:H, discharge produced, electronic props. rel. to solar cell characts. 9-15241
- Si:H, evaporated amorphous film, prep. elec. cond. and photocond. 9-38201
- Si:H, ion implanted, anal. of methods used for H profiling in materials using ion beams 9-5197
- Si:H amorphous films, effects of glow-discharge prep. conditions on H content 9-46969
- Si:H amorphous layer as passivant for p-n junction in crystalline Si 9-47155
- Si:In, doping conc., meas. by Hall, C-V and junction breakdown methods 9-14824
- Si:In, obs. of long lifetime lines in photolum. 9-47512
- Si:In, photoluminesc., In acceptor excited level 9-47506
- Si:In,P, photoinduced IR absorpt. and luminesc. 9-33828
- Si:Ir, magnetosensitive diodes, characts. 9-24069
- Si:Li, bound exciton complexes associated with Li, photolum. meas. 9-28823
- Si:Li, luminesc. of bound exciton and bound multiexciton complexes 9-28821
- Si:Mn, characts. of residual cond. 9-15188
- Si:Mn, negative photoconductivity 9-38132
- p-Si:N₂⁺ implanted, anneal behaviours of lateral photovoltaic method 9-14825
- Si:Ne ion implanted, channelling anal. of disorder struct., ⁴He ions, 0.7 to 2.2 MeV 9-4321
- Si:Ne(Ar)(Kr), ion implantation damage, annealing, comparative study 9-10867
- Si:Ne(Kr), ion implanted, amorphous, epitaxial regrowth 9-10869
- Si:Ni, low temp. annealing effect on behaviour of Ni 9-10862
- Si:O, μ m absorpt. band attributed to dissolved O, from expts. on quartz particles 9-19914
- Si:O, annealed, minority carrier lifetime 9-23985
- Si:O, polycrystalline layer on Si p-n junction, charge transport and passivation 9-38206
- Si:O, Xe, ion implanted, Xe retention, Rutherford backscatt., comparison with SiO₂+Xe 9-4320
- Si:O⁺, in-depth distrib., Cs⁺ SIMS anal. appl. 9-39265
- Si:P, amorphous, CVD, substitutional doping, electronic props. 9-23923
- Si:P, As, chem. etching, thick epitaxial layers prod. for dopant conc. investigations by neutron activation anal. 9-37728
- Si:P, CVD amorphous film, electronic density of states 9-46993
- Si:P, diffusional doping, diffusion-induced strain and dislocation effects 9-42084
- Si:P, doping by neutron transmutation, residual radioactivity 9-33009
- n-Si:P, edge dislocation energy level, differential capacitance meas. 9-23927
- Si:P, electronic states, NMR of metallic and intermediate samples 9-4511
- Si:P, excitation spectrum of P donors introduced by neutron transmutation, high resolution study 9-47460
- n-Si:P, fast neutron irradi., defect clusters and defect build-up kinetics 9-33019
- Si:P, heavily ion implanted, polycrystalline, grain growth 9-19477
- Si:P, implanted, dislocations obs. by backscatt. spectrometry and TEM 9-4308
- Si:P, implanted, two-stage laser annealing of lattice disorder 9-1452
- Si:P, ion implanted, selective annealing of amorphous layers by Nd³⁺:YAG laser irradi. 9-14823
- n-Si:P, low-compensated, Hall factor, electron-phonon interactions 9-4570
- Si:P, neutron transmutation doped, EPR obs. of annealing behaviour 9-1453
- Si:P, phonon cond., electron-phonon relax. rate 9-46771
- Si:P, photoluminesc. associated with impurity clusters 9-38656
- n-Si:P, secondary defects produced by high-temp. electron irradi. 9-33017

elemental semiconductors continued

- Si:P, uniaxially deformed, multiparticle impurity complexes, luminesc. spectra (*Russian*) 9-4854
 Si:P,B, wafer, long range enhancement of B diffusivity induced by high surface conc. P diffusion 9-46687
 Si:P amorphous films, doping and annealing effects on localized states, ESR meas. 9-38380
 Si:P solar cell, minority carrier lifetime degradation during ion implanted processing, surface photovoltage 9-39305
 Si:P(As)(Sb) donors, polarisability binding energy in mag. field 9-1581
 Si:Pb, diffusion behaviour of Pb in high dose implanted Si layers during isothermal annealing 9-1525
 Si:Pt, deep level, exam. by thermally stimulated current and capacitance techniques 9-1579
 n-Si:Sb, arbitrary doping profiles produced by MBE 9-7617
 Si:Sb, in solar cell struct., heavily doped, dopant striation, SEM 9-39312
 Si:Sb, vacuum deposition combined with ion implantation (*Japanese*) 9-28005
 Si:Sb wafers, laser annealing, Rutherford backscatt., optical, and TEM obs. 9-1445
 Si:Sb(As)(P), bound excitons and bound multiexciton complexes for shallow donors, luminesc. meas. 9-24363
 Si:Se, detector for 3-5 μ m appl. development 9-35825
 Si:Se,B(Ga)(Al)(In), diffusion of Se, solubility and ionization levels, Hall effect and photocond. meas. 9-42486
 Si:Th, ion implanted, meas. of stopping power of channelled B ions 9-28025
 Si:Tl, energy level, deep level transient spectroscopy 9-19541
 Si:Zn, implanted atom diffusion during laser annealing 9-37725
 Si:Zn, P^+ - n - n^+ struct., deep doubly ionized centres, impedance calc. 9-11202
 Si/NiSi/Al system, high temp. interaction study, elec. and struct. characts. 9-24075
 Si/SiO₂, adsorbed methanol, light scatt. from clusters 9-33721
 Si-Al solid-phase epitaxial growth, substrate effects, SIMS and backscatt. spectra 9-42421
 Si-Al-Si, isothermal version of the moving solvent method 9-1824
 Si-Au contact, O determ. by SIMS, nuclear reaction and Rutherford backscatt. anal. 9-4482
 Si-Au Schottky diodes, role of O in formation mechanics 9-42639
 Si-Au-P system, partition coeff. of P, temp. depend. 9-43158
 Si-Au(Cr)(Pd), contact reactions between amorphous Si and metallic films, TEM, transmission electron diff. obs. 9-23846
 Si-Cr Schottky diode, I-V characts., inverse branch, effect of dislocation defects (*Russian*) 9-15217
 Si-GaP, heterojunction, photosensitivity spectrum, characts. 9-24071
 Si-Ge heteroepitaxial system, imperfections and morphology, electron microscope and electron diff. obs. 9-42420
 n-Si-In₂O₃:Sn, solar cell characterisation (*French*) 9-39306
 Si-In₂ structures, contact pot. meas., vibr. condenser method (*German*) 9-11232
 n-Si-Ni, Schottky-barrier, I-V characts. of elec. contact 9-19662
 Si-on-sapphire MOS devices, effects of planar defects near Si-SiO₂ interface on elec. props. 9-11231
 Si-Pd₂-Si-Si, kinetic aspects of solid phase epitaxial growth of amorphous Si 9-4491
 Si-sapphire, interface radiation induced charge trapping, rapid anneal phenomena 9-19666
 Si-SiO₂, electron photoemission from Si, band struct. effects 9-19977
 Si-SiO₂, interface, hopping conduction, anal. in impurity bands in inversion layers 9-47171
 Si-SiO₂, interface, effect of ¹¹B and ¹⁹F ion implantation on charge density 9-10865
 Si-SiO₂ interface, in MOSFET struct., electronic props. 9-42662
 Si-SiO₂ interface, interface-state parameters near band edge, MOS conductance meas. 9-11226
 Si-SiO₂ interface, intermediate chem. state of Si during sputter profiling, Auger spectra 9-11230
 Si-SiO₂ interface, inversion layer transport, radiation hardness effects, review 9-19673
 Si-SiO₂ interface, MeV backscatt. channelling meas. of Si monolayers 9-11020
 Si-SiO₂ interface formation, by anodic oxidation, F⁻ and Cl⁻ ions effect obs. 9-15842
 Si-SiO₂ interfacial regions obs., by XPS, ultrathin oxide films 9-15039
 Si-SiO₂ inversion layers, bound states at interface 9-42655
 Si-SiO₂ system, implanted with N, P, and Te ions, reflectance spectra and interference fringes 9-23629
 Si-SiO₂ systems, spectral characts. (*Russian*) 9-42657
 Si-SiO₂ interface, effect of Au recomb. centres on interfacial trapping states 9-38175
 Si-transition metal interface, silicide formation, book contrib. 9-1530
 Si-V₂O₅ p-n heterostructure, photocond. (*Russian*) 9-42622
 a-Si_{1-x}H_x, oxygenated thin film, sputtered, elec. cond. and optical props. 9-15239
 Si(Li), 2D position sensitive detector with 100 μ m resolution 9-45544
 SiO, role of O in phonon conductivity 9-42326
 Si(001)2 \times 1 surface, struct. determ. by LEED 9-19438
²⁹Si, nuclear dynamic polarisation, impurity centre photoionisation, extrinsic light absorpt. (*Russian*) 9-15378
 Si(100)-SiO₂ interface, mobility in Si inversion layers, screening and neutral impurity effects 9-28412
 Si(111), chemisorption of H, formation of monohydride and trihydride phases 9-15004
 Si(111)/Al/Si, growth kinetics of (111) Si through Al layer by solid phase epitaxy 9-28236
 α -Sn, dimensions of muonium atoms, depolarisation of positive muons 9-11374
 Te, acoustoelectric current flow, acoustic refraction effect 9-19637
 Te, Czochralski growth of single crystals 9-4912
 Te, deformed and annealed cryst., elec. props., directional depend. 9-7847
 Te, Faraday-type microwave Kerr effect 9-23998
 Te film, on TGS substrate, ferroelec. field effect 9-42675
 Te, films, elect. and galvanomag. characts. 9-33365
 Te, inversion layer, surface quantum levels, calc. from Shubnikov de Haas meas. and triangular surface pot. well 9-15207
 Te, liq., elec. resistivity meas. up to 30 kbar 9-38070
 Te, natural optical activity and features of struct. of electronic energy spectrum 9-8110
 Te, SHG of ps pulses 9-45995

elemental semiconductors continued

- Te, screw dislocation substruct. studied by torsion expt. 9-10859
 Te, single crystals, Czochralski growth, etch pit orientation study 9-43133
 Te, stimulated Brillouin scattering of CO₂ laser radiation 9-47469
- elementary particle coupling constants**
 baryon resonances and electromagnetic couplings 9-9384
 charmed particles, masses and decay consts. in SU(4) \times SU(4) broken chiral symmetry 9-40686
 charmonium and asymptotic freedom in QCD 9-6327
 compilation of coupling constants and low-energy parameters 9-22159
 coupling constant singularities in QED 9-21991
 dyon-dyon interaction in predictive relativistic mechanics 9-26265
 effective coupling parameters with stationary points for massless models, renormalisation group consistency 9-9292
 effective Lagrangian in spontaneously broken gauge theories 9-17653
 hadron matter, thermodynamic description, evolution, coupling const. depend., hot nucleon matter appl. (*Russian*) 9-3006
 hadronic neutral current coupling constants, model independent determination 9-35996
 hard QCD processes, relations through mass singularity universality 9-22054
 Higgs bosons in SU(2) \times SU(2) \times U(1) left-right gauge field, coupling strength 9-13017
 mass dependence on QCD parameters 9-17675
 parity nonconservation, coupling constants, intermediate boson mass ratio 9-9516
 perturbation theory at large order, choice of integration contour 9-6263
 pion-nucleus coupling constants, deduction using PCAC 9-40855
 QCD, coupling strengths and renormalisation scale parameter, by dimens. transmutation 9-6316
 QCD observables in higher order calcs. 9-9334
 QCD qq running coupling constant, β -function from string model, Padé approx. 9-343
 quarkonia from charmonium and renormalization group equations 9-22055
 reggeon and photon coupling relns. 9-13063
 SO₁₁ group for interaction unification, charge and coupling constants 9-2965
 SU(2)_L \times SU(2)_R \times U(1) gauge models confronting neutral current data 9-22013
 superposed Yukawa and inverse square potentials, eigenenergy expansion 9-30281
 unitarity effect of $\psi(3684)$ on shape of $\psi'(3772)$ 9-434
 weak neutral couplings to hadrons in neutrino inclusive, semi-inclusive and elastic reactions 9-36064
 η NN to π NN ratio, in π π interactions at 9 and 12 GeV/c 9-45100
 η , multiparticle production in multiperipheral resonance model complemented by duality 9-36050
 $\Lambda \rightarrow p e^- \bar{\nu}_e$ $|g_A/g_V|$ calc. in quark model, 56-70 octet mixing 9-389
 μ^+ lifetime, weak coupling const., meas. by Saclay linac beam (*French*) 9-368
 $N + \nu \rightarrow M^0$, heavy lepton prod. and decay mechanisms cross section and coupling constant (*Russian*) 9-9365
 NN scattering, effective interaction in the Blankenbecler-Sugar equation in ϕ^4 theory 9-21914
 $\nu N \rightarrow X$, determ. of all neutral-current coupling constants from inclusive cross sections alone 9-13106
 $\pi^- \rightarrow e^- \bar{\nu}_e$ const., determ. from threshold π photoprod. and radiative π capture on ³He 9-40962
 π N coupling, induced pseudoscalar nucleon form factor (*Russian*) 9-9375
 π N coupling constant determ. using forward dispersion relations 9-45098
 Q decay amplitudes, partial widths, Lorentz and SU(3) invariant coupling constants 9-26328
 ρ^0 , multiparticle production in multiperipheral resonance model complemented by duality 9-36050
 $\Sigma^- \rightarrow n e^- \bar{\nu}_e$ $|g_A/g_V|$ calc. in quark model, 56-70 octet mixing 9-389
 $\tau \rightarrow \nu_e e^-$, nature of $\tau \rightarrow \nu_e W$ coupling, ν_e mass upper limit and lifetime 9-40824
- elementary particle decay**
 see also *electromagnetic decays; elementary particle coupling constants; hadron decay; leptonic decays; muon decay; nonleptonic decays; semileptonic decays*
 charmed particles, decay of short-lived particles in photoemulsion irradiated with 400 GeV/c protons (*Russian*) 9-3022
 flavor unification, τ decay, and b decay within the six-quark-six-lepton Weinberg-Salam model 9-35990
 heavy neutral lepton radiative decay, mechanisms for supernova shell explosion (*Russian*) 9-8934
 lifetimes, dependence of measured values on apparatus 9-22158
 open systems theory, appl. to unstable particles 9-17281
 $b \rightarrow d l^+ l^-$, neutral current decays, branching ratio 9-36010
 $b \rightarrow s l^+ l^-$, neutral current decays, branching ratios 9-36010
 $B_s^0 \rightarrow \pi^- K^+ \pi^0$, mass splitting, decay widths 9-17691
 $e^+ e^- \rightarrow \tau^+ \tau^-$, 3.9-5 GeV, τ lifetime experimental upper limit 9-40826
 $N + \nu \rightarrow M^0$, heavy lepton prod. and decay mechanisms cross section and coupling constant (*Russian*) 9-9365
 $\tau \rightarrow 3\pi$ decay, current algebra calcs. 9-30764
 $\tau \rightarrow \nu_e e^-$, nature of $\tau \rightarrow \nu_e W$ coupling, ν_e mass upper limit and lifetime 9-40824
 τ semihadronic decay rate and branching ratio, QCD calc. 9-36119
 Z $\rightarrow H\gamma$, decay rate determ. in SU(2) \times U(1) gauge theory 9-40717
- elementary particle electromagnetic interactions**
 see also *Weinberg model*
 baryon resonance photocoupling, signs 9-22094
 charmed, baryon spectrum due to chromomagnetic and electromagnetic hyperfine interaction 9-13123
 compilation of coupling constants and low-energy parameters 9-22159
 current status in elementary particle physics 9-40651
 dynamical symmetry breakings in quantum chromodynamics (*Chinese*) 9-22050
 electron, photon and mag. monopole interactions, quantized theory 9-13004
 electron-electron (muon) scatt., weak lepton interaction influence (*Russian*) 9-6333
 elementary particle symmetries, axiomatic approach 9-21897
 Feynman diagram amplitudes in cross section calcs., computer code 9-13094
 gauge scheme of weak and electromagnetic interactions, review (*Russian*) 9-26278

elementary particle electromagnetic interactions continued

- hadron-hadron collisions, electromagnetic pair prod., equivalent-photon method (*Russian*) 9-26353
- hadronic EM current, short distance scaling, $R(s)$ behaviour as $s \rightarrow \infty$ 9-22095
- hidden gauge symmetry, appl. to elementary particle fundamental interactions 9-30658
- $SO(4) \times U(1)$ model of weak and electromagnetic interactions 9-13009
- strangeness changing neutral currents, avoidance in gauge theories of weak and EM interactions 9-22005
- strong-gravity contributions to the electromagnetic field of an elementary particle 9-36076
- $SU(2)_C \otimes SU(2)_R \otimes U(1)$ gauge models confronting neutral current data 9-22013
- $SU(3) \times U(1)$ theory of weak-electromagnetic interaction with charged-boson mixing 9-35988
- supersymmetric models of weak and electromagnetic interactions 9-26276
- supersymmetry and gauge theories of weak and electromagnetic interactions 9-26208
- unified model of weak and electromagnetic interactions based on the gauge group $SU(3) \times U(1)$ 9-22003
- virtual photon spectra, improved Weizsacker-Williams method of equivalent photons 9-40774
- weak hypercharge embedding in strong gauge groups 9-30692
- Weizsacker-Williams method virtual photon spectra 9-36077
- $D^+ \cdot D^0$ mass difference, form factors, $SU(4)$ coupling, vector meson dominance model 9-391
- eN deep inelastic scattering asymmetries, gauge theory predictions 9-22104
- ^{209}Bi , P violating eN pot., determ. of effects by optical rotation meas. 9-26277

elementary particle gravitational interactions

- f-g gravity theory, exact spherically symmetric solns. 9-319
- Fierz-Pauli program for spin-2 fields in de Sitter space 9-21637
- flat space as a gravitational instanton 9-17661
- general covariant group, nonlinear realisation, invariant theoretical consideration 9-35612
- gravitational theory of matter 9-21627
- gravity and spin 1 gauge fields 9-21923
- internal rotations of spinning particles 9-22011
- Mitt bag with de Sitter geometry 9-2988
- Prasad-Sommerfield monopole, time depend. soln. of $SU(2)$ Yang-Mills-Higgs system 9-273
- separable quasipotential formulation of the relativistic dynamics for three point particles 9-12989
- strong and gravitational interaction unified theory, hierarchy of universes, large numbers explanation 9-17654
- strong gravitation and elementary particle stability 9-17660
- strong-gravity contributions to the electromagnetic field of an elementary particle 9-36076
- $SU(2)$ symmetry, classical quark confining solns. incorporating colour 9-339
- supergravity, fundamental supergeometrodynamic theory of hadron 9-40725
- supergravity, $O(2)$ extended, exact plane wave solns. 9-25955
- unified theory of strong and gravitational interactions 9-17662
- vector boson model from $SL(2, \mathbb{C})$ gauge theory of gravitation and Yang-Mills theory 9-322

elementary particle inclusive interactions

- see also electron-positron inclusive interactions; elementary particle large momentum transfer interactions; pion-proton inclusive interactions; proton-proton inclusive interactions
- an asymptotic connection between processes of deep inelastic scattering and inclusive annihilation 9-22105
- anomalous current fragmentation in high- p_T leptonproduction 9-13134
- average multiplicity, transverse momentum and total cross section, new upper bound 9-35970
- bounds for differential cross sections and distrib. function, QFT, general principles and strong interacts. at high energies 9-239
- closed Regge eikonal formula, inclusive 6-point function, multiple Reggeon/Pomeron exchange contribs. 9-362
- cluster model, concepts and appls. 9-357
- clustering invariant quantities and energy inclusive measurements 9-45120
- deep inelastic inclusive neutrino interactions, 2-30 GeV, in SKAT bubble chamber 9-36060
- emulsion nuclei-p, 400 GeV, shower particle multiplicity 9-3145
- Feynman scaling relations in inclusive and semi-inclusive reactions 9-35962
- Feynman-Wilson gas, statistical model for multiparticle physics 9-22071
- form factors, inclusive, new scale variable (*Russian*) 9-36079
- hadron+hadron- $\mu^+\mu^-X$, QCD anal. jet recoil on large p_T muon pair 9-9416
- hadron collective interaction, particle inclusive spectrum properties, space-time model 9-40808
- hadron elastic scattering and inclusive k_T^2 distrib. s-channel unitarity correl. 9-26258
- hadron inclusive electroprod. in current fragmentation region 9-30741
- hadron jets, correlating quark rearrangement model 9-2997
- hadron-hadron collisions at high energy, large transverse momentum processes (*Russian*) 9-26351
- hadron-hadron hard collisions, calorimeter trigger, Ochs-Stodolsky scaling law derivation, parton model 9-17775
- hadron-hadron interactions, QCD appl. to meson and jet prod. 9-45076
- hadronic neutral current coupling constants, model independent determination 9-35996
- hadronic processes, large and small p_T behaviour 9-26268
- hadronic semi-inclusive processes, calc. of scaling props. by QCD 9-13027
- heavy meson nonleptonic and inclusive semileptonic decay, lepton spectrum calc. 9-3018
- high energy behaviour of exclusive and inclusive cross sections 9-3047
- high p_T processes, parton transverse momentum effects, QCD description 9-17774
- hydrodynamics and the bag model, multiparticle production, finite geometry effects 9-22044
- inclusive lepton pair prod., invaried helicity struct. functions anal. 9-13172
- inclusive negative hadron prod., comparison with π^-p , π^-n data 9-22275
- jet anal. in lepton-hadron deep inelastic scatt. from QCD 9-40785

elementary particle inclusive interactions continued

- jet model, uncorrelated, implications of Bose-Einstein statistics 9-22070
- jet studies and large transverse momentum collisions, review 9-22143
- jets in high energy collisions 9-45114
- large p_T inclusive photoprod. and hard scatt. model 9-9417
- large p_T proton inclusive prod., quark-quark elastic scatt. 9-17773
- large Q_T transverse momentum lepton pairs and hadron jets prod., reaction mech., perturbative QCD 9-2999
- large transverse momentum inclusive cross sections magnitude, hadron struct., constituent interchange model 9-431
- lepton pair prod., nonfactorisability of inclusive distribs. in nonperturbative QCD 9-13085
- leptonproduction, scaling violations, colour octet model effect 9-13077
- mean charged multiplicity, energy depend., modified Heisenberg calcs. 9-40806
- Monte Carlo event generation with limited transverse momentum 9-3001
- multi-particle and inclusive reaction at high energies, review 9-17777
- multiparticle reactions on deuterons, multiperipheral parton model anal. to rescatt. 9-22154
- multiple hadron generating models, transition to KNO scaling (*Russian*) 9-22051
- multitemperature thermodynamical model of large P_T and large mass production 9-3004
- nucleus-nucleus and nucleon-nucleus collision model, Glauber's theory, classical transport eqn. 9-6522
- pion multiplicity calc., target at. no. depend., statistical model anal. (*Russian*) 9-9425
- prompt lepton prod., QCD anal. 9-9346
- QCD, inclusive distributions in extended leading logarithms 9-13066
- QCD, two dimens., multiparticle amplitudes 9-36029
- QCD anal. of p_T^2 behaviour observed in semi-inclusive neutrino data 9-36015
- QCD diagrammatic structure, deep inelastic scatt. in asymptotically free theories 9-2996
- QCD jet dynamics, hadron and photon prod. at large transverse momentum 9-45077
- QCD predictions, high p_T processes subject to sum rules, $SU(3)$ symmetry constraints 9-354
- QCD predictions for inclusive and semi-inclusive leptonprod., hadron ang. distribs. 9-13041
- QCD three jet prod. in large P_T processes, two particle inclusive distribs. 9-9342
- quark bag model, large transverse momentum processes of hadrons, EM form factors (*Russian*) 9-26308
- quark jet fragmentation 9-45063
- quark-parton model, leading proton-large p_T particle and proton-lepton pair correlations 9-353
- semi-inclusive deep inelastic neutrino scatt. QCD effects 9-30724
- semi-inclusive distribs., renormalisation group anal. of scaling behaviour 9-30660
- semi-inclusive processes of multiparticle productions, scaling laws 9-30684
- single-particle distrib. in $\cos \theta$, analytic props. in ladder model with asymptotically const. total cross section 9-3061
- soft hadronic processes, quark-parton model test for inclusive cross sections 9-17776
- statistical model of inclusive distribs., model formulation and mean field approx. 9-36041
- transverse momentum behaviour of hadrons, multihadron systems, and lepton pairs 9-45121
- unitary corrections to short-range order, long range rapidity correlations 9-26315
- weak neutral couplings to hadrons in neutrino inclusive, semi-inclusive and elastic reactions 9-36064
- X production properties from inclusive electron pair and J/ψ prod. at CERN ISR 9-36113
- $dd \rightarrow \pi^0 X$, large transverse momentum, π^0 prod. cross section, ISR energies 9-3055
- Δ inclusive production, Mueller-Regge model 9-17767
- e/μ charged current $\nu(\bar{\nu})$ interaction comparison in Ne-H₂ mixture, μ -e universality 9-9363
- $ed \rightarrow eX$, polarised deep inelastic scatt., test of Weinberg-Salam model 9-22006
- e^+e^- annihilation and quark fragmentation functions, Monte Carlo quark-parton model 9-22119
- e^+e^- annihilation with polarised beams 9-36111
- $eN \rightarrow e\pi^+X$, test of soft-pion theorem in inclusive pion electroprod. 9-17739
- $e^-N \rightarrow e^-X$, parity violating asymmetry, constraint on right-handed electron weak charge 9-17734
- $ep \rightarrow eAX$, electroprod. of forward Λ baryon near/along virtual photon direction 9-22116
- $ep \rightarrow eX$, polarised deep inelastic scatt., test of model 9-22006
- $ep \rightarrow e$ hadron + X , parton picture from QFT, structure function scaling behaviour 9-402
- $ep \rightarrow e\gamma + X$, QCD predictions for processes involving real photons 9-6330
- $ep \rightarrow epX$, pion struct. function determ. (*Russian*) 9-22097
- $ep \rightarrow e\pi^+X$, quark-parton model charged π electroprod. 9-13136
- e^+p inclusive interactions, flavour symmetry breaking in antiquark distribs. 9-36006
- $\gamma p \rightarrow hX$, quark jet model and total cross section 9-13133
- $\gamma p \rightarrow pX$, 710 to 950 MeV, momentum spectrum of recoil protons 9-22108
- $hh \rightarrow \mu^+\mu^- + \text{jet} + X$, QCD anal. of recoiling jets and angular effects in large q_T pair prod. 9-45078
- $K_S^0 K_S^0$ pair rapidity correlations, quark level strangeness compensation in multiparticle production 9-36024
- K_p , estimate of ω , ϕ and baryonium mixing at $t \approx 0$ 9-40814
- K^-p , 8.25 GeV/c, study of inclusive Λ , Σ^0 and $\Sigma(1385)$ prod. 9-30749
- $K^-p \rightarrow \lambda + \text{pions}$, 4.2 GeV/c, multiplicities, hadronic temps. and ang. distribs. in KK , pp annihilations 9-45101
- K^+p , 32 GeV/c, inclusive and semi-inclusive, Bose-Einstein interference effect 9-22152
- K^+p , 32 GeV/c, vector meson inclusive spectra 9-30703
- $K^+p \rightarrow pK^0X$, 32 GeV/c, total cross section and structure functions 9-40809
- $K^+p \rightarrow pX$, 32 GeV/c, total cross section and structure functions 9-40809
- $K^+p \rightarrow X\Delta^{++}$, absorption corrections to three Reggeon formulas (*Russian*) 9-9423
- $K^{\pm}p \rightarrow \Lambda(\bar{\Lambda})X$, 32 GeV/c, Λ and $\bar{\Lambda}$ polarisation 9-45122
- $\mu N \rightarrow \mu^+h + X$, transverse parton momentum meas. 9-13076

elementary particle inclusive interactions continued

- μp , semi-inclusive, ang. correl. tests of QCD 9-17735
 NN semi-inclusive reactions, secondary pion production, 1000 GeV, scaling phenomena 9-22157
 $\nu/\bar{\nu}$ charged current ν cross section ratio, 1-10 GeV, semi-inclusive p prod. rates 9-374
 ν and $\bar{\nu}$ 'new physics' data, vectorlike quark-parton model anal. 9-9359
 ν and $\bar{\nu}$ inclusive processes for neutral currents, sea quark effects, meson prod. 9-22088
 $\nu(\bar{\nu})N$, axial vector photon and neutral neutrino processes (Russian) 9-30725
 $\nu(\bar{\nu})p$ inclusive interactions, flavour symmetry breaking in antiquark distrib. 9-36006
 $\nu_e(\bar{\nu}_e)N \rightarrow \mu^\pm X$, determ. of mass limit of weak boson 9-3012
 $\nu_e(\bar{\nu}_e)N \rightarrow \mu^\pm \mu^\pm X$, $SU(2)_L \times U(1)$ gauge model with off-diagonal neutral currents 9-2923
 $\nu_e(\bar{\nu}_e)N \rightarrow \mu^\pm X$, colour excitation in deep inelastic scatt. 9-13099
 $\nu_e(\bar{\nu}_e)h \rightarrow \mu^\pm X$, charm contrib. to prod. of opposite sign dimuons 9-377
 νN , semi inclusive π prod., angular asymmetries in QCD 9-9360
 $\nu N \rightarrow \nu^* l^+ l^-$ (+hadrons), lepton pair production suppression up to 10^5 GeV (Russian) 9-36065
 $\nu N \rightarrow \nu X$, scale breaking effects 9-40770
 $\nu N \rightarrow X$, determ. of all neutral-current coupling constants from inclusive cross sections alone 9-13106
 $\nu_e N \rightarrow 3\mu X$, $SU(2)_L \times U(1)$ gauge model with off-diagonal neutral currents 9-2923
 $\nu_e N \rightarrow e^+ X$, $SU(2)_L \times U(1)$ gauge model with off-diagonal neutral currents 9-2923
 $\nu p \rightarrow \mu^+ \Lambda^3 \pi^+ \pi^-$, $E > 10$ GeV, inclusive 9-376
 $\nu p \rightarrow \mu^+ + \text{jet}$, greater than 10 GeV, jet props. 9-45084
 $p + \text{Fe} \rightarrow \mu^+ \mu^- + \text{anything}$, enhancement in μ pair mass spectrum at 9.5 GeV, T prod. 9-432
 pd, 28 GeV, multiplicity distrib., double scatt. in deuterium 9-36114
 pd interactions, charged particle multiplicity distrib. and rescatt. effects at 19 GeV/c 9-36107
 pd $\rightarrow\pi^0 X$, large transverse momentum, π^0 prod. cross section, ISR energies 9-3055
 pd $\rightarrow\pi^\pm(K^\pm)pX$, 11.75 GeV/c, meas. of left-right asymmetry for inclusive π^\pm , K^\pm , p prod., polarised p-beam 9-22155
 pN, 70 GeV/c, multiparticle prod., principal axis variable anal. 9-36116
 pn $\rightarrow\mu^+\mu^- + \text{anything}$, muon pair production, M quiescent mass determ. (Hungarian) 9-13163
 pn $\rightarrow pX$, 195 GeV/c, hierarchy of mean multiplicities 9-36112
 $\pi(\gamma) + A \rightarrow p + X$, effect of short range pairing correl. in cumulative nucleon prod. (Russian) 9-30794
 π -Be, associative production of D^0 mesons, with muons 55 GeV/c (Russian) 9-3060
 π^\pm inclusive prod., central region factorization for cross section 9-6353
 $\pi^- \text{Be} \rightarrow D^0 D^0 X$, pair production at 55 GeV/c (Russian) 9-3059
 $\pi^- n$, 40 GeV/c, semi-inclusive π^\pm transverse momentum distributions, statistical model anal. (Russian) 9-13174
 $\pi^- n \rightarrow \pi^+ X$, 195 GeV/c, hierarchy of mean multiplicities 9-36112
 $^{12}C(\pi^-, \pi^\pm)X$, 40 GeV, multiparticle prod. mechanism, various model predictions 9-573
 $\nu N \rightarrow 4\mu X$, radiative and hadronic production characts. 9-40771
 $\nu N \rightarrow 3e X$, radiative and hadronic production characts. 9-40771
 pn, mean charged multiplicity, energy depend., modified Heisenberg calcs. 9-40806
 $\pi^- N \rightarrow \mu^+ \mu^- X$, lepton ang. distrib. calc. by QCD 9-26303
 $\pi^- n$, mean charged multiplicity, energy depend., modified Heisenberg calcs. 9-40806

elementary particle interaction models

- see also bootstrapping; composite models of hadrons; diffraction model; duality and dual models; peripheral models; statistical models; vector meson dominance model; Weinberg model
 eikonal model multiplicity distrib. and Koba-Nielsen-Olesen scaling (Russian) 9-9355
 eikonal model of hadronic matter distribution of particles and nuclei 9-26317
 generalised optical theorem and dispersion reln. for 3 \rightarrow 3 forward amplitude 9-22079
 hadron collective interaction, particle inclusive spectrum properties, space-time model 9-40808
 hadron matter, thermodynamic description, evolution, coupling const. depend., hot nucleon matter appl. (Russian) 9-3006
 high-energy collisions, two-component model 9-323
 inclusive single-particle distrib. in cos θ , analytic props. in ladder model with asymptotically const. total cross section 9-3061
 isobar model, angular crossing relations, Euclidean approx., meson+nucleon inelastic scatt. 9-13019
 lepton-hadron relation and a new KNO-type of scaling 9-9414
 potential model, Dirac eqn. with linear confining pot., symmetric model 9-364
 potential model based on Dirac eqn. with linear confining pot., asymmetric model 9-363
 quasiaikonal model, hypercharge exchange reactions (Russian) 9-3041
 single pion photoproduction between threshold and 16 GeV, multipole and amplitude anal. 9-3031
 supersymmetric models of weak and electromagnetic interactions 9-26276
 unitary isobar model, A_1 prod. from three π and K^*K data, partial wave anal. 9-40721
 weak interaction models explaining null parity violation in Bi, tests on other weak interactions 9-2974
 weak interaction theory satisfying high energy unitary bounds, Weinberg model appl. (Chinese) 9-320
 $K^* \pi \rightarrow K^* \pi$, analytic quasi-unitary isobar model anal. 9-36099
 pp, polarisation data interpretation for high energy elastic scatt., eikonal model, spin parameters 9-3048
 pp scatt. at low momenta, simple approach emphasising absorption, pot. model 9-13145
 pp scattering, spin dependent eikonal amplitude, extension to pseudoscalar exchanges 9-17698
 $\phi \pi \rightarrow \rho \pi$, analytic quasi-unitary isobar model anal. 9-36099
 $\rho K \rightarrow \rho K$, analytic quasi-unitary isobar model anal. 9-36099

elementary particle interactions

- see also cosmic ray effects and interactions; elementary particle coupling constants; elementary particle electromagnetic interactions; elementary particle gravitational interactions; elementary particle inclusive interactions; elementary particle large momentum transfer interactions; elemen-

elementary particle interactions continued

- ary particle scattering; elementary particle strong interactions; elementary particle weak interactions; hadron-deuteron interactions; hadron-hadron interactions; high-energy cosmic ray interactions; lepton-deuteron interactions; lepton-hadron interactions; lepton-lepton interactions; photon-deuteron interactions; photon-hadron interactions; photon-lepton interactions; photon-photon interactions; quantum field theory of interactions; unified field theories; vertex functions
 annihilation of particle-antiparticle pairs, possible future use as energy source 9-36054
 diffractive production mechanisms, high-energy, review 9-36052
 heavy quarks, elementary particle physics developments, review 9-22053
 review of 30 years work by Nuclear Reactions Lab. Dubna, USSR 9-36204
 superfluid as a source of all interactions 9-21620

elementary particle large momentum transfer interactions

- see also elementary particle inclusive interactions
 anomalous current fragmentation in high- p_T leptonproduction 9-13134
 constituent rearrangement model and hadron reactions review 9-26294
 hadron+hadron $\rightarrow\mu^+\mu^-X$, QCD anal. jet recoil on large p_T muon pair 9-9416
 hadron jets, correlating quark rearrangement model 9-2997
 hadron-hadron collisions at high energy, large transverse momentum processes, review (Russian) 9-26351
 hadronic, QCD perturbation theory test, review 9-326
 hadronic large p_T phenomena, effect of parton transverse momenta, QCD Born terms 9-30716
 hadronic large p_T reactions, K^+ and K^- prod. as model test, hard quark scatt. 9-40735
 hadronic processes, appl. of quark parton model 9-30715
 hadronic processes, large and small p_T behaviour 9-26268
 hadronic processes, small and large p_T behaviour, new particle-wave duality 9-45081
 hierarchy in asymptotic reconstruction of spontaneously broken isotopic symmetry (Russian) 9-2968
 high energy particle-nucleus interactions, discussion 9-30858
 high p_T processes, parton transverse momentum effects, QCD description 9-17774
 inclusive cross sections magnitude, hadron struct., constituent interchange model 9-431
 inclusive photoprod. and hard scatt. model 9-9417
 jet and lepton-pair production in high-energy lepton-hadron and hadron-hadron scattering 9-17729
 kinematical scale breaking in high p_T interactions 9-13064
 l 9-2932
 large p_T proton inclusive prod., quark-quark elastic scatt. 9-17773
 large p_T proton production, parton models 9-40743
 large Q_T transverse momentum lepton pairs and hadron jets prod., reaction mech., perturbative QCD 9-2999
 large transverse momentum particle and jet prod., QCD approach 9-17761
 large- p_T reactions, transverse quark polaris., quantum chromodynamics test 9-17741
 lepton pair prod., structure function relns. at large-transverse momenta 9-17690
 Monte Carlo event generation with limited transverse momentum 9-3001
 multitemperature thermodynamical model 9-3004
 nonscaling parton model, large p_T processes in hadron collisions 9-352
 nucleon-nucleon potential, nuclear form factor behaviour at high transferred momenta 9-9485
 parton model appl. to large momentum transfer interactions, review 9-17686
 parton transverse momentum, large p_T processes 9-13040
 pp collisions, jet and background multiplicity distrib. associated with high p_T particle 9-26350
 pp scattering, large $|t|$, q-q scatt. 9-13161
 prompt lepton prod., QCD anal. 9-9346
 QCD, impulse approx. and scaling phenomena 9-22043
 QCD anal. of p_T^2 behaviour observed in semi-inclusive neutrino data 9-36015
 QCD constituent-interchange to p_T^{-4} dominance transition at high transverse momentum 9-40744
 QCD in 2-D quark confinement and parton model 9-17670
 QCD jet dynamics, hadron and photon prod. at large transverse momentum 9-45077
 QCD perturbation theory, nonperturbative effects on factorisation in high momentum processes 9-36016
 QCD prediction for ang. distrib. of dileptons in hadron collisions 9-26300
 QCD predictions, high p_T processes subject to sum rules, $SU(3)$ symmetry constraints 9-354
 QCD predictions, parton and gluon transverse momenta for large p_T particle prod. 9-40723
 QCD three jet prod. in large p_T processes, two particle inclusive distrib. 9-9342
 quantum number correlations at large transverse momentum and QCD 9-9337
 quark bag model, large transverse momentum processes of hadrons, EM form factors (Russian) 9-26308
 quark jet fragmentation, large momentum transfer reactions, implication of large vector meson prod. 9-345
 quark-parton model, leading proton-large p_T particle and proton-lepton pair correlations 9-353
 topological approach to high-energy large transverse momentum interactions 9-22057
 transverse momentum behaviour of hadrons, multihadron systems, and lepton pairs 9-45121
 DD production in large p_T hadronic collisions, e_μ and e_K correlation study 9-40772
 dd $\rightarrow\pi^0 X$, large transverse momentum, π^0 prod. cross section, ISR energies 9-3055
 ed inelastic scatt., electrodisintegration at high energy and momentum transfer, exchange currents 9-6342
 $\gamma\gamma$ -large p_T jets, QCD predictions for processes involving real photons 9-6330
 hh $\rightarrow\mu^+\mu^- + \text{jet} + X$, QCD anal. of recoiling jets and angular effects in large q_T pair prod. 9-45078
 $K^\pm d$, total cross section determ., 200 to 370 GeV/c 9-26352
 $K^\pm p$, total cross section determ., 200 to 370 GeV/c 9-26352

elementary particle large momentum transfer interactions continued

- lp- π^0 X, weak reaction, large transverse momenta, field theories at finite temp., symm. breaking and restoration 9-399
 μ p, semi-inclusive, ang. correl. tests of QCD 9-17735
 NN scattering spin correl. parameters and quark-quark interactions 9-13049
 pD, phenomenological relations between large- p_T meson spectra 9-26349
 pD, total cross section determ., 200 to 370 GeV/c 9-26352
 pD- π^0 X, large transverse momentum, π^0 prod. cross section, ISR energies 9-3055
 pp, 24 GeV/c, final states with large transverse momentum particle, π and N emission 9-11519
 pp, charged hadron prod. with large transverse momentum at 90°, 52.6 GeV interactions 9-17763
 pp, charged hadron trigger at large transverse momentum at CERN ISR 9-45117
 pp, elastic scatt., 12 to 24 GeV, leading effective trajectories, residues, anal. 9-421
 pp, final state struct. prod. in association with large transverse momentum π^0 9-45115
 pp, final states containing high p_T π^0 at CERN ISR 9-45119
 pp, phenomenological relations between large- p_T meson spectra 9-26349
 pp, total cross section determ., 200 to 370 GeV/c 9-26352
 pp, transverse momentum fluctuations and high p_T processes in QCD 9-36014
 pp and pp, Higgs-boson production at large transverse momentum in quantum chromodynamics 9-40745
 pp collisions, charged and neutral multiplicities associated with large transverse momentum π^0 's 9-3058
 pp collisions, constituent transverse-momentum fluctuations and hard scatt. expansion 9-17749
 pp collisions, meson large p_T distrib. formula, from pre-equilib. fireball state and fireball spin 9-13170
 pp collisions, real photon prod. at large p_T , cross section calc. 9-13149
 pp elastic, 23 to 63 GeV, absolute differential cross section meas. 9-45103
 pp inclusive interactions, π^0 prod. at large p_T at CERN ISR 9-13168
 pp interactions, jet fragmentation in large p_T events at ISR 9-45118
 pp large transverse momentum interactions, quark cascade model anal. 9-36101
 pp- p +X, multiplicity dependence on transverse momentum and missing mass, multiperipheral diagram anal. 9-365
 pp polarisation asymmetry in high p_T inclusive prod., QCD and gluon models 9-40819
 pp-pp, high P_T elastic scatt., 11.75 GeV/c, spin depend. from polarised p 9-3049
 pp- π^0 X, large p_T phenomena, Bjorken scaling violation models of quarks with substructure 9-26305
 pp- π^0 X, large transverse momentum, π^0 prod. cross section, ISR energies 9-3055
 π^+d , total cross section determ., 200 to 370 GeV/c 9-26352
 πN scattering, partial wave analysis, high energy behaviour large momentum transfer region 9-22130
 π^+p , elastic scatt., 12 to 24 GeV, leading effective trajectories, residues, anal. 9-421
 π^+p - π^0 X, large P_T collisions, quark cascade model anal. 9-36110
 π^+p , total cross section determ., 200 to 370 GeV/c 9-26352
 $\bar{p}p \rightarrow \mu^+\mu^-X$, scale violating effects in large q_T interactions 9-22125

elementary particle mass

- see also baryon mass; lepton mass; mass differences; mass formulae; meson mass
 axions and Higgs particles, astrophysical mass bounds 9-5745
 bottom quark mass inequality 9-9345
 charmonium atomic physics, ψ , ψ' , η_c , η_c' masses and $\psi \rightarrow \eta_c \gamma$ decay 9-40740
 fermions, charge density phase transitions in gauge theories with spontaneous symmetry breaking (Russian) 9-2969
 fundamental constants, self-consistent values (German) 9-12758
 graviton rest mass, lunar ranging data anal. by Seelinger's theory 9-6040
 hierarchy in asymptotic reconstruction of spontaneously broken isotopic symmetry (Russian) 9-2968
 hierarchy of quark masses, Cabibbo angles and CP violation 9-22030
 high mass particle production, multitemp. thermodynamical model 9-3004
 indeterminate-mass particles 9-26319
 magnetic quark models of elementary particle mass 9-26312
 mass dependence on QCD parameters 9-17675
 quark magnetic moment, rel. to quark mass and hadron mass in SU(3) breaking 9-13050
 quark mass dependence ambiguities in gauge theory renormalisation 9-21913
 quark masses, isospin breaking and $\pi \rightarrow e\nu\gamma$ vector form factor 9-13111
 quark masses and Cabibbo angles 9-9332
 quarkonia from charmonium and renormalization group equations 9-22055
 sixth quark mass in SU(2) $_L$ ×SU(2) $_R$ ×U(1) gauge group 9-26291
 SU(4) mass splitting, group theory and quark model comparison 9-6290
 up quark mass and chiral symmetry at infinite momentum 9-40685
 up quark masslessness and $\eta \rightarrow 3\pi^0$ decay 9-40761
 W-boson propagator effects in the neutrino-nucleon scattering 9-13098
 e^-/p mass ratio variation, summary of obs. evidence 9-12759
 $K^-p \rightarrow \Lambda^0 \pi^0$, strong reaction asymmetry and mass quantisation, particle struct. (French) 9-3043
 $K^+p \rightarrow \Sigma^+ \pi^+$, strong reaction asymmetry and mass quantisation, particle struct. (French) 9-3043
 t-quark mass in SU(2) $_L$ ×U(1) 9-40710
 u-quark masslessness, consequences for SU(2) and SU(3) 9-22022
 W boson, determ. of mass limit from neutrino scatt. data 9-3012

elementary particle scattering

- see also bootstrapping; elementary particle interactions; hadron-deuteron scattering; hadron-hadron scattering; lepton-deuteron scattering; lepton-hadron scattering; lepton-lepton scattering; Mandelstam representation; photon-deuteron scattering; photon-hadron scattering; photon-lepton scattering; photon-photon scattering; Pomeranchuk poles and trajectories; quantum field theory of elastic scattering; Regge poles and trajectories; relativistic scattering theory; S-matrix theory
 3-3 forward amplitude, analytic struct. determ. 9-30296
 Coulomb interaction in nonrelativistic quantum mech. 9-25906
 diffractive production mechanisms, high-energy, review 9-36052
 fermion-fermion scatt., very high energy weak interaction effects 9-9327

elementary particle scattering continued

- inverse scattering at fixed energy, oscillating tail phenomenon 9-30295
 multiparticle scatt., ghost bound states and Pauli principle (Russian) 9-9152
 Pal-Bell stochastic equations for particle transport scattering theory 9-45319
 parton model appl. to large momentum transfer interactions, review 9-17686
 spinless particle scatt., plane waves on the impact parameter group (Russian) 9-2668
elementary particle strong interactions
 see also composite models of hadrons; duality and dual models; hadron classification schemes; peripheral models; quantum field theory of strong interactions
 analytic extrapolating statistical approach, review (Russian) 9-3000
 bi-scale theory of gravitational and strong interactions 9-12696
 chiral gauge invariant Lagrangian, relationship to strong interactions (Chinese) 9-21968
 current status in elementary particle physics 9-40651
 development from the Fermi-Yang model to the quark model (Chinese) 9-30711
 filling U(4) multiplets by hadrons (Russian) 9-22076
 gluons in e^+e^- annihilation, QCD anal. of strong interaction dynamics 9-9386
 high energy behaviour of exclusive and inclusive cross sections 9-3047
 isotopic symmetry group in strong interactions, possible geom. origin 9-17628
 jet asymmetry in polarized proton collisions (Russian) 9-17685
 lepton-hadron relation and the nucleon-nucleon potential 9-22207
 pomeron-f identity 9-22077
 QCD, nonperturbative, fundamental scale of strong interactions 9-36002
 QCD and resonance physics, general technique for deriving sum rules 9-22058
 QFT, general principles and strong interacts. at high energies 9-239
 quark cluster, model of ordinary and exotic hadrons 9-40759
 relativistic local renormalizable field theories, basis for quark confinement and QED 9-21893
 strong and gravitational interaction unified theory, hierarchy of universes, large numbers explanation 9-17654
 unified theory of strong and gravitational interactions 9-17662
 unitary corrections to short-range order, long range rapidity correlations 9-26315
 weak hypercharge embedding in strong gauge groups 9-30692
 f-mesons, spin-two interaction and general relativity, review 9-45046
 π^+p , 21 GeV, prompt e^- associated with strange particle in strong interaction, direct evidence 9-419
 qq, eikonal speculations on infrared confinement 9-36027
 qq static interaction, instanton contribs. 9-12961

elementary particle symmetry

- see also chiral symmetries; conservation laws; discrete symmetries; dynamical symmetry; helicity (elementary particles); isotopic spin (elementary particles); nonlinear symmetries; spontaneous symmetry breaking; S_U theory; supersymmetry
 affine algebraic groups, automorphisms 9-17269
 axiomatic approach to particle symmetries 9-21897
 conformal invariance in elementary particle physics, review (Russian) 9-21964
 conformal transformations, unitary implementability 9-21965
 conservation and symmetry principles, appl. to particle systematization 9-9295
 conservation law, Noether theorem 9-45034
 Dyal symmetry of vector and spinor fields (Russian) 9-30673
 dyon-dyon interaction in predictive relativistic mechanics 9-26265
 general covariance group, unitary representations 9-21970
 generalised symmetry algebras for para-Fermi fields 9-30676
 hadron elastic scattering and inclusive k_T^2 distrib. s-channel unitarity correl. 9-26258
 hadronic and electromagnetic widths of mesons in the style schemes, Sp(8) and SO(8) schemes 9-45051
 identical particle effect and symmetrization in Mueller amplitude 9-30672
 massless field theory, conformally invariant struct. 9-30656
 meson semileptonic decay, effect of symmetry breakdown (Russian) 9-6337
 physical fields, symmetry, causality props. 9-6270
 Poincare $IO_{3,1}$, centraliser subalgebras 9-6294
 Poincare $IO_{3,1}$, coordinate transforms. and centraliser subalgebra, algebra Casimirs 9-6295
 quark-line rule for hadron nonets, review 9-26304
 scalar relativistic fields, symmetry groups, with self-interaction 9-30664
 sequential jet decay described by an Inonu-Wigner contraction of the Lorentz group 9-17695
 SO $_{11}$ group for interaction unification, charge and coupling constants 9-2965
 SO(8)×SO(8) phenomenological symmetry, synthesis for leptons and hadrons 9-13035
 three pion states, permutation group S_3 irreducible representation 9-17635
 unified field theory, 11-dimens. space, 7 compacted dimens., O(8) symmetry 9-26275
 Weyl Lie algebra, relativistic scatt. of model particles 9-40690
 lp- π^0 X, weak reaction, large transverse momenta, field theories at finite temp., symm. breaking and restoration 9-399
 μ e, mass difference, lepton number and symmetry conservation, forbidden transitions (Chinese) 9-13121
 $\nu(\bar{\nu})$ scatt. on fermion targets, four symmetry relations 9-373
 H, parity mixing, relativistic neutral current interactions and nonrelativistic pots. 9-26908

elementary particle theory

- see also Bethe-Salpeter equation; complex angular momentum plane; current algebra; dispersion relations; electron theory; elementary particle interaction models; elementary particle symmetry; Feynman diagrams; form factors; group theoretical schemes; helicity (elementary particles); isotopic spin (elementary particles); Lee model; mass formulae; quantum field theory; S-matrix theory; scaling phenomena; structure functions; sum rules; vertex functions
 annihilation of particle-antiparticle pairs, possible future use as energy source 9-36054
 conformal invariance in elementary particle physics, review (Russian) 9-21964

elementary particle theory continued

- conformal transformations in spinor space-time 9-30674
- decay lifetimes, dependence of measured values on apparatus 9-22158
- equivalence theorem, path integral formulation for nonlinear case 9-12933
- Hardy spaces, role in form factor bounds 9-30735
- heavy quarks, elementary particle physics developments, review 9-22053
- Klein-Gordon equations with logarithmic nonlinearities, classical theory 9-5996
- Lagrangian, with higher derivatives, arbitrary spin fields 9-17596
- magnetic monopoles, energy level calcs., Coulombian field approx. 9-26311
- mathematical methods, conf. Liblice, Czechoslovakia (June 1978) 9-21891
- multiplicative baryon number conservation, $H \rightarrow \bar{H}$ oscill. upper limit, baryon to lepton transform. 9-298
- n-particle relativistic phase space integral, invariant variables, Monte Carlo calc. algorithm 9-9312
- open systems theory, appl. to unstable particles 9-17281
- Pauli spin matrices, generalised, commutation rules 9-17597
- relativistic centre of mass of extended particle with interacting constituents 9-17701
- relativistic electron pair model of nucl. particles 9-45042
- selections from 1977 Comments on Modern Physics, book 9-30181
- semi-inclusive processes of multiparticle productions, scaling laws 9-30684
- spin dependent pots. in fermion-antifermion system, annihilation width 9-9356
- statistical mechanics of complex systems, linkages from fundamental particles to cosmology 9-25964
- $SU(2)_L \times U(1)$ primitive particle model 9-40708
- super-dense matter, phase transitions in gauge theories and cosmology, review 9-44654
- theoretical physics at Kharkov Inst., Ukrainian SSR (Russian) 9-12558
- total reaction cross section calcs. without continuous spectrum wave functions (Russian) 9-17702
- unitarity effect of $\psi(3684)$ on shape of $\psi''(3772)$ 9-434
- unitary space of particle internal states 9-30712
- Weyl Lie algebra representations as elementary particle models 9-2949

elementary particle weak interactions

- see also neutral currents; quantum field theory of weak interactions; Weinberg model
- atoms, and ions, parity nonconservation effects 9-10086
- baryon, charm changing weak decays $1/2^+ \rightarrow 3/2^+ + 0^-/\gamma$ in $SU(4)$ and $SU(8)_w$ 9-3021
- Cabibbo angle and CP violation in a gauge model with discrete symmetry 9-45028
- Cabibbo angle in the $SU(2)_L \times U(1)$ gauge theories 9-35991
- conformally covariant spinor field equations 9-22004
- cosmic ray diffusion in random magnetic field, weak particle-field interaction theory validity 9-21109
- CP violation in weak interaction, renormalization of QCD vacuum parameter θ 9-40683
- current status in elementary particle physics 9-40651
- dynamical scaling violations, evidence from neutral current anomalies 9-17664
- E_7 gauge model, lepton assignments and trimuon events in neutrino scatt. 9-17709
- electron, determ. of weak neutral current couplings 9-35994
- electron nucleus weak currents, atomic X-ray spectra, parity violation (Russian) 9-22642
- electron-electron (muon) scatt., weak lepton interaction influence (Russian) 9-6333
- elementary particle symmetries, axiomatic approach 9-21897
- fermion-fermion scatt., very high energy weak interaction effects 9-9327
- Feynman diagram amplitudes in cross section calcs., computer code 9-13094
- fundamental constants, self-consistent values (German) 9-12758
- gauge scheme of weak and electromagnetic interactions, review (Russian) 9-26278
- hadron resonance decay, intermediate vector boson and high energy weak interaction detect. 9-22012
- hadron-hadron weak interactions, right handed currents effects in QCD 9-13016
- heavy quark semileptonic decays, gluon corrections 9-17688
- hidden gauge symmetry, appl. to elementary particle fundamental interactions 9-30658
- high energy unitary bounds in new theory of weak interactions (Chinese) 9-320
- horizontal interaction and weak mixing angles 9-30696
- interaction models explaining null parity violation in Bi , tests on other weak interactions 9-2974
- multielectron atom, parity nonconservation (Russian) 9-45033
- neutrino bremsstrahlung in an intense magnetic field 9-30055
- neutrino reactions at high energy, weak interaction props. and hadron struct. investigation, book contrib. 9-30727
- nonleptonic weak Hamiltonian, current \times current theory, $SU(4)$ representations 9-17666
- optical experiments as a means of verification 9-6313
- parity nonconservation in spectra of multiply charged ions 9-10087
- quark and lepton couplings in the weak interactions 9-17665
- quark flavour, crude numerical estimate in $SU(2) \times U(1)$, $SU(3) \times U(1)$, $SU(2)_L \times SU(2)_R \times U(1)$ models 9-13059
- radiative corrections to β and μ decays in $SU(2)_L \times U(1)$ models involving 2n flavors 9-40778
- $SO(4) \times U(1)$ model of weak and electromagnetic interactions 9-13009
- strangeness changing neutral currents, avoidance in gauge theories of weak and EM interactions 9-22005
- $SU(2)_L \otimes SU(2)_R \otimes U(1)$ gauge models confronting neutral current data 9-22013
- $SU(3) \times U(1)$ theory of weak-electromagnetic interaction with charged-boson mixing 9-35988
- $SU(n)$ group, mixing and sequential heavy lepton weak interaction (Russian) 9-40720
- supersymmetric models of weak and electromagnetic interactions 9-26276
- supersymmetry and gauge theories of weak and electromagnetic interactions 9-26208
- superweak interactions and the biological time direction 9-39344
- unified model of weak and electromagnetic interactions based on the gauge group $SU(3) \times U(1)$ 9-22003

elementary particle weak interactions continued

- weak hypercharge embedding in strong gauge groups 9-30692
- weak interaction symmetry struct. and $K \rightarrow \pi\pi$, $\pi\pi\pi$ (Russian) 9-22016
- weak mass mixing and CP violation with heavy quarks, V-A model anal., possible meas. in e^+e^- expts. 9-30695
- weak-interaction mixing in the six-quark ambidextrous model of quantum flavourdynamics 9-36000
- b-quark interaction with τ^- -lepton, gauge model 9-40738
- $e^+e^- \rightarrow \mu^+\mu^-$, high energy total cross sections, Salem-Ward-Weinberg model 9-22086
- $e^+e^- \rightarrow q\bar{q}$, high energy total cross sections, Salem-Ward-Weinberg model 9-22086
- eN deep inelastic scattering asymmetries, gauge theory predictions 9-22104
- eN scatt., polarised e, testing unified gauge theories prediction 9-17732
- $e^-N \rightarrow e^-X$, parity violating asymmetry, constraint on right-handed electron weak charge 9-17734
- eq parity violating neutral current couplings, model independent anal. 9-17737
- $\gamma p \rightarrow p\pi^0$, energy loss from stellar bodies through ν -prod. by second class weak neutral current 9-35997
- $lp \rightarrow l'X$, weak reaction, large transverse momenta, field theories at finite temp., symm. breaking and restoration 9-399
- $\mu \rightarrow e$ transmutation, failure to observe conversion, reasons and results 9-369
- $NN\pi$ amplitudes, weak, sum rules and theoretical description nonleptonic hyperon decays 9-17663
- $\nu_e d \rightarrow p\nu_e n$, neutral current induced neutrino reactions, differential and total sections 9-17708
- $\nu N \rightarrow \nu N\pi\pi$, neutral-current cross sections for double-pion production by neutrinos 9-17712
- $\nu p \rightarrow p^0\pi^0 M^0$, neutrino prod. of neutral heavy lepton in E_7 gauge model 9-17710
- $\tau \rightarrow 3\pi\nu$ decay, current algebra calcs. 9-30764
- W-boson interaction, possibility of b-quark weak interactions 9-26285
- ^{209}Bi , P violating eN pot., determ. of effects by optical rotation meas. 9-26777

elementary particles

- see also bosons; charm particles; composite particles; cosmic rays; fermions; gamma-rays; hadrons; hypothetical particles; leptons; quantum field theory; strange particles
- educational course, introduction for liberal arts students 9-25780
- high energy physics, experimental basis (Danish) 9-9357
- indeterminate-mass particles 9-26319
- long lived heavy particles with fractional charge, evidence in cosmic ray events 9-2447

elements (chemical)

- for specific metals and non-metals see appropriate chemical names
- see also element origin; element relative abundance; periodic system of elements
- compound spaces of tolerance of chemical elements, mutual relationship of compounds 9-19177
- polymorphic phase diagrams, as function of pressure exam. 9-8289
- superheavy elements, detection by fission activity detect. (Russian) 9-13358

Eliashberg strong-coupling model see strong-coupling superconductors**Elinvar**

- Fe-Ni-Cr-Ti-Al Elinvar alloys, dispersion-hardened, structural transform. (Russian) 9-1872
- Mn-Ni-Ti (Zr) systems, and mech. props. thermal expansion for different heat treatments (Japanese) 9-29123
- Mn-Ni-Ti(Zr), non-ferromagnetic Elinvar-type alloys 9-24566

ellipsometers

- see also ellipsometry
- digital ellipsometer using spinning analyser and photoelec. rotary encoder 9-30529
- modified O'Bryan return-path ellipsometer for film-substrate systems 9-2808
- with quarter-wave compensator, multireflection interference effects 9-12841
- wavelength-scanning ellipsometer signal level regulation and dark current compensation 9-26105

ellipsometry

- see also ellipsometers; polarimetry
- compensator retardation determ. 9-26107
- dielectric-semiconductor systems, immersion ellipsometric obs. (Russian) 9-15548
- dielectric surfaces, small values of ellipsometric parameters meas. by photoelec. method 9-21804
- flow-birefringence, meas. using circularly polarised laser beam 9-35813
- generalised ellipsometry with nonideal compensator 9-12840
- interface between transparent and absorbing medium, light refl. at 45° angle of incidence 9-31792
- material elastic anisotropy, analysis, by acoustic ellipsometry 9-47864
- Mueller matrix ellipsometry with imperfect compensators 9-26106
- refractive index determination 9-26108
- scattered light three-dimensional photoelasticimeter. Application to a blade of a compressor 9-32405
- steel, stainless, austenitic, surface films grown in Cl^- solns., ellipsometric investg. 9-20261
- surface films and bulk material, optical props. meas. using ellipsometry, review 9-44926
- thin film, optical characterisation (French) 9-11402
- AgBr, adsorption of gelatin on single crystals, ellipsometric investigations 9-24779
- Al surfaces, interaction with O_2 , work function changes and ellipsometric parameters 9-47831
- $As_2S_3(Se_2)$, film on KCl, strain-induced refractivity anisotropy, 10.6 μ ellipsometric obs. 9-14064
- CdS film, ellipsometry of natural boundaries (Russian) 9-4866
- Fe, surface films formed in inhibitive solns., optical props., protective quality 9-20260
- $Ga_{1-x}Al_xAs$, anodic oxide films, ellipsometric anal. 9-20234
- $GaAlAs/GaAs$ heterostructures, ellipsometric assessment of epitaxial layer during growth in organometallic VPE system 9-37933
- $GaAs$, VPE by CVD, vapour-solid interface, expt. anal. (French) 9-33940
- $GaAs$ -plasma grown oxide interface, new resonant ellipsometric technique for characterisation 9-40606
- $GaAs_{1-x}P_x$, anodic oxide films, ellipsometric anal. 9-20234
- Ge, anisotropic oxidation ellipsometry meas. (Russian) 9-43451

ellipsometry continued

- Ni electrodes, electrochem.-ellipsometric studies of oxide films formed during O₂ evolution 9-16007
 Pb-In film, RF sputter anodisation, Josephson junction form., ellipsometry anal. 9-29258
 Si, electroluminescence, dielec. function, ellipsometric meas. 9-4790
 SiO₂ anodised layers on clean and ion bombarded Si surfaces (*Russian*) 9-24382
 Sn-SnO₂-Sn junctions, oxide growth, tunnelling characts., ellipsometry meas. 9-47173
 Ta film, oxidation in ambient conditions, resist. and ellipsometric meas. 9-34209
 ZnO, ellipsometric spectroscopy of nonpolar (1100) surface 9-33651

elliptical polarisation *see polarisation***elongation**

- see also deformation; thermal expansion*
 deformation strength props., simultaneous meas. of several samples, polymer films appl. 9-15896
 dynamic, of material, stress/strain curve up to scabbing, meas. method 9-7348
 epoxy, thermomech. props., rel. to hardener type and conc. 9-1913
 Incoloy 800, creep rupture props. at 525°C 9-43437
 Kevlar fibres, effect of crystallinity and orientation on mech. props. (*Japanese*) 9-38952
 Kevlar fibre, mech. props. in aq. H₂SO₄ soln. (*Japanese*) 9-47753
 metals and alloys, strength/ductility relation (*Japanese*) 9-29145
 Nylon 6 fibre, shrinkage, influence of chain rupture during tensile deform. 9-34055
 plastic composites 9-29162
 polycarbonate film, struct. and mech. props. 9-19160
 polyethylene, elongated low density film, TSC 9-47106
 polyethylene, photodegradation study by Fourier transform IR spectroscopy (*Japanese*) 9-47772
 polyethylene films, low density, γ -irrad., elec. cond., effect of elongation 9-4564
 polyethylene terephthalate, preoriented sheet, plastic deform., anisotropic behaviour 9-8335
 polymer, rigid-chain, unity of deform. and spontaneous elongation mechanism 9-20138
 polymer chain subjected to elongation, conformational microstruct. variation (*Russian*) 9-31756
 polymer solution, bubble elongation dynamics, modelling with viscoelastic constitutive relations 9-37388
 polymers, crystalline, oriented, drawing, load elongation behaviour, fibre composite model 9-15691
 polypropylene, oriented, thermooxidative degradation kinetics, durability, influence of mech. initiated processes (*Russian*) 9-24591
 polypropylene/peanut-hull flour composite, strength 9-8365
 polystyrene monofilaments, uniaxial extension, strengthening 9-8334
 PVC, crosslinked, mech. and thermal props. with plasticisers (*Japanese*) 9-15741
 PVC, rigid, viscoelastic props. rel. to thermal, mech. history 9-5016
 steel, alloy, tension test, computer simulation of deform. to fracture 9-11667
 steel, austenitic, ASTM A533B and A542, H₂ embrittlement behavior of unirrad. steels for nuclear reactor press. vessels 9-8340
 steel, C, mech. props. rel. to heat treatment, ferrite-pearlite transform. (*French*) 9-20043
 steel, C, X-ray line fitting by Gram-Charlier distrib., appl. to tension test (*French*) 9-15689
 steel, Cr-Mo-V, 1% Cr, chem. comp. and struct. effect on deform. props. (*German*) 9-1888
 steel, high C, Cr addition effect on superplasticity 9-15729
 steel, high-speed, cast, mech. props. at high temps. 9-20135
 steel, mild, fatigue life, effect of H₂S and SO₂ gas 9-15871
 steel, quench-hardened, exam. of anomalous plasticity when deformed (*Russian*) 9-11663
 steel, reinforcement, low, high temp. static strength testing 9-15902
 steel, spring, 60C2A, tempered under stress, influence of tempering conditions on mech. props. (*Russian*) 9-47724
 steel, stainless, Ti stabilised, creep props. rel. to B conc. (*French*) 9-20132
 steel, VN precipitation after heat treatment 9-29067
 superplastic flow in unsteady and steady state regions 9-42135
 viscoelastometer, dynamic, direct reading, automation, appls. to polymer films, fibres 9-3980
 work hardening material indentation analysis 9-8308
 Al alloy 01205, mech. props. at cryogenic temps. 9-29206
 Al-Cu-Mn-Mg-Fe-Si-Zn alloy D16, surface layers chem. composition rel. to fatigue resist., corrosion-fatigue resist. 9-29275
 Al-Zn alloy, flow stress, Zn content effect 9-38913
 Cu powder compacts sintering, depend. of neck form. on particle size and sintering temp. 9-28988
 Cu wire, electroplastic drawing X-ray diff. anal. and mech. props. exam. (*Russian*) 9-29138
 Cu-Al-Ni alloys, elongations as function of orientation calculated for the γ_1 - β_1 martensitic transformation 9-43245
 Cu-Al-Si, Si effect on mech. props. and microstructure (*Korean*) 9-38903
 Cu-Ni alloy, dislocation density during deform., comparison of electron microscopy and X-ray diff. (*Russian*) 9-5002
 Cu-Zn-Al, reversible shape memory effect obtained by heating under constraint (*Japanese*) 9-43335
 Fe-Cr-Ni-C (17.2, 7.34, 0.2 wt.%) alloy, twin related laths, fracture elongation, TEM study 9-29192
 Fe-N, neutron irradi. effects on mech. props. 9-4338
 Fe-Ni (1 to 5 at.%), mech. props. below 300K (*French*) 9-8314
 Mo and Mo alloy TZM, solid-state bonding, tensile strength of bond (*German*) 9-47756
 Ni base alloys Eh1607A and Eh1929VD, fatigue strength, temp. depend. 9-15791
 Ni-Nb-Al, eutectic, thermal cycling effect on strength and ductility (*Russian*) 9-24601
 α -Zircaloy, strain ageing at 1000K 9-47725
 α -Zr, strain ageing at 1000K 9-47725

e.m. waves *see electromagnetic waves***embrittlement**

- see also ductile-brittle transition; hydrogen embrittlement*
 brass, adsorpt. of Hg, effect on mech. strength, creep, fatigue, embrittlement (*Russian*) 9-29267

embrittlement continued

- α -brass, liquid metal embrittlement, eval. by quasistatic crack propag. technique 9-29262
 Duralumin, adsorpt. of Hg, effect on mech. strength, creep, fatigue, embrittlement (*Russian*) 9-29267
 fracture mech., conf., Washington, USA (Sept. 78) 9-43422
 Incoloy 800, corrosion and carburization in liquid Na up to 973K 9-47841
 Incoloy 800, effect of liquid Na on creep and rupture props. 9-47775
 liquid metal, review 9-29272
 liquid metal 9-15798
 LWR pressure vessels, radiation embrittlement, role of ASTM 9-22435
 metal, AES study (*Chinese*) 9-38982
 metallic systems, liq. metal embrittlement mechanism, Rebinder effect (*Russian*) 9-34186
 metals, liquid metal embrittlement, mechanism 9-43495
 solid soln., ductility, comp. effect (*Japanese*) 9-43334
 steel, austenitic type 304, temper embrittlement and surface segregation an AES and ionization loss spectroscopy study 9-43372
 steel, Cu, fission reactor vessels, neutron embrittled, exam. of technique for in situ thermal annealing 9-29114
 steel, embrittlement by impurity segregation 9-8367
 steel, low alloy, reactor pressure vessel, effect of Mn and C content on irradi. response 9-20196
 steel, low alloy, temper embrittlement, review 9-20154
 steel, low alloy, tempered martensite embrittlement mechanisms 9-8351
 steel, low alloy, type 10KhN1M, heat-treated, struct. and resist. to thermal embrittlement 9-15788
 steel, low alloy structural, heat treated, impurities effect on embrittlement susceptibility and temper brittleness 9-38955
 steel, mild Cr welding, 550°-850°C heating effects on structure and toughness 9-24540
 steel, Mn-Ni-Mo, PWR pressure vessel, irradi. induced embrittlement, chemical composition effect (*French*) 9-20195
 steel, Ni-Cr, temper embrittled, electron microscope and X-ray microstruct. obs. 9-38870
 steel, stainless, Cr-Ni-Nb stabilised, Te vapour effect on creep and tensile props. 9-24583
 steel, stainless, due to soldering with Cu alloy solder, effect of alloying additions 9-47773
 steel, stainless, Kh25T, impact strength and substructure produced by deform. during cold rolling (*Russian*) 9-24535
 steel, stainless, two phase, variation of tensile and impact strength with heat treatment 9-34085
 steel, stainless, type 316, microstruct. changes in creep ductility, SEM, TEM, optical microscopy and X-ray diff. study 9-38927
 steel, temper embrittlement, effect of sp-3d impurity interactions on resistivity 9-46696
 steel, tool, maraging, based on N12M10, exam. of hardening, crack resistance and wear (*Russian*) 9-34047
 steel, W, high C, amorphous, rapidly quenched from melt, mech. and thermal props. 9-38874
 surface science in metallurgy, review 9-42388
 α -brass, solid soln., ductility, comp. effect (*Japanese*) 9-43334
 Cu-Bi (0.0115 wt.%), fracture paths, TEM study 9-27998
 α -Cu-Ni-Zn-Pb, fire cracking, effect of pores and impurities 9-29207
 α -Cu-Zn(Al), solid soln., intermediate temp. embrittlement (*Japanese*) 9-20158
 Fe, Armo, fracture in liq. metals, Rebinder effect (*Russian*) 9-29266
 Fe, cast, liquid metal embrittlement, eval. by quasistatic crack propag. technique 9-29262
 Fe-Cu (0.34 wt.%), neutron irradiated, field-ion microscope detection of ultra-fine defects 9-42116
 Fe-Cu-Ti, improvement of irradiation-enhanced Cu embrittlement by Ti addition 9-43393
 Fe₃₀Ni₄₀P₁₄B₆, amorphous, annealed and unannealed, temp. depend. of flow stress and ductility 9-29119
 Ti and Ti alloys, struct. sensitivity of mech. props., alloying influence (*Russian*) 9-47748
 W, polygonisation critical stage in single crystals deformed in compression 9-4979
 Zn alloy, liquid metal embrittlement, eval. by quasistatic crack propag. technique 9-29262

e.m.c. *see electromagnetic compatibility***emergency power supply**

- nuclear power plant, class 1E auxiliary power systems, degraded or loss of voltage protection 9-45363
 nuclear power stations, IAEA nuclear safety standards program for protection, electric, instrumentation systems 9-45365
 Li-H₂O₂ reserve power system, 600 kWh 9-48104

e.m.f. *see electric potential***emission nebulae** *see nebulae***emission spectra** *see spectra***emissivity**

- see also brightness*
 atmospheric emissivities in tropics 9-29859
 cholesteric liquid crystal semitransparent and opaque films, thermal emissivity 9-7703
 galactic disc, bremsstrahlung gamma radiation emissivity and local interstellar electron spectrum 9-25417
 high temperature, measurement of small specimens of metals, alloys, structural materials appl. 9-7281
 IR emissivity meas. method and equipment 9-35812
 junction device, injected carrier detect. by IR emission 9-38151
 measurement for partially transparent materials to thermal radiation, high speed spectrometric method 9-7280
 metal radiative characteristics, EM theory of radiation 9-7704
 metal surface, thermal radiation 9-28114
 opaque, semitransparent materials, Kirchhoff's second law, role of reflection or diffusion (*French*) 9-36835
 temperature fields, local equilib. in emissive medium, reconstruction 9-41874
 thermal radio emission polarimetry, loss matrix 9-21069
 transition metal spectral emissivity variation with temp. (*Japanese*) 9-1517
 two-phase inhomogeneous media of cylindrical geometry 9-23377
 Au films, thermal phonon radiation into α -quartz substrates 9-42363
 Cu films, thermal phonon radiation into α -quartz substrates 9-42363
 Cu surface, total hemispherical emissivity 9-28115

emissivity continued

- Fe, ferromag., spectral thermal emission, partial circular polarization 9-23751
- H₂O, warm fog and steam clouds, emission spectra variations, evidence for clusters in vapour phase 9-39849
- W, total hemispherical emissivity 9-10973
- ZnO, black, possible use as spectrally selective coating for low temp. solar collectors 9-994

emitters *see television camera tubes***emitter-coupled logic**

- see also logic circuits*
- programmable delay line using microstrip transmission line and temp. compensated ECL gates 9-26845

employment

- bioengineering, career alternative for physics graduates 9-5947
- biomedicine and the physics graduate 9-5951
- business opportunities for the physicist's skills in applied math. anal. 9-5949
- community colleges in the USA, prospects for physicists 9-5957
- county Government in the USA, elected positions for the physicist 9-5960
- energy research and development, manpower needs in the USA 9-5955
- Government career opportunities in the USA 9-5946
- hiring procedure, for industrial jobs 9-5953
- industrial applied mathematics opportunities 9-5950
- physics careers, employment and education, conf., Pennsylvania, USA (Aug. 1977) 9-2591
- physics in Europe, bibliography 9-40341
- public policy careers in the USA 9-5954
- solar energy, research and application prospects for physicists 9-5958
- technology assessment for the physicist 9-5959
- textile and papermaking industries, opportunities for physicists 9-5952
- versatility of the physicist 9-5956
- welding engineering opportunities 9-5948

emulsions

- see also nuclear track emulsions; photographic emulsions*
- bituminous coal emulsification by ultrasonics 9-47997
- dye laser, pumped by N₂ laser 9-13962
- electrical conductivity, H₂O-alcohol microemulsions 9-20471
- flow, relative drop-drop and drop-wall motions, slow 9-32641
- hydrocarbon drops levitated in water, acoustically forced shape oscill. 9-47987
- microemulsion, struct. description of liq. particle dispersion, ultracentrifugation and small ang. neutron scatt. obs. 9-5184
- microemulsion phase equilibria, statistical thermodynamics 9-5183
- microemulsions, struct., use of variable-contrast method appl. to neutron scatt. 9-16043
- nonylphenol diethylene glycol ether-water-p-xylene system, liquid crystal stabilization of multiple emulsions 9-16046
- oil-in-oil emulsions, particle size and stability, temp. depend. 9-20472
- oil-in-water, electrolyte flocculation of stabilised potassium 9-43638
- oil-water emulsification, by US, large primary oil drop breakup 9-32644
- oil-water interface, US emulsification drop form. by capillary wave instability 9-32643
- paraffin oil, aq. emulsion, polyelectrolyte stabilised, mech. props. 9-39223
- polymerisation, homogeneous nucleation 9-29354
- polymerisation of polar monomer emulsions, model calc. (Russian) 9-34302
- PVC, emulsion, melts, slip, visual observations 9-4047
- PVC plastisol, steady shear rheological behaviour 9-37274
- thermal radio emission from foam structures 9-29497
- thermodynamically stable emulsions 9-47993
- US attenuation 9-41475
- water, containing emulsion, from crack detection processes using penetrating agents, purification (German) 9-5517
- water-in-dodecane microemulsions, dielec. study of phase transition 9-28668
- water-in-dodecane microemulsions, struct. transitions in liq. cryst. phase, dielec. props. 9-28669
- AgBr, (100) and (111) face, influence on aggregation of sensitising dyes 9-39202
- H₂O-alcohol microemulsion, elec. cond. and struct. 9-20471
- H₂O-cyclohexane-sodium dodecyl sulphate-pentanol I, light scatt. study (French) 9-1968
- Na⁺-gramicidin D, NMR study 9-43805
- Na₂SO₄ aq. soln. droplets, nucleation by Na₂B₄O₇·10H₂O in emulsion (French) 9-1492

emulsions (nuclear track) *see nuclear track emulsions***emulsoids** *see emulsions***encapsulation**

- see also packaging*
- pyrene coating for Ga_{1-x}Al_xAs laser diode end facet protection 9-36921
- sheet metal, deep-drawn, for implant device encapsulation, mech. and metallographic props. (German) 9-8564
- single-mode fibre optical power divider, encapsulated etching technique 9-27420
- GaAs:Se, implanted, multilayered encapsulation using SiO₂:As and Si₃N₄ 9-11715
- GaAs:Si, encapsulated by SiO₂ and Si₃N₄, ion-implanted As profiles 9-4319
- Si₃N₄ noncrystalline layers, CVD growth, encapsulant layers for annealing GaAs 9-19994

encoding

- see also decoding*
- associative parallel-search memory, correlation search using coded key words 9-10265
- auditory nerve fibre, insect, latency shift, neuronal time cue of sound direction 9-48274
- coherent coded imaging without side lobes 9-25079
- colour encoded aperture masks used for incoherent filtering of images 9-41348
- computer-generated double-phase holograms, Fourier transform subcells and phase coding 9-27200
- computerised classical tomography, optimum coding sequences appl. 9-8530
- discrete image tone gradation scale transform. on grid coding basis 9-10266

encoding continued

- holographic pseudocolor encoding, spatial filtered imaging technique 9-18370
- multicolour image storage on black and white film, using crossed grating 9-31813
- multiple holography with chirp-modulated binary phase-coded reference-beam masks 9-27202
- nerve impulses, phase locking of pulse encoders 9-34546
- neural communication system model, single signed integral PFM and PPM comparison 9-5268
- neural encoding model test, phase-locking meas. significance 9-2036
- optical fibre digital communications, PAM-PPM signalling format 9-27190
- optical fibre tape for image and hologram transmission, using chromatic encoding (French) 9-3785
- optical transducer, for use with windvane 9-39889
- pseudocolor density encoding of photographic materials, white light processing system 9-18360
- radiography, I isolated images using spatial frequency encoding 9-39485
- remote sensing data, cell analytical method for inland wetland photointerpretation evaluation 9-29898
- software coding for reliable data communication in reactor safety system 9-13496
- space-variant optical processors, use of coded waveforms 9-27191
- speech analysis by linear predictive coding, accuracy improvement 9-46133
- two-dimensional image transmission by wavelength multiplexing 9-27189
- wavelength multiplexing for information transmission 9-22906

ENDOR

- deoxycytidine 5'-phosphate-H₂O, cryst., X-irrad., ESR and ENDOR obs. 9-34330
- p-dichlorobenzene, triplet state symmetry, geometry, ODMR, ENDOR obs. 9-18214
- hyperfine and superhyperfine interaction parameters (Russian) 9-47064
- ionic crystals incorporating S-state ions, expt. exam. 9-28326
- low temperature nuclear relaxation stimulated by paramagnetic impurity 9-33563
- methanol dehydrogenase, spin echo powder ENDOR, line shape aspects 9-34485
- naphthalene:2-fluoronaphthalene(2-chloronaphthalene), triplet state X-traps, ENDOR obs. 9-33561
- 4-phenyl-3-thiosemicarbazide, single cryst., X-irrad., EPR, ENDOR, radical identification 9-31560
- quinoxaline, triplet state symmetry, geometry, ODMR, ENDOR obs. 9-18214
- ruby, ENDOR of Cr³⁺ ions, elec. field effect (Russian) 9-8071
- TGS, X-irrad., glycine radicals, geom. struct. by ENDOR and INDO calc. 9-24230
- TGS deuterated, X-irrad., negative ENDOR, collective motion 9-47357
- C⁺NH₃ radical, exchangeable H⁺ hyperfine coupling, ENDOR obs. 9-36669
- CaCO₃:Mn, calcite, EPR and ENDOR absorpt. spectra of divalent Mn in single cryst. 9-47328
- CaF₂:O₂⁻, struct. and dynamics, EPR and ENDOR obs. 9-33562
- Cs₂NaYCl₆:Ce, ENDOR evidence of noncubic distortion 9-11357
- GaP:Te, ENDOR meas., hyperfine interactions and elec. field gradient 9-42869
- p-GaSb, CESR, optically detected, giant Overhauser shift 9-4722
- KCl, self trapped exciton, off-centre configuration 9-42455
- KCl, self-trapped exciton, ENDOR 9-15377
- KMgF₃:V²⁺, ⁵¹V ENDOR meas., spin Hamiltonian parameters 9-28638
- KZnF₃:V²⁺, ⁵¹V ENDOR meas., spin Hamiltonian parameters 9-28638
- LiF:H, neutron irradiat., ENDOR meas. 9-11356
- RbAl(SO₄)₂·12H₂O, ENDOR of ⁵⁷Fe³⁺ in trigonally distorted octahedral sites 9-38405
- RbGa(SO₄)₂·12H₂O, ENDOR of ⁵⁷Fe³⁺ in trigonally distorted octahedral sites 9-38405
- Si, divacancy, hyperfine interactions from ENDOR meas. 9-42868

energies, molecular dissociation *see molecular dissociation energies***energy, binding** *see binding energy***energy, lattice** *see lattice energy***energy, surface** *see surface energy***energy bands** *see band structure***energy bands, electron** *see band structure***energy control** *see power control***energy conversion, direct** *see direct energy conversion***energy gap**

- see also superconducting energy gap*
- adamantine family of semiconductors, props. and commercial appl. 9-42447
- amorphous semiconductor, tetrahedrally bonded, gap density of states 9-19545
- band tailing due to zero-point vibr. in perfect cryst. 9-28267
- crystal electronic spectrum, EM wave influence one-band approx. 9-33218
- dimers, singlet-triplet energy gap, temp. depend. 9-7809
- dispersive ferroelectrics, connection between electron spectrum parameters and ferroelec. parameters 9-38483
- excitons in electron-hole plasma, dynamical screening and self-energy, band gap shift to lower energy 9-15093
- III-V quaternary alloy, A_xB_yC₂D or AB_xC_yD₂, energy band gap and lattice constant 9-4296
- III-V semiconductor, energy gap and static dielectric const. 9-11062
- III-V semiconductors and ternary cpds., average energy gap calc. (French) 9-33228
- MOS structures, interface state density evaluated from charge-voltage data 9-11234
- one-dimensional homonuclear molecular systems, nature of energy gap 9-11063
- optical fibres, material dispersion 9-27377
- polyglycine chain, electronic struct. and transport props., ab initio Hartree-Fock crystal orbital calc. 9-42448
- polyglycine chain with hydrated side group, electronic struct., transport props. 9-16146
- single crystals, and thin films, absorpt. edge temp. depend., gap energy changes 9-42991
- two-dimensional, Hartree-Fock soln. of CDW in mag. field 9-28302
- Urbach's rule derived from thermal fluctuations in the band-gap energy 9-33729

energy gap continued

- AgFeSe₂(S₂)(Te₂), elec. props., band gap (*Russian*) 9-11116
 Al-Ga-As heterostructure photocell with a transition layer 9-19655
 Be, electronic surface states, (001) surface, Brillouin zone 9-24047
 Bi₂SiO₂₀, film and single cryst., optical absorpt. edge and optical transitions 9-33730
 Cd, electronic surface states, (001) surface, Brillouin zone 9-24047
 CdGeAs₂, optical and elec. props. 9-19590
 CdInGa_{1-x}Au, single crystal, thermostimulated conductivity (*Russian*) 9-11142
 Cd_{1-x}Zn_xS, film, technical data, for low cost solar cell 9-48127
 Cu₂S, electromechanical props. (*Russian*) 9-11117
 FeF₃, thin film, optical absorpt. meas. 9-15546
 Ga_{0.5}Al_{0.5}As, heterostructure, cation order, effect on energy bands 9-1570
 (GaAs)_n-(AlAs)_n, multilayer heterostructure, cation order, effect on energy bands 9-1570
 Ga_{1-x}As(AlIn)_x, heterojunction solar cells, optimum bandgap, computer anal. 9-43767
 GaAs_{1-x}Sb_x, epitaxial n-n heterostructures, gap energies and interface pots., modulation electroabsorpt. meas. 9-11201
 GaP, spectral depend. of O photoneutralisation cross-section near threshold, and band gap 9-1788
 GaSb and GaSbAs_{1-x} films, MBE growth and elec. props. 9-23863
 GaSb, photolum. spectra under hydrostatic press., energy shift of direct gap and L-conduction band 9-19930
 GaSe, thin film, photoelectrical props. at high electric field (*Russian*) 9-11247
 Ge, amorphous film, annealing, effect on localised states 9-4535
 Ge, energy-gap narrowing and state filling under laser irradi. 9-42441
 HgSe, interband absorpt. and Γ -point band structure parameters 9-47010
 HgTe, temp. depend. of energy gap, oscillatory magnetotransmission meas. 9-15441
 InGaAsP:Sn(Te)(Zn), LPE growth, influence of growth-solution dopants on distrib. coeffs. 9-47640
 In_{0.79}Ga_{0.21}As_{0.54}P_{0.46}, LPE layer, electroreflectance meas. 9-24290
 In_{1-x}Ga_xAs_{1-y}P_y layers on InP substrate, LPE growth, quaternary phase diagram, and band gaps 9-42403
 In_{1-x}Ga_xAs_{1-y}P_y, lattice matched to InP, band gap vs. comp., and Vegard's law demonstration 9-7782
 In_xGa_{1-x}As_{1-y}P_y layers on InP, LPE and opt. props. characteris. 9-28849
 InGaP-GaAs junction, effect of elastic strain on energy band gap and lattice parameters 9-24057
 In_xGa_{1-x}Sb, molecular beam epitaxy 9-47638
 InSb, absorpt. processes near bandgap, laser-induced hot electron and photocond. meas. 9-42584
 In₂Se₃, single cryst. prep. and electrophys. props. 9-43129
 LaOF, features of formation of band structure 9-33232
 Mg, electronic surface states, (001) surface, Brillouin zone 9-24047
 Mg₂Zn_{1-x}Te, temp. depend. of energy gap, near band gap reflectivity spectra 9-28786
 P, amorphous thin film, optical gap 9-24011
 Pb_{1-x}Cd_xS epitaxial layer, metastable, optical props. and electronic struct. 9-15543
 PbI₂, press. depend. of band-gap excitons, 77K, optical absorpt. spectra 9-8157
 PbPo, electronic struct., relativistic band struct. calc. 9-4510
 PbS, energy gap anomaly, relativistic band struct. calc. 9-4510
 PbSe, energy gap anomaly, relativistic band struct. calc. 9-4510
 Pb_{1-x}Sn_xTe, single cryst. grown from vapour, photocond. meas. 9-24016
 PbTe, energy gap anomaly, relativistic band struct. calc. 9-4510
 SbSI, band gap photorefectance spectra near ferroelec. transition 9-38559
 Sb₂Se₃ single crystals, phys. prop. anomalies, 400-450K (*German*) 9-38072
 Si, amorphous, hydrogenated, pure and B doped, annealing effect on cond. and band gap states (*Korean*) 9-15142
 Si, heavily doped, bandgap narrowing and diffusion length meas. 9-7781
 Si, IR photoresponse at 1.15 microns, band-gap narrowing effects 9-7864
 Si p-n junction, forward bias capacitance and current meas. for lifetime and band narrowing detn. 9-7892
 Si:H, amorphous, electronic states of hydrogenated Si, theory 9-42494
 Si:Pt, deep level, exam. by thermally stimulated current and capacitance techniques 9-1579
 Sn₂Ge_{1-x}Te, ferroelec. semicond. structural phase transition, X-ray study 9-37836
 SnO₂, rutile, band gap assignment by two-photon spectroscopy 9-19513
 Y₂Al₂O₇, band gap, composition depend. 9-8161
 YOF, band structure formation, valence band 9-33232
 Zn, electronic surface states, (001) surface, Brillouin zone 9-24047
 Zn₃P₂, characteristics for photovoltaic appl. 9-7839
 ZnTe:In(Al), pure and doped, Zn vacancy energy levels, elec. and optical props. 9-4827

energy gap, superconducting see superconducting energy gap

energy level crossing

see also Hanle effect

- atomic and nuclear parameters, from level crossing signals 9-3416
 atoms, motional-Stark-effect-induced anticrossings 9-13666
 avoided crossings, for exact states, model calcs., theory 9-10156
 branch points and level crossings, multidimens. partitioning technique theory 9-6918
 Dirac Hamiltonian in presence of instanton and meron fields, fermion zero modes and level crossing 9-21927
 lattice relaxation and time resolved polarization of emission from localized electron with level crossing 9-4840
¹¹³CdII, hyperfine level crossing, saturation induced in laser 9-18160
 Cs, reson. multiphoton ionis. 9-41146
 H, parity mixing, relativistic neutral current interactions and nonrelativistic pots. 9-26908
 H, subnatural linewidth resolution ²S_{1/2}, ²P_{1/2} level crossing, Lambshift, pulse technique 9-22669
 H+highly stripped ions, energy gap and couplings at pseudocrossings 9-3526
 He I, fine struct. of triplet term of 1s3d config. 9-3595
 Li ³D state, level crossing meas. 9-13832
 Mg, 3s3d³D and 3s4d³D states, fine-struct. meas. by level crossing spectra 9-36572
 Mg II, fine struct. of ²D and ²F sequences by level crossing and anticrossing spectroscopy 9-6919

energy level crossing continued

- Mo I spectrum, lifetime meas. of excited states of 4d⁵5p and 4d⁴5s5p config. 9-13683
 NE, disalignment collision cross sections of 2p₄, 2s₂ levels, mode crossing determ. 9-18162
 Na, Rydberg states, elec. field ionisation, sensitive detection of multiple thresholds 9-7026
⁸⁷Rb, Stark effect on ⁵P_{3/2} state 9-3399
 Th, tensor polarisabilities of levels, level crossing method 9-10223
 energy level transitions, atomic see atomic spectra
 energy level transitions, molecular see molecular spectra
 energy level transitions, nuclear see nuclear energy level transitions
 energy levels see energy states
 energy levels, atomic see atomic structure
 energy levels, molecular see molecular energy levels
 energy levels, nuclear see nuclear energy levels
 energy levels in solids and liquids see electron energy states (condensed matter)
 energy loss of particles
 see also channelling; electron energy loss spectra; radiation effects
 anthracene, (100) and (110), scintillation response of α -particles in planar channelling and blocking expts. (*German*) 9-14869
 atomic particle stripping analysers with solid and gaseous targets 9-1341
 calorimeter, method to distinguish between electromagnetic and hadronic showers 9-748
 charged particle moving in medium, electron density fluctuations, plasmons, wakes and clusters 9-47032
 charged particle stopping ratios in inhomogeneous targets, effect of multiple Coulomb scatt. 9-26854
 charged particles in matter, loss determ. by bombardment of absorbers, theory 9-26864
 conducting medium, Cherenkov and ohmic losses of relativistic charge, unified treatment 9-12998
 conference on ion beam anal., Washington, USA (June-July 1977) 9-5194
 conversion electron scatt. in thin foils, depth selection, Monte Carlo calc. of energy distrib. 9-45598
 cosmic ray, magnetic monopole candidate, reassessment of 1975 Lexan and emulsion meas. 9-3333
 cosmic ray particle identification from tracketch rates in minerals 9-16788
 cosmic rays in supernova remnants, particles escape and adiabatic energy losses 9-16771
 dense structureless media, modified treatment of low energy elastic stopping power 9-19302
 diatomic target, slowing down of heavy ions, range and primary atom creation calcs. (*French*) 9-1473
 drift chamber, particle jet detection from e⁺e⁻ reactions 9-3312
 drift chamber electronics for time and pulse height meas. 9-3326
 DSA meas., ion-atom interaction 9-749
 electron and positron ranges in solids, liquids and gases 9-4366
 electron energy deposition in CO₂, rel. to Venus and Mars atms. 9-45857
 electron gas, nonuniform, energy loss of charged particles 9-37748
 electron ionisation energy loss, approx. to Landau's distrib. functions 9-23664
 electron probe analysis, spatial distrib. of electrons in homogeneous, isotropic target 9-43687
 electron range in solids, derivation using reflected primary electron data 9-19297
 electronic stopping power, theoretical interpretations of the energy dependence, low velocity heavy ions 9-4349
 electrons, ultrahigh energy, traversing cosmic blackbody photon gas, effective penetration distance 9-5742
 energy straggling effect on cross-section to thick target yield relns. 9-26855
 ESCA-ion scatt. spectroscopy-SIMS, review, chem. appls. 9-43701
 evaporated thin films, low energy stopping powers of ³He and ²H, new meas. method 9-4351
 fast electron retardation, ionisation cascade, degradation spectra, anal. (*Russian*) 9-27741
 fast electron transfer, in external electric field, appl. of higher-order perturbation theory (*Russian*) 9-23662
 fast-moving charge near surface, self-energy 9-47138
 ferromagnet, dynamic magnetic field on fast charged traversing particle 9-38423
 ferromagnet, magnetic field asymmetry correction on fast moving ions 9-14862
 field interface of moving particles in statistically inhomogeneous medium 9-6063
 fission fragment excited electron generation of stress waves in metal 9-37747
 fission fragment recoil mass spectrometer HIAWATHA 9-9940
 fission fragments, range in air, appl. of plastic and glass detectors 9-45597
 Havar foil, stopping power and multiple scatt. for low energy protons 9-31339
 heavy ion beam linear energy transfer distribution calc. 9-20630
 heavy ion irradiated target, number of point defects in displacement cascade, computational code (*French*) 9-19300
 heavy ion penetration through matter, book contrib. 9-31343
 heavy ion ranges in complex media, calc. 9-31337
 heavy ions, experimental methods, targets and detectors, book 9-31242
 heavy-ion low-energy small angle multiple scatt. screening effects 9-31340
 heavy-ion radiography and autoactivation techniques 9-20624
 Heidelberg Q3D mag. spectrograph, 1.4 m Δ E-E position sensitive detector 9-45566
 high pressure proportional counters operating in pure hydrogen 9-3296
 high-energy low-mass particles interaction with crystal, kinetic equation (*Russian*) 9-23660
 improved depth resolution of channelling meas. in Rutherford backscatt. by detector tilt 9-5209
 inhomogeneous media, ion implantation range distrib. 9-23625
 insulators, secondary electron emission, free-electron scatt. theory and plasmon theory 9-8211
 ion, electronic energy loss in solids, 10⁻¹⁰ keV nucleon⁻¹ 9-23666
 ion impact, individual orbital contrib. to electronic stopping cross section 9-23667
 ion implantation depth distrib., calc. in path-length approx. 9-23626

energy loss of particles continued

ionisation spatial distrib. for 0.5 to 500 keV electron bombarded solids, empirical eqns. 9-19956
 Kapton foil, stopping power and multiple scatt. for low energy protons 9-31339
 LMFBR materials, electron transport method, expt. verification, energy deposition 9-22386
 metal foils, $Z=6$ to 79, energy loss of light 300 keV ions, using magnetic analyser 9-4350
 metals, outer electronic shells contrib. to heavy ions stopping (*Russian*) 9-1474
 methane, gas, total ionization created by completely stopped H^+ ions 9-46419
 mica, Vavilov-Cherenkov radiation ang. distrib. from 170 to 250 keV e^- (*Russian*) 9-22569
 multiple scattering in molecular gases, target at.+energetic ion spatial correlation influence 9-27062
 muon momentum spectrum, absolute intensity meas. 0.4 to 3.0 GeV/c 9-5720
 MWPC, appl. as energy loss detector for the ISR 9-3331
 MWPC appl. to energy loss meas. 9-3330
 neutron energy deposition calc. using adjoint Boltzmann eqn. 9-6723
 penetration statistics, energy loss and multiple scatt. 9-42124
 photons, ultrahigh energy, traversing cosmic blackbody photon gas, effective penetration distance 9-5742
 PMMA, stopping power of valence electrons, Monte Carlo calcs. 9-10886
 polystyrene, inelastic interaction of electrons, mean free path, stopping power and CSDA ranges 9-23663
 range and damage distributions, Sonine expansion 9-19303
 relative stopping powers of light ions in solids, Rutherford backscatt. method 9-4348
 relativistic positron and electron bremsstrahlung under conditions, theory 9-19301
 secondary electron emission, energy depend. of yield, based on range-energy retardation power formula 9-47565
 solid film, passage of electrons, linear transport theory in one-velocity approx. 9-14865
 solidified gases, energy loss of 4He ions, backscattering method 9-4346
 solids, X-ray prod. range by 2 to 15 keV electrons, thin film and bulk targets 9-19298
 stopping power determ. by average stopping power method 9-26852
 straggling meas. anal. by the backscatt. technique 9-4355
 surface characs., combined ion scattering spectroscopy, SIMS, SEM, energy dispersive X-ray techniques 9-43702
 thermomolecular target, calc. of charged particle spectra by Monte Carlo method (*Russian*) 9-37445
 thin foil thickness meas. using ^{148}Gd and ^{241}Am alpha-particles 9-30417
 tissue equivalent gas, total ionization created by completely stopped H^+ ions 9-46419
 ultracold neutrons (UCN) transmission through moving gophered foils 9-17955
 ultraheavy cosmic ray charge determ. in emulsion, Mott cross section effects 9-18084
 α -particle, range in air, appl. of plastic and glass detectors 9-45597
 Ag, electron inelastic mean free paths and energy losses, electron gas statistical model 9-46733
 Ag, low energy stopping powers determined by time of flight techniques 9-45594
 Ag, mean excitation energies from α -particle stopping power meas. 9-13615
 Ag, multiple scatt., energy loss meas. for Ar, Kr, Xe, U 1.2 MeV ions 9-751
 Ag thin foil, proton energy straggling determ., at 0.35, 1, and 1.75 MeV, γ -emission reactions 9-4354
 Al, determ. of width of lateral spread distrib. of MeV He ions from energy spectra 9-14860
 Al, electron inelastic mean free paths and energy losses, electron gas model 9-46732
 Al, electron inelastic mean free paths and energy losses, electron gas statistical model 9-46733
 Al, low energy stopping powers determined by time of flight techniques 9-45594
 Al, mean excitation energies from α -particle stopping power meas. 9-13615
 Al, multiple scatt., energy loss meas. for Ar, Kr, Xe, U 1.2 MeV ions 9-751
 Al, positron formation at surface 9-13845
 Al, proton energy straggling in ion backscatt. expt. 9-37750
 Al, range and range straggling of 120 keV heavy ions 9-45595
 Al, single cryst., primary knocked-out atom, energy of spatial distrib., modelling of 0.2 MeV proton trajectories 9-14864
 Al, stopping power and energy straggling meas., Li ion backscatt. anal. 9-3328
 Al_2O_3 , stopping power and energy straggling meas., Li ion backscatt. anal. 9-3328
 $^{27}Al^+$ ion ranges in Ti(Ni)(Cu)(Mo)(Ag)(Ta)(W)(Au)(Pb), meas. by (p, γ) reson. broadening 9-46729
 ^{75}As , slowing down of atoms/ions with $KE \leq 5$ eV by inert gases 9-31650
 Au, amorphous, bombard. by Au ions, collision cascades, computer simulation 9-46731
 Au, electron inelastic mean free paths and energy losses, electron gas statistical model 9-46733
 Au, low energy stopping powers determined by time of flight techniques 9-45594
 Au, mean excitation energies from α -particle stopping power meas. 9-13615
 Au, multiple scatt., energy loss meas. for Ar, Kr, Xe, U 1.2 MeV ions 9-751
 Au, precision stopping cross section meas. for 4He , 0.5 to 2.1 MeV 9-4353
 Au, stopping cross sections of protons, 350 to 650 keV, backscatt. technique 9-4352
 Au thin foil, proton energy straggling determ., at 0.35, 1, and 1.75 MeV, γ -emission reactions 9-4354
 Be, proton energy straggling in ion backscatt. expt. 9-37750
 Be, range and range straggling of 120 keV heavy ions 9-45595
 Bi, multiple scatt., energy loss meas. for Ar, Kr, Xe, U 1.2 MeV ions 9-751
 C, determ. of width of lateral spread distrib. of MeV He ions from energy spectra 9-14860

energy loss of particles continued

C foil, energy loss of Ne ions (40-120 keV), and Ar ions (40-240 keV), as function of emergence ang. 9-4357
 C foil, OH^+ beam Coulomb explosion, charge state depend. 9-31649
 C foil, passage of ^{14}N and ^{20}Ne ions, energy-angle distrib. 9-10889
 C foil + H^+ (C^+)(N^+)(O^+)(Na^+)(Mg^+)(S^+)(Kr^+), charge-state distrib. effect on photon emission, 100-400 keV 9-22814
 C, low energy stopping powers determined by time of flight techniques 9-45594
 C, multiple scatt., energy loss meas. for Ar, Kr, Xe, U 1.2 MeV ions 9-751
 C, proton energy straggling in ion backscatt. expt. 9-37750
 C, proton straggling determ., using 0.47 and 1.73 MeV 9-4356
 C, range and range straggling of 120 keV heavy ions 9-45595
 C, stopping power determ. for heavy ions, 200 to 2000 keV 9-45596
 CO_2 , gas, total ionization created by completely stopped H^+ ions 9-46419
 ^{130}Cs , low energy ions systematic range meas. in Ar and N_2 gases 9-1472
 Cu, amorphous, bombard. by Ar^+ ions, collision cascades, computer simulation 9-46731
 Cu beam dump, meas. of stopped π^+ decays with 720 MeV protons 9-45503
 Cu, determ. of width of lateral spread distrib. of MeV He ions from energy spectra 9-14860
 Cu, electron inelastic mean free paths and energy losses, electron gas statistical model 9-46733
 Cu, fast electron transmission, contrib. of high-angle deflections 9-28024
 Cu, neutron irradi., replacement sequences, calcs. using ADDES and COMENT codes 9-46714
 DT-Pe plasma, neutron induced fission, fission fragment slowing down 9-26749
 Fe film, vacuum deposited, stopping power meas. of 0.3 to 2.6 MeV 4He ions 9-3329
 Fe, muon $^+$, 40 MeV, traversing magnetised plates, dynamic mag. fields 9-38422
 ^{212}Fr , low energy ions systematic range meas. in Ar and N_2 gases 9-1472
 GaAs, electron bombardment, absorption of energy 9-14847
 GaAs, proton range data and deep proton-isolated lasers 9-36923
 $GaAs_{1-x}P_xSiO_2:N,Zn$ ion-implanted multiple layers, ion range distrib., secondary ion microprobe meas. 9-42129
 GaSb, proton range data and deep proton-isolated lasers 9-36923
 Ge, positron formation at surface 9-13845
 H^+ , 150 MeV scatt. in plexiglass, mean-square transverse displacement 9-6808
 H^+ + He, proton energy degradation, approx. yield spectrum 9-31643
 H_2^+ , electronic stopping power of slow mol. ions in solids 9-10888
 H_2^+ (HeH^+) + C thin solid target, 50-300 keV, collisional at. physics using mol. projectiles 9-45813
 $H(n=2)$ excitation by ion impact, precision doubly differential cross section meas. 9-45811
 InP, proton range data and deep proton-isolated lasers 9-36923
 K + HCl, ion pair form., energy loss spectra 9-34286
 KBr(I), sputtering, depend. on beam energy and target temp. 9-1804
 KI, mean free paths of 200-1500 eV electrons, XPS determ., model calc. 9-38715
 Li ions, 65 to 500 keV, stopping power and straggling in H_2 , He, CO_2 , N_2 , O_2 , Ne, Ar, Kr, and Xe 9-3529
 Li projectile, stopping cross section meas., chemical and target physical state influence 9-4345
 low energy He ion stopping powers calc. 9-4347
 $N^{2+} + He(Ne)(Ar)$, electron capture, product ion energy loss spectra 9-36762
 N_2 , gas, total ionization created by completely stopped H^+ ions 9-46419
 N_2 , solid, interaction of 1-3 keV electron beam, range and secondary emission 9-15568
 $^{15}N^+$ ions in metals, ranges by (p, α) reson. broadening 9-37749
 NaCl, rock salt, average electron range in dielec., 20-50 keV, precise meas. 9-14868
 Ni (110), surface relax., O_2 coverage effects, medium energy ion scatt. obs. 9-28181
 Ni, electron inelastic mean free paths and energy losses, electron gas statistical model 9-46733
 Ni film, vacuum deposited, stopping power meas. of 0.3 to 2.6 MeV 4He ions 9-3329
 Ni, low energy stopping powers determined by time of flight techniques 9-45594
 Ni, mean excitation energies from α -particle stopping power meas. 9-13615
 O ion, range calc., number of primary atoms created in diatomic target (*French*) 9-1473
 Pd-C solid solution, dechannelling of α -particles by C atoms (*French*) 9-7643
 Pt (111), relax. effects, and thermal vibr., medium energy ion scatt. 9-28182
 ^{79}Rb , low energy ions systematic range meas. in Ar and N_2 gases 9-1472
 Se, mean excitation energies from α -particle stopping power meas. 9-13615
 Si, amorphous, asymmetrical profile of ion implanted P 9-46693
 Si, electron bombardment, absorption of energy 9-14847
 Si, electron channelling patterns, contrast mechanisms, lattice-defect images, in SEM 9-27884
 Si, electron inelastic mean free paths and energy losses, electron gas statistical model 9-46733
 Si, electronic stopping powers of hydrogen in Si (100) wafers below 140 keV 9-4334
 Si, positron formation at surface 9-13845
 Si, proton energy straggling in ion backscatt. expt. 9-37750
 Si, random and channelled energy loss for positive and negative, 2-15 GeV/c pions, kaons and protons 9-3332
 Si, range and range straggling of 120 keV heavy ions 9-45595
 Si semiconductor counters, response to relativistic pions, electrons and protons 9-13597
 $Si_3N_4-SiO_2:N,Zn$ ion-implanted multiple layers, ion range distrib., secondary ion microprobe meas. 9-42129
 Sn, charged particle stopping power meas. by 100 keV proton induced X-ray emission 9-45593
 ^{119}Sn , thin foil, 19.6 keV conversion e^- energy, ang. contrib., Monte Carlo calc. 9-11360

energy loss of particles continued

- U ion, range calc., number of primary atoms created in diatomic target (*French*) 9-1473
- UO₂ fission fragment, range calc., number of primary atoms created in diatomic target (*French*) 9-1473
- W (110), D⁺ depth distrib., effect of surface impurities, channelling model 9-1451
- W, ion implantation, ⁴He⁺ range profile and ⁴He diffusivity meas. 9-33022
- Xe+Xe⁺, 0.3-1.2 MeV, multiple N- and M-shell excitation, inelastic energy loss meas. 9-852
- Y, charged particle stopping power meas. by 100 keV proton induced X-ray emission 9-45593

energy measurement *see power measurement***energy-range relations** *see energy loss of particles***energy resources**

- see also fuel; solar energy concentrators; solar power; wind power*
- alternative technologies, cost analysis 9-48041
- assessments of nuclear systems and use of nuclear power, review 9-45334
- biomass, ethanol production through wood hydrolysis 9-48039
- biomass gasification process, Garrett Energy Research 9-48040
- conference on nuclear power and its fuel cycle, Salzburg, Austria (May 1977) 9-26504
- denatured Th cycle in symbiotic systems, potential role 9-26484
- economic assessment of future energy schemes, domestic solar heating appl. 9-48044
- education, applied science CNAA degree course at Kingston Polytechnic 9-35454
- elementary particle-antiparticle annihilation, possible future use as energy source 9-36054
- energy R&D in the United Kingdom, energy resources 9-43710
- energy science and technology in Belorussian SSR, historical review (*Russian*) 9-35516
- French nuclear power generation programme (*French*) 9-26732
- fusion as a future power source, plasma confinement and technological problems 9-26752
- fusion energy trends 9-6763
- geothermal energy, review 9-29447
- geothermal energy 9-35507
- geothermal energy in Italy, survey (*Italian*) 9-24889
- geothermal energy resources, in Great Britain 9-17166
- geothermal heat extraction from hot dry rock, siting criteria and appl. to Switzerland 9-39275
- heavy quark physics, practical appls. in energy sources and storage 9-9426
- high-temperature power-technological industrial processes use of nuclear power, reviews 9-26729
- Italy's electric power requirements, nuclear programme, pumped storage hydroelectric integration 9-26733
- marine structures for energy conversion 9-43712
- national energy and nuclear power system plans of the Federal Republic of Germany 9-26506
- national energy programme of USA, nuclear power, fuel enrichment and waste disposal 9-26686
- nuclear power, nonelectrical energy production, review 9-26728
- nuclear power, significance as energy source in USSR (*Russian*) 9-26592
- nuclear power appl. to centralised heat supply and central heating 9-26730
- ocean energy sources, new technological developments 9-43723
- ocean thermal energy, renewable power source, review 9-5503
- oil-shale, Colorado's Green River Formation, vertical modified in-situ processes 9-48049
- oil-shale, prerefining, in situ, hydrotreatment at 1500 and 2200 psig 9-48047
- oil-shale refining, jet fuels production, by surface and in situ technology 9-48048
- oils, shale, from five different sources, comparison w.r.t. boiling-point composition, elemental content and physical properties 9-48050
- Pakistan, hydroelect. pot. for future electricity demand, review 9-34423
- pegmatite ores in Tanco mine area, SE Manitoba, in Canada, exploration methods 9-48577
- remote communities novel energy concepts, technical and economic aspects 9-48078
- renewable, economic assessment for UK power supply system 9-48043
- renewable, energy technologies economic assessment 9-48045
- renewable, future energy concepts, Conf. London, England (Jan.-Feb. 1979) 9-43709
- rural electrification, energy economics and national policies, in developing countries 9-48042
- seawater, electrical energy tapping 9-5504
- space as radiation sink, nonconventional energy sources 9-43750
- United States, available energy resources, 1985-2000 period 9-43711
- worldwide energy prospects, synthesis of studies published in 1976 and 1977 (*French*) 9-29443
- Li concentrations in McDermitt Caldera, in Nevada and Oregon, geological survey 9-48478
- Li deposits and potential, Quebec and Atlantic Provinces, in Canada, report 9-48481
- Li, occurrence in flint clay and related rock types in United States, preliminary survey 9-48475
- Li ores in Horse Spring Formation Miocene rocks, Clark County, Nevada, report 9-48474
- Li, ores in United Kingdom, brief assessment 9-48476
- Li pegmatite ores in Western Superior Province, in Canadian Shield, distribution and petrogenesis 9-48480
- Li requirements for fusion power plants, survey 9-45401
- Li resources, Yellowknife area, in NW Canada, report 9-48482
- Li resources and potentials, NW Ontario, Manitoba, Saskatchewan, in Canada, estimation 9-48483
- Li rich brines in SW Bolivia, chemical composition and distribution 9-48479
- U, reactor fuel supply, exploration and production capacities, review 9-22388

energy states

- see also atomic structure; electron energy states (condensed matter); energy level crossing; molecular energy levels; nuclear energy levels; population inversion*
- education, recursive method for partition function calc., average energy calc., APL program 9-9050

energy states continued

- permutation matrices using graphical methods of spin algebras, Serber coupling 9-6833
- perturbed energies, 2nd order, coupled HF iterative procedure, geometric approx. 9-9991
- quantum chemistry, optimum scaling in a Monte Carlo method 9-6832
- H, recombining plasma, population inversion using collisional-radiative model 9-46423

energy states in solids and liquids *see electron energy states (condensed matter)***energy storage**

- see also capacitor storage; direct energy conversion; energy storage devices*
- 100 MWh, peak-shaving battery plants, Zn-Cl₂ 9-48119
- air based solar heating systems, phase charge energy storage, optimum physical properties 9-43742
- batteries for transport and stationary appl., advanced systems development 9-43756
- Canadian R and D program for energy storage and conversion, review 9-29457
- coal underground conversion, integrated fuel-generation and power-generation concept, using electrochemical engines 9-48053
- compressed air storage, basic and advanced concepts feasibility 9-43793
- compressed air storage plant, ejector augmentation of air supply 9-48189
- conversion, Conf., San Diego, CA, USA (Aug 1978) 9-48038
- diesel-driven chiller system simulation, with multi-tank thermal storage system, for large commercial buildings 9-48187
- distribution systems for centralised heat source 9-48184
- flywheel, composite, for regenerative braking of electric vehicles 9-48185
- future energy concepts, Conf. London, England (Jan.-Feb. 1979) 9-43709
- heat storage, periodic, heat-carrying fluid and storage material transport kinetics 9-3901
- heavy quark physics, practical appls. in energy sources and storage 9-9426
- hydrides appl., metallic 9-43792
- load levelling in electrical utilities, Li-FeS₂ batteries appl., industrial participation in ANL development program 9-48113
- marine photosynthesis; available, usable and stored radiant energy 9-39313
- nuclear district heating schemes, heat transport and storage 9-39321
- off-peak, underground pressurized hot water storage 9-43789
- power systems, review 9-24913
- solar, by thermo-electrochemical H₂ prod. (*French*) 9-24918
- solar, large-scale thermal power generation potential 9-43749
- solar energy storage apparatus, dimension determ. from statistical model of solar radiation (*French*) 9-29812
- solar energy storage, tank, Markovian model of behaviour (*French*) 9-24912
- solar energy thermal storage, numerical simulation of energy transfer by conduction and radiation (*French*) 9-24916
- solar energy thermal storage by latent heat of fusion of mineral salts (*French*) 9-24915
- solar energy thermal storage eutectic molten salt mixtures, enthalpy of fusion estimation (*French*) 9-24914
- solar power, direct conversion and storage, review of developments, review 9-43741
- solar power systems, combined generation/storage, using Ca(OH)₂ 9-43790
- thermal, based on reversible dissociation of SO₃, solar power plant appl. 9-48186
- thermal, for solar power systems, 1978 development status 9-48095
- thermal, high efficiency, for utility appl. 9-48188
- thermal, using hot liquids, CEGB research review 9-43788
- thermal phase change storage medium, new type, thermal properties 9-43787
- utility, Li-Si alloy/FeS cells appl., research and development at Atomics International 9-48115
- Ag-H₂ battery cells, long-life, light-weight, spacecraft appl. 9-48108
- H₂ production, wind energy conversion schemes, South African feasibility study 9-43714

energy storage devices

- economic assessment 9-48183
- secondary batteries, powered by forced ionisation 9-43755
- solar storage tank, buried, hemispherical, heat cond. to environment, series soln. 9-3891
- superconducting coil energy storage power supply 9-34442
- thermal energy storage by latent heat of fusion (*French*) 9-3893
- thermal energy storage material cylinders, heat transfer during melting 9-3894
- thermal energy storage tank, thermal stratification during charging 9-3890
- thermal storage unit, sensible-heat, solid, transient response 9-3892
- Tokamak EF coil energy transfer supercond. solenoids and phase-shifting bridge 9-31213
- Nb-Ti filamentary superconductor critical current density rel. to thermal treatment 9-33440

energy transfer collisions, molecular *see molecular inelastic collisions***engineering**

- see also biomedical engineering; civil engineering; design engineering; electrical engineering; environmental engineering; maintenance engineering; mechanical engineering; naval engineering; project engineering*
- education, physics, engineering and teacher training at Loughborough University of Technology 9-35455
- education, physics joint honours degree course at Manchester University 9-35456
- engineering-science summer programme 9-2588
- materials science and engineering as a multidiscipline 9-38726
- undergraduate engineering education, physics requirements 9-44656

engineering applications of computing *see engineering computing***engineering computing**

- see also aerospace computing; chemical engineering computing; civil engineering computing; communications computing; electrical engineering computing; electronic engineering computing; mechanical engineering computing; nuclear engineering computing*
- designer work station link for ES computers 9-30442
- diesel-driven chiller system simulation, with multi-tank thermal storage system, for large commercial buildings appl. 9-48187
- geothermal binary cycle, hydrocarbon working fluid selection 9-48091
- heating of single family dwellings, heat pump appl. 9-43784

engineering computing continued

- oil recovery from Utah tar sand deposit, by in situ combustion 9-48046
- radioisotope thermoelectric generator, selenide, power degradation predictions 9-48148
- sound amplifying systems in halls, model (*French*) 9-37090
- speech intelligibility in auditorium, computer evaluation (*French*) 9-37095
- Stirling cycle machines optimisation, free piston design 9-48172
- Stirling engine simulation, research, JPL laboratory 9-48171
- vibration-acoustic diagnostics, random signal patterns recognition (*Slovak*) 9-18612

engineering facilities

- see also test facilities
- hot cell manipulator remote decontamination facility and repair station 9-9911

engineering societies see societies**entertainment** see sports and entertainment**enthalpy**

- see also heat of
 - air flows in triple point shock configurations, anal. thermodynamics (*Russian*) 9-32569
 - alloys, enthalpy of mixing, 'const. vol. alloy' formulation 9-28111
 - bacteriorhodopsin, enthalpy changes during photochemical cycle 9-34602
 - BCC metal hydrides, geometric and electronic contribs. to thermodynamic props. 9-46815
 - benzaldehyde, in polymer matrix, dielec. absorption, Eyring parameters 9-4761
 - biopolymers, reversible unfolding, mol. field theory 9-34479
 - chemical reaction, linear free enthalpy relation validity, thermodynamic foundation (*German*) 9-34351
 - cholesteryl myristate, polymorphism of blue phase, DTA and microscopy meas. 9-37819
 - cholesteryl nonanoate, polymorphism of blue phase, DTA and microscopy meas. 9-37819
 - dil. soln., dielectric relax., solid rotator phase 9-42890
 - dodecylamine ($(-\text{NH}_2)/\text{H}_2\text{O}_2$ and deuterated cpd., liquid crystal, phase relationships, isotope effects 9-19358
 - ethylmethylether-(d₃), low freq. vibr. spectra, methyl torsional pot. functions, internal rot. 9-26978
 - glutarate complexes in aqueous soln., enthalpy and entropy meas. (*Italian*) 9-19378
 - graphite-HNO₃ intercalation compounds, differential scanning calorimetry investigation 9-42234
 - high-pressure asymmetric mixture vapour-liquid equilibrium calc. 9-4408
 - HOAB, liq. cryst. phase transitions, specific ht. meas. 9-33075
 - interface segregation through cooling 9-43294
 - liquid mixtures, excess enthalpy 9-23733
 - metal, thermodynamic props. of grain and phase boundaries, review (*German*) 9-34012
 - metal-H systems, solvus line interpretation, enthalpy change 9-15655
 - metals, purification and thermodynamics, possibilities in space environment 9-46816
 - mixtures, perturbed hard chain theory, thermodynamic props., appls. in chem. technology 9-34343
 - naphthalene-tetracyanobenzene, order-disorder transition, heat capacity and thermodynamic props., 5 to 300K 9-33100
 - nonelectrolyte aqueous solutions, lattice model approach 9-32876
 - organic compounds, enthalpies and related thermodynamic functions 9-42276
 - oxidation-reduction reactions in undifferentiated Earth, thermal effects 9-25218
 - polyvinyl acetate, struct. relax., enthalpy and elec. polarisation obs. 9-41978
 - pyrolysis of solid particle, cyclic dynamics 9-47897
 - solid, formation volume of vacancies calc. 9-19244
 - steel, Ni-Co-C (9, 4, 0.2 wt.%) enthalpy, sp. ht. to 2000K 9-10960
 - tolualdehyde, dil. soln., dielectric relax., solid rotator phase 9-42890
 - s-triazine, sp.ht. 130-380K, melting enthalpy and solid-state transition 9-46812
 - Ag-Pb-Te, phase equilibrium (*German*) 9-34018
 - AgPO₃-AgBr(CI) system glasses, soln. calorimetry obs., thermodynamic activity correl. with ionic cond. (*French*) 9-33102
 - Ag₂Tl₆I₁₀, one-dimensional ionic conduction 9-7707
 - Al-Ga, enthalpy of mixing, 'const. vol. alloy' formulation 9-28111
 - Al-Ga(Sn), ab initio calcs. of partial enthalpy and result for enthalpy of mixing 9-43197
 - Al-In, enthalpy of mixing, 'const. vol. alloy' formulation 9-28111
 - Al-Tl, enthalpy of mixing, 'const. vol. alloy' formulation 9-28111
 - $\alpha\text{-Al}_2\text{O}_3$, synthetic sapphire, enthalpy determ., 900-1900K, use as calorimetry reference standard 9-42275
 - Cu-Al (In), eutectic systems, specific phase boundary enthalpy, calorimetric study (*German*) 9-29016
 - Cu-Al-Ni alloys, entropy and enthalpy of martensitic transformation, calcs. 9-43245
 - Fe-O, exam. of thermodynamic data, using a computer aided strategy 9-11592
 - He, supercritical, laminar free convection heat transfer, analytical study 9-23311
 - LaNi_{5-x}Fe_x(Cr_x), Fe and Cr electron hydride formation, X-ray and SEM obs. (*Japanese*) 9-43202
 - MgO, single crystals, activation enthalpy and activation free enthalpy for creep 9-43262
 - Na thermodynamic props. for reactor safety analysis 9-13478
 - Na-Ga liquid alloy, thermodynamic props. 9-37854
 - Na-Sn liq. alloys, thermodynamic props. by EMF meas. with $\beta\text{-Al}_2\text{O}_3\text{-Ba}_2$ electrolytes 9-19379
 - Pb, positron annihilation, Doppler broadening, 4.2 to 600K 9-47540
 - PrF₃, heat capacity from 5 to 350K, entropy enthalpy, Planck function 9-46811
 - SiO₂ glass, densified, enthalpy variation, heat of dissolution obs. (*French*) 9-34015
 - TiH₂PO₄, thermodynamics props. of solid phase transitions, heat capacity 9-10966
 - Zr-Nb (1 wt.%), tensile props., 295 to 773K 9-8318

entropy

- see also entropy of substances
- antiferromagnetic Ising lattice, degeneracy at crit. mag. field and zero temp. 9-8007
- Belousov-Zhabotinskii reaction, chaotic oscils. 9-5151
- Boltzmann's theorem 9-40459

entropy continued

- Bose lattice gas, statistical systems with well defined entropy 9-30395
- collisional entropy production, classical theory 9-10162
- commuting macro-observables, entropy conserving eqns. 9-44855
- composite system approach to thermodynamic stability 9-12752
- continuous boson system, entropy density of quasifree states 9-142
- continuous quantum systems, variational principle for pressure, entropy, free energy, convexity consequences 9-40453
- crystallisation, percolation theory, Lindemann melting criterion and thermodynamic props. 9-28081
- discrete Markov system 9-17340
- disordered and amorphous mag. materials, position entropy solids, exchange and anisotropy noise 9-11295
- dynamical theory of irreversible processes and the microscopic interpretation of nonequilibrium entropy 9-30402
- fluid, with anisotropic spatially inhomogeneous viscosity, frictional force and torque 9-37367
- fluids, classical, linear irreversible thermodynamics, derivation 9-2740
- function space entropy density, diffusion induced, Onsager-Machlup function 9-17375
- gaseous univalent ions, solvation entropy, one-layer continuum model 9-47959
- generalized Liouville equation, entropy, and dynamic systems containing limit cycles 9-21648
- Gibbs adsorption equation, phenomenological interface theory 9-23834
- glutarate complexes in aqueous soln., enthalpy and entropy meas. (*Italian*) 9-19378
- granular materials flow, micropolar continuum theory 9-35565
- heat engine, quantum open system model 9-44894
- information uncertainty 9-40506
- interacting quantum gas, nonequilibrium entropy, low-density approx. 9-21684
- interfacial entropy, elec. and mag. interfacial polarisation (*French*) 9-7050
- ion beam as drifting gas, cf. optical approach 9-31788
- Ising model, disordered, thermodynamic pot., ferro- and antiferromagnetic bonds, mag. moment and entropy (*Russian*) 9-19714
- Ising model, Toulouse frustration effect 9-24167
- Ising spin systems with random bonds, thermodynamic props. at low temp. 9-28532
- Ising spins randomly located, with oscillatory exchange interactions 9-42778
- Ising systems, frustrated, interface entropy, phase transitions 9-19711
- Kolmogorov entropy as a disorder parameter, heuristic approach 9-35654
- living systems, thermodynamic, informational and structural entropies (*Russian*) 9-20511
- master operators, with extremal entropy prod. 9-2714
- material with internal variables, condition equivalent to existence of nonequilibrium entropy and temp. 9-44890
- mixtures of interacting continua, thermodynamics and nature of 2nd law 9-26016
- neutron gas, highly rarefied, non-equilibrium thermodynamics under creative and destructive reactions 9-12747
- nonelectrolyte aqueous solutions, lattice model approach 9-32876
- nonequilibrium, Lyapunov variables, ergodic props. of classical systems 9-2739
- nonequilibrium entropy and symmetry principle of transport coefficients 9-21683
- nonequilibrium steady states 9-6068
- nonisothermal system, equilib. distrib. and detailed balance relations 9-36737
- one-dimensional classical spin chain with random interactions, exact calcs. 9-4687
- perfect gas, with finite particle number, metric entropy as function of energy 9-17326
- quantum coherence effects and the second law of thermodynamics 9-6025
- radiographic images, evaluation by entropy, appl. to development process 9-12914
- random-bond Ising chain, entropy, depend. on temp. and mag. field 9-1679
- random-bond Ising chain, ground-state energy, magnetostriction and zero-point entropy calcs. 9-7957
- relativistic self inductive fluids, stress energy tensor and entropy generation 9-18975
- resonance fluorescence, detailed balance, Lyapunov stability and entropy 9-13941
- Segal entropy, characterization in W algorithm 9-17378
- thermoluminescence, minimum entropy prod. 9-28845
- von Laue's theorem of partially coherent radiation entropy, quantum statistical proof 9-17373
- Al-Ga(In)(Sn), interpretation of metallic phase diagrams, entropy of mixing 9-42274
- CsHF₂, heat capacities, transitions and melting 9-10967
- Cu-Al-Ni alloys, entropy and enthalpy of martensitic transformation, calcs. 9-43245
- Pd-H, solid soln., excess entropies, variation of H solubility with pressure 9-46846

entropy of substances

- anilines, substituted, in benzene, dielectric relax. and mutual viscosity, obs., entropy calc. 9-38449
- binary, segregating alloy, theory of surface effects 9-19435
- binary ordering alloy, theory of surface effects 9-19434
- chalcogenide glass, partial values and structure features 9-41969
- chemical spinodal, estimation 9-8271
- ethylene oxide-d₀, -d₄, centrifugal distortion const., thermodynamic functions 9-41149
- ethylene sulphide, centrifugal distortion const., thermodynamic functions 9-41149
- glass-forming melts, exam. of isobaric-isothermal pots. in glass transition interval 9-7681
- graphite-HNO₃ intercalation compounds, differential scanning calorimetry investigation 9-42234
- p-n-heptyloxybenzylidene-p-aminobenzoic acid, smectic C to nematic transition 9-33076
- 2,4-hexadiynyl-1,6-bis(p-toluenesulphonate), programmed temp. and DSC obs., cryst. forms and polymerisation kinetics 9-43583
- HOAB, liq. cryst. phase transitions, specific ht. meas. 9-33075
- Hubbard model, computer renormalisation-group technique 9-19716

entropy of substances continued

ice, polarisation processes, in lattice, Kirkwood's theory rel. to thermodynamics of irreversible processes 9-38447
ice, polarisation processes, in lattice, thermodynamics of irreversible processes, universal relation 9-38446
liquid metal, surface entropy using hard-sphere model 9-37906
liquid metals, electron component of entropy (*Russian*) 9-23747
liquid metals, mixing volumes, pseudopotential method 9-37846
metal, thermodynamic props. of grain and phase boundaries, review (*German*) 9-34012
methane-d₄, tunnelling states and nuclear spin conversion 9-10944
methane-d₂, orientational ordering and tunnelling states meas. 9-10963
naphthalene-tetracyanobenzene, order-disorder transition, heat capacity and thermodynamic props., 5 to 300K 9-33100
organic compounds, enthalpies and related thermodynamic functions 9-42276
polarisable hard sphere fluid, thermodynamic props. 9-42277
polymer crystal and melt, stat. thermodynamics using Midha-Nanda cryst. state theory 9-41979
polymer mixtures, compatible, glass-transition temps. 9-46789
polymer mixtures, thermodynamics, review 9-1506
polystyrene, glassy, thermally activated deform. 9-20126
semicarbazide hydrochloride, phase transition, IR spectra and thermal study 9-37833
solid, formation volume of vacancies calc. 9-19244
solution, different-sized mols., orientation effects, surface region, lattice model 9-1540
spinel, entropy of cation transitions 9-11812
1,1,1,3-tetrachloropropane, Raman and IR obs. of rot. isomerism, entropy difference between vapour and liq. phase isomer (*Russian*) 9-31529
transition metal, fusion entropy, electronic contrib. 9-42217
1,1,1-trifluoro-3-chloropropane, Raman and IR obs. of rot. isomerism, entropy difference between vapour and liq. phase isomer (*Russian*) 9-31529
vibration entropy and mean square atomic displacements due to defects in crystals. (*French*) 9-28064
AgBr, migration entropy of Na⁺ diffusion 9-14965
Al, liq., thermodynamic props., pseudopot. calc. (*Russian*) 9-46549
Al-Li-Mg, estimation of isothermal sections of phase diagram 9-11567
Ar, liq., variational eqn. of state and entropy 9-28070
Cr, specific heat of strained and annealed samples 9-38331
CuAu, order-disorder transform., band theory for internal energy, configurational entropy 9-19539
D₂, solid, melting curve, meas. of P, V, T and longitudinal sound velocity 9-37814
 α -Fe-Cr solid soln., thermodynamic activity of components 9-38797
Fe-O, exam. of thermodynamic data, using a computer aided strategy 9-11592
Fe_{0.8}O, ferrimag. transition; mag., thermodynamic props., kinetics 9-47280
 β -Ga₂O₃-Na₂O-K₂O mixed crystals, cond. anomaly 9-46838
H₂, solid, melting curve, meas. of P, V, T and longitudinal sound velocity 9-37814
HF chemical laser, pulsed, evolution, irreversible thermodynamic anal. 9-31887
HF, vibr. relax. entropy deficiency and vibr. entropy 9-36743
HSO, thermochem. props. 9-5173
He, liq., dynamic scaling near λ point 9-14977
Hg(NH₃)₂Br₂, Hg(NH₃)₂Cl₂, thermodynamic study of disorder 9-28109
In-Cd, soft mode, latent heats and entropies of fusion 9-46786
In-Tl, BCC alloys, stability and elastic consts., US vel. 9-42133
In-Tl, soft mode, latent heats and entropies of fusion 9-46786
K₂Mn(SO₄)₃, phase transition press. effect, dielectric const. meas. 9-37834
MnAs, soft mode, energy and entropy, competition with energy and entropy of spin system 9-10908
Na-Ga liquid alloy, thermodynamic props. 9-37854
Na-Sn liq. alloys, thermodynamic props. by EMF meas. with β -Al₂O₃-Ba₂ electrolytes 9-19379
Ni(H₂)₆(NO₃)₂, jumpwise vol. change in structural phase transition 9-42233
Pb-Pd, liq. alloy activity by effusion method (*German*) 9-29023
PrF₃, heat capacity from 5 to 350K, entropy enthalpy, Planck function 9-46811
PuN, heat capacity, at low temps. 9-24168
RbI, vapourisation thermodynamics, mass-loss Knudsen effusion, mass spectrometry 9-28093
SiO₂-K₂O, thermodynamic approach to ionic conds., statistical model of chem. potential 9-46833
SiO₂-Na₂O, thermodynamic approach to ionic conds., statistical model of chem. potential 9-46833
SmS, high-pressure mixed-valence phase, diagram and electronic entropy, neutron diff. obs. 9-33267
Te alloy, intermetallic, melting entropy and molar specific heat 9-29024
TiS_x, struct. from radial electron density distrib. curves, entropies of melting and crystallisation 9-23527
VO₂+I₂, transport react., thermochem., appl. to MoO₃:V cryst. growth 9-43116
V_{0.28-1}, Magneli phases, sp. hts. 0.4 to 50K 9-42774
YIG, dissociation press. and Gibbs energy of form. 9-11816

environmental engineering

see also air conditioning; cooling; ergonomics; lighting; safety; space heating; temperature control; ventilation
aircraft noise identification system by correlation technique 9-23131
buildings, noise control of mechanical services equipment at design stage 9-18598
community noise, exp. study outdoor sound propagation over hard ground for distances under 200 ft 9-18600
curriculum, interdisciplinary, faculty requirements 9-12553
gas chromatography-mass spectroscopy technique in environmental study (*Japanese*) 9-29496
noise control standards, criteria 9-18597

environmental requirements see environmental engineering

environmental testing

see also corrosion testing
acoustic, aircraft and missiles, effect of intense noise on equipment 9-3853
automated GMN-K gravity meters, marine testing (*Russian*) 9-39953
climatic, features of McKinley laboratory for aerospace testing 9-16798
curriculum, interdisciplinary, faculty requirements 9-12553

environmental testing continued

hybrid fibre optic/electrical connector, environmentally sealed, multispin, cylindrical 9-41457
materials testing, environmental simulation (*German*) 9-20314
multilayer dielectric enhanced mirrors for 2 to 6 μ m 9-14086
ocean current meters, for continental shelf deployment, development and testing 9-5674
PWR containment vessel wall electrical penetration tests (*Japanese*) 9-6747
tactical rugged lightweight fibre-optic cable performance 9-37025
LiAl-NaAlCl₄-MoCl₅ thermal battery test results 9-29459
W protective coatings, CVD, for components in contact with HTR-He 9-626

epitaxial growth

see also liquid phase epitaxial growth; vapour phase epitaxial growth
basic methods, thermodynamic and kinetic phase (*German*) 9-43142
lattice misfit in epitaxy 9-46970
orientation mechanism, determ. for model system of AgCl on TGS 9-11022
rare-earth dihydride epitaxial films, growth and struct. 9-37936
review, struct. and topological aspects, state of art (*French*) 9-4483
solid phase epitaxy, book contrib. 9-1825
solid phase epitaxy (*Japanese*) 9-38738
ternary semiconductors, chalcopyrite struct., RHEED exam. of epitaxial overgrowth (*German*) 9-11042
K_{1.5}Li_{1.5}NbO₅ films, epitaxial growth by melting on K_{1.5}Bi_{1.0}Nb_{5.1}O₁₅ substrate 9-33204
Nb₂Si, ion implantation synthesis, supercond. transition temp. optimization 9-38218
Pt-Si film formation, AES exam. to characterise impurity effects 9-15054
Si epitaxial growth on porous Si layer, struct. 9-1557
Si, epitaxial regrowth of thin amorphised layers by laser annealing, absorpt. coeff. influence 9-46968
Si, ion implanted, difference between ruby and Nd:YAG laser annealing 9-37723
Si, laser irradi., anisotropic melting and epitaxial regrowth, surface struct. 9-33163
Si, solid phase epitaxial growth through Al film 9-24432
Si:Ar, ion implanted, amorphous, epitaxial regrowth 9-10868
Si:Ne(Kr), ion implanted, amorphous, epitaxial regrowth 9-10869
Si-Al solid-phase epitaxial growth, substrate effects, SIMS and backscatt. spectra 9-42421
SiC epitaxial layers, crystallographic orientation effects on polytype stabilization and transform. 9-42413
Si(111)/Al/Si, growth kinetics of (111) Si through Al layer by solid phase epitaxy 9-28236
Ti-Se-TlInSe₂, struct. and growth peculiarities, epitaxial heterojunctions (*Russian*) 9-11038

epitaxial layers

see also magnetic epitaxial layers; metallic epitaxial layers; semiconductor epitaxial layers
commensurability in one dimension at nonzero T 9-35655
islands, equilibrium struct., one-dimens. model 9-15035
LPE film property control, regression eqns. 9-33200
magnetoresistance, unified weak-field, for cubic and noncubic (001)- and (111)-oriented epitaxial films and surface layers 9-47110
multilayers, solid, liquid, dielec. consts. meas. at microwave freqs. 9-2791
NMP-TCNQ, oriented, prep. by vacuum evaporation and properties obs. 9-15040
orientation mechanism, determ. for model system of AgCl on TGS 9-11022
phthalocyanine, metal-free, molecular imaging and phase transformations using electric microscopy 9-33198
snow, epitaxial relationship during three dimensional dendrite form. 9-23875
solid-solid interface, chemistry and physics, book contrib. 9-1551
X-ray double-crystal method using nonparallel setting for lattice mismatch meas. between epitaxial layers and substrates 9-28235
BaO, cathode poisoning due to O₂, CO₂, and S, surface anal. 9-42600
BaTiO₃, vacuum condensates, epitaxial growth on SrTiO₃ crystals, electron diff. and TEM anal. 9-15051
Bi, epitaxial films, grain boundary struct., electron microscopy obs. (*Russian*) 9-46671
Bi-Sb, bicrystal rearrangement of grid of nonconformity dislocations on (111) interface during heating 9-28215
Bi₂-Sb, epitaxial layers, effect of film thickness on elec. props. (*Russian*) 9-11244
KNdP₂O₇, epitaxially grown waveguide, laser operation at 1.051 μ m 9-18423
LiNbO₃ film on Al₂O₃, optical guided wave mode conversion by Love waves 9-46055
W layers on Mo, exam. of epitaxial orientation, and deposition (*Russian*) 9-11039

epitaxy see epitaxial growth

EPR line breadth

anthracene, EPR of triplet excitons, source of residual linewidth 9-15338
biomolecular EPR and saturation transfer EPR spectra at high microwave field intensities 9-34488
CESR line profile, indirect spin spin interaction 9-28616
diethylammonium manganese chloride, 20 spin diffusion, EPR linewidth meas. 9-47289
echo decay beats, coherent averaging of electron spins by rotary echoes 9-42823
fast relaxing centres, in paramag. cryst., spin-lattice relax. (*Russian*) 9-15340
ferric haemoglobin chains, crystalline state disorder and hyperfine component line widths 9-34482
ferric haemoglobin single crystals, contribs. to EPR line width 9-34484
hyperfine ESR spectra, exchange effect (*French*) 9-4717
liquid, electron spin echo phase memory decay, generalised cumulant expansions appl. 9-11334
low-dimensional correlated spin systems, exchange narrowing theory 9-11335
magnetically dilute crystal, with strong spin-spin interaction, EPR conc. depend. 9-42826
manganese copper formate dihydrate, conc. depend. of EPR linewidth 9-38376
metals, electron bottleneck effect, impurity spin relax. and EPR linewidth 9-28589

EPR line breadth continued

- metals, non-S-state impurities, coupled ESR 9-47326
 naphthalene-TCNB, charge-transfer cryst., donor mol. orient. and dynamics 9-32926
 trans-polyacetylene, and AsF_6 doped, EPR 9-42835
 1,3-propanediammonium MnCl_2 , 2-dimens. antiferromagnet, with dipolar broadening, spin diffusion, EPR obs. 9-38371
 pyrene- d_{10} , EPR line shape of photo-excited triplet state, in cryst. and glass 9-24210
 pyromellitic dianhydride-phenanthrene, single cryst., charge-transfer triplet excitons, spin polaris. 9-11069
 saturation of inhomogeneously broadened line under bottleneck phonon, conditions (*Russian*) 9-8040
 silica gel, Mn^{2+} adsorption rel. to H_2O adsorpt., EPR study 9-5180
 simulated spectra, compensation for integration errors 9-33537
 spin diffusion and spin-lattice relaxation in paramagnetic crystals 9-33525
 superconductors, slightly dirty, EPR relaxation time, thermal behaviour 9-47195
 TCNQ salt, 1,1'-diethyl-2,2'-cyanine-[TCNQ] $_2$, electric and mag. props. 9-42523
 TMTTF salts, (TMTTF) $_2$ X, (X = BF_4^- , ClO_4^- , SCN^- , PF_6^- , Br^-), physical props. 9-47085
 trimer heteronuclear exchange clusters, ESR line profile 9-42828
 vitamin B_{12} , B_{12} , cryst. growth, orientation, ESR obs. 9-34486
 Ag film, CESR linewidth exam., sample size effect 9-33536
 Ag-Dy, dil., EPR linewidth anisotropy and mag. field depend., internal stress effects 9-33532
 AgCl, excited states, optically detected EPR 9-8073
 Al_2O_3 · Cr^{3+} , new method for spin-lattice relax. time, inhomogeneously broadened ESR lines 9-15343
 CdCr_2S_4 , EPR line profiles in paramag. and ferromag. phases 9-28602
 CdCr_2S_4 , Heisenberg ferromag., obs. of dynamic dipolar crossover, ESR linewidths meas. 9-24209
 $\text{Cr}_2(\text{CrO}_4)_3$, ferromagnet, ESR spectra near Curie temp. 9-8042
 CsMnCl_3 , electron resonance linewidth anisotropy 9-28588
 CuF_2 · $2\text{H}_2\text{O}$, X-band ESR powder spectrum and related magneto-microwave effects 9-24214
 $\text{Cu}_2\text{Mn}_{25}$, spin glass, EPR line breadth, exchange-narrowed 9-15345
 EuB $_6$, single and bulk polycryst., EPR, temp. and freq. depend. 9-28606
 GdAl $_3$ -GdCo $_5$ system, EPR and mag. props. 9-33478
 GeTe, degenerate semiconductor, EPR experiments on Mn^{2+} 9-11339
 $\text{Hg}_{1-x}\text{Mn}_x\text{Te}$, EPR investigation of ordering effects 9-47330
 $\text{K}_2\text{Cr}_2\text{F}_7$, monocrystal, cryst. field and mag. props., EPR and optical absorpt. spectra 9-19773
 K_2CuF_4 , two-dimens. ferromagnet, half-field EPR line 9-19765
 K_2AsO_4 , Cr^{2+} EPR, line shape and elec. field effect 9-11336
 K_2MnF_4 , 2-dimens. antiferromagnet, with dipolar broadening, spin diffusion, EPR obs. 9-38371
 Li_3AsO_4 · CrO_4^{2-} , EPR, 4.2K, cryst. field parameters 9-28586
 LiCl · Ni^{2+} , EPR meas. of Ni^{2+} vacancy dipoles 9-28594
 LiCrX_2 , X = S, Se, EPR meas., g-factors, effective mag. moments, and dipolar shifts 9-8043
 Li_3PO_4 · CrO_4^{2-} , EPR, 4.2K, cryst. field parameters 9-28586
 Li_3VO_4 · CrO_4^{2-} , EPR, 4.2K, cryst. field parameters 9-28586
 MnF_2 , molten, superexchange, EPR linewidth 9-19774
 $\text{Ni}(\text{BF}_4)_2$ · $6\text{H}_2\text{O}$, EPR, cryst. field symmetry 9-28593
 $\text{Pb}_3(\text{PO}_4)_2$ · Gd^{3+} , EPR near ferroelastic transition point 9-15350
 Si amorphous film, saturation meas. on ESR signals 9-33535
 Si, ion implanted, EPR line shape exam. of amorphous centres 9-28587
 Si:B, elastic strength of O and C, determ. from ESR linewidth 9-19764
 LiCrX_2 , X = S, Se, EPR meas., g-factors, effective mag. moments, and dipolar shifts 9-8043
 $\text{Si:Fe}(\text{Cr})$, EPR line intensity and widths, temp. depend. 9-28604
 Si:P amorphous films, doping and annealing effects on localized states, ESR meas. 9-38380
 $\text{Sm}_2\text{Mg}_3(\text{NO}_3)_{12}$ · $24\text{H}_2\text{O}$ · Mn^{2+} , EPR spectra, 77-298K 9-15342

epsilon meson resonances see eta meson resonances

equalisers

- see also attenuation equalisers
 US transducer lumped wideband equaliser design optimisation 9-46159

equations

- see also Bethe-Salpeter equation; differential equations; equations of state; functional equations; integral equations; nonlinear equations
 asymptotic results for model eqn. for low Reynolds no. flow 9-14371
 Bouguer formula of 1749, appl. to gravity corrections derivation 9-29692
 interstellar rocket, three-dimensional eqn. of motion for relativistic navigation problem 9-21136
 Pfaff's equations of motion in dynamics, appls. to satellite theory 9-12386
 secular equation of the 4th order, L-matrix approx. vs. HLFS methods, mol. force consts. appl. 9-36556
 stellar hydrodynamics equations, for thin disc galaxies 9-25706

equations of state

- see also equations of state of gases; equations of state of liquids; equations of state of solids; phase transformations; thermodynamics
 black holes, primordial, self-similar growth for general sound speed case 9-5856
 chemically reacting nonequilibrium turbulent shear flow, prediction model (*German*) 9-18973
 commensurability in one dimension at nonzero T 9-35655
 flow, stratified, environmental, finite element analysis, book contrib. 9-34875
 hadron gas, non-ideal, eqn. of state appl. to universe Friedmann model (*Russian*) 9-44649
 hadronic matter, eqn. of state for relativistic quantum gas model 9-9349
 hard-sphere fluid, interacting with wall, virial coeffs., in surface tension 9-23808
 high pressure vapour-liquid equilibrium, quantitative description 9-1486
 high temperature matter, comp. and adiabatic index 9-44354
 hydrocarbon- CO_2 (H_2S)(N_2)(CO) mixtures, phase equilib. calcs., modified Soave eqn. of state 9-19353
 hydrocarbons, phase equilib. calcs., modified Soave eqn. of state 9-19352
 insoluble monolayer, ionised, of surfactant, thermodynamic eqn. of state 9-8450
 interacting neutron fluid at high temp., eqn. of state, supernovae hydrodynamics 9-2718
 ionisation potential, Koopman's virial scaling corrections, appl. to He, Ne and Ar series 9-45655
 isostere equation of absorbed state, comparison with that based on John's isotherm eqn. 9-42368

equations of state continued

- many-body systems, resonans., extended virial theorem, complex scaling, Schrödinger operators 9-21575
 molecular force fields, virial theorem appls., zero virial reaction coords. and diatomic pots. 9-31433
 multistage multicomponent separation, calc. using thermodynamic props. from SRK/PR eqn. of state 9-34346
 neutron stars with equation of state given by nuclear Thomas-Fermi model 9-48840
 non-Newtonian shear flow, eqns. of state 9-23344
 nonanalytic, modification for low density limit, appl. to ethylene 9-46779
 nuclear matter, π condensed, eqn. of state of finite temp. 9-3110
 perturbed-hard-sphere eqn. of state applicable to sub- and supercritical temps. 9-19350
 relativistic quantum ideal gas of massive particles, eqns. of state 9-2721
 seawater, P-V-T props. calculated from US derived eqn. of state 9-25264
 simple systems, equilib. and the thermodynamic state surface (*Hungarian*) 9-26014
 superdense matter and stellar collapse, eqn. of state 9-16996
 two-dimensional fluid, adsorption isotherm, summation of virial expansion for eqn. of state 9-15007
 virial equations, second-order tensor, for stellar mag. configurations linear oscils. 9-44461
 virial theorem in general relativity, consequences for spherical symmetry stability 9-21593
 CO+Ar(He)(Ne)(Kr)(Xe), intermol. pot. energy surfaces from electron gas model, ang., distance, and vibr. depend. 9-3520
 Na isoelectronic sequence, hypervirial theorem, screening parameters and oscil. strengths 9-6882
 SiO, nearly degenerate $\text{G}^0\Pi$ - $\text{I}^0\Pi$ energy spectra, predissoc., extended virial theorem 9-22771
 UO_2 , vapour press. meas. up to 500K, critical point data prediction, present state of art 9-45347

equations of state of gases

- $\gamma > 5/3$ gas accreted by Schwarzschild black hole, eqn. of state softening 9-17011
 buoyant flow, thermally driven, equations of motion 9-23334
 chlorotrifluoromethane, compressibility, 298 to 348K, Burnett expansion obs. 9-27733
 convection, natural, in confined region between two horizontal ducts for variable fluid properties 9-23321
 dissociation equilibrium, phase space allocation 9-27746
 ethane, gas, second virial coeffs., intermol. pot. at low temp. 9-46416
 ethyl chloride, second dielec. virial coeffs. (*German*) 9-32729
 ethylene, gas, second virial coeffs., intermol. pot. at low temp. 9-46416
 hard-sphere fluid, Yukawa tail pot., eqn. of state study 9-42211
 inert gases, second virial coeffs., intermol. pot. at low temp. 9-46416
 Mayer function, delta-function expansion, virial coeffs. appls. 9-4221
 methane, gas, second virial coeffs., intermol. pot. at low temp. 9-46416
 methyl halides, second dielec. virial coeffs. (*German*) 9-32729
 mixtures, perturbed hard chain theory, thermodynamic props., appl. in chem. technology 9-34343
 nonideal gas, self association theory 9-29347
 phenol, vapour, viscosity coeff. and second virial coeff., conformity with Lennard-Jones pot. (*German*) 9-32732
 polar-quadrupolar gas mixtures, interaction second virial coeff. 9-32728
 pressure, 'stress' calculation and virial theorem 9-37433
 real gas version of de Saint Venant and Wantzel gasdynamic formulae (*German*) 9-18974
 real gases, eqns. of state, limits of validity (*Italian*) 9-41781
 second virial coeff., in weak coupling limit, temp. depend. upper bound on partial wave contrib. 9-30356
 steam, saturated and superheated, up to 800°C 9-14908
 transport coeff. for real gases (*Russian*) 9-10624
 weakly relativistic gas, equilib. distrib. and eqn. of state 9-21649
 Ar, sublimation temp. determination at very low pressures. (*Croatian*) 9-28094
 CO_2 , gas, second virial coeffs., intermol. pot. at low temp. 9-46416
 F_2 , gas, second virial coeffs., intermol. pot. at low temp. 9-46416
 H, thermodynamic props. and eqns. of state in stellar conditions 9-35241
 He, in confined region between two horizontal ducts for variable fluid properties 9-23321
 He, thermodynamic props. and eqns. of state in stellar conditions 9-35241
 N_2 , gas, second virial coeffs., intermol. pot. at low temp. 9-46416
 NO_2 - N_2O_4 system, self-association theory 9-29347
 O_2 , gas, second virial coeffs., intermol. pot. at low temp. 9-46416
 T_2 , fluid, equations of state deduced from P-V-T and US meas. up to 20 kbar 9-23696
 UO_2 effective eqn.-of-state meas. to determ. vapour pressure, rel. to LMFBR safety 9-31036

equations of state of liquids

- 1,3-butylenglycol, density rel. to temp. and pressure (*Russian*) 9-10890
 coexistence curve of liquid system with global eqn. of state 9-1487
 critical point, scaling and extended scaling eqns. of state implementation, program 9-46780
 dense fluid, with square-well+hard core pot., equilib. props., quantum corrections 9-27891
 dielectric liquids, critical point and eqn. of state investig. by optothermodynamic method (*Russian*) 9-33068
 hard-sphere fluid, Yukawa tail pot., eqn. of state study 9-42211
 high pressure, refr. index vs. press. and strain 9-33668
 ionic solution, charged square well model, virial osmotic coeffs. 9-4217
 liquid, under high press., refr. index vs. density 9-28712
 mixtures, perturbed hard chain theory, thermodynamic props., appl. in chem. technology 9-34343
 monodisperse polymer solution, 2nd virial coeff., renormalisation group calc. 9-10777
 polymer mixtures, thermodynamics, review 9-1506
 polyolefin melts, eqns. of state analysis w.r.t. Simha-Somcynsky hole theory 9-37807
 polystyrene solutions, light scatt., mol. parameters, computer anal. assessment 9-1766
 polysulphone, glass and melt, PVT props., glass transition 9-14911
 significant liquid structure theory, liquid-vapour transition, reduced eqn. of state for real fluids 9-32869
 square well+hard core fluid, quantum corrections 9-7535
 Ar, liq., variational eqn. of state and entropy 9-28070
 H_2 , eqn. of state of solid and liq. phases, metallic phase (*Russian*) 9-19354

equations of state of liquids continued
He, second and third virial coeffs., meas. from 2.6 to 27.1K 9-37808
Ne-Kr, partially miscible mixture, high press. mol. dynamics using Lennard-Jones pot. 9-41929
T₂, fluid, equations of state deduced from P-V-T and US meas. up to 20 kbar 9-23696
UO₂, liquid, eqn. of state 9-14910

equations of state of solids
benzene, mol. reorientationally disordered phases, thermodynamics 9-46782
furan, mol. reorientationally disordered phases, thermodynamics 9-46782
granular materials flow, micropolar continuum theory 9-35565
homogeneous isotropic material, high press. eqn. of state and sound vels. to fourth order elastic consts. 9-37806
metal, plasticity, dynamic, governing relations, elastic energy 9-43328
noncubic crystals, eqn. of state model, shock wave studies appl. 9-14883
planetary physics, comparison of eqn. of state theories using high-compression exptl. data 9-20779
polyethylene, orthorhombic and triclinic lattices, eqns. of state 9-28069
polysulphone, glass and melt, PVT props., glass transition 9-14911
quartz, fused, second press. derivatives of elastic moduli, US vel. meas. 9-23670
silicate minerals, seismic eqn. of state rel. to seismic parameter Φ and phonon cond. 9-39707
D₂, at high pressure 9-46781
D₂, mol. solid, 4.2K isotherm, ortho-para depend. 9-7670
Fe close-packed phases, eqns. of state and implications for Earth core 9-20780
H₂, at high pressure 9-46781
H₂, eqn. of state of megabar press. using z-pinch method (*Russian*) 9-33071
H₂, metal phase, eqn. of state, thermodynamic pot. (*Hungarian*) 9-14909
H₂, metallic phase, eqn. of state of solid and liq. phases (*Russian*) 9-19354
KCl, thermal expansion, compressibility and melting calcs. 9-33069
LiH, electronic struct., equation of state, insulator-metal phase transition 9-33234
NaCl, high press. eqn. of state and sound vels. to fourth order elastic consts., 270 kbar 9-37806
NaCl, thermal expansion, compressibility and melting calcs. 9-33069
 β -Sn, equation of state under press. 9-33070
Xe, solid, high press. equation of state 9-37809

equilibrium, chemical *see chemical equilibrium*
equilibrium, phase *see phase equilibrium*
equilibrium constants *see chemical equilibrium*
equilibrium diagrams *see phase diagrams*
equivalent circuits
see also network analysis
acoustic field, finite-element approach 9-7238
acoustic wave propagation in composite thin-plates, equivalent microwave network analysis 9-3820
acupuncture, transient impedance between stimulation points 9-43977
electric field strength, dissipative media, for teachers 9-40319
explosive mag. generator, magnetic accumulation in plane liner, flux loss and equiv. cct. 9-14571
heat capacity evaluation, electrical analogy 9-10453
HF second-step discharge meas. and equivalent cct. 9-7505
network thermodynamic two-port element, representation of salt, current coupled flow 9-34505
noncontact EM transducer design improvement 9-46151
ohmic resist. of glass meas. from equivalent circuit 9-33110
overlay ridge waveguide SAW mode analysis 9-46100
piezoceramic microwelding transducer component oscillation amplitudes 9-26046
piezoelectric transducer with inhomogeneous acoustic load 9-32174
respiratory ventilator model and design optimisation 9-20713
SAW delay line complex transfer coeff. calc., Shockley-Ramo induced current theorem 9-7264
SAW EM transducer harmonic operation 9-46152
semiconductor modelling, bulk, negative-cond., transverse spreading of high-field domain 9-1602
skin impedance parameter dispersion and correlation 9-29518
soliton line constructed from an equivalent cct. of undamped spiking lasers 9-3673
symmetrical Lamb wave scatt. at pair of thin slots 9-47868

erbium
see also nuclei with
Anderson-Gruneisen parameter, temp. depend., third-order elastic consts. calc. 9-46776
atom, keV electron impact, L X-ray prod. cross section 9-18293
axon, squid giant, compensation of potential changes produced by Er ion with applied potentials 9-16181
electron irradiated, defect annealing, recovery spectra 9-23648
ion implantation, nonradiative transitions on crystals, laser active media 9-31911
laser evaporation and condensation in H₂ and Ar atmospheres 9-10941
liquid, struct. factors, high temp. X-ray diff. obs. 9-7544
magnetisation in strong pulsed mag. field, differential susceptibility meas. (*Russian*) 9-19729
rare earth compound:Er³⁺, phosphors active layer effective thickness calc. (*Russian*) 9-43039
specific heat, mag. contrib. 9-28538
BaF₂:Er³⁺, fluorese., importance of defect clustering 9-33827
BaWO₄:Er³⁺, spin-lattice and spin-spin relax. times, electron spin echo obs. 9-28609
Er³⁺, non-radiative energy transfer from Eu³⁺ in dimethylsulphoxide 9-47510
Er³⁺:CaF₂ crystal laser, hologram form. at 2.76 μ m, laser emission line-width meas. 9-10270
Er³⁺:KGd(WO₄)₂, stimulated emission by subsidiary transitions 9-3696
Er³⁺:YAG pulse periodic laser with high activator conc. 9-10320
KMgF₃:Er³⁺, Orbach-Aminor paramag. relax. processes, phonon bottleneck 9-28610
KYF₄, KY₂F₇, KY₃F₁₀, Er³⁺ and Yb³⁺ doped, IR excitation curves for visible luminesc. 9-33795
LaF₃:Er³⁺, spin-lattice relax. meas. in excited ⁴S_{3/2} state by purely optical method 9-19923
Na₂O-TeO₂:Er³⁺ glass, luminesc. quenching by OH and OD (*Russian*) 9-28839
SrF₂:Er, dipolar complex exam. 9-38435

erbium continued
SrF₂:Er, far IR spectra 9-33736
SrWO₄:Er³⁺, spin-lattice and spin-spin relax. times, electron spin echo obs. 9-28609
Tb(OH)₃:Er³⁺, g-values and hyperfine interaction parameters, calc. for Er³⁺ 9-15123
YAG:Er³⁺, oscillator strengths of impurities, 5000 to 30000 cm^{-1} 9-4830
YF₃:Er³⁺, Yb³⁺, IR excitation curves for visible luminesc. 9-33795
YF₃:Yb,Er, IR to visible radiation transform., limit yield (*Russian*) 9-28838
Y(OH)₃:Er³⁺, g-values and hyperfine interaction parameters, calc. for Er³⁺ 9-15123
YVO₄:Er³⁺, Yb³⁺, IR excitation curves for visible luminesc. 9-33795
Zn tellurite: Er³⁺ glass, visible green emission 9-15523
ZnO:Er, phosphor, photoluminesc. and electroluminesc. spectra 9-11457
ZnS:Cu,Er,Cl film, ageing and forming, DC electroluminesc., impact excitation 9-47522
ZnS:Er diodes, electrolum. 9-33840
ZnS:Er³⁺, luminesc. centres with cubic symmetry 9-38636

erbium alloys
Er-Cd, dil., elec. field gradient, at ¹¹¹Cd impurities, temp. depend. 9-28642
ErAl₂, cryst. field volume magnetostriction calc. 9-8029
Er₂Au, mag. props., 4.2-300K 9-7972
ErCo₃, absorption of H₂, 77-300K 9-23737
ErFe₂ powders, mag. and hysteresis props. (*Russian*) 9-42800
ErFe₂, spin waves, exchange interaction, neutron scatt. study 9-47267
Er₂Pt₄, isotypic with Pu₂Rh₄, X-ray cryst. struct. refinement anal. 9-4271
ErRh₂B₄, supercond. and mag. props. 9-4631
(La,Er)Al₂, cryst. field parameters, inelastic neutron scatt. study 9-23937
Ni-Er ion implanted surface alloys, solid solubility and radiation-induced disorder, backscatt. obs. 9-46692
Ti-Er, dispersoid effect on deform. 9-24530
(Y,Er)Al₂, cryst. field parameters, inelastic neutron scatt. study 9-23937
Y-Er, mag. susceptibility, 4.2 to 300K, Neel temps. 9-19735

erbium compounds
see also erbium alloys
erbium ethylsulphate, crystal, laser-excited fluorese. intensity 9-33751
CdF₂:ErF₃ films, electroluminesc. meas. (*French*) 9-11471
ERN, vaporization enthalpy, Knudsen cell vaporization of rare earth nitrides 9-10936
ErAl₃(BO₃)₄, thermal stability, X-ray struct. anal., refractive indices 9-4297
ErCoO₉, ⁵⁹Co NMR, quadrupolar and hyperfine interactions 9-15366
ErD₂:He, tailored low Z impurity distrib. in solids, distrib. evaluation by proton backscatt. technique 9-5199
Er₂EuFe_{2-x}Ga_{2-x}O₁₂, rag-domain garnet film, controlled variation of props. under O₂ annealing 9-15328
ErFe₂B₂, compounds with CeAl₂Ga₂ structure type (*Ukrainian*) 9-32970
Er₂Fe₂O₁₂, low temp. CVD epitaxial film growth and mag. props. 9-42406
Er_{1-x}Gd_xRh₂B₄, supercond. and mag. transitions at press. up to 19 kbar 9-38236
ErH₂, electronic struct. 9-28268
ErH₂, form. from Er by laser evaporation and condensation in H₂ 9-10941
Er_{1-x}Ho_xRh₂B₄, ferromagnet, sp. ht anomaly at lower superconducting transition temp. 9-47194
Er_{1-x}Ho_xRh₂B₄ type cpds., supercond., phase stratification (*Russian*) 9-42685
ErNbO₄, ⁹³Nb NQR spectra, 77 to 450K 9-38401
ErO₂ film, in MIM struct., nonstoichiometry effects on elec. cond. 9-1635
Er₂O₃, Hf diffusion, vol. and grain boundary diffusion coeffs., tracer sectioning technique 9-7712
Er₂O₃, XPS, charging effects on core-level binding energies 9-24409
Er₂O₃:CaO, elec. cond. and nonstoichiometry 9-11112
Er₂O₃ film, struct., electron microscope and diff. obs. 9-11028
Er(OH)₃, g-values and hyperfine interaction parameters, calc. for Er³⁺ 9-15123
Er₂O₂SO₄, antiferromag., mag. props. 1.6 to 40K 9-33464
Er₂O₂SO₄, antiferromag., specific heat, 0.6 to 30K 9-33487
ErP₂O₄, single cryst., radiative and non-radiative transitions 9-19920
ErRh₂B₄, supercond. transition temp., upper critical field, local spin fluctuations 9-38250
ErS, heat carrier scatt., thermal and elec. cond. from 5-400K 9-14974
Er₂(WO₄)₃, mag. props., 300 to 900K 9-28510
LaNbO₄, ⁹³Nb and ¹³⁹La NQR spectra 9-38401

ergodic theorem *see statistical mechanics*
ergonomics
see also human factors
respirator, narcosis, ergonomic design (*German*) 9-2163

erosion
beach rock erosional features morphological zonation 9-48447
boat wake effects on shoreline of Lake Manapouri 9-25278
continental ice sheets, erosion 9-25276
drainage density and channel network geometry, post-Hortonian studies 9-20874
drainage headwater development, modelling 9-20875
dust storms, Great Plains, USA, lessons 9-29486
eolian sediment transport during dust storms, Slims River Valley, Yukon territory 9-5552
flowing water erosion, bed scallops and ripples sizes 9-27628
glacial erosion, effect on terrestrial heat flow palaeoclimatic and topographic corrections 9-34767
Great Lakes shoreline erosion, meas. of W. Lake Michigan 9-5542
Indian rivers, chemical and sediment load input into world oceans 9-34870
karst depressions, areal growth rates, ages 9-48484
landslip/debris flow, Bilsdale, North York Moors, 1976 September 9-48524
littoral alterations, Messina coastline, Sicily (*Italian*) 9-5469
mineral, dissolution under Earth surface conditions, rate control 9-20817
mudslide potential situations, meteorological parameters critical values, Caucasus mountains 9-39782
natural slopes, failure surfaces propag. 9-39719
pipe, particulate suspension flow, sticking probability and erosion, data correlations 9-41744

erosion continued

- quartz grains in Einbeck, W.Germany, loess profile, weathering rel. to stratigraphy (*German*) 9-20823
- quartz silt, resistance to isotopic exchange when buried and weathered 9-39709
- rainsplash erosion of sandy soils, field study 9-20879
- remotely sensed data acquisition and processing, developing countries appl. 9-34963
- rock weathering, elements water-rock partition coeffs. rel. to sea and river water comps. 9-44200
- Rubble Creek landslide, British Columbia, during 19th century, potential slide area 9-5477
- scalar partial differential eqns., variational principles 9-30255
- sedimentary material in Atlantic Ocean, shore abrasion 9-2217
- shoreline erosion, Croatian and Pamlico Sounds, N.Carolina, LANDSAT imagery appl. 9-39701
- slope stability and valley form. in glacial outwash deposits, Norfolk, England 9-20880
- small watersheds, effect of urbanisation on kinetic energy distrib. and erosion 9-25275
- soil, wind tunnel simulation, effects on fine dust production 9-20834
- soil erodibility factor rel. to aggregate stability and micromorphological props. 9-48522
- soil erosion prior to overland flow, time and aggregate size rel. to crusting process 9-20876
- tracer theory, nonsteady state systems 9-5646
- Vajont rock slide (Italy, 1963) analysis, new approach 9-8633
- weathering, correction method in seismic sounding 9-44255
- wind erosiveness in New Zealand, index 9-5579
- Yangtze River middle reaches, channel development after completion of artificial cutoffs 9-44210
- Mg mass balance in continental runoff 9-34859
- U bearing natural samples, water erosion rel. to U series disequilibrium 9-16466

error analysis

- see also error correction; error detection*
- acoustic logging, errors of statistical signal processing (*Russian*) 9-39939
- acoustic logging, phase-freq. charact. effect on transmission accuracy of analogue signals (*Russian*) 9-39940
- atmospheric precipitable water, computation from upper air data 9-34886
- beam formation, eccentric, error anal. 9-3920
- bromomethane-(d_1, d_2, d_3), F and G sum rules as vibr. intensity data error indicators 9-3494
- Burgers eqn. calcs., mesh Reynolds number, computational accuracy 9-3997
- coherence functions and input/output quantities, statistical errors in meas. 9-3965
- compensator retardation determ. 9-26107
- complex moduli of viscoelastic materials, coated beam technique 9-27565
- contacting surface depth and shape determ., random and systematic errors (*Russian*) 9-39935
- control rod reactivity meas. error analysis 9-9783
- D-region, electron density profiles from gyrowave interaction expt., error anal. 9-5705
- displacements, strain and stress error nodal lines in finite elements 9-2606
- electron microscope autoradiographs, iterative anal., sample sizes and confidence limits 9-35896
- electrooptical distance meas. instruments, Zeiss ELDI 2 type, error anal. (*German*) 9-21081
- flow, incompressible and viscous, finite elements for numerical simulation, error estimates 9-1151
- galaxies, luminosity classifications, systematic and accidental errors 9-12510
- geopotential, harmonic coeffs., determ. error (*Russian*) 9-5439
- geostrophic ocean currents, relative press. topography and relative vel., calc. accuracy 9-39758
- Lohmann hologram, detour phase error 9-41351
- marine geophysical surveys, trackline crossover differences as accuracy indication 9-39893
- meteorological pilot balloon position meas., error anal. of double-theodolite data 9-21051
- microwave reflection coeff. meas., calibration error evaluation 9-21768
- multiple measuring systems 9-26049
- NMR absorption peak voltmetr. cct. error analysis (*Russian*) 9-26079
- nuclear power stations, gross operator error rates, evaluation of operator reliability 9-45371
- numerical analysis of Stirling cycle, with aid of computer 9-48170
- numerical integration, error estimation by means of Fourier series (*Japanese*) 9-2612
- numerical quadrature formulae, error term evaluation 9-30207
- ordinary differential eqn. extended difference soln. (*German*) 9-21538
- particle track inverse momentum, error estimation using Wind's quintic spline method 9-22563
- phase cyclic meas. ambiguity elimination (*Russian*) 9-6072
- plasma density diagnostics using short-circuit effect 9-23460
- polymer lightguide attenuation coeffs. meas., data anal., accuracy 9-1005
- radiation conversion method for IR laser wavelength meas. 9-7175
- radiative transfer through turbid atmosphere, single-scatt. solution 9-16663
- Schrodinger partial wave equation, Numerov algorithm solutions, roundoff error study 9-2643
- sonar, deterministic and random error model of multibeam hydrographic system 9-3873
- statistical mechanics, continued fraction error bounds, for complex transport coeffs. and spectral functions 9-12744
- thermal diffusivity measurement method, by pulse expt., error anal. 9-32208
- two-rotor gyrocompass intercardinal error anal. (*Russian*) 9-30460
- unnotched samples, fatigue limit, estimation of scale relationship, error anal. 9-15793
- CO₂-laser long-path absorption system for air pollution monitoring, computerised 9-25340
- NH₃-N₂(H₂)(Ne)(Ar)(Kr)(Xe), as R(1,1) vibr-rot. line parameters, ν_2 band, using CO₂ laser light 9-3444

error compensation

- see also error correction*
- direct-reading photometry system with automatic instability correction 9-26099

error compensation continued

- ellipsometer with quarter-wave compensator, multireflection interference effects 9-12841
- EPR of free radicals, simulated spectra, compensation for integration errors 9-33537
- Epstein permeameter, 25 cm, parallel stray magnetic flux compensation (*Polish*) 9-2798
- strain gauge load cells, stabilisation and compensation of temp. dependent errors (*German*) 9-35717
- thermal sighter-radiometer for temp. meas., signal drift compensation unit 9-35830

error correction

- cerebral blood flow meas., lateral counting corrections 9-8536
- electron microprobe analysis X-ray interferences correction, graphical method 9-43707
- electron probe anal., corrections, quantitative, effect of electron incidence angle 9-39270
- electron probe anal., quantitative, correction procedure 9-43686
- electron probe analysis, ZAF-correction procedures for biological bulk specimens 9-44073
- ephemeris time, correction determ. from photographic obs. of Sun annular eclipse (1976, April 29) (*German*) 9-44335
- exponential clipped photon autocorrel. spectra, data anal. 9-2837
- eye, computer assisted examination, Refractor III system 9-29650
- geodesy, parameter accuracy improvement by choice and quality of obs. 9-44078
- geomagnetic palaeointensity determination, ARM correction method 9-34968
- gravimetric networks, adjustment (*German*) 9-44084
- Mars, photographic positional obs. with 400 mm astrograph, atmospheric dispersion and phase corrections (*Russian*) 9-44395
- photogrammetry, SEM appls., simplified numerical transform. for distortion correction (*German*) 9-17572
- powder reflections, computer program for determining multiplicities, correction for 31m Laue symmetry 9-10759
- rocks tensile strength indirect measurements, two-dimensional theoretical soln. correction 9-29883
- satellite laser tracking data, ray tracing evaluation of refraction errors 9-8588
- secondary electron emission spectroscopy, cascade background correction, Auger peaks, Cu(110) surface appl. 9-43079
- seismic prospecting, minimisation of distortion caused by geophone-ground coupling 9-44256
- seismic sounding, weathering correction method 9-44255
- soil-structure interaction effect on seismometer readings, seismogram correction 9-16685
- theodolite, reduction of influence of vertical axis error on horizontal angle meas. (*German*) 9-44278
- thin-wire resistance thermometer, dynamic error correction 9-12801
- X-ray fluoresc. anal. of powdered samples, additivity of effective coeffs. for X-ray absorpt. 9-24856
- X-ray fluoresc. anal. absorpt. correction, effective wavelength calc. 9-24855

error detection

- see also error analysis*
- Earth crust stress meas. by overcoring, error detect. by diagnostic stress-relief curves 9-29886
- eye, computer assisted examination, Refractor III system 9-29650
- geodesy, systematic errors detect. by hypothesis tests using adjustment in sections (*German*) 9-44083
- IC, pattern overlay errors, automatic meas., using EL-1 lithographic system 9-21868

error statistics

- Fourier spectroscopy, delay compensation, sampling error reduction 9-30566
- geodesy, systematic errors detect. by hypothesis tests using adjustment in sections (*German*) 9-44083
- holographic memory, data readout reliability by optoelectronic channel 9-27216
- image detection in the presence of speckle 9-45909
- single-mode obs. distributions, invalid data rejection algorithm (*Russian*) 9-21690
- wandering in turbulent atm., error probability in binary signal reception 9-10337

errors*see also measurement errors*

- acid, weak, ionisation in aq. soln., rate const. meas., elec. field jump method errors 9-43611
- atmosphere electron content from ATS-6 satellite radio beacon, meas. and anal. errors 9-48611
- geopotential models, accuracy 9-25183
- interstellar molecular spectra, predicted radioastronomical freqs. accuracy, determ. from OH spectrum 9-48666
- molecular spectral line broadening semiclassical straight line vs. curved trajectories 9-45765
- perturbed energies, 2nd order, coupled HF iterative procedure, geometric approx. 9-9991
- solar X-ray images quantitative interpretation, filter ratio method errors 9-40085
- Varshni V and Lennard-Jones pots., 3rd order WKB eigenvalues 9-6982
- He, 0-16.5 eV electron scatt., R-matrix calc. 9-36768

Esaki diodes *see tunnel diodes***Esaki effect** *see tunnelling***ESCA** *see electron spectroscopy; spectrochemical analysis; X-ray photoelectron spectra***estimation theory***see also information theory*

- acoustic image improvement using statistical estimation theory 9-46115
- acoustic reflection in discrete layered media, structure estimation accuracy 9-23108
- algebraic structure and finite dimensional nonlinear estimation 9-5975
- bilinear system Volterra-kernel estimation 9-26512
- bounded flux-at-a-point estimators 9-587
- maximum entropy spectral analysis, power estimation method 9-16691
- meteorology inverse problems, estimation theory appls. 9-35018
- undersea acoustic transponders, locations optimal estimation 9-5684

eta meson resonances

- charmonium atomic physics, ψ , ψ' , η_c , η_c' masses and $\psi \rightarrow \eta_c \gamma$ decay 9-40740

eta meson resonances continued

- η (958) $\rightarrow 4\pi$, decay mode in broken $SU_6 \times O(3)$ quark model 9-36071
 $\eta \rightarrow \eta\pi\pi$, current algebra calcs. with symmetry breaking, inconsistency with expt. 9-13114
 $K^0 \rightarrow \eta\Lambda$, 4.2 GeV/c, total and differential cross sections, forward production peaks 9-40801

eta mesons

- charmonium atomic physics, ψ , ψ' , η_c , η_c' masses and $\psi \rightarrow \eta_c \gamma$ decay 9-40740
 mass, quark-gluon model, virtual annihilation mech. 9-351
 multimesonic decays of charmonium states in a constant matrix element quark model 9-26298
 N-flavour quark model, axial-vector current anomaly, decay constants and $\eta \rightarrow \eta_c$ problem 9-13045
 nonleptonic decays of charmed mesons and chiral Lagrangians (*Russian*) 9-30732
 $e^+e^- \rightarrow e^+e^- \eta_c$, two photon process, numerical distrib. studies 9-13142
 $e^+e^- \rightarrow \eta X$, $F \rightarrow \eta\pi F$ meson prod. characs. 9-26338
 $\eta \rightarrow 3\pi$ chiral symmetry breaking, Dashen mass formula, baryon mass differences 9-289
 $\eta \rightarrow 3\pi^0$, decay rate, up quark masslessness 9-40761
 $\eta \rightarrow \mu^+\mu^- \gamma$, mass spectrum 9-9367
 $\eta \rightarrow \mu^+\mu^- \gamma$, obs. in $\pi^+\pi^-$ collisions at 25 GeV/c (*Russian*) 9-22090
 $\eta \rightarrow \pi^0\pi^0$, presence of second class neutral currents 9-26284
 η^0 , backward ω^0 and η^0 prod. in $\pi^-\pi$ interactions at 9 and 12 GeV/c 9-45100
 η_c , interpretation of X(2.88) obs. in $\pi^-\pi^+\gamma\gamma$ 9-22150
 η_c , production cross sections in e^+e^- colliding beams, two-photon processes 9-36089
 $\eta \rightarrow \eta\pi\pi$, current algebra calcs. with symmetry breaking, inconsistency with expt. 9-13114
 $K^0 \rightarrow \eta\Lambda$, 4.2 GeV/c, total and differential cross sections, forward production peaks 9-40801
 $\eta\pi \rightarrow \pi^0\eta^0$, 1.1-2.0 GeV/c, differential cross sections in T and U meson region 9-9393
 $\pi^+\pi^-$, 100 GeV/c, π^0 and η inclusive prod. in all neutral mode 9-13165
 $\pi^+\pi^- \rightarrow \eta^0\pi^+\pi^-$, D, E, and δ mesons obs. at 12 and 15 GeV/c 9-3052
 $\pi^+\pi^- \rightarrow \eta^0\pi^+\pi^-$, D, E, and δ mesons, obs. at 12 and 15 GeV/c 9-9410
 $\pi^+\pi^- \rightarrow \pi^+\pi^-\pi^0$, axial vector and pseudoscalar resonances near 1.275 GeV, D mesons 9-30747
 $\pi^+\pi^-$, 100 GeV/c, π^0 and η inclusive prod. in triple Regge region 9-13164
 $\pi^+\pi^-$, 100 GeV/c, π^0 and η inclusive prod., triple Regge theory test 9-6349
 $\psi \rightarrow \eta\gamma$, radiative decays, vector dominance model 9-26330
 $\psi \rightarrow \psi\eta$, OZI rule violating transition, unitary corrections using dual model 9-26330
 $X^0(958) \rightarrow \eta\pi\pi$, ηX^0 mixing angle, broken $SU(6) \times O(3)$ quark model 9-17721
 $\eta \rightarrow \pi^0 e^+e^-$, presence of second class neutral currents 9-26284
 $Li(\gamma, \eta)Li$, $E_\gamma = 3.56$ MeV, partial photoproduction cross-section calc. (*Russian*) 9-9547
 $\pi^+\pi^- \rightarrow \eta\eta$, Fermilab energy, Regge pole model 9-17762
 $Xe^+\pi^-$, 3.2 GeV/c, π^0 , η , ω , f meson prod. determ. of meson-N total cross sections (*Russian*) 9-22122
 $Xe^+\pi^-$, 3.2 GeV/c, intermediate Δ^- prod. in π^0 and η prod. (*Russian*) 9-36280

etalsons *see interferometers*

etchants *see etching*

etching

- see also crystal defects; dislocation etching; sputter etching*
 anisotropic track etching in olivine crystals using WN solution 9-26836
 biological specimens, new freeze-etch unit 9-5423
 cellulose acetate, bulk and track etch rate studies 9-31338
 cellulose nitrate, effect of high γ -doses on etching characs., dosimetry appl. 9-31224
 cellulose nitrate track detectors, bulk etch rate studies 9-36482
 Cr plates, for photomasks, prep. by vacuum deposition, etching ability (*Russian*) 9-33203
 dry etched inorganic resist. for lithographic appl. 9-24633
 ferrogarnet crystal, surface layer damage thickness meas. 9-5106
 Inconel X-750 foil, surface pretreatment for improved coating adherence 9-15877
 ion optic precision magnet homogenising surface coils 9-41329
 ion-beam, reactive, appl. for microstructure fabrication, review 9-15844
 ionic cleaning, plasma accelerator with closed drift of electrons for ion beam formation (*Russian*) 9-38993
 Lexan, bulk and track etch rate studies 9-31338
 metal sheet for manufacture of scales and grids, one-sided etching 9-32102
 metallographic sections, in situ, cathodic device 9-39067
 mica, bulk and track etch rate studies 9-31338
 multi-detector electrochemical etching and automatic scanning system 9-26837
 Oberhoffer etch, suitability for identifying surface defects 9-43525
 optical fibre refractive index dip removal by etching method 9-14120
 optical glass ceramic, (sital) surface operation parameters, selection using bending strength tests 9-32101
 optical reticle and scale fabrication, cyclohexadiene-1,3 pleinomer photore-sist 9-27452
 $p-n$ junction, method for determining dopant and defect distrib. in diffusion layer 9-37727
 phthalic anhydride spherulites, cryst. growth from melt 9-32930
 plasma etching characs., effect of dark space in RF glow discharge 9-15830
 plasma etching techniques in semiconductor manufacture 9-20238
 polyethylene, linear, bulk-crystallised, morphology study 9-32918
 polymers, for electron microscopy, plasma etching combined replica technique (*Russian*) 9-32923
 polypropylene, fracture exam. using microscopic obs. (*German, English*) 9-20186
 PVC-chlorinated polyethylene blend, optical characterisation methods 9-8408
 single-mode fibre optical power divider, encapsulated etching technique 9-27420
 soda-lime glass track detector etching in NH_4HF_2 , NaOH and KOH aq. solns. 9-26816
 steel, Cr-Ni-Al, intergranular crack investigation by etching (*Chinese*) 9-43457

etching continued

- steel, medium C, internal cracks in continuous casting billet and rolling products (*Chinese*) 9-43375
 steel, stainless, ferritic Ti stabilised, changes in structure and mech. props., after alkali bath etching (*Russian*) 9-29271
 steel, stainless, photetched profiles, quantitative examination 9-20268
 thin foils from multilayer heterostructures, prep. and ion etching 9-12779
 triode plasma etching 9-47789
 wire, rolled, vibr. etching, parameters, vibr. freq. meter 9-14356
 Ag-Cu (6.2 at.%), with discontinuous precipitates, quantitative struct. anal. using SEM 9-43527
 AgBr microcrystals, Herschel effect, $Na_2S_2O_3$ etching soln. effects (*Russian*) 9-5167
 Al-Ti, solid soln., unidirectionally solidified, segregation patterns revealed by etching 9-47693
 AlCu, electron microscope spot prep. of deform. bands 9-15922
 Au film on Cr adhesion layer, etching, SEM anal. of abnormal undercutting 9-5075
 BaAl₂O₉, Czochralski cryst. growth, quality examination by polarisation microscopy, etching and X-ray topography 9-24428
 Co₂Sm sintered magnet, effect of surface conditions on mag. props. 9-28556
 Cu, grain boundary character, revealed by etching and slip line continuity 9-33001
 Cu single crystal spheres, dissolution, formation of etch pits, surface structure study using SEM 9-23735
 α -Fe₂O₃, mutual orientations and morphology obs. (*French*) 9-37647
 GaAs, (110) oriented, preferential chemical etching of blazed gratings 9-37067
 Ga_{1-x}Al_xAs LPE crystals for DH laser, LEDs, TEM obs. of Ge, Si-doped epitaxial layers 9-1556
 GaAs conducting MIS structures and metal-semicond. structures, effects of ultrathin oxides 9-1626
 GaAs integrated optical circuits by wet chemical etching 9-32092
 GaAs wafer, H₃PO₄-H₂O₂-H₂O etching solution system and its kinetics 9-20229
 GaAs-GaAlAs heterostructure, GaAs preferential etching, using O₂ and CCl₂F₂ mixture 9-8373
 Gd₂Ga₂O₁₂ single crystal polishing characteristics, comparison chemical, mechanical methods, magnetic bubble device appl. (*Japanese*) 9-5067
 Ge film black, solar selective absorber surface 9-29484
 Ge, microflow vol. conc. determ., etching method 9-24688
 In_{1-x}Ga_xAs, LPE growth on InP, electron probe anal. of etched surface 9-23862
 InP (100) surfaces, chem. treatment effects on comp. and nature 9-47794
 InP, LPE growth on GaAs, etching and electron probe anal. 9-11526
 InSb, magnetically frozen-out, evidence of surface cond. from etching expts. 9-47152
 MgO, anisotropy of grinding damage, chem. polishing and etching 9-47793
 Mg₂SiO₄, etch pits in cleaved faces, revealing low angle boundaries 9-14818
 MnZn ferrites, doped; determ. of grain boundary composition, using Auger spectroscopy (*German*) 9-23618
 (NH₄)₂SO₄, mechanically twinned, orthorhombic, search for antiphase boundaries 9-37715
 PbS, plastic deform. on compression along (100) direction 9-28036
 PbTiO₃, spontaneous polaris. shielding destruction by polishing and scribing 9-15427
 Pd-Si-Cu metallic glass tips, appl. as electron field emission source 9-8229
 Si, (100) and (110), anisotropic etching for fabrication of 3-D microstructures 9-15826
 Si, (100) and (110), anisotropic etching 9-15827
 Si (111), growth and etching vectors, adsorption and step reconstruction 9-23548
 Si epitaxial growth, in SiCl₄-HCl-H₂ system, model based on flow graph, depend. of gas phase etching and growth rate on process parameters 9-42405
 Si epitaxial layers on metallurgical-grade polycryst. substrates, characteris. 9-28967
 Si, etch rate loading effect and temp. depend. in CF₄ plasma 9-34167
 Si, etching by tetrafluoromethane plasma, mechanism 9-15832
 Si, etching using XeF₂ vapour, adsorption/desorption process 9-43449
 Si wafers, Czochralski grown, crystal defects, photoluminesc. topographic obs. 9-1432
 Si:P, As, chem. etching, thick epitaxial layers prod. for dopant conc. investigations by neutron activation anal. 9-37728
 Si-SiO₂, etch rate of removal of ion implanted SiO₂ determ. lay optical method 9-23629
 Si₃N₄, etch rate loading effect and temp. depend. in CF₄ plasma 9-34167
 Si₃N₄ film, plasma etching, role of chemisorpt. of CF₄, CF₃H, CF₃Cl, CF₂Cl₂ and CCl₄ 9-11714
 Si₃N₄ films, plasma deposited over substrate steps, fast etching phenomenon 9-34168
 SiO₂, etch rate loading effect and temp. depend. in CF₄ plasma 9-34167
 Te, single crystals, Czochralski growth, etch pit orientation study 9-43133
 W-Ni sintered alloy, etching 9-29323
 WS₂, single cryst., growth by direct vapour transport, pit density determ. by etching 9-28904
 (YEuTmCa)₃(FeGe)₅ bubble garnet films, ion-implanted, mag. susceptibility meas. 9-47311
 (YEuYbCa)₃(FeGe)₅O₁₂ bubble films, Ne⁺-implanted, cryst. and mag. props., X-ray diff. obs. 9-38362
 YIG, single crystals, grown by floating zone method, quality eval. of etching and optical microscopy, ferromag. resonance linewidth meas. 9-19990
 Zn, isothermal annealing effect at 400-410°C, on dislocation structure in monocrystals (*Russian*) 9-20082

ether drift *see special relativity*

Ettingshausen effect *see thermomagnetic effects*

euporium

- see also nuclei with*
 abundance in HD 18474 giant star (*Spanish*) 9-25605
 atom, electron impact excitation of spectral lines 9-3579
 atom, K-shell X-ray energy, excitation mode depend. 9-26926
 atom, visible Dicke superradiant transitions (*French*) 9-45690
 atom, visible Dicke-superradiant transitions 9-45692

europium continued

- calibo glass:Eu, Br, quantum efficiency of non-radiative energy transfer 9-33832
- exchange integral, spiral spin configuration, ab initio calc. 9-47275
- germanate glass:Bi³⁺,Eu³⁺, time resolved spectra for Bi-Eu energy transfer 9-33748
- glass:Eu³⁺, spectroscopic props. of excited states of ions, laser induced fluorescence line narrowing meas. 9-38641
- inert gas:Eu, absorpt. and emission spectra, phonon sidebands 9-43021
- liquid, divalent, electrical resist. 9-38039
- polarisation paramagnetism, saturation (*Russian*) 9-47232
- rare earth oxysulphide, R₂O₃S:Eu³⁺, branching ratios for fluoresc. 9-33807
- thermal conductivity at low temps. (*Russian*) 9-11100
- Ba₃(PO₄)₂:Eu, X-ray phosphor, study of emission and trapping centres 9-8197
- CaF₂:Eu²⁺, X-ray induced luminesc. kinetics, energy transfer processes 9-8181
- Ca(PO₃)₂:Eu³⁺, anomalous spectral props. 9-38614
- CdF₂:Eu³⁺, luminesc., charge transfer states 9-33799
- CsI:Eu³⁺, cryst., influence of impurities on yield stress 9-15748
- ¹⁵²Eu fixation in solid/liquid systems 9-15330
- Eu II, lifetimes of ⁷P_{2,4}, ⁹P_{3,5} excited levels 9-3407
- Eu²⁺, IR transition probability meas. 9-6897
- Eu³⁺, non-radiative energy transfer to Pr³⁺ and Er³⁺ in dimethylsulphoxide 9-47510
- Eu³⁺, nonradiative ⁵D₁-³D₀ transition in various solvents 9-3479
- Eu+H⁺, atomic K-shell ions, X-ray emission 9-18280
- Eu+H⁺, two-step laser ionization using charge transfer ionisation 9-867
- GdBO₃:Eu³⁺ and GdBO₃:Bi³⁺,Eu³⁺, vacuum UV excitation spectra and quantum efficiencies 9-28811
- Gd₂O₃:Eu³⁺, luminesc., rel. to crystallographic data 9-33793
- Gd₂O₃S:Eu³⁺, luminesc., excitation spectra, cooperative phonon sidebands 9-33771
- KBr:Eu²⁺, spin Hamiltonian cryst. field const. calcs. 9-38035
- KCl:Eu²⁺, IR laser window lattice equilibrium obs. 9-14055
- KCl:Eu²⁺, spin Hamiltonian cryst. field const. calcs. 9-38035
- La₂O₃:Eu³⁺, luminesc., excitation spectra, cooperative phonon sidebands 9-33771
- LiBaAlF₆:Eu²⁺, luminesc., band emission and line emission 9-28810
- LiCl-KCl:Ln³⁺, fused eutectic, electrolytic behaviour (*Japanese*) 9-16009
- LiF:Eu, impurity effect on elec. cond. 9-7709
- Li₂O-B₂O₃:Eu³⁺ glass, laser induced fluoresc. line narrowing, struct. 9-38613
- Lu₂O₃:Eu³⁺, luminesc., excitation spectra, cooperative phonon sidebands 9-33771
- NaCl:Eu²⁺, spin Hamiltonian cryst. field const. calcs. 9-38035
- SrF₂:Eu, dipolar complex exam. 9-38435
- YB₃:Bi³⁺,Eu³⁺, vacuum UV excitation spectra and quantum efficiencies 9-28811
- YIG:Eu, Pb, bubble domain film, magnetocrystalline anisotropy coeff. reduction, by Pb addition 9-11329
- Y₂O₃:Eu, fluoresc., cathodoluminesc. and thermal quenching 9-47488
- Y₂O₃:Eu sintered slice, DC electroluminesc., impact excitation 9-47522
- Y₂O₃S:Eu³⁺, luminesc., excitation spectra, cooperative phonon sidebands 9-33771
- YVO₄:Eu, fluoresc., cathodoluminesc. and thermal quenching 9-47488
- Y₂WO₆:Eu, noncontinuum model for energy transfer 9-33800
- Y₂WO₆:Eu³⁺, luminesc., rel. to crystallographic data 9-33793

europium alloys

- mixed valence, role of phonons and Coulomb interactions 9-38032
- EuFeAl₈, mag. ordered, mixed valency of Eu, X-ray, susceptibility and Mossbauer spectra studies 9-19728

europium compounds

see also europium alloys

- chalcogenides, Raman scatt. near mag. phase transitions 9-47458
- pyrochlores, Eu₂Zr₂O₇ (Z=Ti, Ru, Ir, Mo, Sn, Zr, Pb, Pt and Hf), elec. field gradient, Mossbauer expt. 9-8077
- CdF₂:EuF₃ films, electroluminesc. meas. (*French*) 9-11471
- Cs₂NaEuCl₆, mag. dipole transitions ³D_{3/2}-¹F₄, interpretation 9-42505
- Er₂FuFe₃-Ga₂O₃, rag-domain garnet film, controlled variation of props. under O₂ annealing 9-15328
- (Eu,Y)₃Fe₂O₁₂, low temp. CVD epitaxial film growth and mag. props. 9-42406
- (Eu,Yb)₃Fe₂O₁₂, low temp. CVD epitaxial film growth and mag. props. 9-42406
- Eu-Te, chalcogenides, exam. of crystal-chemical characts. 9-1407
- EuAl₃(BO₃)₄, thermal stability, X-ray struct. anal., refractive indices 9-4297
- Eu₄As₃, new synthesis, trigonal anti-Th₃P₄-type compound, X-ray characterisation 9-37687
- EuB₆, elec. cond. under hydrostatic press. 9-7832
- EuB₆, single and bulk polycryst., EPR, temp. and freq. depend. 9-28606
- Eu₂O₃, X-ray single cryst. struct. determ., Patterson synthesis 9-19204
- EuCl₃, solns., ¹F₀-³D₁ and ¹F₀-³D₀ transitions, MCD 9-31566
- EuF₃, mol. force, compliance and Coriolis const. 9-31726
- EuGa₂S₄, cryst. struct. determ. by direct methods with MULTAN 76 (*French*) 9-37669
- Eu₃Ge₂S₆, X-ray cryst. struct. determ. (*French*) 9-7587
- EuIG bubble domain film, magnetocrystalline anisotropy coeff. reduction, by Pb addition 9-11329
- EuO (100), disordered, LEED and electron spectroscopy 9-28178
- EuO, excitation of spin waves by current carriers, magnetisation and elec. cond. reduction (*Russian*) 9-7981
- EuO, ferromag., light scatt. from bulk and surface spin waves 9-28778
- EuO, ferromag. reson. and nonlinear phenomena 9-28627
- EuO, HF conductivity meas. 9-33304
- EuO, hydrostatic press. effects on elec. resist. in temp. range 3 to 300K 9-23968
- EuO, light absorpt. during ferromag. reson. (*Russian*) 9-28618
- EuO, nonstoichiometric film with excess Eu, optical magneto-optical and elec. props. 9-8204
- EuO, optical orientation of f-electrons, Curie temp. variation due to exchange interactions (*Russian*) 9-15431
- EuO, reflectivity spectra near absorpt. edge 9-47471
- EuO:Gd, mag. props. and instability phenomena 9-1666
- EuO- Δ , thin film, Faraday effect dispersion and transmission, 0.5-1.1 μ , 20.4 and 77K, anion vacancies 9-19945

europium compounds continued

- Eu₂O₃, activator in Na₂O-B₂O₃-SiO₂ glass, exam. of distribution by absorption study 9-4832
- B-Eu₂O₃, cryst. struct. refinement from X-ray scattering data 9-37672
- Eu₂O, film, struct., electron microscope and diff. obs. 9-11028
- Eu(OH)₃, mol., XPS, satellite phenomena 9-27035
- EuS, defect struct., etch pitting and electron microscopic obs. 9-27989
- EuS, ferromag., on W, electron field emission 9-8230
- EuS film, influence of prep. on mag. props. 9-24201
- EuS, three dims. Heisenberg ferromagnet, crit. relax. spectra mag. susceptibility 9-8000
- EuS₄, single cryst., X-ray cryst. struct. refinement (*French*) 9-23579
- EuSb₂, cryst. struct. and antiferromag. props. 9-32973
- EuSe, HF conductivity meas. 9-33304
- EuSe, Hall effect, elec. cond. and magnetoresistance temp. depend. 9-33296
- EuSe, superexchange interaction parameters, many-electron model calc. 9-7988
- EuSi₂, valence band struct. (*Russian*) 9-15076
- Eu_{0.1}Si_{0.31}O_{0.55} glass, optical, magnetic, and magneto-optical props. chemical clustering 9-42951
- Eu_{1-x}Sr_xS, non-metallic spin, spin glass behaviour 9-24175
- Eu₂Sr_{1-x}S, onset of ferromagnetism for x near 0.5 neutron diff. obs. 9-24181
- EuTe, optical absorpt. in high mag. field 9-28726
- EuVO₄, electron energy loss spectra, primary excitation processes in cathodolum. 9-11490
- Eu₂(WO₄)₃, molar mag. susceptibility, DC elec. cond., thermopower meas. 9-15172
- Eu₂[Pt(CN)₄]₃·18H₂O, nonradiative energy transfer from tunable donor states to Eu³⁺ 9-43018
- K_{0.5}Eu_{0.5}Nb₂O₆, ⁹³Nb NQR spectra, 77 to 450K 9-38401
- Sn_{2(1-x)}Eu_{2x}Mo_{6.5}S₈, supercond. transition temp., upper critical field, local spin fluctuations 9-38250
- Sr₂TiO₄-Eu₂O₃, synthesis, luminesc. of materials 9-11534
- (YEuTmCa)₃(FeGe)₅ bubble garnet films, ion-implanted, mag. susceptibility meas. 9-47311
- (YEuYbCa)₃(FeGe)₅O₁₂ bubble films, Ne⁺-implanted, cryst. and mag. props., X-ray diff. obs. 9-38362
- (YEuYbCa)₃(FeGe)₅O₁₂ film, isolated straight stripe domain dynamics 9-33514

eutectic alloys

- fibre reinforced composite prep. by crystallizing metallic and metallic ceramic eutectics (*Polish*) 9-20008
- skin technology, industrial appl. of space processing 9-28991
- superalloy, aluminite coating, improvement by sputtering (*French*) 9-29278
- transition, eutectic, use in temp. calibration of X-ray diffractometer furnace (*Japanese*) 9-6128
- unidirectional crystallisation, containing enhanced amounts of reinforcing phase (*Rumanian*) 9-29035
- welded joint, microstructural and chemical heterogeneity 9-29096
- Ag-Cu eutectic composite wire, HF conductivity and skin effect 9-33305
- Al-Al₂Fe, fibre reinforced eutectic, deformation behaviour by rolling, TEM and SEM study 9-29129
- Al-Si, inoculated with NaCl+KCl+NaF, effect on morphology of eutectic columns (*Russian*) 9-15684
- Co-C-TaC directional eutectic, high-strength, interphase boundaries (*Russian*) 9-38812
- Co-Cr-NiTaC eutectic, directionally solidified, microstructural stability 9-38815
- Co(Cr,Ni)-TaC fibres eutectic, deformed, thermal stability of microstruct. (*Russian*) 9-1895
- Cu-Al (In), eutectic systems, specific phase boundary enthalpy, calorimetric study (*German*) 9-29016
- Cu-Cr, eutectic, effect of comp. and solidification conditions on microstruct. (*Russian*) 9-29037
- Cu-Cu Zr eutectic composite, struct. and props., heat treatment and crystn. rate influence (*Russian*) 9-38813
- Cu-In eutectoid, coarsening at 829K 9-1885
- Fe, cast, eutectic solidification, expt. study by quantitative metallography 9-24516
- Fe, gray, Mg bearing, high strength, eutectic grain determ. by Si reverse liquation 9-15886
- Fe-B glass, crystallisation kinetics, elec. resist. meas. 9-4254
- Fe-C-H phase diagram, effect of H on eutectoid equilib. (*Russian*) 9-15648
- Fe-MoSi₂, exam. of props., using differential thermal analysis, and metallography (*Russian*) 9-15653
- FeSi-Fe₂Si₃ eutectic, FeSi₂ formation, annealing temp. and time effects 9-24512
- Ge-Sb, eutectic alloy, exam. of morphology during solidification (*Russian*) 9-34022
- HfC-HfBr₃, preparation and high temp. antifretting props. 9-1918
- Mo-Ti-(Zr)(Hf)-N, exam. of phase equilibria (*Russian*) 9-29018
- Ni-based, in gas turbines, Ni-Cr-Al coatings, use of diffusion barrier 9-24673
- Ni-Cr-TaC directional eutectic, high-strength, interphase boundaries (*Russian*) 9-38812
- Ni-Cr-TaC eutectic-like composite, obs. of interfacial diffusion by high resolution TEM 9-4432
- Ni-Nb-Al, eutectic, thermal cycling effect on strength and ductility (*Russian*) 9-24601
- Ni-Nb-Al, unidirectionally solidified γ/γ' - δ eutectic, fatigue crack propag. 9-29184
- Ni-TaC, eutectic alloy, fibre reinforced, directionally solidified, anisotropic yielding behaviour 9-11675
- Ni₃Al(γ')-Ni₃Nb(δ), directionally solidified, deformation substruct. and slip systems 9-8326
- Pb-Ag eutectic alloy, microstruct. coarsening under isothermal and temp. gradient conditions 9-20079
- Pb-Cd lamellar eutectic composite, pair potential meas. 9-33396
- Pb-Sb eutectic alloys, solidification in space environment 9-47671
- Pb-Sn (62 wt.%), intercrystalline and interface boundary sliding, tensile tests, SEM obs. 9-38886
- SiC-B eutectic alloys, struct. of crystallising graphite 9-38829
- Sn-Cd, interface undercooling-growth vel. relationship, horizontal and vertical solidification 9-8294
- Sn-Zn eutectic, liq. appl. to drilling of steel, cutting conditions rel. to tool parameters (*Russian*) 9-34187

evaporation continued

Co, ultrafine particles prepared by vacuum evap. on running oil substrate, mag. behaviour 9-28565

Cs ion evaporation isotherms, from W single cryst. faces 9-24829

Er, laser evaporation and condensation in H_2 and Ar atmospheres 9-10941

Fe electrode, evaporation rate from cathode spot in vacuum arcs 9-37566

Fe, ultrafine particles prepared by vacuum evap. on running oil substrate, mag. behaviour 9-28565

α - Fe_2O_3 , prep. by evaporative decomposition of $Fe(NO_3)_3 \cdot 6H_2O$ soln. 9-20011

H_3BO_3 evaporation from seawater, major source of atm. B 9-2293

4He , superfluid, evaporation by rotons and phonons, heat-pulse technique 9-33135

Na heat pipes, evap. process, sonic limits to power transfer 9-18672

NaCl, single cryst. in vac., influence of dislocations on evaporation 9-10935

Ni, ultrafine particles prepared by vacuum evap. on running oil substrate, mag. behaviour 9-28565

Si, reactions with metal oxides, general features, glass form. 9-11819

SiC, ceramic, mass loss in inert gas stream (*Russian*) 9-7686

W, surface, self-diffusion coeff. at very high temp. using theory on tip evolution by capillarity forces and evaporation 9-11011

Zn electrode, evaporation rate from cathode spot in vacuum arcs 9-37566

$ZrO_2-Nd_2O_3$ system, solid solns., evaporation, mass spectroscopy investig., thermodynamics 9-10938

Evershed effect *see sunspots*

evolution (biological)
anthropic principle of cosmology, rel. to physical world struct. 9-48973
biological transformations theory, dynamical similarity 9-34469
interstellar dust grains as possible cold sources of life 9-21203
mathematical model 9-12060
origin of life, molecular evolution and exobiology, interdisciplinary course
9-21485
quartz fibres, possible role as templates for biopolymers 9-39345
sunweark interactions and the biological time direction 9-39344

EXAPT *see problem oriented languages*

exchange forces in nucleus *see nuclear forces*

exchange interactions (electron)
 see also antiferromagnetism; ferromagnetism; RKKY interaction;
 superexchange interactions
 amorphous ferromagnets, dispersion rels. and spin-wave spectroscopy (*Russ-*

sian) 9-7983

anisotropic antiferromagnet, phase transition, with external mag. field
9-11316

antiferrodielectrics with antiferromag. intrasublattice exchange interaction 9-38352
antiferromagnet, easy plane, specific props. 9-1665
antiferromagnet, second-order phase transition, weakening of effect of fluctuation in order parameter near crit. point 9-15316
antiferromagnetic, triang., spin wave theory 9-7978
bound excitons in local density approximation 9-47022
copper dipyrindine dichloride, antiferromag. reson. below 1K 9-28619
cubic semiconductor, exchange splitting of excitons 9-42467
dielectric response of solids, approxs. for treatment of local field effects 9-47033
dilute alloys, mag. ordering of impurities, random phase approx. and concn. limits 9-24187
dimers, singlet-triplet energy gap, temp. depend. 9-7809
dimethylammonium copper tetra(chlorobromide), mag. susceptibility, 1 to 30K, mag. phase transition 9-4675
disordered and amorphous mag. materials, position entropy solids, exchange and anisotropy noise 9-11295
disordered binary alloy, mag., with mixed exchange interaction, crit. behaviour (*Russian*) 9-1675
electron liquid, local field factor freq. depend. 9-38009
EPR concentration dependence in magnetically diluted crystals with strong spin-spin interaction 9-42826
ESR spectra, hyperfine, exchange effects and lineshape (*French*) 9-4717
exchange and dipoles coupled ferromags., light scatt. from mag. surfaces, response theory 9-42820
Fermi fluid with paramagnetic impurities, spin wave spectrum (*Russian*) 9-23915
ferromagnetic degenerate semiconductor, magnon spectrum near instability of homogeneous state 9-28516
ferromagnetic metals, s-d exchange interactions, effect on attenuation of spin waves (*Russian*) 9-19730
ferromagnetic single crystal with cubic symmetry, mag. and magnetoelastic props. 9-15332
ferromagnets, uniaxial, US attenuation and kinetic coeffs. near crit. point, renormalisation group theory 9-4715
Heisenberg ferromagnet, dil., localisation of excitations near percolation threshold 9-15271
Heisenberg ferromagnet with biquadratic exchange 9-38338
Heisenberg ferromagnet with higher-order exchange interactions, thermodynamic props. 9-42770
Heisenberg-Ising chain, correlation functions at $T=0$ 9-24123
indirect exchange interaction through narrow conduction zones (*Russian*) 9-4538
inhomogeneous relativistic electron gas 9-28304
interatomic electron interactions, effect of electron correl. 9-38010
Invar films, exchange interaction depend. on lattice parameter, spin-wave reson. and magnetisation meas. (*Russian*) 9-42751
Ising double chain, compressible, mag. susceptibility and thermodynamic props. 9-15320
Ising model, logarithmic exchange interaction, Monte Carlo simulation 9-19712
itinerant electron antiferromagnet, effects of paramagnetic impurities on Neel temperature 9-4678
lanthanide ions, finite ligand size and Sternheimer antiscreening 9-19561
localised model for systems with double-exchange coupling 9-38318
low-dimensional correlated spin systems, exchange narrowing theory 9-11335
magnetic ordering due to exchange-crystal splitting 9-8010

exchange interactions (electron) continued

- magnetic semiconductor, double exchange and small-polaron hopping 9-19591
 magnetically ordered singlet ground state system, nucl. spin Hamiltonian 9-28496
 magnon elementary excitations damping (*Russian*) 9-28515
 manganese acetate tetrahydrate, Heisenberg ferrimag. magnetisation 9-47304
 manganese copper formate dihydrate, conc. depend. of EPR linewidth 9-38376
 metallic substances, retention and exchange of 4f electrons (*Dutch*) 9-1587
 metals, electric properties calc., book 9-28274
 metals, spin-orbit coupling enhancement of 3d ions 9-47069
 metals, with mag. impurities, kinetic exchange interaction, Curie-Weiss high temp. susceptibility 9-33457
 mixed valence state, electronic structure 9-11092
 NMR bandshape, complex exchange-broadened, iterative computer anal. 9-35805
 one-dimensional antiferromagnet, with antisymmetric exchange, Green's function theory 9-15290
 one-dimensional classical spin chain with random interactions, exact calcs. 9-4687
 one-dimensional ferromagnet with biquadratic exchange, solitary bound states of magnons and lattice deform. 9-19732
 Permalloy-Co film, domain walls, magnetisation ripple (*Russian*) 9-47314
 quolinolium manganese (II) chloride monohydrate, crystal struct. and mag. susceptibility 9-19239
 random isotropic dipolar magnet, absence of ferromag. long range order 9-28546
 randomly located Ising spins with oscillatory exchange interactions 9-42778
 rare earth amorphous alloys, random mag. anisotropy, antiferromag., Monte Carlo calcs. 9-33471
 rare earth metal, 4f levels, obs. by bremsstrahlung isochromat and XPS spectroscopy 9-24411
 rare earth metal S-states in metals, anomalous cryst. field splittings 9-19563
 rare earth metals, mag. excitations, neutron inelastic scatt., review 9-47265
 rare earth mixed ferrite-chromites, mechanism of polarisation of rare earth ions 9-42740
 rare earth ternary compounds, coexistence of superconductivity and long-range magnetic order 9-11264
 rare earth-Al₃(Zn), mag. coupling mechanism 9-4655
 rare earth-Co alloy, mag. anisotropy origin 9-38319
 rare-earth alloys, amorphous study of hysteresis effects using Monte Carlo technique 9-1686
 rare-earth impurities in s-p hosts, self-polarization hyperfine fields 9-33456
 rare-earth metals, US attenuation, exchange striction, and spin-phonon interaction 9-33518
 ruby, energy transfer time const. between single Cr³⁺ and Cr³⁺ pairs 9-38627
 ruby, luminesc., ground state of Cr(III) pair 9-33782
 ruby, piezo-spectroscopy of exchange coupled Cr³⁺ pairs 9-33783
 spin glass, frustration concept 9-38328
 spin glass, low temp. Lorentz number assuming exchange interactions between electrons 9-19567
 superconductivity, exchange enhancement of electron-phonon coupling 9-7930
 superconductors, slightly dirty, EPR relaxation time, thermal behaviour 9-47195
 superconductors with paramag. impurities, NMR theory in singlet state 9-28445
 transition metal clusters, symmetric, higher-order isotropic exchange, Schrodinger model 9-7955
 transition metal compounds, pd^N (N=7,8,9) electron system in cubic crystal field, energy matrices (*Japanese*) 9-42504
 transition metal ion pairs, anisotropic exchange parameters 9-11093
 transition metal ions in crystals, two-centre exchange interactions between orbitally degenerate ions 9-15126
 transition metal-rare earth alloys, amorphous, mag. props., mean field anal. 9-4701
 transition metal-rare earth dil. alloy, hyperfine field of rare earth impurity 9-1588
 trimer heteronuclear exchange clusters, ESR line profile 9-42828
 two or three electrons, interacting with localised mag. moment, wave function determ. (*French*) 9-12636
 uniaxial ferromagnet, in transverse mag. field, quantum theory (*Russian*) 9-15297
 Wigner crystallisation, -density-functional theory 9-42477
 BaMnF₄, struct. and mag. transitions, magnon dispersion curves, nearest neighbour exchange const. 9-42760
 Be₃Al₂Si₆O₁₈:Cr³⁺, EPR spectra, exchange-coupled pairs 9-28596
 Cd-Cr(Mn)(Ni), dil., mag. and supercond. props. 9-38237
 CdCr₂S₄, EPR line profiles in paramag. and ferromag. phases 9-28602
 CdCr₂S₄:In(Ga), resist. and magnetoresist. meas., effect of donor impurities 9-19608
 CdCrSe₄, ferromag. semiconductor, mag. props. near Curie pt., doping effects 9-1670
 CdCr₂Se₄-ZnCr₂Se₄, single cryst., mag. props. 9-28526
 Cd_{1-x}Mn_xTe, effect of Mn 3d⁵ states on band struct., exciton refl. struct. in mag. field 9-11094
 CdS, photocond. cryst. characterisation of electron-trap responsible for acoustic holographic echoes (*French*) 9-19544
 Ce compounds, Anderson model, exchange parameter, Kondo temp., mag. susceptibility 9-1656
 Co-B alloys, amorphous, mag. moment and exchange stiffness constant 9-1662
 CoAl₂Ga_{2-x}O₄, mag. interactions, susceptibility obs., 4.2 to 300K 9-15294
 CoBr₂·2H₂O, metamagnetic, relax. phenomena at phase transitions 9-24164
 CoRh₂Ga_{2-x}O₄, mag. interactions, susceptibility obs., 4.2-1000K 9-15293
 Cr-Al, elementary excitations, exchange stiffness const., inelastic neutron scatt. study 9-47294
 CrAs, anisotropy of compressibility 9-7648
 CrBr₃(Cl₃), two-dimensional mag. insulators, cryst. field spectra, mag. circular dichroism 9-47058

exchange interactions (electron) continued

- CrBr₃(Cl₃), two-dimensional mag. insulator, cryst. field splitting, spectroscopic g-factors 9-47059
 Cr₂O₃, exchange parameters including temp. effects 9-24153
 Cr₂O₃:¹¹⁹Sn⁴⁺, Mossbauer spectra (*French*) 9-24248
 CsMgCl:Cr³⁺, Mo³⁺, Cr³⁺-Mo³⁺ exchange coupled pair, EPR study 9-42830
 Cu complex, substituted Cu(II) acetates, exchange interactions, EPR, struct. 9-42829
 Cu-Mn spin glasses, spin dynamics, neutron scatt. meas. 9-8002
 CuCl₂, anhydrous, single cryst., mag. behaviour in low temp. ordered phase 9-7974
 CuCl₂, anhydrous paramagnetic phase, mag. susceptibility depend. on temp. 9-7965
 Cu₂Mn₂₃, spin glass, EPR line breadth, exchange-narrowed 9-15345
 ErFe₂, spin waves, exchange interaction, neutron scatt. study 9-47267
 Eu, exchange integral, spiral spin configuration, ab initio calcs. 9-47275
 EuO, optical orientation of f-electrons, Curie temp. variation due to exchange interactions (*Russian*) 9-15431
 Eu_{0.14}Si_{0.31}O_{0.55} glass, optical, magnetic, and magneto-optical props., chemical clustering 9-42951
 Fe complex, Fe(Cl)[S₂CN(C₂H₅)₂]₂, susceptibility near critical pt. 9-24147
 Fe₈₀B₂₀-M_n, M=C, Si, P, Ge, amorphous, effect of metalloids on mag. props. 9-11304
 (Fe_{1-x}Co_x)₇₇Si₀B₁₃, amorphous, mag. moments at 0K, Curie temp., mag. interactions 9-4670
 Fe_{1-x}Cu_xCr₂S₄, mag. semicond., mag. props. and elec. cond. (*Japanese*) 9-47111
 α-Fe₂O₃, exchange parameters including temp. effects 9-24153
 Fe₂O₃, non-stoichiometric, mag. struct., neutron diffraction, exam. 9-42737
 Fe₂P, magnetisation, susceptibility, thermal expan. 9-11302
 FeS, structural chem., influence of itinerant 3d electrons and valence-band holes 9-23563
 GaAs:Fe, exchange-coupled pairs, ESR 9-11343
 Gd-La, magneto-optic reson. (*Russian*) 9-47426
 Gd(CO₂Ni_{1-x})₂, mag. interactions, effects on moments (*Rumanian*) 9-15296
 GdCo_x, mag. interactions, effects on moments (*Rumanian*) 9-15296
 Gd₂Co₆Al₁₁, NMR and mag. susceptibility 9-15367
 Gd(Co₂Fe_{1-x})₂, mag. props., composition and temp. depend. 9-15289
 GdCrO₃, magnetisation, appl. of molecular field theory 9-4637
 Gd₂Cu₆Al₁₁, NMR and mag. susceptibility 9-15367
 GdVO₄, hyperfine field and exchange interactions, Mossbauer meas. 9-47370
 (Gd₂Y_{1-x})Co₂, mag. interactions, effects on moments (*Rumanian*) 9-15296
 Ge, recombination at dislocations 9-38023
 H₂, liq. metal, electron kinetic eqn. with exchange, elec. resist. 9-15131
³He, BCC, meas. from 3 to 300 mK 9-33153
 K₂FeF₆, one-dimensional antiferromag., neutron diffraction and mag. meas. (*French*) 9-47241
 KMgF₃:Ni, Co, emission from Ni-Ni and Ni-Co pairs, exchange coupling const. 9-33788
 KMn_{0.5}Zn_{0.5}F₃, exchange interaction determ. by neutron scatt. 9-47274
 Li_{0.13}Fe_{2.87}O₄, acoustic spin wave dispersion branch, exchange const., neutron scatt. study 9-47266
 LiGa₃O₈:Cr³⁺, antisymmetric exchange interaction, EPR study 9-47331
 LuCo₂, mag. interactions, effects on moments (*Rumanian*) 9-15296
 MgFe₂O₄, Mossbauer study 9-47375
 MnF₂, mag. anisotropy at OK 9-33473
 Mn₃Ge, triangular spin ordering, weak ferromagnetism 9-47237
 Mn(Nb_{0.5}Ta_{0.5})₆O₆, random and spin-flop magnet, neutron crit. scatt. 9-24169
 Mn(Nb_{0.5}Ta_{0.5})₆O₆, spin flop magnet, four dims. phase diagram and multicrit. phenomena 9-15304
 Mn₃Sn, triangular spin ordering, weak ferromagnetism 9-47237
 Ni complex, (Ni(C₂H₃NO)₆(NO₃)₂), field induced level crossing and cryst. struct. 9-47070
 Ni, effective exchange parameter, q-depend, intra-atomic interaction 9-4542
 Ni, ferromag., energy bands, self-consistent calcs., exchange splitting 9-19509
 Ni film, spin wave resonance 9-33542
 Ni, Si ion projectile bound s electron polaris. rel. to transient mag. fields 9-33023
 Ni-Co, elementary excitations, exchange stiffness const., inelastic neutron scatt. study 9-47294
 Ni-Co film, spin wave resonance 9-33542
 Ni-Cr, elementary excitations, exchange stiffness const., inelastic neutron scatt. study 9-47294
 Ni-Fe, elementary excitations, exchange stiffness const., inelastic neutron scatt. study 9-47294
 Ni-V, elementary excitations, exchange stiffness const., inelastic neutron scatt. study 9-47294
 NiCl₂·6H₂O, antiferromag., phase diagram, low temp. canted paramag. boundary, bicritical point 9-47282
 NiFe₂O₄, exchange integrals from magnetisation meas. 9-47273
 NiO:Fe, exchange anisotropy of Ni-ferrite precipitates 9-28520
 PbMoS₈, influence of Fe on superconduction transition temp. and mag. props. (*Russian*) 9-42686
 Pd-Cr, dil., appearance of mag. order for Cr impurities in exchange enhanced hosts 9-4690
 Pd-Fe alloys, dil., spin polarisation effect on hyperfine interactions, anal. of Mossbauer meas. (*Russian*) 9-47055
 PrF₃, crystal field split levels, inelastic neutron scatt. study 9-47065
 Pt-Cr, dil., appearance of mag. order for Cr impurities in exchange enhanced hosts 9-4690
 Rb, lattice dynamical props., conduction-core exchange, Lindgren approx. 9-1481
 RbMnCl₃, high-pressure cubic phase, mag. props. 9-47260
 Si (100)-SiO₂ inversion layers, exchange and correl. contribs. to subband energies 9-42654
 Si, recombination at dislocations 9-38023
 VF₂, nearly one-dimensional, paramag. susceptibility 9-15278
 (Y,Ca)₂(Fe)₂(FeGe)₂O₁₂ film, exchange const., ferromag. reson. meas. 9-8023
 Y-Fe alloys, mag. interactions, effects on moments (*Rumanian*) 9-15296
 YCo_x, mag. interactions, effects on moments (*Rumanian*) 9-15296

exchange interactions (electron) continued

YIG, thin ferromagnetic film, exchange interaction constant, from paramag. resonance spectra of spin waves 9-42811
 YbFe₂, Mossbauer spectra, cryst. elec. field and exchange interaction 9-47368

exchange models *see peripheral models***exchanges (chemical)** *see chemical exchanges***excimer lasers**

activation and deactivation rates in high-power lasers 9-941
 atom+vibrationally excited molecule reactions, rel. to high power lasers 9-5155
 corrosive gas laser systems, capacitance manometer design and perform. 9-36909
 electronic structure, pot. energy curves, radiative transition probabilities, quantum mech. calcs. 9-10284
 electronic transition laser development 9-946
 engineering aspects, colloquium, London, England (Nov. 1978) 9-31940
 high-power lasers and appls., conf., Munich, Germany (June 1977) 9-964
 inert gas excimer and exciplex oscillators, VUV and XUV pulse generation 9-3688
 inert gas halide, frequency conversion in atomic or mol. media 9-36965
 inert gas halide, power and efficiency, review 9-937
 inert gas halide high-power lasers, efficiency and energy scaling, review 9-36887
 inert gas halide lasers, pumped by transverse elec. discharge devices 9-41373
 inert gas halide VUV lasers, pumped by travelling-wave discharges, 170 to 250 nm range 9-41372
 isotope separation pulse power requirements 9-13972
 review of lasers with wide-band optical pumping 9-31885
 technology advances, conf., Washington, USA (Mar. 1978) 9-36911
 UV, using pulsed discharge pumping, design and operation 9-31946
 UV laser (*Japanese*) 9-3686
 UV molecular lasers with transverse electronic pumping, review (*French*) 9-31880
 visible wavelength lasers, gasdynamic and acoustic management 9-36937
 Ar-Xe-tetrachloromethane excimer discharge laser 9-13957
 ArF, discharge laser, operating characts. 9-22937
 ArF, UV preionised transverse discharge laser, theoretical model 9-22938
 ArF*, Ar₂F*, kinetics of proton-excited Ar-F₂ mixtures, time-resolved and time-integrated spectra 9-36883
 ArF*, electron beam pumped, dominant formation and quenching processes 9-938
 Bi₂, optically pumped continuous laser oscill. 9-933
 Br₂, UV laser transitions, electronic designation 9-944
 Cl₂, laser oscillation on 2580 Å band system, axial electron beam excitation of He-Cl₂ 9-31879
 F₂ discharge pumped laser, 1578 Å emission 9-31877
 F₂ molecular laser, high power, electron beam excited 9-932
 H₂(a²_g⁺ ← b²_g⁺) continuum emission excited by low-energy Ar⁺ collisions, UV laser appl. 9-41200
 Hg halide lasers, efficiency of different pumping methods, review 9-36886
 HgBr, 502 nm stimulated emission, prolonged optical pumping of HgBr₂ 9-18414
 HgBr, visible laser transitions at 5018 Å and 4984 Å 9-939
 HgCl, visible laser transition at 5576 Å 9-939
 I₂, CW optically pumped, laser oscill. 0.57 to 1.35 μm 9-943
 I₂, UV laser transitions, electronic designation 9-944
 KrF, discharge laser, operating characts. 9-22937
 KrF, for pumping of UV dye lasers 9-10301
 KrF high-power laser, efficiency and energy scaling 9-36887
 KrF laser, electron beam pumped, with Ne-Ar diluent 9-22936
 KrF, power and efficiency, review 9-937
 KrF, UV preionised transverse discharge laser, theoretical model 9-22938
 KrF, water dielec. Blumlein-driven fast elec. discharge pulser 9-10318
 KrF X-ray-preionized high-pressure laser 9-18403
 KrF* discharge laser, 248 nm pumping of dye laser 9-954
 KrF* discharge laser, pump for tunable narrow bandwidth 2 MW dye lasers 9-41378
 KrF*, elec. discharge excimer lasers, stimulated emission 9-31884
 KrF*, electron beam controlled laser, plasma processes 9-930
 KrF*, electron beam pumped, dominant formation and quenching processes 9-938
 KrF*, Kr₂F*, kinetics of proton-excited KrF₂ mixtures, time-resolved and time-integrated spectra 9-36883
 KrF*+Ar(Kr)+Ar(Kr), recomb. rate consts., 300 to 800K, appl. to KrF* laser efficiency 9-45930
 N₂, 337.1 nm emission, high specific power, high pulse repetition freq. 9-45932
 N₂ discharge laser, photopreionisation stabilised, high-power, ultraminiature 9-22977
 N₂ laser, high-power, TE, UV, using Blumlein transmission line, construction characts. (*Korean*) 9-22971
 N₂ laser, time shape of laser pulse 9-7120
 N₂ laser discharge dynamic characts., power supply circuit 9-18446
 N₂ laser transitions, Ar(P₂)+N₂(C²Π_g) excitation transfer cross section, radiative lifetime 9-27246
 N₂ laser-pumped dye laser, generation of tunable ultrashort light pulses (*German*) 9-27275
 N₂ lasers, pulsed operation, characteristic data comparison 9-10287
 N₂, photostabilised UV laser, gain, fluoresc., and energy extraction characts. 9-7118
 N₂, Schenck-Metcalf laser, capacitor modification 9-18439
 N₂ superradiant UV laser, method for brightness increase 9-36917
 N₂, transverse excited C²Π_g ← B²Π_g(0-0) UV laser band, spectroscopic rot. anal. 9-7115
 N₂ UV emitting simple and reliable laser, with H₂ thyatron switch 9-27290
 N₂ UV multichannel laser, short duration pulse generation 9-969
 N₂ UV TEA lasers 9-41388
 N₂-F₂ mixture, fast Blumlein discharge excited, intense 3371 Å laser emission 9-41365
 Na₂ optically-pumped three-level dimer lasers, amplification profiles and dynamic Stark effect 9-41367
 O₂, possible high energy laser at 1.27 μm 9-13950
 S₂, chem. pumped laser emitting visible radiation, construction possibility 9-13960
 Te₂, optically pumped continuous laser oscill., 550 to 660 nm 9-933

excimer lasers continued

Tl-Hg excimer, emission pressure and temp. depend., blue band gain, RF excited discharge 9-22941
 Xe₂, simple VUV high press. laser, with coaxial electron beam pumping 9-974
 XeCl, electron-beam pumped, emission spectrum, saturation intensity, optical absorpt. 9-927
 XeCl excimer laser, long-life operation 9-41366
 XeCl excimer laser radar, stratospheric O₃ layer meas. 9-16681
 XeCl laser radiation, efficient Raman conversion in metal vapours 9-23025
 XeCl*, elec. discharge excimer lasers, stimulated emission 9-31884
 XeCl* excimer laser, electron-beam-excited discharge in Ar-Xe-CCl₄ 9-18408
 XeF, B- and C-state fluoresc. rel. to laser efficiency 9-41368
 XeF, C-A blue-green band, gain meas. at 488 and 475.9 nm 9-45929
 XeF discharge-excited laser, high repetition rate operation with gas recycling 9-973
 XeF, electron beam controlled Ne stabilised laser 9-972
 XeF ground-state dynamics in laser discharge 9-18404
 XeF laser, excited states quenching of electron beam excited media 9-18406
 XeF laser efficiency improvement at elevated temps. 9-45957
 XeF, long pulse electron beam excited laser 9-940
 XeF, photoionization-stabilised self-sustained, energy extraction efficiencies 9-41369
 XeF, spontaneous emission lifetime meas. of C → A band 9-31874
 XeF waveguide laser operation on 351, 353 nm transitions 9-22942
 XeF*, elec. discharge excimer lasers, stimulated emission 9-31884
 XeF*-UF₆, nuclear pumped excimer fusion lasers, kinetic model 9-18410
 XeO, photochem. laser performance, 0.54 μm stimulated emission 9-45938

excimers*see also excimer lasers*

anthracene, excimer form. in soln. and cryst., fluoresc. study 9-45759
 anthracene-aliphatic amine, photochemically induced H isotope exchange 9-11771
 benzene-benzene (anthracene) dimers, ground and excited states, EHT calc. 9-36553
 C-A blue-green band, gain meas. at 488 and 475.9 nm 9-45929
 9-cyanoanthracene excimer emission, in glassy and cryst. matrices 9-11445
 1,3-dibiphenylpropane, intramol. excimer form., kinetic and thermodynamic obs. 9-13750
 dimethoxyphenyl-1,1-dicyanomethylene, donor-acceptor systems, fluoresc., through-band interaction 9-13751
 dinucleoside phosphates, polaris. spectra, excimer phosphoresc. and fluoresc. 9-34497
 intramolecular donor-acceptor systems, fluoresc., through-band interaction 9-13751
 nucleic acid bases, excited states formation, EHT calc. 9-13651
 organic solid state chemistry, conf., Waltham, USA (June 1978) 9-46990
 perylene, exciton fission in excimer forming cryst., fluoresc. 9-15511
 poly-1-vinylanthracene solution, time-resolved fluoresc. spectroscopy, excimer form. and dissociation 9-38637
 polynucleotides, polaris. spectra, excimer phosphoresc. and fluoresc. 9-34497
 polystyrene solution, time-resolved fluoresc. spectroscopy, excimer form. and dissociation 9-38637
 pyrene, excimer form. process, ps laser fluoresc. obs. 9-11448
 solid-state reaction, excimer form. 9-47917
 Ar+N₂, bimol. and three body quenching, reson. state ¹P₁, ³P₁ and excimer Ar atoms 9-3540
 Ar₂*, electron-beam excited, time-resolved fluoresc. spectra 9-813
 CdGa₂, excimer visible emission spectra in RF discharge, vibr. struct. 9-18201
 CsHe absorption bands associated with forbidden Cs transitions 9-27005
 GaKr, low-lying electronic states, PE curves, transition moments, emission coeffs. 9-6894
 Hg₂, photoassociated, collision-induced predissoc. with Hg 9-31626
 KrF*+Ar(Kr)+Ar(Kr), recomb. rate consts., 300 to 800K, appl. to KrF* laser efficiency 9-45930
 Na₂, form., collision-produced diffuse violet emission band obs. 9-27026
 Ne* potential energy curves of several excited states transient absorption spectra assignment 9-4115
 Xe₂, VUV radn. emission, radiative lifetimes 9-27089
 XeF, transfer and quenching rate constants for (III, 1/2) and (II, 3/2) states 9-16003
 ZnGa₂, excimer visible emission spectra in RF discharge, vibr. struct. 9-18201

exciplexes *see excimers***excitonic molecules**

semiconductor, anisotropic, binding energy of exciton complexes 9-15088
 semiconductor, luminescence, coherent conversion of excitons and photons to biexcitons (*Russian*) 9-47508
 semiconductor, polariton dispersion change by virtual biexciton form. under laser irradi. 9-38607
 two-photon excitation of first vibr. state 9-7789
 CdS, highly excited crystal, biexciton, impurity transition and electron-hole plasma 9-15092
 CuBr, biexciton two-photon absorption 9-47480
 CuCl, direct creation of high biexciton density at K=0, two-photon absorpt. and emission spectra 9-33727
 CuCl, excitonic polariton-polariton resonance scattering 9-24306
 CuCl, luminesc. and reson. Raman scatt. of excitonic mols. 9-33814
 CuCl, nonlinear light absorpt., picosec. pulse, exciton-biexciton transitions 9-47483
 CuCl, psec time resolved spectroscopy, excitonic mols. 9-47500
 CuCl, reson. Raman scatt. and luminesc. of biexcitons 9-38618
 CuCl, time-resolved study of induced absorption due to exciton-biexciton transitions 9-38658
 CuCl, two-photon reson. scatt. in excitonic mol., population instability 9-28826
 CuCl, two-photon reson. Raman scatt. and luminesc. of excitonic mols. 9-28819
 HgI₂, red, luminesc., excitation spectra on M-band 9-28822
 InP:Bi, isoelectronic impurity states, emission and absorpt. obs. 9-42491
 α-2O₂ cryst., exciton effects, spectra (*Russian*) 9-47481
 ZnO, existence of biexcitons, reson. two-photon Raman scatt. 9-19889

excitonic molecules continued

- ZnO, stimulated two-photon emission from excitonic molecules 9-28815
 ZnSe, blende type struct., luminesc. under high excitation 9-19928
 ZnSe, luminesc., reson. Raman scatt. due to excitonic mols. 9-33816
 ZnTe, blende type struct., luminesc. under high excitation 9-19928

excitons

see also excitonic molecules; phonon-exciton interactions

- alkali halide crystals, exciton mechanism of complex active centre formation at fracture 9-33033
 alkali halides, photoelectric yield spectra, 10 to 40 eV photon energy 9-28887
 alkaline earth oxides photoluminescent spectra of surface states 9-47505
 anisotropic magnetic crystals, theory of excitons (*Russian*) 9-7786
 aromatic hydrocarbon high density excitation effects on fluoresc. 9-1782
 anthracene:tetracene, crystals, triplet kinetics model (*German*) 9-4518
 anthracene, α -induced radical production beyond Bragg peak 9-24773
 anthracene, EPR of triplet excitons, source of residual linewidth 9-15338
 anthracene, fluoresc. from (001) surface and sub-surface excitons 9-33763
 anthracene, lifetimes of exciton-polariton luminesc. 9-33761
 anthracene, liq. chromatography, sublimation, zone refining, exciton fluoresc., mobility meas., melt grown crystal 9-38736
 anthracene, reflectivity and fluoresc. of (001) surfaces, sub-surface exciton states 9-15508
 anthracene, single cryst., X-ray radiation damage, delayed fluoresc. meas. (*Japanese*) 9-37736
 anthracene, singlet exciton annihilation kinetics 9-19926
 anthracene, theory of fission of singlet Frenkel exciton into two localised triplet excitons 9-23901
 anthracene, triplet exciton absorpt. lines 9-47475
 anthracene isotopic mixed crystals, exciton spectra 9-38602
 aromatic organic macromolecules, energy-gain satellite in C(1s) XPS 9-1813
 benzophenone, triplet exciton absorpt. lines 9-38563
 binding energy and lifetime in free carrier gas 9-33238
 bound excitons in local density approximation 9-47022
 charge transfer complex high density excitation effects on fluoresc. 9-1782
 chlorophyll, a and b, lowest singlet-singlet transition, solvent effects 9-24952
 conference, luminescence, Paris (July 1978) 9-33755
 coupled coherent-incoherent motion, rel. to mean square displacement 9-19519
 CTIP, exciton surface polaritons at room temp. 9-47476
 cubic semiconductor, exchange splitting of excitons 9-42467
 degenerate valence band semiconductors, polariton effect 9-15102
 diamagnetic, odd states, oscillator strengths, and optical absorption line positions 9-11072
 1,4-dibromonaphthalene, proton spin relaxation by optically excited triplet states 9-19810
 p-dichlorobenzene(-d₄), mixed cryst. phases, mol. reorientations and intermol. interactions, Raman obs. 9-28751
 4,4'-dichlorobenzophenone, triplet exciton absorpt. lines 9-38563
 dielectric, spin-orbit interaction, effect on electron-hole pairing (*Russian*) 9-7790
 direct gap semiconductors, exciton energy determ., electron beam excited luminesc. 9-38680
 DNA-acridine orange complexes, energy transfer after dye laser excitation 9-2005
 dye crystal, CTIP, exciton surface polaritons detect. by ATR spectra at 295K 9-4818
 dynamical screening and self-energy, in electron-hole plasma 9-15093
 eigenstates of excitons near a surface 9-37994
 ethyl substituted ammonium halides, exciton absorpt. spectra 9-28782
 exciton condensation in electron-hole drops (*Russian*) 9-19522
 exciton-phonon interaction, exciton absorpt. lineshape, polariton and wave models 9-38564
 ferromagnet, and Peierls antiferromagnet, two-parameter Landau expansion 9-23907
 ferromagnet, refractive index, magnetic contribution 9-28727
 ferromagnet, spin-lattice relax., light and US absorption (*Russian*) 9-7960
 fracture, ionisation wave generation, microbreakdown mechanism 9-33032
 granular metal-semiconductor system, exciton enhancement of supercond. transition temp. 9-7921
 halides, vacancy-interstitial pair prod. by electron-hole recomb. 9-4530
 II-VI and III-V cryst., excitons detect., precision method 9-19906
 II-VI semiconductor mixed crystal, comp. disorder-induced broadening for free excitons 9-15479
 II-VI semiconductors, highly excited blend type involving 'free particle' scatt. 9-38648
 inelastic biexciton-biexciton collision, effect on radiative recombination of biexcitons 9-15529
 inert gas crystals, intermediate-radius excitons (*Russian*) 9-11068
 inert gas solid, electronic struct. of self-trapped excitons 9-19525
 inert gas solid, VUV luminesc. from excitons 9-43020
 inert gas solids, luminesc., self-trapped exciton 9-38605
 insulator, coherence factors and transport props. 9-28291
 insulator, excitonic, condensate flows in mag. field, charge and mass transport (*Russian*) 9-11108
 ionic crystal, free and self-trapped Wannier-Mott excitons, thermal mutual transitions (*Russian*) 9-38003
 ionic crystals, luminesc. of free and self-trapped excitons 9-33757
 ketones, mol. cryst., interband transitions, triplet-triplet absorptions 9-11452
 light reflectivity in exciton region for arbitrary surface pot. 9-38568
 linear molecular crystal, effect of mixing between Frenkel excitons and charge transfer states on charge carrier transfer 9-33242
 luminescence spectra, surface polaritons and Brewster waves (*Russian*) 9-43033
 macrometals as possible excitonic superconductors 9-42688
 mechanical surface excitons, interaction with radiation, refl. and transmission spectra 9-15098
 merocyanine organic solar cells, photovoltaic props. in terms of exciton transport 9-43763
 mixed crystal, exciton self-trapping 9-37991
 mixed organic solids, triplet exciton transport at crit. conc., Anderson localization or delocalization 9-15087

excitons continued

- molecular aggregates, density operator description of excitons, excitonic motion in 1-D finite chain 9-37997
 molecular biophysics, systems with dipole-dipole interactions 9-11882
 molecular crystal, triplet exciton annihilation and triplet exciton quenching by free radicals, analytical form of mag. field depend. of rate consts. 9-15094
 molecular crystal, exciton density of states, effect of struct. disorder 9-28288
 molecular crystal, exciton scatt. by lattice defects, absorpt. line shape 9-38576
 molecular crystal, generalised master eqns. under delocalised initial conditions 9-26003
 molecular crystal, sensitised fluoresc., energy transfer rate 9-38586
 molecular crystals, diffusion mediated exciton processes, mag. field depend. of fission and fusion 9-37998
 molecular crystals, exciton transport in strong intersite coupling limit long-range transfer states 9-37995
 molecular crystals, optical absorpt. line shape of excitons, two-time correl. function calcs. 9-44795
 molecular crystals long-range energy transfer combined with isotropic or anisotropic diffusion 9-11461
 molecular organic crystals, triexcitons, theory 9-33787
 molecular solid, fading memory as insufficient condition for exciton diffusion 9-19520
 molecular solid, localisation of mol. ion or exciton states 9-47048
 molecular solids, electronic energy transport, picosec. transient grating technique obs. 9-47028
 molecular solids, Raman, fluoresc. and nonlinear props. 9-33702
 naphthalene:anthracene, two-photon picosec. excitation, sensitised fluoresc. kinetics 9-47516
 naphthalene, a-exciton lineshape, exciton-photon coupling 9-33243
 naphthalene, cryst., singlet exciton interactions fluoresc. decay 9-47027
 naphthalene, exciton migration, variable range cluster model 9-33762
 naphthalene, theory of fission of singlet Frenkel exciton into two localised triplet excitons 9-23901
 naphthalene, triplet exciton annihilation at high triplet densities 9-37996
 naphthalene, triplet exciton tunnelling, crit. concs. 9-15086
 naphthalene β -chloronaphthalene, optically induced detrapping of triplet excitons 9-28828
 naphthalene charge transfer complexes, cryst., vibr., factor group splittings 9-7658
 naphthalene-d₈:naphthalene, betamethylnaphthalene, ¹B_{2u} naphthalene exciton percolation kinetics, exciton coherency 9-33750
 naphthalene-d₈:naphthalene, symmetry reduction obs. of deformed crystals. by absorpt. spectrum method 9-15504
 naphthalene-h₈ and -d₈ mixed crystal, two-dimens. lattice, cluster-cluster interactions, model inhomogeneous distrib. 9-23922
 naphthalene-h₈:naphthalene-d₈ mixed crystal, monomer cluster states 9-15089
 naphthalene-TCNB, charge-transfer cryst., donor mol. orient. and dynamics 9-32926
 naphthalenes, phonon satellite narrowing in local exciton luminesc. (*Russian*) 9-47507
 nonequilibrium populations and nonlinear response 9-28285
 organic charge transfer complexes, refl. spectra, excitons 9-47477
 organic crystals, exciton surface polaritons 9-4519
 organic solid state chemistry, conf., Waltham, USA (June 1978) 9-46990
 perylene, exciton fission in excimer forming cryst., fluoresc. 9-15511
 phenanthrene:anthracene, cryst., triplet-triplet annihilation, shallow traps effect, 77-293K 9-11446
 phenanthrene-PMDA, spin polarization of charge-transfer excitons, EPR meas. 9-19766
 phenanthrene-pyromellitic dianhydride, single cryst., charge-transfer triplet excitons, spin polaris. 9-11069
 photosynthetic membrane, in vivo, light collection and exciton dynamics 9-48215
 photosynthetic membranes, anal. of laser-induced fluorescence with Pauli master eqn. 9-39350
 photosynthetic membranes, exciton dynamics, picosecond pulse train study 9-8483
 polar, layered material, quenching of excitonic diamag. shifts 9-19526
 polar semiconductor, effective exciton-exciton interaction 9-42465
 polar semiconductor, exciton dispersion, influence of optical phonons, variational method for effective exciton mass 9-15091
 polariton-exciton dispersion curve 9-33244
 poly(2-vinyl pyridine), electronic struct., molecular-ion states and dielectric props. 9-37969
 poly-2-vinylpyridine, electron energy loss spectra, for optical and dielec. props. 9-15569
 polyene chain, collective excitations and optical absorpt. 9-47019
 polystyrene, electron energy loss spectra, for optical and dielec. props. 9-15569
 proximity effects in transitions to exciton phases 9-28296
 PTS, exciton surface polaritons at room temp. 9-47476
 pyrene, excimer form. process, ps laser fluoresc. obs. 9-11448
 pyrene, triplet exciton absorpt. lines 9-47475
 quasi-one-dimensional systems, Peierls transition, possible pairing of spatially separated electrons and holes 9-15085
 rate processes in condensed media, anharmonicity effects 9-19349
 review of work at Ukrainian SSR Acad. of Science (*Russian*) 9-47026
 sapphire, pure and doped, luminesc. centres 9-33791
 Schottky barrier field, exciton reflection band burning (*Russian*) 9-47479
 self-induced transparency, dispersion law of steady-state exciton-photon pulses 9-27336
 semiconductor, bound exciton recombination, phonon replicas 9-38649
 semiconductor, diamagnetic excitons in strong elec. field 9-38002
 semiconductor, exciton ferromagnetism 9-28293
 semiconductor, exciton-plasma transition 9-28295
 semiconductor, luminescence, coherent conversion of excitons and photons to biexcitons (*Russian*) 9-47508
 semiconductor, multilayer, exciton Stark effect 9-19528
 semiconductor, ODMR appl. to recombination processes 9-42871
 semiconductor submillimetric-wave spectroscopy 9-33221
 semiconductor with dipole impurities, light absorption 9-28796
 semiconductors, Auger and radiative recombination of acceptor bound excitons 9-47023
 semiconductors, binding energy in exciton-impurity systems, Haynes rule 9-15112

excitons continued

- semiconductors, photoexciton waves, restrictions imposed on nature of additional boundary conditions 9-28789
 semiconductors, recombination, conference, Southampton, England (Aug.-Sept. 1978) 9-38087
 semiconductors, recombination processes, review 9-38088
 semiconductors, spin orientation by optical pumping, review 9-38410
 semimetal, excitonic phase and gas-liquid transition in strong mag. field 9-4514
 solid state resonances, interactions (*German*) 9-42456
 solid-state theory, introduction, book 9-33215
 spectra of diffuse reflection and photoluminesc. (*Russian*) 9-11447
 square lattice, percolation and cluster distrib. variable range interactions, exciton cluster model, layers 9-30379
 stilbene, single cryst. under pulsed electron excitation, triplet exciton, optical absorpt. spectrum 9-7838
 stochastic exciton lattice coupling, exciton line shapes and migration 9-11070
 superconductivity, excitonic, possibility 9-38243
 superconductivity, high temp., possible mechanism based on metallic exciton formation 9-38244
 superradiance and free induction decay, theory 9-37992
 surface excitons in mixed molecular crystals, theory 9-47135
 TCNQ, exciton surface polaritons at room temp. 9-47476
 tetracene: pentacene, pressure-induced phase transition, mag. field effect on guest fluoresc. 9-33083
 tetracene, photoluminescence spectra, 4.2-300K, phase transition and excitons 9-4847
 tetracene, spatial distrib. of electrolum. and recomb. process 9-19938
 tetracene, theory of fission of singlet Frenkel exciton into two localised triplet excitons 9-23901
 tetracene single crystals, exciton refl. spectra, 4.2 to 300K 9-47478
 1,2,4,5-tetrachlorobenzene, exciton migration and trapping, X-trap phosphoresc. 9-1780
 1,2,4,5-tetrachlorobenzene, proton spin relaxation by optically excited triplet states 9-19810
 1,2,4,5-tetrachlorobenzene, triplet state spin-lattice relax. in cryst. and matrix isolated mol. 9-11449
 third harmonic generation under reson. conditions (*Russian*) 9-31997
 ultrashort laser pulses, interaction with condensed matter (*German*) 9-27335
 Urbach's rule derived from thermal fluctuations in the band-gap energy 9-33729
 Wannier excitons, laplace transform method in two-photon spectroscopy theory 9-10084
 Wannier-Mott, interactions with screw dislocations (*Russian*) 9-4513
 Ag halides, physical props. rel. to photographic processes 9-19555
 AgBr, electron simulation, luminescence and hidden image formation (*Russian*) 9-47515
 AgBr, exciton relax. by intervalley scatt., reson. Raman meas. 9-33713
 AgBr, shoulder in luminesc. spectra due to triplet excitons 9-15525
 AgBr, Stark effect on I-bound exciton 9-28719
 AgCl, electron simulation, luminescence and hidden image formation (*Russian*) 9-47515
 Ag₂O, quadrupole exciton transition and struct. of optical absorpt. edge 9-38569
 Al_xGa_{1-x}As:N, photoluminesc. and optical absorpt. spectra of N impurity bound-excitons 9-47496
 BaMnF₄, low temp. phonon, and exciton effects on polarisation 9-42905
 Ba[Pt(CN)₄].4H₂O, polarised time-resolved emission spectra 9-33811
 CaF₂:Eu²⁺, X-ray induced luminesc. kinetics, energy transfer processes 9-8181
 CdI₂, luminesc., relaxed excitonic states 9-33758
 CdMnTe crystals, exciton binding energy, magnetoabsorption and magnetorefractivity 9-38523
 Cd_{1-x}Mn_xTe, effect of Mn 3d⁵ states on band struct., exciton refl. struct. in mag. field 9-11094
 Cd_{1-x}Mn_xTe, magneto-optical props. of free excitons rel. Mn²⁺ ions spin alignment 9-47419
 CdS, B exciton-polariton, reson. Brillouin scatt. 9-33717
 CdS, Brillouin scatt. of forbidden polaritons 9-33722
 CdS, exciton spectrum of high-density gas of nonequilib. carriers 9-38567
 CdS, excitonic polariton reflectance, quantitative anal. in spectral range of A-exciton 9-15480
 CdS film, exciton exhibiting spatial dispersion, reflectivity, polariton standing-wave struct. 9-4865
 CdS, laser thresholds and stimulated emission, intrinsic recomb. processes 9-15489
 CdS, luminesc. and gain spectra of two-photon excited excitons 9-33815
 CdS, optical activity in exciton spectra region, reflectance spectra 9-28707
 CdS, photoexciton waves, restrictions imposed on nature of additional boundary conditions 9-28789
 CdS, single cryst., bound excitons in surface layers, luminesc. obs. 9-28294
 CdS, spectral anal. of luminesc. of high density excitons 9-11451
 CdS, stimulated emission and optical gain in dense exciton system 9-33731
 CdS, submillimetre laser emission due to transitions between free exciton level 9-27261
 CdS, thermoreflectance spectra, additional boundary conditions in terms of optical constants 9-15478
 CdS:In, two-photon absorpt. spectra exam. of effects of screening of exciton continuum 9-8166
 CdS(Se), single cryst., band parameters from optical exciton spectra 9-47021
 CdS_xSe_{1-x}, comp. disorder-induced broadening for free excitons 9-15479
 CdSe, optical gain spectra, exciton collision processes and electron-hole plasma 9-28814
 CdSe, radiative recomb. process, P-band, 2-psec time resolution 9-24346
 CdSe, resonant Brillouin scatt. via free and bound excitons 9-24330
 CdSe, thin films, exciton piezotransmission 9-24380
 CdTe, excitation spectra, resonant Raman scatt. versus hot electron effects 9-38645
 CoCO₃, weak ferromagnet, optic study of spin wave spectrum (*Russian*) 9-47263
 Cs halides, electronic struct. of self-trapped excitons magneto-optic props. 9-33805
 CsBr, luminesc., mag. circ. polaris., self-trapped excitons, EPR 9-33805
 CsI, luminesc., mag. circ. polaris., self-trapped excitons 9-33805

excitons continued

- CsI:Na, tunnelling recomb. of electron-hole pair, optical detection of ESR and circ. dichroism 9-47360
¹³³Cs(n,γ)¹³⁴Cs, E_n=14.1 MeV, γ emission exciton model (*Russian*) 9-13302
 CuBr, emission spectra after two-photon excitation, Raman scatt. 9-47518
 CuBr, exciton bands, oscillator forces, temp. depend. (*Russian*) 9-28284
 CuCl, emission spectra after two-photon excitation, Raman scatt. 9-47518
 CuCl, exciton bands, oscillator forces, temp. depend. (*Russian*) 9-28284
 CuCl, H⁺ irradi., luminesc., high density excitons in particle tracks 9-47020
 CuCl, luminesc. and Raman processes under reson. two-photon excitation 9-33796
 CuCl, luminesc. from Bose-condensed state of biexcitons 9-23905
 CuCl, nonlinear light absorpt., picosec. pulse, exciton-biexciton transitions 9-47483
 CuCl, picosecond spectroscopy of secondary radiation from resonantly excited excitonic molecules 9-15461
 CuCl, polariton, prop. times at energies near transverse exciton 9-28297
 CuCl, Raman and luminesc. processes under reson. two-photon excitation of excitonic mol. 9-8143
 CuCl, time-resolved study of induced absorption due to exciton-biexciton transitions 9-38658
 CuCl, UV spectra, Γ₁ biexciton level, appl. of nonlinear spectroscopic technique 9-8156
 CuGaSe₂, photoluminesc. spectra at 76K 9-38655
 CuO₂, width of reson. Raman scatt. enhancement profiles, phenon-lifetime contrib. 9-19883
 Cu₂O, polar semicond., effective exciton-exciton interaction 9-42465
 FeCl₂·2D₂O, metamagnetic, excitonic Davydov splitting in Raman spectrum 9-33704
 FeF₃, thin film, optical absorpt. meas., excitonic peaks 9-15546
 FeS₂, optical absorpt. 9-43002
 GaAs, exciton ground state and oscillatory absorption spectra in mag. fields, variational calc. 9-11071
 GaAs, exciton-polariton reflectance spectra, exciton impact ionization and illum. intensity effects 9-42943
 GaAs, impact ionisation of excitons 9-38079
 GaAs MOS and Schottky systems, electromodulated reabsorption of luminesc. 9-15524
 GaAs, photoexcited, band edge absorpt. dynamics 9-19879
 GaAs, two-photon electroabsorption by excitons 9-42944
 GaAs_{1-x}P_x:N, photoluminesc. and optical absorpt. spectra of N impurity bound-excitons 9-47496
 GaP, electron-hole plasma luminesc. 9-38651
 GaP, hyperbolic singularity of dispersion law of excitons 9-42466
 GaP, indirect exciton fine struct. in absorpt. spectrum, stress effects 9-42986
 GaP, Mott transition of exciton gas, cathodoluminesc. 9-33845
 GaP, spectral depend. of O photoneutralisation cross-section near threshold, and band gap 9-1788
 GaP:Bi(N), luminesc. decay kinetics 9-38646
 GaS layer crystal, differential indirect exciton spectra 9-8159
 GaS₂Se_{1-x}, indirect exciton spectrum and phase transition, luminesc. and absorption spectra 9-8160
 GaS₂Se_{1-x}, recomb. radiation intensity, temp. depend. (*Russian*) 9-33830
 GaSb, bound excitons at doubly ionisable acceptors 9-42459
 GaSb, interaction of exciton recombination with LO phonons 9-38647
 GaSe, electron beam excited free exciton luminesc. 9-19940
 GaSe, optical detection of triplet exciton reson. 9-33567
 GaSe, photolum. under strong optical excitation 9-24364
 GaSe, reson. light scatt., luminesc. and Raman spectra 9-38615
 GaSe, triplet indirect bound exciton, level anticrossing effect on magnetolum. 9-47513
 GaSe, type II crystals, triplet exciton resonances 9-47359
 GaTe:Sn, electroabsorption spectra 9-19901
 Ge, diamagnetic excitons, fundamental absorption edge, Faraday config. 9-8144
 Ge, electron-hole drop formation, nucleation phenomena, free excitons 9-33240
 Ge, exciton condensate and electron-hole droplet, metastable state, effect of illumination and high-frequency heating 9-15097
 Ge, exciton contrib. to oscillatory magnetophotocond. 9-15180
 Ge, optical absorption from indirect transitions at high mag. fields 9-47441
 Ge, rest friction of electron-hole drops (*Russian*) 9-42463
 Ge, strain-narrowing of luminesc. line from excitons 9-24356
 Ge, stressed, α₁ and α₂ electron-hole droplet luminesc. 9-28820
 Ge, stressed cryst., props. of strain-confined electron-hole liquid 9-7787
 GeSe₂, exciton absorpt., transmission spectra of cryst., glasses and amorphous samples 9-15485
 HgI₂, cooperative fluoresc. by excitonic reson. pumping 9-33732
 InI, orthorhombic, reflection spectra, exciton transition 9-24333
 InP, exciton localisation at impurity pairs 9-37999
 InP, excitons bound to neutral donors in VPE layers, luminesc. and absorpt. obs. 9-42460
 InSb, interaction of exciton recombination with LO phonons 9-38647
 InSe, direct gap exciton exam. by magneto-optics and photoconductivity 9-19527
 InSe, layer cpld., reson. Raman scatt. at higher Mo exciton edge 9-28764
 IrF₆ neat and mixed cryst., exciton splitting, quenching by Jahn-Teller interaction 9-38540
 KBr, optical conversion, luminesc. and colour centre formation 9-24354
 KBr:I, energy transfer due to excitons and holes under host sensitization 9-15526
 KBr:I, luminesc., exciton and hole migration to I⁻ sites 9-38626
 KCl, F-centre formation, short-pulse optical exam. of exciton relax. 9-42061
 KCl, self trapped exciton, off-centre configuration 9-42455
 KCl, self-trapped exciton, ENDOR 9-15377
 KF, self-trapped exciton, ODMR spectra 9-28286
 KI, luminesc. due to free excitons, line shapes 9-33803
 KI, zero phonon and LO phonon assisted luminesc. of free excitons 9-28799
 KMnF₃, exciton and exciton-magnon emission 9-33779
 KMnF₃, exciton line and magnon satellite in UV spectrum at high press. (*Russian*) 9-4517
 LiF, self-trapped exciton, ODMR spectra 9-28286
 LiH, motion and relax. of free excitons, luminesc. spectra 9-43037

excitons continued

- MgF₂, optical absorption following pulsed electron irradi., 100-500K 9-8164
 Mg_{0.9}Zn_{0.1}Te, temp. depend. of energy gap, near band gap reflectivity spectra 9-28786
 MoS₂, mag. circular dichroism 9-23900
 MoSe₂, mag. circular dichroism 9-23900
 N₂, solid, UV spectra, phonon induced exciton fine struct. 9-15477
 NaBr(Cl), F-centre formation, short-pulse optical exam. of exciton relax. 9-42061
 NaCl, mechanoluminesc. peaks, microbreakdown mechanism, generation of ionisation waves 9-33032
 NaCl, optical conversion, luminesc. and colour centre formation 9-24354
 NaCl:Ag, irradi. with synchrotron radiation, thermolum. light-sum spectrum of L absorpt, edge of Cl⁻ 9-15540
 NaCl:Br, host-sensitized luminesc., energy transfer due to excitons and holes 9-38590
 NaF, self-trapped exciton, ODMR spectra 9-28286
⁹³Nb(n,γ)⁹⁴Nb, E_n=14.1 MeV, γ emission exciton model (Russian) 9-13302
 Ne, crystalline, Frenkel exciton calc. 9-23906
 Ne, solid, lattice relax. model of n=1 exciton emission 9-47492
 Ne:Ar(Kr)(Xe), luminesc. in vacuum-UV excitation of guest atoms by free and relaxed excitons 9-15519
 Ne:Xe(Ar), electronic relax. cascades in Wannier and Frenkel type exciton states 9-33759
 α-O₂, cryst., exciton effects, spectra (Russian) 9-47481
 PbI₂ (2H), angular depend. magnetoluminesc. 9-43029
 PbI₂, cooperative fluoresc. by excitonic reson. pumping 9-33732
 PbI₂, press. depend. of band-gap excitons, 77K, optical absorpt. spectra 9-8157
 Pt(NH₃)₂SO₄, cryst., absorption spectrum (French) 9-28784
 RbF-CsF, solid solution, fundamental absorption 9-11433
 RbI, zero phonon and LO phonon assisted luminesc. of free excitons 9-28799
 RbMnF₃, exciton and exciton-magnon emission 9-33779
 Se, exciton luminesc. in trigonal form 9-33802
 Se, trigonal, indirect exciton ground states, photoluminescence 9-24361
 Si, Auger recombination, localized and free carrier comparison 9-38090
 Si, emission spectra, excitons bound to isoelectronic trap 9-33772
 Si, LO and TO phonon assisted free exciton luminesc. 9-33833
 Si, nonradiative recombination and luminesc. 9-33770
 Si:Al, valley-orbit splitting of bound exciton states 9-28290
 Si:B, bound multiexciton luminesc., recomb. kinetics 9-38591
 Si:B, many-body exciton-impurity complexes, stress depend. of photolum. meas. 9-28833
 Si:B(P), recombination spectra of bound multiexciton complexes, Zeeman splitting (Russian) 9-38526
 Si:Li, bound exciton complexes associated with Li, photolum. meas. 9-28823
 Si:Li, luminesc. of bound exciton and bound multiexciton complexes 9-28821
 Si:Sb(As)(P), bound excitons and bound multiexciton complexes for shallow donors, luminesc. meas. 9-24363
 SnI₂ film, absorpt. spectrum (Russian) 9-43056
 SnO₂, rutile, band gap assignment by two-photon spectroscopy 9-19513
¹⁵⁹Tb(n,γ)¹⁶⁰Tb, E_n=14.1 MeV, γ emission exciton model (Russian) 9-13302
 TiO₂, fine struct. in intrinsic absorpt. edge 9-42987
 TiCl₃, magnetorefractance of X₆⁺X₆⁻ exciton meas. 9-38525
 TiGaS₂Se_{2-x}, optical and photoelectric props., composition depend. 9-15183
 TiInS₂Se_{2-x} solid solution, optical and photoelectric props. 9-11179
 WS₂, mag. circular dichroism 9-23900
 WS₂, mag. circular dichroism 9-23900
 WS₂, refl. spectra and photovoltaic effect, 1.5-3.2 eV, 4.1-300K 9-47470
 Xe, crystal, edge hot emission, free exciton luminesc. (Russian) 9-15520
 Xe, solid, luminesc. from self trapped excitons (excimers) 9-1785
 Y₂O₃, autolocalised excitons (Russian) 9-19523
 Y₂O₃, reflection spectra, Kramers-Kronig anal. of optical characs. 9-8161
 YVO₄, pure and Bi³⁺ doped, absorpt. and emission props., excitons 9-38592
 Zn_{0.9}Cd_{0.1}Te, resonant Brillouin scattering (Japanese) 9-15474
 ZnO epitaxial film, UV luminesc. due to radiative annihilation of excitons 9-11468
 ZnO, laser thresholds and stimulated emission, intrinsic recomb. processes 9-15489
 ZnO, negative photocond. by excitation of exciton-impurity complexes, recomb. mechanism (Russian) 9-28379
 ZnO, surface exciton polaritons, ATR obs., book contrib. 9-42620
 ZnP₂, monoclinic, cathodoluminesc. spectra exam. 9-15534
 ZnS:Mn(Al)(Te), luminesc., exciton struct. 9-33801
 ZnS(Se)(Te), thermorefractance spectra, at energies from absorption edges to 9 eV (Japanese) 9-11436
 ZnSe, blende type struct., luminesc. under high excitation 9-19928
 ZnSe, exciton-impurity complex, electroabsorption meas. 9-15484
 p-ZnTe 9-43028
 ZnTe, blende type struct., luminesc. under high excitation 9-19928
 ZnTe, exciton localisation at impurity pairs 9-37999
 ZnTe, laser thresholds and stimulated emission, intrinsic recomb. processes 9-15489
 ZnTe, photoluminesc., donor and acceptor excited states 9-38622
 ZnTe, radiative recombination involving free particle scatt. 9-38648
 ZnTe, Raman scatt. and exciton luminesc. under reson. excitation 9-38617
 ZnTe, relax. times of secondary radiations, circular polarisation correlation 9-28816
 ZnTe, shape of reflectance and thermorefractance spectra 9-11430

exhibitions

- chemical analysis, Munich (1978), microprocessors and millivoltmeters appl. (German) 9-20482

exobiology see extraterrestrial life

exoelectron emission

- dosimeter, exoemissive, automation of testing 9-6770
 insulators, trap struct. anal. by fractional glow technique 9-11078
 metal, vacancy diffusion during plastic deform., possibility of stimulated electron emission obs. (Russian) 9-5007

exoelectron emission continued

- Al, surface subjected to friction, wear, exoelectron emission, rel. to O₂, H₂O, gaseous adsorpt. 9-1816
 Al, tribomechanically activated, photostimulated electron emission 9-33905
 BeO ceramics, thermally stimulated exoelectron max., effect of H₂ adsorption 9-43109
 Cu film, struct., oxidation, and exoelectron emission rel. to bulk samples (Russian) 9-37927
 Cu surface subjected to friction, wear, exoelectron emission, rel. to O₂, H₂O, gaseous adsorpt. 9-1816
 Fe, surface subjected to friction, wear, exoelectron emission, rel. to O₂, H₂O, gaseous adsorpt. 9-1816
 LiF, evaporated film, thermally stimulated exoelectron emission rel. to thermolum. 9-47602
 LiF:Mg, effects of grain size on thermolum. and thermally stimulated exoelectron emission 9-15536
 LiNbO₃:Fe, influence of anomalous photovoltaic effect on exoelectron emission 9-28374
 Mo, quenched sample, UV photoelectron spectra, exoelectron-like emission 9-15587
 Ni film, struct., oxidation, and exoelectron emission rel. to bulk samples (Russian) 9-37927
 Ni, surface subjected to friction, wear, exoelectron emission, rel. to O₂, H₂O, gaseous adsorpt. 9-1816
 Ta₂O₅ anodic films, reanodisation effect on exoelectron emission 9-43110
- exosphere**
 electron density and temp. meas., night time, 2500 km altitude 9-16730
 geomagnetic density and temp. effect propag. 9-48593
 temperature variations, appl. to neutral atmosphere semi-empirical models 9-21085
- exotic atoms**
 see also hadronic atoms; muonic atoms
 positron atomic shells, quantum mech. anal. 9-10235
 spectral line intensities and selection rules, exotic atoms with monopoles (Chinese) 9-36800
 Ω hyperon atoms, Coulomb level fine splitting (Russian) 9-22871
 πμ atom, energy levels, fine struct. and Lamb shift calc. (Russian) 9-31744
- expanding universe** see cosmology
- expansion, thermal** see thermal expansion
- expansion chambers** see cloud chambers
- exploding foils** see exploding wires and foils
- exploding wires and foils**
 composite wires, exploding, hypervel. and temp. amplification 9-41853
 discharge in RCL circuit with greatly nonlinear resistance (Russian) 9-41854
 exploding wire, nonthermal IR and X-ray emission 9-4187
 laser-heated exploding wires, X-ray emission 9-10685
 particles resulting, investigation by microscopy and size (Russian) 9-37558
 structural inhomogeneity and MHD sausage instability, arc chains, grain size and annealing 9-41904
 thin film excitation, anal. spectrosc. appls. 9-40618
 wire explosion plasma production, diagnostics by Bartels method 9-10686
 Al, cylindrical foil, elec. explosion, current distrib. in high current shunting discharge 9-41855
 Al, photoemission spectrum for exploding wire radiator source, Boltzmann eqn. soln. 9-26949
 Au, photoemission spectrum for exploding wire radiator source, Boltzmann eqn. soln. 9-26949
 Mo XXXI-XXXIV spectra from exploded Mo wire plasmas 9-1295
- explosion bubbles** see bubbles
- explosions**
 see also accidents; detonation; exploding wires and foils; nuclear explosions; safety; shock waves
 anisotropic explosion of rotating, self-gravitating uniform spheroids, astrophysical appls. 9-8822
 atmosphere, 2D calcs. 9-46345
 blast wave problem in conducting gas 9-37414
 cathode spots of the first kind, erosion rate resistivity and thermal cond. depend., explosive model 9-14630
 cavity, cylindrical in compressible liq., dynamics, underwater explosion appl. 9-7385
 cylindrical implosion, flow development, numerical anal. 9-4040
 Diablo Range, California, P-velocity models from earthquake and explosion arrival times inversion 9-12094
 disturbance wave-head amplification in homogeneous explosion in chem. reacting atm. 9-27658
 electric breakdown of detonation products 9-10736
 explosive device detection using NMR techniques 9-6158
 gasdynamic disturbances, small amplitude, in exploding atmosphere 9-32574
 laser focused on air, emission processes affecting development of explosion 9-7417
 LMFBR shock-induced fragmentation and detonating thermal explosions 9-13475
 LWR hypothetical core meltdown, vapour explosion potentials at high interface temp. 9-13476
 LWR steam explosion pressure buildup estimation 9-13473
 LWR steam explosion triggering expts. with oxidised Corium-E simulants 9-13472
 molten metal-reactor coolant interaction, vapour film collapse expts. 9-13474
 ocean, acoustic bottom loss measurement using multipath resolution 9-5652
 piezoresistive C gauge for low shock pressure meas. 9-1278
 planar explosion mag. generator with resistive load, work performance optimisation 9-6156
 primordial black holes explosions, limits on microsecond cosmic radio bursts 9-17119
 props. gas cavity expansion, soil dilatation after explosion in brittle rock 9-8608
 quarry blasting, sound propag. expts. 9-24928
 ray method for solving gas dynamics equations (Russian) 9-27659
 rocks, explosions, spalling, tensile stresses 9-7324
 seismic events identification, appl. of non-linear stochastic models 9-16396
 shock waves interaction with free ocean surface 9-2287

explosions continued

- source depth in marine seismology from explosive sink rates 9-34753
- stars, relativistic dynamics of radiating shell 9-21271
- steel butt weld structure and mech. props., explosive treatment effects 9-24541
- stellar collapse and explosion, massive star core hydrodynamics 9-16995
- strong curvilinear shock wave, with arbitrary profile, evolution in inhomogeneous medium 9-14428
- surface waves generated by shallow underwater explosions 9-2288
- thermal wave propag., effect of mass released 9-41713
- thermally conducting gas, point explosion 9-41714
- underwater, acoustic sources, distrib. of measured bubble pulse periods 9-5495
- vortex ring generation in dusty buoyant thermal following near-ground explosion 9-48561

exposure meters *see photometers***extended Huckel theory calculations** *see EHT calculations***extensive air showers** *see cosmic ray showers and bursts***extensometers**

- counterbalanced pushrod vacuum dilatometer for low-strength materials 9-12762
- differential dilatometer for detecting volume changes in specimen under H_2 attack 9-17395
- differential scanning dilatometer, low temp., exam. of design, appl. to stainless steel, V_3Si (*Russian*) 9-34224
- dilatometer, high-temp., for meas. shrinkage kinetics of liquid-containing ceramic materials 9-17396
- dilatometer for Poisson ratio determ. of nearly incompressible elastomers 9-11733
- Hall effect extensometer for simple shear meas. in polymers 9-23286
- induction, temp. compensated, displacement meas. appl. 9-17394
- low cycle fatigue testing extensometer for anisotropic materials 9-24695
- metals and alloys, use of dilatometric methods (*French*) 9-5100
- testing installations, high-temp., high precision absolute interference dilatometer 9-35677
- vitreous SiO_2 tube dilatometer for thermal expansion meas. of solids, -195 to 1000°C 9-26026

external flows

- formation from self-gravitating gas cloud, rotation and Kelvin-Helmholtz instability 9-46287
- gas cloud, self-gravitating rotation and Kelvin-Helmholtz instability 9-46287
- separated supersonic boundary layer, moderate injection with reattachment, shear layer 9-32562

extraordinary ray *see birefringence***extrapolation**

- external mag. field, analytical extrapolation into two-dimens. magnetised body (*German*) 9-48393
- gravitational and magnetic anomalies extrapolation, equivalence principle (*Russian*) 9-39926
- magnetic and gravitational anomalies extrapolation, equivalence principle (*Russian*) 9-39926
- proton form factor extrapolation using Pade type approximants 9-6341

extraterrestrial atmospheres

- see also comets; planetary atmospheres; stellar atmospheres*
- cometary coma, C production model 9-16885
- comets, electric current and mag. field struct. 9-40141
- comets, photoelectron fluxes in atmospheres 9-2520
- lunar volatile emissions, detect. techniques 9-44385
- Triton, image tube spectra, 6800-9000 Å, search for possible atm., methane upper limit 9-16880
- Jo, Na I, Ca I, Fe I, and Mg I emission lines in spectrum 9-21223

extraterrestrial life

- CETI, 1.5 mm as optimum wavelength region 9-40094
- communications, possibilities using neutral H line 9-35152
- in Galaxy, probabilities 9-48692
- habitable planets in Galaxy, number 9-40221
- habitable zones about main sequence stars 9-40188
- habitat planets around multiple stars, computer simulations 9-2559
- interstellar communications, preferred freq., 4.8 GHz formaldehyde line 9-16845
- interstellar dust grains as possible cold sources of life 9-21203
- Mars, biological implications of Viking mission 9-8872
- Mars, photosynthetic microorganism response, model 9-40114
- narrowband signals of extraterrestrial origin, search at 21 cm wavelength 9-25521
- origin of life, molecular evolution and exobiology, interdisciplinary course 9-21485
- search for extraterrestrial intelligence (SETI), consensus 9-40093
- soils, planetary chemical-biological search possibilities 9-40176
- space colonisation, teaching 9-44663
- Viking programme, biological expts. (*Hungarian*) 9-44329

extraterrestrial radiofrequency radiation *see radiofrequency cosmic radiation***extremum control** *see optimal control***extrusion**

- extended plane fluid sheet, swelling finite element anal. 9-37277
- helical shape extrusion from round billets 9-29102
- hydroextrusion under hydrodynamic lubrication conditions (*Russian*) 9-38852
- metal hydroextrusion process, boundary-value problem (*Russian*) 9-10505
- metals, hydroextrusion, effect of longitudinal US oscils. (*Russian*) 9-34071
- Nylon-12, hydrostatic extrusion, struct. change (*Japanese*) 9-15693
- plastic flow of cylindrical body, axisymmetrically deformed (*Russian*) 9-7300
- polyethylene, high density, self-reinforced thermoplastic, extrusion 9-15699
- polyethylene, hydrostatic extrusion, deform. of crystalline and amorphous, and thermosetting resins 9-38875
- polymer melt, shear stress over wide shear rate range, in falling coaxial cylinder, rheometer 9-7363
- polymers, hydrostatic extrusion, deform. of crystalline and amorphous, and thermosetting resins 9-38875
- steel, sintered, mech. props., effect of small cold reduction 9-39048
- steel, structural martensitic, corrosion resist. under stress effect of strain ageing with hydroextrusion (*Russian*) 9-38853
- steels, tool, cold hydrostatic extrusion rel. to struct., props. 9-20068
- thermoelectric materials, extruded from ceramic blanks, recrystn. and elec. props. 9-43267

extrusion continued

- thermoelectric materials, extruded materials with tetradymite struct., primary and in situ recrystn., elec. props. 9-43266
- Al alloy compacts, specific press. for extrusion 9-20070
- $n-Bi_2(Te,Se)_3$ semiconducting solid solns., plastic deform. during hot extrusion 9-20143
- $Bi_2Te_3-Sb_2Te_3$ composite billet, diffusion during plastic deformation (*Russian*) 9-23767
- $p-Bi_2Te_3-Sb_2Te_3$ semiconducting solid solns., plastic deform. during hot extrusion 9-20143
- $Bi_2Te_3-Sb_2Te_3$ solid solns., plastically deformed by hot extrusion, diffusion meas. using micro-X-ray spectrum anal. 9-14954
- Mn-Al-C alloy, anisotropic, permanent magnet appl., properties and production (*German*) 9-8309
- Mo-Zr-C (0.63, 0.06 wt.%), quenched and deformed, structural changes during heating to ageing temp. (*Russian*) 9-1879
- Nb-Ti, wire drawn and hydrostatically extruded supercond., crit. current density 9-38275
- Nb_3Sn multifilament supercond. wire, hydrostatic extrusion processing 9-33976
- Nb_3Sn-Cu superconducting composites, produced by cold extrusion of fine powders 9-38767
- NbTi multifilament supercond. wire, hydrostatic extrusion processing 9-33976
- Sn bronze, extruded atomized powders, struct. and props. 9-38763

eye

- see also vision*
- accommodation, temporal stability of the dark focus 9-43867
- accommodation as a function of object form 9-11930
- accommodation time and rest position, computer-controlled tachoscope meas. (*German*) 9-2143
- aqueous humor flow rate determination by fluorescein tracer model 9-43943
- astigmatic amblyopia, study 9-11922
- astigmatism, refractive, evaluation and control of DuraSoft contact lenses 9-34706
- axial length, meas. by ultrasonography, obs. on Hirschberg test 9-34551
- binocular synchronism monitoring, prolonged monolateral occlusion, electro-oculographic response 9-20543
- binocular vision, visual sensitivity of one eye 9-20544
- bipolar cell, on-centre, effect on polarisation of horizontal cells in carp 9-16207
- blink reflex, afferent pathways, human 9-43864
- caloric nystagmus, air and water, mathematical model 9-24983
- cataract formation in rabbits and monkeys under acute microwave irradi. 9-5326
- cataract microstructure meas., picosecond range-gated light scatt. technique 9-8584
- cerebral palsied children, film projection system for eye movement monitoring 9-16329
- clinical perimetry, glossary of basic information (*Italian*) 9-39413
- coagulation of eye tissue, using OK-2 laser ophthalmocoagulator 9-11991
- computer assisted examination, Refractor III system 9-29650
- cone dark adaption, foveal and parafoveal, effect of background 9-43914
- cone light adaption, frog, receptor rel. to ganglion sensitivity changes 9-48253
- cone saturation, human, function of ambient intensity 9-2049
- cone sensitivity to flicker, primate, during light and dark adaptation, ERG obs. 9-43900
- contact lens, hydrogel, change in lens power due to flexure 9-11917
- contact lenses, hydrogel, light transmission 9-11918
- contact lenses, ultra-thin, corneal-edema response 9-34552
- continuous movement monitoring, proportional-integral adaptive system (*German*) 9-16320
- contrast effects on smooth-pursuit eye movement velocity 9-43891
- contrast sensitivity to narrow-band CRT phosphors 9-11933
- cornea: O_2 flux, meas. when covered by soft contact lens 9-34705
- cornea thickness, human, topographic pachometry meas. 9-11921
- corneal epithelium, predictive equation for IR laser damage 9-25031
- corneal mechanised trepan control 9-29659
- corneal O_2 flux when covered by a soft contact lens, humans 9-34549
- corneal polarisation cross obs. at human cornea 9-8503
- corneal scattering, contact lens wear, border-enhancement spread, subjective monitoring method 9-29641
- corneal stroma, small angle X-ray and neutron diffr. study 9-11923
- corneal temperatures, normal and laser injured rabbits 9-11919
- corneas, canine, γ and negative pion irradiation of microvasculature 9-43964
- critical flicker freq. for sensitivity difference meas. of retina (*Japanese*) 9-8512
- α -crystallin, of calf eye lens, small angle X-ray scattering study 9-11891
- deformation due to intraocular press. changes, holographic interferometry meas. 9-20720
- depth of focus rel. to minimal blur disc, human eye 9-8505
- dioptric corrections of age dependent isopters 9-20539
- direction of gaze, determ. method using Listing's law 9-34677
- EEG alpha rhythm, result of corneal-retinal potential modulation obs. 9-34535
- electro-oculographic ratio, rod and cone contribution 9-11925
- electro-oculographic response, interocular comparison while reading printed material 9-20536
- electro-oculography, on-line system for quantitative study of ocular kinetics 9-34699
- electroretinogram, human, DC registered, influence of ethyl alcohol 9-2052
- electroretinogram, human, real-time computer for first- and second-order Wiener kernels 9-12046
- electroretinogram, human, white noise analysis 9-1995
- electroretinogram e-wave, frog, rel. to ganglion cell activity and rod responses 9-48254
- electroretinogram signals computer anal. 9-8559
- ellipsoids in fish cones, ultrastruct. and staining props. 9-11924
- extraocular motor unit activity, electromyographic recording in man during fixation and saccades 9-16203
- extraocular muscles, relative tensions 9-34554
- fixation-sensitive areas in the eyes of the walking fly, Calliphora erythrocephala 9-43904
- fovea, human, diameter meas. expt. 9-30
- foveal vision, mental scanning mechanism 9-5280
- foveal vision, mental scanning mechanism 9-2066

eye continued

- glare, adverse consequences in aviation 9-11932
 glaucoma, early diagnosis by meas. of internal eye pressure 9-25140
 intraocular pressure measurement, evaluation of Pneuma-Tonometer 9-34678
 laser maximum permissible exposure, 1.54 μm wavelength, human eye 9-11966
 laser picosecond pulse maximum permissible exposure 9-25033
 laser pupillometer, especially suitable for anaesthetised cats 9-48317
 laser safety eyewear, filter glasses 9-39525
 lens, calf, γ -crystallin, single cryst., X-ray diffr. low resolution struct. anal. 9-16130
 lens, cryst., elec. props. of struct. components in frog 9-24982
 lens fibre damage after laser irradiation, rat 9-39374
 lenses, crystalline, of humans, fish and birds, state of water, NMR meas. 9-48212
 light adaptation, multiple intracellular contribs., *Limulus* ommatidia 9-43896
 light adsorption, recovery of retina sensitivity of silver carp (*Chinese*) 9-2056
 luminance difference thresholds of foveal vision, uniform surrounding luminance effects (*Japanese*) 9-24988
 minicomputer system, automatic visual stimuli, hand and eye movement monitoring (*French*) 9-34682
 movement, minicomputer processing of dual Purkinje image eye-tracker data 9-29645
 movement activity in paradoxical sleep, occipital spikes in visually defective children 9-16185
 movement detection, one-way, in fruitfly visual system 9-39415
 movement during radiograph scanning, microprocessor equipment for analysis 9-25130
 movement monitoring, signal detect. via phase-locked sampling in mag. search coil 9-25124
 movement recording, vertical and lateral, single channel method 9-16205
 movement tracking and regulation test station (*German*) 9-16321
 movements, corrective saccadic, for refixation amplitudes of 10° or less 9-43886
 neural superposition compound eye of male *Bibionidae* expt. obs. 9-43874
 ocular axial dimensions, development following eyelid suture in cat 9-43870
 ocular contusion injury from propelled objects, evaluation model 9-43955
 ocular hazard of short pulse Ar laser irradiation, primates 9-25030
 oculomotor performance in smooth pursuit of targets, effect of luminance 9-48268
 optic lobe neurosecretory cells of *Poecilocerus pictus*, effects of visual stimulation 9-5279
 optic nerve fibre layer, river lamprey, light- and electron-microscopic obs. 9-43879
 optic nerve fibre topography in tectum retinal projection, cichlid fishes 9-48250
 optic tract fibres, receptive field props., tree shrew 9-48252
 optical system, retina contrib. to modulation lowering, aerial images (*French*) 9-34553
 optokinetic reactions, rabbit, rel. to visual streak 9-43884
 optokinetic stimulus pattern by computer graphics for study of optokinetic nystagmus 9-44008
 optometric education in Nigeria, three year programme 9-25781
 photochemical reactions in retina, excitation by pulsed luminescence diode (*German*) 9-16250
 photoreceptor membrane viscosity and component dynamics, recombination kinetics method 9-39366
 photoreceptor models, vertebrate, response waveforms 9-43894
 photoreceptors, bullfrog, effect of temp. on rapid dark adaptation 9-43883
 photoreceptors, ventral, light-induced conductance changes in *Limulus* 9-8506
 pigments, visual and purple membrane, charge stabilisation mechanism 9-34500
 polyenals, related to visual chromophores, absorpt. spectra rel. to chain length 9-34494
 polyenals related to visual chromophores, emission spectra 9-34495
 polyenones related to visual chromophores, absorpt. spectra rel. to chain length 9-34494
 polyenones related to visual chromophores, emission spectra 9-34495
 pupillary near reflex static and dynamic characteristics (*Japanese*) 9-29524
 pupillometer, Fick-Broca, modification to overcome problems 9-5276
 Raman spectroscopy with intensified Vidicon detectors, appl. to intact bovine lens protein 9-29525
 readaptation after dazzle, multidimensional functional model (*German*) 9-16208
 refractive state, optical system for autorefractor 9-25127
 refractive state, rabbit, variation with eccentricity, correct. for oblique astigmatism 9-43869
 Refractor III system, computer-assisted eye examination 9-34698
 retina, excitation and interaction, review, book contrib. 9-5282
 retina, goldfish, X-like and not X-like cells obs. 9-43837
 retina, *Limulus*, temp. dependence of dynamic response 9-43866
 retina, pigeon, antidromic invasion of ganglion cells 9-43881
 retina, pigeon, graded pots. accompanying antidromic invasion 9-43882
 retina, teleost, enhancement of hyperpolarising S-potentials of surround illumination 9-2051
 retina electrical activity and lipid peroxidation 9-43885
 retina rod outer segments and disc membranes, bovine, trace elements, PIXE determ. 9-48012
 retina-lamina connectivity, polarisation sensitivity, crustaceae 9-2054
 retinal camera with infrared TV obs. (*German*) 9-2145
 retinal damage from suprathreshold Q-switch laser exposure 9-5274
 retinal degeneration in RCS rats raised under ambient light levels 9-43887
 retinal ganglion cell of frog, excitatory and inhibitory processes giving rise to delayed response 9-2055
 retinal ganglion cells, macaque, macular pigmentation and spectral sensitivity 9-43877
 retinal ganglion cells action pots., goldfish, function of lighting conditions 9-43888
 retinal image displacements and saccadic eye movements, adaption to altered relationship 9-43911
 retinal mechanisms of visual latency in *Bufo marinus*, electroretinogram obs. 9-48255

eye continued

- retinal neuron interspike intervals variability, model dynamics 9-24984
 retinal photocoagulation by laser beam, temp. and bleaching dynamic meas. (*German*) 9-2098
 retinal pigment epithelium phagocytosis, RCS rat 9-34561
 retinal R/G horizontal cells, light intensity and response amplitude relation 9-5281
 retinal receptors, human, modal pattern stability, with wavelength, inhomogeneous waveguide model 9-8504
 retinal sensitivity, monochromatic stimuli, large eccentricities 9-5285
 retinas, goldfish, dorsal rel. to ventral areas obs. 9-43880
 retinol-binding proteins in retinal pigment epithelium 9-20525
 retinomotor activity, local control in fish 9-2047
 retinoscopic and subjective measurements, discrepancy, effect of age 9-34550
 retinoscopic artifact obs. in rabbits 9-48247
 retinular cell spectral sensitivities in bumblebees, optical method meas. 9-2057
 rod outer segment and interstitial matrix of rat, refr. index difference determ. using waveguide parameter 9-5277
 rod outer segments, shedding behaviour under constant light, darkness 9-2050
 rod outer segments, isolated, photoresponses, frog 9-43890
 rod photoreceptors, vertebrate, opposing effects of Ca^{2+} and Ba^{2+} 9-24990
 rods, role in iconic storage 9-24987
 saccades, counting accuracy obs. 9-43889
 saccades, primary and secondary for goals defined by instructions 9-43878
 saccadic eye movement simulation, grey-out elimination 9-43910
 saccadic eye movements and visual stability 9-2068
 saccadic omission, grey-out obs. 9-43909
 sensitisation effect, rectilinear stimuli 9-2062
 serous retinopathy, monolateral central, colour discrimination in 23 patients 9-5286
 smooth eye tracking, motion perception in absence of real movement 9-2075
 torsional movements, binocular coordination in cyclofusional response 9-2048
 TV pupillometer, anal. of dynamic performance (*Japanese*) 9-39545
 two-dimensional movement meas. with ferromag. contact ring 9-5387
 vergence movement of rabbits in visuomotor behaviour 9-43892
 vertical movement elementary detectors of fruitfly 9-34558
 visual activity lateral impedance theory, Markov processes appl. 9-2046
 visual acuity threshold variation, study of research literature (*French*) 9-5283
 visual pigment composition of rainbow trout 9-43899
 wavelength discrimination near absolute visual threshold, goldfish 9-48264
 O_2 transmembrane transport to retina, mathematical model 9-34583

F-centres

- see also A-centres; M-centres; R-centres; Z-centres
 alkali halide, F-centre, stabilisation process in first colouring stage 9-19246
 alkali halide, gamma irradiated, positron annihilation 9-23643
 alkali halide, impurity pseudopotential screening 9-15121
 alkali halide crystals, exciton mechanism of complex active centre formation at fracture 9-33033
 alkali halides, F_A -centre optical absorption, lattice statics theory 9-43004
 alkali halides, luminesc., colour centres and radiation-tunnel transition 9-4846
 alkali halides with NaCl structure, F-centre emission and relaxed excited state 9-42060
 EPR in relaxed excited state, via mag. circular polarisation of emission 9-24232
 halides, vacancy-interstitial pair prod. by electron-hole recomb. 9-4530
 laser, F II centre, cavity design incorporating polarisation beam splitters 9-45960
 lasers, spectral sources appl. 9-36900
 molten salt, metal dilute solns., optical absorption 9-19899
 relaxed excited state, spin polarisation, saturated optical pumping 9-15522
 Al_2O_3 , optical props. of F-centre 9-43003
 CaF_2 , additively coloured, photochemical bleaching of Ca colloids 9-15500
 $\text{CaF}_2\text{:Co}$, X-irrad., F-centre form., optical absorpt. spectra and dichroism obs. 9-42998
 CaO , F^+ centre, dynamic Jahn-Teller effect 9-28327
 CaO , F^+ centre in octahedral Jahn-Teller system 9-42499
 CaO , tunable optical gain at 3600 Å using F^+ centres 9-45947
 Cs -halide, optical response function from Jahn-Teller systems, F-band absorpt. band shape 9-43005
 EuO , reflectivity spectra near absorpt. edge 9-47471
 KBr , additively coloured crystal, depend. of bleaching kinetics on F-light intensities, holographic storage (*Russian*) 9-27351
 KCl , cryst. γ -irrad., holographic information recording appls. (*Russian*) 9-27218
 KCl , F-centre, EPR in relaxed excited state, via mag. circular polarisation of emission 9-24232
 KCl , F-centre, wave functions and spin densities, pseudopot. calc. 9-4533
 KCl , F-centre formation, short-pulse optical exam. of exciton relax. 9-42061
 KCl , gamma irradiat. relationship between thermolum. and deform. luminesc. 9-19942
 KCl , photoelec. effect produced by far UV light, memory effect 9-24008
 KCl-KH cryst. stimulated by X-radiation, spatial redistribution of F and U centers 9-14804
 KI:Ti , cryst., induced recomb. emission 9-4845
 LiF , coherent freq. tunable radiation generation in F-centres, 0.6 to 1.26 μm range 9-36902
 LiF , V_K and F centres, efficiency of formation, temp. depend. 9-7600
 LiF:Mg,Ti (TLD-100), optical bleaching of defect centres 9-19911
 MgF_2 , optical absorption following pulsed electron irradi., 100-500K 9-8164
 $\text{MgF}_2\text{:Fe}^{2+}$, γ -irrad., F-centres, Fe^{2+} ion hole traps, absorpt. and EPR meas. 9-7598
 $\text{Na}_4\text{Al}_3\text{Si}_3\text{O}_{12}\text{Cl:Br,Ge}$, sodalite, reflectance and luminescence obs. 9-4839
 NaBr , F-centre decay 9-11442
 NaBr(Cl) , F-centre formation, short-pulse optical exam. of exciton relax. 9-42061

F-centres continued

- NaCl, F-centre, wave functions and spin densities, pseudopot. calc. 9-4533
- NaCl, hologram recording, F-centre bleaching by 633 nm light 9-22922
- NaCl:Cu, X-irrad., thermoluminesc., F-centres 9-33849
- NaCl:OH⁻, UV and IR absorpt. spectra, colour centres transformation 9-28791
- ¹NaF, F-centre, wave functions and spin densities, pseudopot. calc. 9-4533
- RbBr(Cl) F centre, EPR in relaxed excited state, via mag. circular polarisation of emission 9-24232
- RbCl, undoped and Sn doped, γ -irrad. crystals, thermolum. and emission, 300 to 560K 9-15539
- RbCl:H⁺, defect pairs of F-centres and U-centres, Raman meas. 9-7599
- RbCl:Li⁺, new off-centre defect system, studied with dielec. techniques under hydrostatic press., behaviour of F₂(Li) centres 9-19834
- RbCl:Mg, γ -irrad., thermoluminesc. 9-47528
- RbNgF₃, radiation defect F,M,R-centre absorpt., emission, excitation spectra 9-43000
- SnCl₂, F-centre production mechanism, radiolysis exam. 9-23602
- SrF₂, neutron irrad., role of F-centres in thermoluminesc. 9-19941

F₂-centres *see M-centres***F₃-centres** *see R-centres***F_A-centres** *see A-centres***F-layer** *see F-region***F-region**

- auroral F-region ionosphere form. role of neutral winds and particle precip. 9-44296
- bottomside spread-F, equatorial, assoc. with night-time ionospheric scintillations 9-44292
- collisionless electrostatic drift waves, linear theory, space plasma appls. 9-1305
- critical frequency small scale fluctuations at Kodaikanal 9-16745
- electron density irregularities from plasma reson. phenomena obs. by rocket-borne relax. sounding expt. 9-8767
- electron temperatures, theory and obs. 9-48618
- ELF ion plasma oscils. in Nike-Apache rocket apogee region 9-40012
- ELF waves assoc. with equatorial spread-F, satellite obs. 9-35051
- equatorial, modelling of H₂ gas release effects 9-16741
- equatorial spread-F, geomag. disturbance effects 9-35044
- equatorial spread-F, nonlinear Rayleigh-Taylor instability 9-16748
- equatorial spread-F, range-type, occurrence 9-35045
- equatorial spread-F, role of steepened struts. and drift waves 9-2431
- equatorial spread-F, two-dimens. turbulence 9-2432
- equatorial spread-F irregularities drifting patches, support for ionospheric spatial reson. mechanism 9-21095
- equatorial spread-F onset, height control 9-16734
- equatorial spread-F rel. to interplanetary mag. field reversal 9-16747
- f_oF₂ diurnal var. at equatorial latitudes and counter electrojet 9-48600
- F₁-layer, dynamical effect obs. 9-12340
- F₂-layer, lunar tide over Japan 9-2436
- F₂-layer, midlatitude storms in daytime and nighttime 9-8757
- F₂-layer, nighttime height rel. to aeronomic parameters 9-8745
- F₂-layer, nighttime electron density at Ootacamund, India, from ATS-6 satellite radio beacon meas. 9-48611
- F₂-layer, response to solar mag. sector crossing 9-35030
- F₂-layer critical freq. determ. using topside HF noise meas. 9-8756
- F₂-layer critical freq. during sunspot minimum 9-25397
- F₂-layer noontime critical frequency variation through a solar cycle, SW radio communication appl. 9-21102
- F₂-region, meteorological perturbations due to gravity waves at sunspot minimum (*Italian*) 9-29922
- F₂-region neutral winds, Navier-Stokes eqns. (*French*) 9-35031
- gravity waves in high-latit. F-region, obs. using fixed freq. sounding 9-25390
- HF max. usable freq. prediction algorithm, MINIMUF-3 9-25372
- hmF₂, high-latit. behaviour along noon-midnight meridian under quiet conditions 9-40004
- ion convection and midlatit. ionisation trough form. 9-2429
- ionisation measurements, rel. to mesosphere, NO conc. geomag. control 9-8651
- irregularities, equatorial, evolution and scatt. effects on trans-ionospheric radiowaves 9-29933
- irregularities rel. to backscatter obs. at 3 m wavelength 9-12338
- nightside F-region, distortion prod. by plasmasphere substorm elec. fields 9-40009
- nighttime equatorial, coexistence of km and m scale irregularities, radar and scintillation obs. 9-2427
- nighttime F-region, geostationary satellite signals latit. scintillation at 137 MHz 9-25388
- plasma density variations in negative ionospheric storms, simulation using neutral comp. data 9-25393
- predawn, conjugate photoelectrons, rocket obs. 9-29931
- radio waves, phase path changes due to gravity waves 9-35043
- radiowave propagation in F₂ layer, crit. freq., solar influence 9-2423
- spread-F, midlatitude, occurrence during mag. storms 9-29924
- spread-F activity at southern mid-latitudes, rel. to scintillation regions horizontal struct. 9-12339
- temperature, satellite meas. rel. to incoherent scatter radar results 9-2435
- temperature domains, nonlinear stationary 9-35052
- transequatorial propag. in 144 MHz amateur radio band, forward scattering at rising plasma bubbles 9-35057
- travelling disturbances, frequency of occurrence over Waltair, India 9-40011
- travelling ionospheric disturbance obs. by HF Doppler sounder array 9-48619
- travelling ionospheric disturbances (TIDs), prod. by gravity waves, Hooke perturbation formula testing 9-40005
- winter high-latitude, 300 km altitude, AE-C thermal plasma obs. 9-16740
- zonal wind during Joule heating, computed bounds 9-21084
- Fe⁺ ions, distrib. on high latitude F-region 9-16736
- He⁺ escape fluxes from polar ionospheres, calcs. 9-35037
- Mg II equatorial airglow altitude distrib. 9-2418
- NmF₂, high-latit. behaviour along noon-midnight meridian under quiet conditions 9-40004
- O I, red line luminesc. amplification by radiowave anomalous absorpt. (*Russian*) 9-29925
- O⁺ + N₂(O₂), reaction rates, 300-900K 9-8434

f-values *see oscillator strengths***faces (crystal)** *see crystal faces***facsimile document reproduction** *see photocopying***facsimile signals** *see video signals***faculae** *see Sun***fading***see also radiowave propagation*

- HF fading ionospheric reflection channel, delay and Doppler power spectra 9-8765
- ionosphere, electron prod. and loss rates, satellite meas. 9-35047
- ionosphere night-time scintillations at mag. equator fading rates 9-44292
- LF radiowave absorpt. events rel. to meteoric ionization 9-48608
- medium wave broadcasting, interference fading (*Russian*) 9-40018
- MF band, polarisation coupling loss and sea gain effects 9-5709
- multipath fading and rain attenuation on terrestrial radio links, 7 to 15 GHz 9-16630
- radio waves, diffir. from discrete and homogeneously structured ionospheric irregularities 9-48612
- refractive index microstructure and scintillation fading meas. in tropical region 9-16629

failure, electrical *see electrical faults***failure (mechanical)***see also fracture; mechanical strength; plastic deformation*

- cantilevers, randomly excited, first passage failure 9-46241
- fibre reinforced composite, role of binding agent 9-1912
- FTR subassembly failure pattern under transient overpower accident 9-31006
- machine fault diagnosis, vibr. anal., bispectrum method 9-8404

failure analysis*see also electrical faults; wear*

- electrical components, mathematical simulation of life (*Spanish*) 9-21532
- electron linear accelerator, computer prediction and diagnosis of failures of systems 9-693
- filament wound material, lamination theory for failure envelope prediction under biaxial loading 9-38931
- glass fibre reinforced composite, failure anal. by fault tree technique 9-29193
- load-bearing structures, behaviour prediction of materials degradation 9-34133
- LSI circuits, wafer defect classification using modified scanning electron microscope 9-21876
- nuclear reactor pressure components, common cause failures 9-18012
- nuclear reactor structural reliability, time-depend. nature modelling 9-18013
- PWR pressure vessel failure probability from pressure transients, OCTAVIA computer code 9-18011
- spacecraft systems, evaluation of acceptance testing 9-16797
- tagged assembly failure location analysis program 9-13486
- VVER-440 reactors, emergency operating conditions following main circulation pipe failure, computer-aided analysis 9-9823
- Ag-Zn cells, test methods evaluation 9-48105
- Au, thin film, electrotransport-induced failure site, minor constituents effects 9-23763

fallout*see also air pollution*

- Chiltern, Oxon. (1951-1977), dose rate, air ionisation, radioactive fallout 9-6775
- Chinese 19th nucl. test explosion, fallout γ -ray spectra anal. using Ge(li) detector (*Japanese*) 9-31219
- Chinese explosion 1977 Sept. 18, time distrib. and anal. fallout particles 9-25796
- Danube River, distrib. of artificial radionuclides at mile 34, 1976 9-39323
- environmental radioactivity prior to the Kori nuclear power plant operation 9-6773
- radioactive fallout water deactivation using sorption props. of clinoptilolite, vermiculite, bentonite 9-43995
- radioisotopes distrib. in ocean, turbulent exchange intensity determ. (*Russian*) 9-39744
- radionuclide ratios in wet and dry deposition samples, USA, 1976 Jun.-1977 Dec. 9-29807
- water, sensitive sampling method for radioactivity meas. 9-39768
- ¹⁴C, bomb-produced, distrib. in equatorial Atlantic, upwelling rate estimation 9-39726
- Cl⁻ ion concentrations in river, spring waters in Okinawa Honto, origin (*Japanese*) 9-39324
- ⁵⁵Cs, runoff coeff. from surfaces of river basin soils 9-44212
- ⁵⁵Fe and stable Fe forms and availability in oceanic aerosols 9-12241
- ⁹⁰Sr, runoff coeff. from surfaces of river basin soils 9-44212
- T₁ concentrations in Caspian Sea 9-34858
- ¹³²Te in lower troposphere, airborne levels and lifetime 9-12242
- ⁹⁵Zr from Chinese atmospheric thermonuclear explosions, appl. to stratospheric transport parametrisation 9-2342

Faraday effect

- atomic resonant media, nonlinear Faraday effect 9-32001
- ATS-6 radio beacon signals, Faraday rot. modulation rel. to travelling ionospheric disturbances 9-21101
- ATS-6 satellite radio beacon, Faraday rot. meas. at Ootacamund, India 9-48611
- compact optical circulator for near-infrared region 9-23063
- disordered systems, phononless Faraday effect 9-38524
- ESR saturation, influence on Faraday effect 9-15442
- ESR saturation, influence on magneto-optical effects, allowance for dipole-dipole reservoir of electron spins 9-15442
- Faraday rotation in galaxies and quasar absorption lines (*Russian*) 9-40273
- filter, freq. locking of CW dye laser to Ne absorpt. lines 9-22989
- galactic magnetic fields config. from Faraday rot. data, M51 appl. 9-48934
- laser output power external stabilisation using Faraday effect, control unit design (*German*) 9-18455
- magnetic films, magnetooptical interference 9-28724
- magnetometer, elimination of mag. contrib. of sample holder 9-21788
- quasi-homogeneous magneto-optically active media, Muller and Jones matrices 9-8126
- rare earth orthoferrite, RFeO₃, spin reorientation and magneto-optical effects (*Japanese*) 9-47414
- semiconductors, spin orientation by optical pumping, review 9-38410

Faraday effect continued

- spin-dependent magneto-optical rotation for free radicals and for singlet-triplet transitions 9-10129
- Tokamak, poloidal field meas. by far IR polarimetry 9-32794
- toroidal plasma, modulated submillimetre-laser polarimeter for meas. of Faraday rotation 9-46474
- CdCr_2S_4 , ferromagnetic semiconductor films, prep. and props. (*Japanese*) 9-47308
- Co-Pt films, mag. and magneto-optic props., appl. to holographic and bit-by-bit storage 9-33512
- $\text{CuF}_2 \cdot 2\text{H}_2\text{O}$, X-band ESR powder spectrum and related magneto-microwave effects 9-24214
- DyPO_4 , metamagnet, phase diagrams, investigation by Faraday rot. and light-scattering technique 9-28544
- EuO , nonstoichiometric film with excess EU, Faraday rot. angle $9-8204$
- $\text{EuO}_{1-\Delta}$, thin film, Faraday effect dispersion and transmission, $0.5-1.1 \mu$, 20.4 and 77K, anion vacancies 9-19945
- $\text{Eu}_{0.14}\text{Si}_{0.31}\text{O}_{0.55}$ glass, optical, magnetic, and magneto-optical props., chemical clustering 9-42951
- Fe-Pt films, mag. and magneto-optic props., appl. to holographic and bit-by-bit storage 9-33512
- GaAs, exciton ground state and oscillatory absorption spectra in mag. fields, variational calc. 9-11071
- Gd-Co amorphous thin film, mag. and optical props., conc. depend 9-19748
- Ge, transmission Faraday rot., due to intervalence band transitions 9-38521
- I photodissociation laser oscillator or amplifier, Faraday rot. in active medium 9-10296
- Kr, rotation of plane of polarisation close to reson. 9-41129
- Na, rotation of plane of polarisation close to reson. 9-41129
- Nb, type II superconductor, Faraday effect, flux density gradient determ. 9-24113
- RbMnCl_3 , high-pressure cubic phase, mag. props. 9-47260
- TbY ferrite garnet, Tb^{3+} energy level inversion, Faraday effect (*Russian*) 9-47418
- $(\text{Y}, \text{Sm}, \text{Ca})_3(\text{Fe}, \text{Ge})_4\text{O}_{12}$, garnet thin film, mag. anisotropy, Faraday effect meas. 9-42812
- YCrO_3 , mag. circular dichroism and Faraday rotation in R-lines region 9-28725
- $\text{YFe}_{1-x}\text{Ga}_x\text{O}_3$, zone refined, exam. of Curie point and magnetisation 9-4673
- YIG, Faraday rot. rel. to sublattice magnetisation 9-33675
- YIG, YGaIG, Faraday effect and IR radiation modulation 9-10403
- $\text{ZnO}(\text{S})(\text{Se})$, high field Faraday rotation, 6.5K 9-38522

farming

- grazing, hydrologic impact on infiltration 9-2325

fast amplifiers see pulse amplifiers**fast Fourier transforms**

- analysers, high real time, applications 9-1041
- baffled piston wideband acoustic near- and far-field transients 9-46154
- beams and rods, dispersive waves, experimental study using FFT 9-46275
- demagnetising field, calc. by FFT 9-38355
- digital signal anal. of Dutch vowels 9-3858
- electrochemical data interpolation, fast Fourier transform method 9-16061
- EM scattering from buried wires, fast Fourier transform 9-16369
- gravimetric estimation technique using FFT, inertial navigation systems apps. 9-25376
- holographic, image digital reconstruction with limited-length arithmetic register (*Russian*) 9-22910
- myocardial perfusion images using ^{201}Tl , quantitative evaluation methods 9-39479
- room reverberation decay curve meas., FFT methods and errors (*Japanese*) 9-27468
- SAW-based discrete Fourier transformers 9-18613
- seismic common-depth-point stacking, appl. of multirate digital filtering approach to interpolation 9-29876
- seismic waveforms extrapolation appl. 9-34978
- seismology, rapid convolution and correl. (*Russian*) 9-39959

fastening see joining processes**fatigue**

- for corrosion fatigue see stress corrosion cracking; for thermal fatigue see thermal stress cracking
- see also fatigue cracks; fatigue testing
- alloys, ion implantation in tribology and corrosion science, overview 9-14830
- brass, adsorpt. of Hg, effect on mech. strength, creep, fatigue, embrittlement (*Russian*) 9-29267
- α -brass, effect of mean stress on high temp. fatigue 9-20153
- brass, fatigue hardening and high cycle fatigue under reversed bending 9-20180
- concrete, fatigue, load-deform. behaviour (*German*) 9-11693
- cumulative damage model 9-44736
- cumulative damage stochastic model, fatigue and wear life test data anal. 9-18823
- cumulative damage stochastic model 9-18822
- damage parameter in continual fracture mechanics review (*Polish*) 9-32382
- damage rupture, phenomenological approach to plasticity, creep and fatigue (*French*) 9-37245
- dislocation behaviour during fatigue, friction stress and back stress from hysteresis loop anal. 9-42076
- dough moulding compound, exam. of tensile and fatigue props. 9-20152
- Duralumin, adsorpt. of Hg, effect on mech. strength, creep, fatigue, embrittlement (*Russian*) 9-29267
- engineering materials, elev. temp. fatigue props. 9-5061
- fiberglass materials, fatigue damage effects on light scatt. 9-11706
- fracture toughness determ., use of fatigue fracture toughness 9-46747
- glass fabric reinforced plastic laminate, fatigue strength rel. to test frequency 9-8362
- glass fibre reinforced plastic, flexural fatigue props. (*Japanese*) 9-20171
- glass fibre reinforced poly- and vinylester, fatigue and flexural strength 9-8364
- glass fibres, epoxy-acrylate coated, static and dynamic fatigue, tensile strength 9-1906
- glass fibres, fatigue failure probability 9-32045
- glass optical fibres 9-46062
- graphite reinforced epoxy angle ply laminates, statistical fatigue in shear 9-11690

fatigue continued

- gum and C black filled vulcanisates, rubber, natural and styrene/butadiene, uniaxial and equibiaxial fatigue 9-8363
- holographic interferometry appl. to NDT 9-8420
- Incoloy 800, and 800 H, low cycle fatigue behaviour comparison 9-4343
- Incoloy 800, creep and fatigue props. in high temp. gas cooled reactor H environment 9-47776
- Incoloy 800, design codes and lifetime prediction aspects for nuclear and non nuclear appls. 9-47778
- Incoloy 800, mechanical props., heat treatment and appl., conf., Petten/Netherlands (March 1978) 9-43296
- Incoloy 800, solution annealed, low and high cycle fatigue correlation 9-43439
- Incoloy 800H, high temp. low cycle fatigue, ageing and cold working effect 9-43277
- Incoloy 800H, high temp.-low cycle fatigue, ageing and cold working effect on initial stress/strain curve 9-47720
- Inconel X-750 foil, surface pretreatment for improved coating adherence 9-15877
- load-bearing structures, behaviour prediction of materials degradation 9-34133
- multiaxial creep-fatigue damage, determ. of strain range 9-7650
- nonsteady temp. field computation, rel. to thermal part of mech. hysteresis 9-3905
- notched plates, fatigue life estimation based on elastoplastic anal. (*Japanese*) 9-18814
- nuclear reactor structural alloys, time-depend. fatigue behaviour 9-1909
- nuclear reactors, high temp. 9-6745
- optical CVD fibres having surface compression, fatigue characteristics 9-46064
- optical fibre transmission, dispersion, and strength characteristics 9-37021
- optical fibres, high-strength metal-coated advances in reduction in microbending loss 9-46066
- optical fibres, plastic-coated fused silica, ageing and static fatigue 9-46067
- optical fibres, surface compressive strength, increase after ageing under load 9-46065
- optical glass fibres, fatigue failure prediction, appl. of fracture mechanics theory 9-998
- particle dispersed composite, fatigue life anal., reliability concepts (*Japanese*) 9-29200
- plastic, flexural fatigue props. (*Japanese*) 9-20171
- polycapromide, deformability props. in cyclic extension-compression 9-20183
- polyethylene wear against dry stainless steel in unidirectional motion 9-20212
- polymers, fatigue, fracture 9-43425
- polyimide 6, glass fibre reinforced and unreinforced, fatigue under rotary bending (*German*) 9-15782
- polystyrene fracture surfaces prod. by monotonic and cyclic loading 9-47768
- prosthetic hip joints, fatigue strength of Co base alloys 9-48375
- PVC, thermal history and treatment effect on mech. props. 9-4986
- rolling contact fatigue life, traction and microgeometry effects 9-20205
- safety, interrelation between stress and magnitude of safety and fatigue crack (*German*) 9-32385
- silica optical fibres, ageing polymer-coated fused specimens in pH solns., tensile strength and dynamic fatigue 9-46063
- statistical treatment, maintenance procedures 9-43538
- steel, AISI 4340, positron lifetime and X-ray particle size meas. during high cycle fatigue 9-5053
- steel, alloy, 16GNMA, stress conc. effect on endurance under repeated static loading cond. 9-43412
- steel, alloy, JIS SNCM8, crack propagation vel. in delayed failure under cyclic load, temp. and freq. depend. 9-43381
- steel, alloy, type 25KhN2MFA, fatigue strength characts. rel. to absolute dimensions and stress conc. 9-43410
- steel, API 5LX-X60, pipe fatigue strength under cyclic internal pressure, inner surface defects 9-38980
- steel, ATSI 9310, fretting, selected fretting resistant surface treatments 9-29223
- steel, austenitic, fatigue after plastic deform. sequences (*French*) 9-20131
- steel, austenitic, stainless, life prediction of high temp. low cycle fatigue, strain rate effect 9-8360
- steel, austenitic stainless in liq. Na, mechanical props., review 9-20150
- steel, bearing, corrosion resistant, rolling element fatigue life 9-20090
- steel, C, fatigue life prediction under programmed loading (*Japanese*) 9-20167
- steel, C, spring, compressed, patented wire, reverse elastic aftereffect and fatigue strength 9-38881
- steel, C, structural strength, increase by high temp. mech. treatment with austenite isothermal decomp. 9-24555
- steel, C, type 45 and 1Kh2M, fatigue strength, of notched specimens with regard for cyclic plastic strains 9-43414
- steel, C (0.21 wt.%), loading wave shape effect on deform., failure, impact tensile strength of smooth specimen (*Japanese*) 9-29146
- steel, C and low alloy, size effect in bending fatigue strength and its prediction 9-43411
- steel, C-Mn-V and Cr-Mo-V, power station component, fracture toughness and fatigue characts. 9-20192
- steel, carburised, fracture resistance 9-24612
- steel, CK10, structural, fatigue softening tests, temp. and freq. depend. of stress-strain behaviour, cyclic loading (*German*) 9-38888
- steel, Cr plated, high strength, with and without surface strengthening prior to plating 9-39051
- steel, Cr-Mo, hardened, fatigue life, effect of programmed load history (*Japanese*) 9-20160
- steel, Cr-Mo, high-temp. props. and constitutive equations 9-34146
- steel, creep-resistant, creep rupture under variable stress and temp. (*German*) 9-24597
- steel, cyclic creep and mean stress influence on fatigue life (*Czech*) 9-43403
- steel, fatigue, impact loading, friction, wear in surface active media (*Russian*) 9-29268
- steel, fatigue and tensile props., of heat resisting bars, type SUH 660-B and SUH 310-B at elevated temps. 9-38979
- steel, fatigue life, load sequence effects (*Polish*) 9-34135
- steel, fatigue life enhancement by ion implantation 9-1910
- steel, fatigue strength, statistical prop. (*Japanese*) 9-20169

fatigue continued

steel, fatigue with programmed loading, damage accumulation, nomogram 9-38964

steel, ferritic, MA 956, oxide dispersion strengthened, mech. props. and damping behaviour 9-47702

steel, ferritic-pearlitic, low C, low alloy, low temp. effects on fatigue strength 9-5057

steel, low alloy, high strength, residual stresses during low cycle fatigue 9-29201

steel, low C, cyclic strain ageing effect on crit. stress for crack propag. 9-34124

steel, low C, fatigue strength, effect of loading type, cross section shape, and specimen edge finish (*Japanese*) 9-8343

steel, low C, low cycle fatigue, cumulative damage, absorbed plastic energy anal. 9-38932

steel, low C, temp. effect on hysteresis loop under cyclic load (*Japanese*) 9-20096

steel, low C, weldable, precipitation hardening rel. to low cycle fatigue (*Czech*) 9-15686

steel, low C, with various strain ageing potentials, tension compression fatigue (*Japanese*) 9-20162

steel, low C-Cu composite plates, vol. fraction and residual stress, effect on fatigue strength (*Japanese*) 9-8349

steel, low-C, fatigue strength, low-cycle, effect of shock wave press. 9-29205

steel, medium C, S 45 C, influence of mean strain on low-cycle torsional fatigue life (*Japanese*) 9-8348

steel, mild, notch effect on impact fatigue strength (*Japanese*) 9-43400

steel, mild, plastic deform. during fatigue, detection by Barkhausen noise meas. 9-43524

steel, Mn-Cr, tempered, case hardened, shot peening effect on bending fatigue strength (*German*) 9-24645

steel, pressure vessel type, H₂ effect on corrosion, fatigue strength and embrittlement (*French*) 9-47770

steel, railway bridge, expt. determ. of coeff. of excess dynamic fatigue stress (*French*) 9-34151

steel, reinforcing wires, high strength, microstruct. obs. (*Czech*) 9-43342

steel, rolls for cold-rolling mills, surface hardening, contact fatigue strength 9-24664

steel, S20, 45, 0.1%C types, fatigue-freq. relationship 9-11707

steel, stainless, 304, thermal fatigue and strength estimation, creep fatigue interaction 9-11708

steel, stainless, Kh18N10T, low-cycle fatigue characts., gaseous, pure H₂ effects (*Russian*) 9-15764

steel, stainless, SUS 316, creep-fatigue interaction at 600°C 9-34123

steel, stainless and low alloy, PWR primary circuit constituent materials, design features verification (*French*) 9-17976

steel, statistical fatigue props. of SM50A for welded structures (*Japanese*) 9-20168

steel, structural, brittleness susceptibility rel. to heat treatment 9-24620

steel, tuffrided, hardened, fatigue life, effect of programmed load history (*Japanese*) 9-20160

steel, unnotched samples, fatigue limit, estimation of scale relationship, error anal. 9-15793

steel austenitic stainless, fatigue, low cycle, temp. and strain rate effects (*Japanese*) 9-29198

steel C, types AISI 1008, 1020, 1035, renitrogenized 1010 and 1522, dynamic strain ageing, tensile notch impact and fatigue props. 9-43288

steel drill tubing, exam. of cyclic cracking resistance (*Russian*) 9-15767

steel fibre reinforced Cu, fatigue 9-29221

steel reinforced concrete slabs, connected via shear connectors, exam. of fatigue in shear connectors, exam. of method 9-43539

steels, C, H₂ embrittlement after patenting and cold deform. (*Russian*) 9-29175

strain gauges, small high-elongation foil, as fatigue damage indicators 9-32417

stress intensity factors for circumferential crack from notch in round tensile bar 9-41618

striation form, three dimensional strain compatibility model 9-1908

structural fatigue life rel. to element uncertainty 9-27593

surface, mech. and corrosion props. improvement using US energy (*Rumanian*) 9-15821

U-shaped bellows design, low cycle fatigue life, elastoplastic anal. 9-37247

unnotched samples, fatigue limit, estimation of scale relationship, error anal. 9-15793

welded construction, beam loaded, stress conc. effect (*German*) 9-34150

welded joints, flash, fatigue strength obs., under heating and cooling cycles, microstructures influence 9-15760

Ag-Pd-Cu, contact-spring props., fatigue and spring limit (*Japanese*) 9-29117

Al alloy, low-cycle fatigue strength, isothermal hardening effect 9-38863

Al alloy 7050, fatigue, effect of intermediate thermomech. treatments 9-8352

Al alloy 7075-Tb, coldworked fastener holes, elastic-plastic boundary layer determ. 9-34066

Al alloy D16, fatigue props. eval. 9-15750

Al alloys A5083 and A7075, statistical fatigue props. 9-5060

Al, fatigue, effect of pre-existing subgrains 9-5041

Al, fatigue hardening at various test freqs. 9-24539

Al, torsional fatigue and bending tests 9-43521

Al-Cu (4.2 wt.%), precipitation strengthened, solute depletion at fatigue facets, AES study 9-38973

Al-Fe-Si commercial alloy, elevated temp. low cycle fatigue behaviour under rotating bending 9-47766

B fibre reinforced Al alloy 6061, cross plied laminate, tension-compression fatigue 9-38940

C glass fibre hybrid plastics, review of mech. props 9-20107

Co-Ni-Cr-Mo, hip joint anchorage stem, superior fatigue strength, high corrosion resist. 9-29671

Cu, annealed, positron lifetime changes during cyclic fatigue 9-43060

Cu, cyclic strain hardening under deform. at various temps. 9-43273

Cu, cyclic work hardening during frequency change fatigue tests (*German*) 9-34068

Cu, cyclic work hardening frequency effects (*German*) 9-29090

Cu, fatigue hardening and high cycle fatigue under reversed bending 9-20180

Cu, fatigue of single crystals and low const. plastic strain amplitude 9-20174

Cu, high purity, low cycle fatigue, cumulative damage, absorbed plastic energy anal. 9-38932

fatigue continued

Cu, high purity, small-angle neutron scatt. from pores in high temp. fatigue 9-14795

Cu, intrinsic stacking fault energy, effect on cyclic hardening 9-11638

α -Cu-Al, single crystal, low cycle fatigue 9-43405

α -Cu-Sn, cyclic work hardening frequency effects (*German*) 9-29090

A-Cu-Sn, cyclic work hardening during frequency change fatigue tests (*German*) 9-34068

Cu-Zn-Al, polycrystn., β -phase, fatigue life, intergranular cracking 9-38974

Fe, casting, fatigue strength, section size and surface struct. effect (*Japanese*) 9-20170

Fe, pure, strain ageing and fatigue (*Japanese*) 9-20161

Fe-Si (3 wt.%) BCC single crystals, low cycle fatigue (*French*) 9-20177

Mg-Zn-Zr rare earth alloy, mech. props., effect of microshrinkage during solidification 9-43234

Mo-Re alloy MR47-VP, dislocation struct. and fatigue damage during room temp. deform. (*Russian*) 9-20111

Nb, oxidation kinetics, abnormal, at high temp. 9-29289

Nb-H, fatigue 9-11695

Ni alloy Eh1867, effect of structural state on fatigue and heat resistance (*Russian*) 9-34140

Ni base alloys Eh1607A and Eh1929VD, fatigue strength, temp. depend. 9-15791

Ni-Cr, wrought, fatigue at high temp., microstruct. assessment 9-29208

Ni-Fe(Co) alloys, fatigued, struct. and cyclic stress strain, influence of stacking fault energy and atomic size-module-interactions (*German*) 9-42082

SiC, abrasive paper, variables affecting degradation 9-43444

SiC, self bonded, exam. of fracture 9-20149

Ti alloy, mechanical props. at high temp., effect of Pt ion plating 9-29156

Ti alloy VT20, phase composition and structure effect on mech. props. 9-38958

Ti-Al-Sn-Zr-Mo-Si-O-H, Si, O, H effects on fatigue, fracture and creep charact. 9-11697

Ti-Al-V (6, 4 wt.%), cavitation induced erosion, under mill annealed, soln. treated and aged, and beta annealed conditions 9-8371

WC-Co hard-alloy cermets, strength, fatigue, static tests 9-29314

fatigue cracks

alloys, high-strength, subcritical crack growth 9-43494

cement based materials, fatigue hardening 9-29086

closure analysis in fatigue crack growth 9-18825

crack growth, anal., crack tip deform. modelling 9-41626

crack length indirect measurement during a fatigue test (*French*) 9-20312

cyclically loaded structures, effects of periodic proof and nondestructive testing 9-15946

depth meas. in threaded part of drill pipe by US inspection 9-1930

development, fracture mech. 9-27588

development under high-temp. single-stage, low cyclic loads, appl. to steel Kh18N10T 9-43389

Duralumin, fatigue cracks development, intermetallic inclusion influence 9-38962

elastoplastic body, depend. of crack opening and plastic zone size on type of stress state 9-14348

electrically cond. materials, pulsed elec. meas. method (*French*) 9-29324

fission reactor fatigue loading, growth of underclad flaws 9-22429

fracture mech., conf., Washington, USA (Sept. 78) 9-43422

friction welded joints, strain distrib. and fatigue cracks of joint's subjected to repeated torsion (*Japanese*) 9-8350

gas turbine airfoils, protective coatings, degradation characts. and methods of application 9-24670

growth at high-temp., fracture mech. appl., review 9-41628

growth eqn., stress intensity factor rationalisation 9-41620

growth rate rel. to loading cycle parameters, review (*Russian*) 9-28038

in plane strain displacement near crack tip at high temp., optical meas. 9-32412

Inconel, pressure vessel bottom, subcritical crack growth in ligament between instrumentation rods 9-22428

initiation in low cycle range (*German*) 9-15781

linear viscoelastic body, opening and closing of growing crack under alternating tensile and compressive loads 9-23282

metal, cyclic and damage constitutive laws, calculation methods (*French*) 9-43408

metal, overload effect on fatigue crack growth, fracture toughness prediction (*Polish*) 9-34134

metallic material, fatigue cracking, cyclic fracture toughness determ., critical state (*Russian*) 9-29173

metals, fracture toughness charact. in fatigue 9-15790

mixed spatial elasticity problems, variational soln. (*Russian*) 9-9110

moire system, using fringe multiplication method for strain field anal. around a fatigue crack 9-36832

polycarbonate, craze roles in fatigue 9-29183

propagation, fracture of practical materials, anal., recent developments, review 9-43428

propagation at stress amplitude below fatigue limit (*Japanese*) 9-19315

PVC, effects of mol. wt. and plasticiser on fatigue crack propagation rates 9-5044

PVC, fatigue crack growth rate, tensile cyclic tests 9-5043

PWR pressure components reliability and residual life evaluation and precipitation 9-20191

quasistatic growth under cyclic loading and displacement 9-10531

relation between da/dN and K_I (*Chinese*) 9-41611

semi-elliptical fault fatigue propagation, three-dimensional anal. (*French*) 9-23283

steel, 0.54% C, fatigue crack accel. and closure in rotating bending tests, in annealed or quenched/tempered state 9-43383

steel, 4140, fatigue crack initiation and microcrack growth 9-24617

steel, 45, depth length relationship of fatigue crack developing in circular specimens during bending 9-11705

steel, API 5LX-X60, pipe fatigue strength under cyclic internal pressure, inner surface defects 9-38980

steel, austenitic, creep fatigue cycling, electric crack growth 9-29209

steel, austenitic, overheated, ESR, low alloy, fatigue crack growth rate 9-34141

steel, austenitic stainless, effect of irradi. and other factors on fatigue crack propagation 9-20194

steel, austenitic stainless in liq. Na, mechanical props., review 9-20150

steel, ball bearing, heat treated, fatigue crack propag. 9-20188

fatigue cracks continued

- steel, C, and high strength, fatigue crack propag. under periodic over-stressing, design criterion (*Japanese*) 9-20166
- steel, C, fatigue, residual stress and crack growth expts., notch and surface treatment effects 9-8356
- steel, C, type 45, crack form. mechanism during fatigue 9-38957
- steel, Cr-Cu-Mn, fatigue crack propag. rate eval. by J integral method (*Japanese*) 9-8346
- steel, Cr-Mo-V, cast, strain intensity approach of high temperature fatigue crack growth and failure 9-20175
- steel, Cr-Mo-V, fatigue crack growth rate and threshold under oxidising conditions 9-20272
- steel, cyclic fatigue loading, effect of plastic zone size, -196°C to room temp. (*German*) 9-1915
- steel, fatigue crack growth eqn., correlation of threshold stress intensity factor, review 9-34127
- steel, fatigue cracking diagrams (*Russian*) 9-29301
- steel, fracture toughness charact. in fatigue 9-15790
- steel, low alloy, 10KhSND, 16G2AF, welded joint low-cycle fatigue during crack form. and propag. during biaxial bending 9-11704
- steel, low C, crack propagation energy rel. to temp., time factors 9-29179
- steel, low C, fatigue crack propagation in smooth specimen, strain ageing effect (*Japanese*) 9-20163
- steel, low C, S 35 C, annealed, crack initiation life, anal. of smooth and notched specimens (*Japanese*) 9-8347
- steel, low C, specimens with notch and fatigue crack, fracture surface features 9-43417
- steel, low-alloy samples with fatigue crack, work of crack propag. and fracture toughness 9-38959
- steel, maraging and low-alloy, electron fractographic analysis of fatigue fractures 9-38965
- steel, medium C, fatigue crack propagation under repeated two-step loadings above and below threshold condition (*Japanese*) 9-38945
- steel, mild, fatigue crack propag., stress ratio effect (*Japanese*) 9-38946
- steel, perlite, with Ni-Cr steel anticorrosion coatings, viscous-failure characts. from dynamic failure energy 9-43391
- steel, potential-drop crack detection system 9-34225
- steel, precipitation hardening, strength and struct. (*German*) 9-47701
- steel, PWR pressure components, mechanical factors affecting reliability (*French*) 9-20198
- steel, quenched, tempered, intergranular failure during fatigue crack growth 9-8357
- steel, Si-Mn, ferrite-pearlite structs., fatigue crack propagation (*Russian*) 9-34126
- steel, stainless, 316, surface finish effect on low-cycle fatigue at 400°C 9-29277
- steel, stainless, austenitic and ferritic, fatigue crack propagation in single crystals, orientation depend. 9-29167
- steel, stainless, ferritic, BCC cryst., fatigue cracking rel. to cryst. orient. (*French*) 9-20178
- steel, stainless, fracture toughness improvement by applying Pb-Sn-Cd coating to crack tip 9-43416
- steel, stainless, highly deformed zone and cyclic strain history near fatigue crack tip (*Japanese*) 9-34145
- steel, stainless, Kh18NiOT, crack development under high-temp. single-stage, low cyclic loads 9-43389
- steel, stainless, SUS 316, creep-fatigue interaction at 600°C 9-34123
- steel, stainless, type 316, microstruct. changes in creep ductility, SEM, TEM, optical microscopy and X-ray diffr. study 9-38927
- steel, tool, hardened, crack propag. under cyclic load (*German*) 9-24596
- steel low C, notched, fatigue strength, crack propagation, plastic torsional prework depend. (*Japanese*) 9-15744
- steel welded joint impact strength, preheating and tempering effects 9-24542
- steels, stainless 00Kh12N3D and constructional 15 Kh2NMFA, fatigue crack development (*Russian*) 9-29174
- stereo viewing technique for crack tip displacements 9-24700
- surface contact fatigue onset, mag. detection system 9-20330
- Udimet 700, Ni-Co-Cr-Ti, hold time effects on high temp. fatigue crack growth 9-5036
- weld defects, toughness, crack growth anal. 9-43429
- Al alloy, 2618 A, crack closure effect (*French*) 9-20172
- Al alloy, fatigue crack propagation under repeated two-step loadings above and below threshold condition (*Japanese*) 9-38945
- Al alloy, high strength, fatigue crack propag. and fatigue life, shallow notch effect (*Japanese*) 9-29199
- Al alloy 2219-T851, fatigue crack initiation, effect of intermetallic comp. and microstruct. 9-5054
- Al alloy 7050, crack propagation and closure, tensile overloads effects 9-43384
- Al alloy 7075-T6 fatigue crack propag., stress ratio effect (*Japanese*) 9-38946
- Al alloys, epoxy bonded sheet, fatigue crack initiation, propagation 9-15776
- Al alloys, fatigue crack propag. under periodic over-stressing, design criterion (*Japanese*) 9-20166
- Al alloys, fatigue cracking diagrams (*Russian*) 9-29301
- Al alloys, microstruct. effects on strength, fracture toughness, fatigue cracks 9-43434
- Al alloys, steady-state fatigue crack growth rate behaviour 9-43432
- Al-Mg-Si, dispersoid effect on fatigue crack propag. 9-43420
- Cu, deformation band, role in fatigue crack nucleation and propag. 9-24585
- Cu, dislocation structure, around tips of propagating fatigue cracks 9-29211
- Cu-Al (9 wt.%) deformed, dispersed, ordered, microcalorimetry of plastic zones during fatigue crack propag. 9-47769
- α -Fe, crack initiation study at low-cycle fatigue using slip bands (*Slovak*) 9-38949
- Fe, pure, fatigue crack direct obs. by SEM, propag. mechanism (*Japanese*) 9-20164
- Fe-C (0.64 wt.%), quasicleavage during fatigue crack propag., pearlitic microstruct. effect 9-11702
- Fe-Si, grain oriented, fatigue crack direct obs. by SEM, propag. mechanism (*Japanese*) 9-20164
- Mg alloys MA12, fatigue crack growth in air and vacuum 9-15792
- Ni-Nb-Al, unidirectionally solidified γ/γ' - δ eutectic, fatigue crack propag. 9-29184
- NiTi, thermoelastic martensites, fatigue crack growth rates 9-29166

fatigue cracks continued

- Ti alloy VT3-1, fracture toughness improvement by applying Pb-Sn-Cd coating to crack tip 9-43416
- Ti, fatigue cracking, initial stage under bending and torsion (*Japanese*) 9-20165
- Ti-A-V (6, 4 wt.%), castings, fatigue crack initiation 9-29186
- Ti-Al-Sn-Zr (6.19, 1.92, 1.43 wt.%), fatigue cracking characteristics of β annealed microstruct. 9-5051
- $\alpha+\beta$ -Ti-Al-Sn-Zr-Mo-Cr, low cycle fatigue crack nucleation and early growth 9-8354
- β -Ti-Al-V, annealed, differing interstitial O content, fatigue crack propag. resist. 9-11696
- Ti-Al-V (6.4 wt.%) alloy, fatigue crack growth, influence of dwell-time 9-43380
- Ti-V (27 and 30 wt.%), fatigue crack propag., in single and poly. crystals 9-5048
- fatigue failure** *see* **fatigue**
- fatigue fracture** *see* **fatigue**
- fatigue life** *see* **fatigue**
- fatigue testing**
- for corrosion fatigue testing, see corrosion testing*
- automation, of installation control for low-cycle fatigue tests 9-15926
- brittle materials, static, fatigue testing, method 9-29314
- computer controlled system, conf., Haifa, Israel, (July 1977) 9-15683
- computer-controlled system for fatigue testing under simulated service loading 9-15885
- corrosion bending fatigue machine, multi-specimen 9-39060
- crack length indirect measurement during a fatigue test (*French*) 9-20312
- cracking resist. testing (*Russian*) 9-29301
- data computer processing, methodological problems of automating on short-term fatigue tests 9-15931
- digital computer control of mech. tests, review 9-43508
- fibre reinforced shell-type structures, strength estimation using limit state method 9-18820
- fretting fatigue testing apparatus in vacuo 9-39084
- low cycle bending and torsional fatigue testing machine 9-43521
- low cycle fatigue testing extensometer for anisotropic materials 9-24695
- low cycle tests of shear connectors, instrumentation and data acquisition procedure 9-43539
- metal, stress concentration sensitivity, scale factor effect on fatigue strength 9-39064
- micromachine for low-frequency fatigue testing of materials by pure bending 9-29317
- real-time fatigue damage assessment method 9-43546
- reinforced plastic, fatigue mech., charact. and defect detection 9-24687
- resistance, influence of test specimen form (*Russian*) 9-15884
- steel, ball, fatigue life prediction, fully automatic X-ray diffr. apparatus (*Japanese*) 9-39076
- surface contact fatigue onset, mag. detection system 9-20330
- US determination of magnification and resonance length of samples 9-15948
- fault location**
- nuclear power plant loose parts monitoring techniques and experience 9-3211
- optical cable, meas. methods (*German*) 9-14097
- optical fibre, on-site defect location and transmission loss eval. 9-3801
- traction motor, circuit fault detection by NDT method 9-39097
- faults, electrical** *see* **electrical faults**
- f.d.m.** *see* **frequency division multiplexing**
- feature extraction** *see* **pattern recognition**
- feedback**
- see also control systems; control theory*
- automatic digital magnetic recording system in Tihany Observatory 9-39989
- biofeedback, student demonstration 9-44677
- biofeedback therapy technique and application (*German*) 9-16341
- blood pressure control, mechanical-chemical balloon implant 9-20712
- BWR void reactivity feedback, statistical weight factor 9-9702
- digital simulation of neuron (*Polish*) 9-16189
- disturbed cell renewal control system modelling and simulation 9-29510
- electro-optical device with feedback, multi-functional 9-32055
- endocrine tumours, silent, feedback system cell number change effects, steady-state anal. 9-20526
- force and strain meas., spring-mass-damping system, dynamic errors (*German*) 9-12794
- four-arm bridge measuring circuits with linearised characteristics (*Russian*) 9-12820
- gas stripping column, periodically cycled, feedback control, simulations 9-1231
- heat exchangers, parallel and counter-flow, weighted residuals method and modal control 9-3898
- image feedback computer contrast control expts. (*Japanese*) 9-22903
- instrument science appls. 9-21687
- light feedback suppression, from optical fibre into diode laser 9-1004
- LPE film property control, regression eqns. 9-33200
- master-slave manipulator power-assisted grip system 9-9212
- mirrorless electrooptic device with feedback, optical multistable operations 9-32051
- muscle control system Ia feedback pathway correlations, origin and nature 9-24977
- neuron population, local, model performance 9-20531
- nonstationary nonlinear vibratory system feedback operation effects 9-14316
- nuclear spectroscopy systems, active zero-pole cancellation feedback loop 9-9972
- ocean-atmosphere system, interannual variability 9-2330
- PWR core Doppler spatial weight factor 9-9713
- PWR differential rod worth and feedback coeff. online estimation system 9-9798
- seismographs, feedback-controlled wide-band, design, rel. to undesired side effects 9-39909
- seismometer, miniature, wideband, with force feedback; design 9-16698
- seismometers, EM and hybrid instruments, developments 9-39906
- seismometers, wide-band feedback instrument 9-39907
- structural vibration testing, using electromag. forcing device, use of feedback to reduce harmonics 9-20298
- submillimetric-wave negative-feedback-loop thermistor bolometer 9-44931
- X-ray preamplifier with pulsed drain feedback 9-6249

feeds, antenna *see antenna feeders*

Fermi-Dirac statistics *see quantum statistical mechanics*

Fermi gas *see fermion systems*

Fermi level

- A15 compounds, new aspect of superconductivity, Fermi level rel. to electron-phonon interaction 9-7927
 chalcogenide glass, localised gap states, Mott-street model 9-37968
 disordered metallic structure, calc. of Fermi level 9-33217
 disordered semiconductors, recomb. radiation spectrum (*Russian*) 9-4855
 GaSb surface, Au overlayer, adatom interactions, photoemission obs. 9-33898
 metals, Doppler broadening of positron annihilation line 9-43057
 mixed valence state, electronic structure 9-11092
 rare earth, liquid, divalent electrical resist. 9-38039
 rare earth, liquid, trivalent, electrical resist. 9-42514
 rare earth metal, 4f levels, obs. by bremsstrahlung isochromat and XPS spectroscopy 9-24411
 semiconductor with parabolic bands, empirical approx, for Fermi energy 9-7770
 Al film, supercond., meas. of effective quasiparticle recombination times, density of electronic states at Fermi level 9-38264
 AsF₅-intercalated graphite, mag. spin susceptibility, density of states at Fermi energy 9-7966
 CdS-metal interface, chemical reactions and local charge redistrib., Fermi level-pinning 9-19661
 CdSe-metal interface, chemical reactions and local charge redistrib., Fermi level pinning 9-19661
 Cu₂MnAl, alloy, Fermi energy calc. by nonrelativistic SAPW method 9-4507
 ErH₂, electronic struct. 9-28268
 Fe₂O₃, electron energy band theory, thermodynamic functions (*Korean*) 9-7785
 GaAs:Cr, current voltage characterisation, deep levels and Fermi level determ. 9-7823
 Ge, amorphous film, annealing, effect on localised states 9-4535
 n-Ge:Sb, fast electron irradi. at 77K, radiation defect changes by annealing at 220K 9-37737
 Ge:Sb(Ga), amorphous, doping effects on Fermi level, electrical meas. 9-42546
 n-InAs, transport props., influence of higher energy bands, calcs. 9-19598
 n-InP-metal surface barrier struct., props. 9-11223
 n-InSb, magnetophonon effect in non parabolic band 9-37962
 LiC₆, spatial distribution of valence electrons 9-37983
 Mo (001) surface, electronic susceptibility and surface phase transition 9-33169
 Mo (100), surface resonances, photoemission and field emission meas. 9-4593
 Nb₂Ge, A15 superconductor, rel. between transition temp. and density of states 9-15247
 Pb film, supercond., meas. of effective quasiparticle recombination times, density of electronic states at Fermi level 9-38264
 Si, amorphous film, Fermi energy shift with substitutional doping 9-46998
 Si:As, amorphous, field effect and thermoelectric power 9-33289
 Si:Fe⁰ interstitial localisation, EPR spectrum 9-1582
 Si:H, amorphous, doped, Fermi level position, photoelectron spectra 9-47592
 Si:P, CVD amorphous film, electronic density of states 9-46993
 n-Si:P, edge dislocation energy level, differential capacitance meas. 9-23927
 TiO₂:Nb, Seebeck coeff., Fermi level temp. depend. 9-11161
 W (100), surface resonances, photoemission and field emission meas. 9-4593
 Zr-Nb-Mo, phonon spectra anomalies, lattice dynamics calculations, superconductivity parameters 9-7655

Fermi liquid *see fermion systems*

Fermi resonance

- biphenyl, luminescence spectrum intensity distribution 9-3476
 t-butyl alcohol, and deuterates, gaseous and matrix IR spectra, liq. Raman spectra, vibr. assignment 9-10113
 carboxylic acid dimer, Fermi reson. 9-31501
 p-chlorobenzaldehyde and deuterated derivs., vibrational spectra 9-3441
 ethylene(-d₁,d₂), high-resolution UPS, mol. ion vibr. assignments, symmetry 9-27032
 finite nucleus model for the Fermi contact interaction 9-36601
 fluorobenzene, IR vibr. spectra 9-13713
 methanol-d₁, H-bonded in soln., ν_1 (OD) band 9-18183
 polariton Fermi reson. as detection of weakly polar vibrs. 9-7791
 ClCN, and isotopic species, force field calc., freqs., rot. consts. 9-22692
 H bonded systems, IR spectra, theoretical interpretation 9-31519
 H bonds, IR spectra, theoretical interpretation 9-31519
 NH₄Cl crystal, polariton light scattering spectra in zone of dissociated states 9-47029

Fermi surface

- anisotropic metal, with impurities, long-range interactions of spins 9-47092
 conductors with Fermi surface in form of corrugated cylinder, EM excitations 9-33224
 crystalline films, dispersion law and struct. transition, Fermi line geometry, acoustic spectrum, resist. min. (*Russian*) 9-7764
 de Haas-van Alphen effect, FFT anal. 9-42434
 dipole-nuclear acoustic resonance, electron band struct. influence, in cubic metal 9-19787
 electronic Fermi fluid, instabilities in mag. field (*Russian*) 9-11073
 exciton ferromagnet, spin-lattice relax., light and US absorption (*Russian*) 9-7960
 FCC binary alloys, short-range order diffuse scattering, Fermi surface imaging (*Japanese*) 9-7776
 hexagonal compensated metal, chemical pot. shift due to coupled orbit conduction 9-28273
 Hume-Rothery Phases, electronic struct., main features 9-23883
 IV-VI semiconductors, crystal structure and symmetry of electron spectra, doping effects (*Russian*) 9-7696
 layered crystals, thermodynamic pot. in quantizing mag. field, conc. depend. (*Russian*) 9-15071
 metal, electron-electron scatt. 9-38045
 metal, Fermi surface local geometry ultrasonic absorpt. ang. depend., Pip-pard oscill. spectrum (*Russian*) 9-19507

Fermi surface continued

- metal, ferromagnetic, spin wave propagation, deformation oscillation of Fermi surface 9-7982
 metal, normal, thin films, tunnel electron injection, Fermi surface terrace, from tunnel current (*Russian*) 9-19696
 metals, Fermi surface geometry, effect on sound absorpt. and vel. 9-7775
 metals, nearly-free-electron, holelike Fermi surface, Hall coeff. and magnetocond. tensor 9-4547
 noble metals and their dil. alloys, electronic struct., de Haas-van Alphen studies, book contrib. 9-37967
 squared electron-phonon coupling constant, tight-binding calc. in transition metals and alloys 9-1571
 transition metal dihydrides, band struct. and electronic props., electron-phonon coupling 9-47011
 type II superconductor, clean cubic, anisotropy of generalised Ginzburg-Landau parameters 9-4630
 Ag, curvature factor, interpretation of de Haas-van Alphen oscillation amplitudes 9-47000
 Ag, Fermi surface and thermoelec. power, de Haas-van Alphen calc. 9-4503
 Al, determ. by γ -ray angular correl. meas. 9-4869
 Al, elec. resist. and magnetoresist., anisotropic temp. depend. (*Russian*) 9-11103
 Al-Ge(Mg)(Zn)(Ga), dil., electronic transport coeffs. for point defect scatt., 4-OPW calc. 9-42531
 Au, curvature factor, interpretation of de Haas-van Alphen oscillation amplitudes 9-47000
 Au, Fermi surface and thermoelec. power, de Haas-van Alphen calc. 9-4503
 β' -Au-Mg, de Haas-van Alphen effect, relativistic LMTO bandstructure, Fermi surface 9-37959
 Bi, acoustic waves, giant quantum attenuation at high mag. fields, angular depend. (*Japanese*) 9-4585
 Bi, electrical resistivity due to electron-phonon scatt. on small cylindrical Fermi surface 9-4562
 Bi, Shubnikov-de Haas effect (*Russian*) 9-7840
 n-Bi_{1-x}Sb_x, determ. carrier dispersion relation parameters 9-38107
 Cd, 3rd band sheet, effective electron mass and relaxation time, Azbel'-Kaner high freq. cyclotron reson. meas. 9-11056
 Cd, carrier mean free path, temp. depend. doppleron obs. 9-7822
 Cd US attenuation due to conduction electrons 9-46754
 Cr, phase transition at T_N 9-4676
 Cu, curvature factor, interpretation of de Haas-van Alphen oscillation amplitudes 9-47000
 Cu, determ. by γ -ray angular correl. meas. 9-4869
 Cu, Fermi surface and thermoelec. power, de Haas-van Alphen calc. 9-4503
 ErH₂, electronic struct. 9-28268
 FeGe₂, antiferromagnet, de Haas-van Alphen effect 9-4505
 Gd, thermoelectric power anisotropy at high temp. 9-23952
 H₂, solid, electronic struct., HF calc. using plane wave basis 9-7772
 In, RF size effect signals, anomalous behaviour 9-4502
 n-InSb, helicon wave propag., quantum mechanical features 9-42571
 LaAl₂, magnetoresist. and de Haas-van Alphen effect, Fermi surface model 9-15069
 LiC₆, band struct., density of states and Fermi surface props. 9-37982
 LiCd_{1-x}Tl_x, intermetallic, X-ray and Knight shift meas. of ²⁰⁵Tl and ¹¹³Cd 9-42851
 Mg, cross section, KKR calc. using potentials with exchange and correlation 9-11060
 MgZn 9-46754
 Mo, electron scatt. mech., RF size effect study (*Russian*) 9-37965
 Mo, electron-electron scatt., doppleron damping meas. 9-37963
 Mo, RF surface impedance, new type of oscills. 9-15070
 Nb, Fermi surface, Fermi velocity, electron-phonon interaction parameter 9-7778
 Nb films, supercond. props. and electronic density of states (*Russian*) 9-28439
 Nb, optical properties and electronic props. 9-42439
 Nb, quasiparticle velocity, anisotropic many-body effects 9-33223
 NbSe₂ (2H), electronic response function including electron-phonon matrix elements 9-28300
 NbSe₂(2H), layered metallic magnetoresist. and Fermi surface above and below CDW onset temp. 9-19578
 Ni, mag. excitations variation of de Haas-van Alphen frequency 9-8019
 Pb_{1-x}Sn_xTe_{1-x}, nonequilibrium metallic state (*Russian*) 9-33300
 p-PbTe, Fermi surface parameters depend. on carrier density, Shubnikov-de Haas oscills. 9-42435
 Pd, extremal cross section, press. derivative, determ. by de Haas-van Alphen meas. 9-11055
 Pd, g tensor of d holes near X point in Brillouin zone 9-23890
 Pd-H, electronic states from de Haas-van Alphen measurements 9-7777
 PdH_x, electronic states calc. 9-7769
 PdSb, de Haas-van Alphen effect, Fermi surface 9-7773
 Pr, de Haas-van Alphen freq. determ. 9-11054
 Re, Fermi surface, determ. from RF size effect 9-23889
 ReO₃, de Haas-van Alphen frequencies as function of press. 9-19505
 ReO₃, positron annihilation, Fermi surface shape 9-46997
 Ru, Fermi surface, influence of press. (*Russian*) 9-4501
 Ru, Fermi surface energy spectrum, de Haas-van Alphen effect (*Russian*) 9-37964
 Sn, supercond., quasiparticle recomb. time and normal electronic density of states at Fermi surface from tunnel junction expts. 9-24108
 Ta, optical properties and electronic props. 9-42439
 TaS₂ (2H), quantum oscillations and Fermi surface 9-37960
 Tb, thermoelectric power anisotropy at high temp. 9-23952
 TiH₂, electronic density of states and tetragonal distortion, APW calc. 9-37986
 V, magnetoresistance and thermopower behaviour 9-33222
 V, optical properties and electronic props. 9-42439
 V, Si, determ. by γ -ray angular correl. meas. 9-4869
 W, electron-electron scatt. 9-38045
 W, Fermi velocity calc., linear muffin-tin orbital method 9-28272
 W, Fermi velocity calc. 9-4504
 W, RF surface impedance, new type of oscills. 9-15070
 Y, thermoelectric power anisotropy at high temp. 9-23952
 Zn, de Haas-van Alphen effect, oscill. freq., 1-140 bar (*Russian*) 9-19506
 Zn US attenuation due to conduction electrons 9-46754

Fermi-Thomas model *see* **Thomas-Fermi model****fermion systems**

- see also* **electron gas**; **liquid helium-3**
 Bose modes, spin-1/2 approx. in quantum theory 9-6047
 -boson scattering, variational method 9-255
 charge density phase transitions in gauge theories with spontaneous symmetry breaking (*Russian*) 9-2969
 coherent states of Fermi operators and the path integral 9-2717
 cold relativistic neutron gas, study of massive neutron cores 9-35292
 crystal, mag. props. of vacancies (*Russian*) 9-46881
 deformable-jellium model, self-consistent long-range order in terms of non-plane-wave HF states 9-19533
 degenerate Fermi gas, distrib. functions with allowance for pairing correlations 9-40458
 dense Fermi systems, energy expectation values, numerical study of Fermi hypernetted chain method 9-40874
 density-potential relation, exact, one-dimens. local density approx. 9-25972
 diagonalisation of the quadratic fermion Hamiltonian with a linear part 9-40445
 diffusion equation for semiclassical bosons and fermions 9-40446
 electron fluid with paramagnetic impurities, spin wave spectrum (*Russian*) 9-23915
 electron liquid, excitations 9-4522
 electron liquid, local field factor freq. depend. 9-38009
 electron-positron pair production in field of longitudinal electric wave (*Russian*) 9-6300
 electronic Fermi fluid, instabilities in mag. field (*Russian*) 9-11073
 Fermi gas, vacuum ground state, nuclear matter theory calc. 9-40876
 ferromagnetic Fermi liquid, stability conditions 9-47224
 free energy independence for 1-D systems 9-40448
 generalised Federbush model, current definition, perturbation calcs., gauge transformations 9-6297
 generator coordinate method and the theory of metals 9-28299
 hard sphere Fermi gas Jastrow correlations 9-40451
 inequalities for fermion density matrices 9-6044
 inhomogeneous electron liquids, variational approach, appl. to metallic H₂ 9-38013
 integral evaluation 9-40449
 interacting neutron fluid at high temp., eqn. of state, supernovae hydrodynamics 9-2718
 interaction theory of nuclear and atomic struct. models, singlet paired fermions 9-9180
 itinerant electron system, weakly ferromagnetic ground state, Fermi liquid theoretical study 9-4646
 linear fermion systems, molecular field models, and the KMS condition (*German*) 9-9178
 local symmetry groups and fermion families 9-13030
 many body systems, Tamm-Dancoff method based on SO(2N+1) regular representation 9-35629
 massless, isospin 3/2, coupled to N-pseudoparticle field 9-6298
 matrix equations for two-fermion systems with magnetic interactions 9-21904
 momentum and positional uncertainty, for states of N identical fermions with spin 9-35583
 N-fermion problem, few-body reduction, model systems 9-6043
 nearly ferromagnetic Fermi systems, temp. depend. of spin susceptibility 9-8008
 neutrino-antineutrino gas, transport coeff. values (*French*) 9-30388
 neutron gas, highly rarefied, non-equilibrium thermodynamics under creative and destructive reactions 9-12747
 nonlocal properties of fermionic matter in strong gravitational fields 9-26210
 nonrelativistic para-Fermi gas, thermodynamic and mag. props. 9-25974
 normal Fermi liq., mag. ordering at absolute zero 9-38344
 nucleon fluid, excitation to N*(1234) state, lowest order constrained variational calcs. 9-40864
 one-dimens. Fermi gas, classical calc. of correl. function 9-40461
 one-dimensional systems, variational soln. of sine-Gordon theory and Luther-Emery backward scatt. model for one-dimens. systems 9-40447
 open quantum systems with time-dependent Hamiltonians and their linear response 9-44852
 para-Grassmann algebras and para-Fermi systems 9-44783
 paramagnon theories below three dimensions for itinerant strongly interacting fermion system 9-38298
 perturbation theory, system exhibiting dynamic symmetry breaking 9-143
 photons as para-fermion composites, limitations 9-40704
 Poincare supersymmetry, parafermion generalisation 9-17626
 quantization of time dependent self-consistent fields and finite boson representations for many-fermion system 9-6048
 quantum crystal, soln. of Fermi-Bose quasiparticle 9-28173
 relativistic kinetic theory of e_{ν} and e_{μ} systems, transport coeffs. 9-21680
 relativistic quantum ideal gas of massive particles, eqns. of state 9-2721
 rotating fermion systems, quantum mech. treatment 9-17337
 shell model level densities in evaporation calculations 9-45241
 spectral function calculation, time depend. approach 9-43096
 spherical nuclei, self consistent theory of finite Fermi systems and low lying collective states 9-45130
 spin dependent pots. in fermion-antifermion system, annihilation width 9-9356
 superfluid, microscopic derivation of hydrodynamic equations, appl. to ³He-B 9-46865
 superfluid as a source of all interactions 9-21620
 superfluid Fermi liquid, small-gap excitations at zero temp. and in acoustic limit 9-7725
 T-approximation, viscosity coeff. of ³He (*Russian*) 9-21655
 thermodynamics of pair production in a nondegenerate Fermi gas 9-44356
 two-chain Fermi gas, linear conductors 9-40462
 uniqueness theorem for anticommutation relations and commutation relations of quantum spin systems 9-12713
 L⁰- $\nu\mu^+\mu^-$, heavy lepton spin, massless spin 3/2 ν four fermion interaction 9-13175
 YCo₂, high-field magnetisation, Fermi liquid model 9-11303

fermions

- see also* **baryons**; **fermion systems**; **leptons**
 confinement, strongly coupled lattice gauge field theory 9-2905
 equivalence principle test for spin-1/2 particles 9-12707
 Fisk-Tait equation for spin-3/2 particles 9-17623

fermions continued

- massless fermion coupled to single axial vector field in U(1) model, AAA triangle diagram 9-35965
 scattering by force centre anal. (*Russian*) 9-5998
 SU(3)-symmetric gauge theory, static gluon pots., appl. to fermions 9-12967
 unification of fermions and bosons, interacting model 9-21629
 unification of fermions and bosons, math. structures and phys. questions 9-21630
 unification of fermions and bosons, physical foundations of local (algebraic) approach 9-21628
 vortex solutions and fermions in Abelian and non-Abelian gauge theories 9-12959
 $\nu(\bar{\nu})$ scatt. on fermion targets, four symmetry relations 9-373

fermium

- see also* **nuclei with**
 No entries

fermium compounds

- No entries

ferrimagnetic properties of substances

- see also* **ferrimagnetism**; **ferrites**; **garnets**; **magnetic semiconductors**
 ferrites of divalent metals, prep. by double decomp. reaction, mag. characts. (*French*) 9-33463
 light scattering, one-magnon, effect of quadratic magneto-opt. coupling 9-11407
 manganese acetate tetrahydrate, Heisenberg ferrimag. magnetisation 9-47304
 rare earth alloys, amorphous, mag. props. rel. to struct., review 9-15298
 rare earth orthoferrite, RFeO₃, spin reorientation and magneto-optical effects (*Japanese*) 9-47414
 rare earth-cobalt intermetallics, RCo₂, sublattice magnetisation, powder neutron diff. meas. 9-19725
 rare earth-Fe alloys, amorphous and crystalline, small angle neutron scatt. study of mag. order and mag. microstruct. 9-15283
 transition metal-rare earth alloys, amorphous, mag. props., mean field anal. 9-4701
 Au₂(Mn₂Z), Heusler alloy, (Z=Al, Cu, Ga, In or Zn), magnetic order and coupling 9-38303
 Ba₂FeReO₆, seignettomagnets with perovskite struct. 9-38459
 Ba₂MnReO₆, seignettomagnets with perovskite struct. 9-38459
 CoCr₂S₄, CVD grown, surface microstruct. 9-4905
 CoFe₂Se₄, low-temp. thermal expansion anomalies and isothermal compressibility, mag. ordering and magnetostriction 9-38363
 Dy-Fe, amorphous film, Kerr readout characts. 9-15439
 ErFe₂, spin waves, exchange interaction, neutron scatt. study 9-47267
 FeAl_{2-x}Cr_xO₄, spinel, elec. cond. behaviour during oxidation 9-19593
 γ -(Fe_{1/3}Al_{2/3}-Cr_{1/3})₂O₃, lacunar spinels, elec. cond. behaviour during oxidation 9-19593
 FeCl₂·2H₂O, metamagnetic, resonant magnon-optical phonon coupling 9-28773
 FeCr₂S₄, normal ferrimag. spinel, NMR studies 2-77K (*Russian*) 9-19785
 FeCr₂S₄, pure and doped, CVD grown, surface struct., elec. props. and band struct. 9-4905
 FeCr₂S₄, vapour grown, struct. and stoichiometry, X-ray fluoresc. anal. 9-4263
 Fe₂F₈·2H₂O, ferrimagnetism, susceptibility obs. 5-300K, phase transition 9-4658
 Fe₃LiO₈, magnetoelectric-effect and magnetisation process 9-1688
 Fe_{3-x}O₄, vacancy diffusion from relax. of deviations from stoichiometry 9-23769
 Fe₃O₄, magnetite, reduced A-site moments, polarised neutron study 9-47253
 Fe₃O₄/γ-Fe₂O₃, surface layers formed on small Fe particles, Mossbauer expts. 9-8081
 Fe₃O₃, ferrimag. transition, mag., thermodynamic props., kinetics 9-47280
 Gd-Co, amorphous, RF sputtered, prep. and props. 9-1693
 Gd-Co amorphous films, mag. anisotropy, static and ferromag. reson. expts. 9-33477
 Gd-Co amorphous thin film, mag. and optical props., conc. depend 9-19748
 Gd-Co film, amorphous ferrimagnet, mag. anisotropy, effect of ion bombard. during prep. 9-1692
 Gd-Co film, amorphous ferrimagnet, anisotropic short range order effects on mag. props. 9-1691
 Gd-Co(Au) amorphous film, domain wall dynamics near compensation point 9-1696
 Gd-Co(Au) film, ferrimag. amorphous, coated with Permalloy films, mag. props. 9-1695
 Gd-Fe, amorphous film, Kerr readout characts. 9-15439
 Gd-Fe amorphous films with CoO₂ coatings, Kerr magneto-optical effect enhancement 9-19866
 GdFe₂ films, electron beam deposited, amorphous and cryst., mag. and struct. props. 9-4710
 LiMnCrF₆, ferrimagnetic, magnetic props. (*French*) 9-1668
 MgFe₂O₄, Mossbauer study 9-47375
 Mg₂Fe_{3-x}O₄, cation redistribution, effect of composition and thermal treatment 9-27966
 Mn₂Sb, hyperfine fields of ¹²¹Sb in several mag. phases 9-28650
 Mn_{1-x}Sb_x-Sn_x, nuclear Zeeman effect, Mossbauer meas. 9-28654
 NaMnCrF₆, ferrimagnetic, magnetic props. (*French*) 9-1668
 Pb₂FeReO₆, seignettomagnets with perovskite struct. 9-38459
 Sr₂FeReO₆, seignettomagnets with perovskite struct. 9-38459
 Sr₂MnReO₆, seignettomagnets with perovskite struct. 9-38459
 Tb-Fe, amorphous film, Kerr readout characts. 9-15439
 Tb₂Fe₃O₁₂, mag. phase transition exam. 9-19736
 ThFe₃, mag. props., ferrimag. moment arrangement 9-33475
 YFe_{0.62}Cr_{0.38}O₃, compensation of weakly ferrimag. moment 9-8035
 Y₂Fe₃Si₂O₁₀, photoinduced jumps of permeability 9-28564
 YIG, relax. after spin wave excitation in ferrite (*Russian*) 9-19783
 YbFe₂, Mossbauer spectra, cryst. elec. field and exchange interaction 9-47368

ferrimagnetic resonance

- ferrite sphere plane EM wave scatt. at arbitrary angle to mag. field (*Russian*) 9-15358
 GdFe₂ films, electron beam deposited, amorphous and cryst., mag. and struct. props. 9-4710

ferrimagnetism

see also *ferrimagnetic properties of substances*

magnetic torque near compensation point, of ferrimag. materials 9-33472
spin-wave rays, effect of ellipticity on propagation vector 9-1659

ferrite applications

see also *ferrite devices*

YFeO₃, thermomag. recording in surface layer of orthoferrite 9-24165

ferrite devices

see also *ferrite applications; magnetostatic wave devices*

core, strength improvement method, SiO₂ and Bi₂O₃ additions, mag. characts. 9-24484

Hall probes, temp. matching, small mag. field detection 9-40592

magnetoelastic transducer, with increased mechanical strength (Polish) 9-40549

quarter wave absorbers, C-band, NiZn ferrite appl. 9-38386

ferrites

see also *ferrimagnetic properties of substances; ferrimagnetism; ferrite applications; ferrite devices*

EM wave scattering, at arbitrary angle to mag. field, ferrite-sphere scatt. (Russian) 9-15358

ferrite F-600, suspension in castor oil, residual magnetisation (Russian) 9-1689

19-1718

M type anisotropic, powder prep. and, sintered, effect of powder and pressing technology on alignment (German) 9-24472

magnetic anisotropy constant, contrib. of Fe²⁺ ion 9-33476

magnetically-soft materials, mag. characts. determ. methods, review 9-40593

magnetisation effect on RF dispersion of permeability (Russian) 9-4700

orthoferrites, skew cylindrical mag. domains, light modulator appl. anal. 9-38360

partially magnetised, diagonal components of permeability tensor and resonance 9-47306

plasma sputtering, struct. props. and phys.-chem. transform. (Russian) 9-38739

'Pulsed ferrite core tests for 50-ns linear induction accelerator' 9-690

rare earth garnets-R₃R'₃-Fe₃-[M₂O₁₂], R,R'-rare earths, on Y ions, M³⁺=Al³⁺, Ga³⁺, Sc³⁺, In³⁺, effect of ion replacements on lattice constant 9-1408

rare earth orthoferrite, phonon slowing down of domain wall (Russian) 9-33503

rare earth orthoferrite, RFeO₃, spin reorientation and magneto-optical effects (Japanese) 9-47414

rare-earth orthoferrite, domain wall crit. vel. 9-38354

semiconductor-ferrite layer structure, influence of Hall effect on spin wave spectrum and amplification by current 9-11308

semiconductor-ferrite layered struct., interaction of spin waves with hot carriers 9-15291

semiconductor-ferrite structure, surface spin waves, current-induced amplification, effect of static state inhomogeneity 9-28519

spin waves, parametrically excited, spectral density (Russian) 9-4667

Ba ferrite compounds, microsyntactic intergrowth and cryst. defects, TEM obs. 9-10858

Ba ferrite platelets in multidomain state and at saturation, FMR absorpt. 9-42841

Ba ferrite powder, effect of lattice defects on coercivity (German) 9-24194

Ba, Hall effect 9-38109

Ba, Hall effect and electrical conductivity 9-42564

BaFe₂O₁₉, effect of impurity concentrations, and sintering conditions on grain size (German) 9-23630

BaFe₂O₁₉, high field Mossbauer effect on ⁵⁷Fe at room temp. and 4.2K 9-24238

BaO-SiO₂-Fe₂O₃ permanent mag. ceramics, exam. of phase diagram, using X-ray analysis, optical microscopy, electron probe anal., and thermal analysis (German) 9-29012

BaO.n Fe₂O₃, magnet, effect of SiO₂ on texture and densification behaviour (German) 9-24631

Ba₂Zn_{2-2x}Cu_{2x}Fe₂O₂₂, hexagonal ferrites, prep. and mag. characterisation 9-1727

CeFe₂O₄, prep. by double decomp. reaction, mag. characts. (French) 9-33463

Co_{1.8}BaFe₂O₁₆27, influence of spin-reorientation on magnetoelastic props. (Russian) 9-8028

Co₂₄Fe_{1-x}2+Fe_{3+2x}O₄, Mossbauer parameters, effect of Fe²⁺, Zeeman patterns 9-28647

CoFe₂O₄ synthesis, chem., thermal histories rel. to fine cryst. struct. 9-43186

Cu_{1-x}Fe_{2+x}O₄, elec. resist., Seebeck coeffs., 20 to 900°C, cation distrib. 9-4575

FeCoCrO₄ spinel, elec. resistivity, temp. var. 9-38065

Fe_{3-x}Cr_xO₄, electron transfer and spin density distrib., Mossbauer spectra 9-24243

Fe_{3-x}In_xO₄, ferrosinels, cation distrib., Curie point and magnetisation meas. 9-42095

Fe₂LiO₈, magnetoelc. effect interpretation by magneto-cryst. anisotropy (French) 9-33515

Fe₂O₃-BaO-CoO system, phase comp. and mag. props., Bi₂O₃ additions effect 9-29032

Fe₂O₃-NiO-ZnO-CoO (15.1, 17.6, 0.6 wt.%) ferrite, effect of electron beam machining on surface layer 9-34178

Fe₂O₄, tetrahedral-site Fe³⁺ ion, spin-transfer due to covalency 9-15285

GdIG single crystal plates for magneto-optical information storage 9-7997

LaFeO₃, doped, effect of doping on hyperfine fields, supertransfer model 9-47057

LaFe₂O₁₉, high field Mossbauer effect on ⁵⁷Fe at room temp. and 4.2K 9-24238

Li ferrite, ferromag. reson., linear elec. field shift 9-1716

Li-Na ferrite powders, props. rel. to Fe₂O₃ chem., thermal, mech. historical 9-11539

Li_{0.5}Fe_{2.5}O₄, microwave material, mag. props., review 9-33504

Li_{0.13}Fe_{2.87}O₄, acoustic spin wave dispersion branch, exchange const., neutron scatt. study 9-47266

Li_{0.5}Fe_{2.5}O₄, polar Kerr rotation spectra, 2-5.7 eV, comparative study with YIG 9-47413

Li_{0.5}Fe_{2.5}O₄, spinel ferrite, prep. by thermal treatment of spray-dried formates, scanning electron microscope examination 9-24482

Li₅FeO₄, compatibility of Fe-Ni-Cr alloy with Li₂O pellets, mass spectrometric study of Li₅FeO₄ evaporation 9-8385

ferrites continued

Mg-Cu-Mn-Ni-Fe-O, UHF ferrites, synthesis, physicochem. state, mag. and dielec. parameters 9-11536

MgFe₂O₄, prep. by double decomp. reaction, mag. characts. (French) 9-33463

Mg_xFe_{3-x}O₄, cation redistribution, effect of composition and thermal treatment 9-27966

Mg_{0.8}Mn_{0.2}Fe_{1.8}Al_{0.2}O₄, grade 6SChl ferrite, milling conditions effect on fine cryst. struct. and activity 9-24483

MgO-ZnO-Fe₂O₃-Cr₂O₃ system spinels, IR absorpt. spectra, short-range order 9-42957

Mn-Zn, permittivity anal. and meas. (Russian) 9-15391

MnFe₂O₄, prep. by double decomp. reaction, mag. characts. (French) 9-33463

MnMgZn, accurate chemical comp. determ. by instrument-aided neutron activation anal. 9-29438

MnZn ferrite, spray dried agglomerates, compaction response, fracture, deform. 9-43172

MnZn ferrite single cryst., Bridgman growth and appl. (Chinese) 9-33928

MnZn ferrite single cryst., high temp. phase transform. characts., growth techniques (Chinese) 9-33927

MnZn ferrites, doped; determ. of grain boundary composition, using Auger spectroscopy (German) 9-23618

MnZn ferrites, hot pressed, mechanism of protective action of ZnO coating (Russian) 9-15822

MnZn ferrites, neutron diffr. exam. of influence of technology on mag. and cryst. parameters 9-42741

MnZn ferrites, phase equilibria, use in manufacture of spinel ferrites 9-11596

Mn_{0.4}Zn_{0.42}Fe_{2.16}O_{4+x}, permeability, rel. to intrinsic mag. props. 9-4702

Mn_{0.516}Zn_{0.417}Fe_{2.073}O_{4+δ}, relationship between magnetic permeability and stoichiometry 9-42799

Mn_{0.53}Zn_{0.35}Fe_{2.12}O₄, and Ti substituted, acoustic losses 9-24207

Ni, internal friction and modulus defect at US freqs. 9-19762

Ni-Co-Zn ferrite, exam. of electromag. characteristics 9-1409

NiFe_{2-x}Al_xO₄, stress-induced anisotropy in LPE grown single cryst. films, domain struct. 9-28238

NiFe₂O₄, effect of sintering in air in range 1373-1773K on lattice parameter 9-19208

NiFe₂O₄, exchange integrals from magnetisation meas. 9-47273

NiFe₂O₄, prep. by double decomp. reaction, mag. characts. (French) 9-33463

Ni_{1-x}Fe_{2+x}O₄, mag. anisotropy constant, contrib. of Fe²⁺ ion 9-33476

NiO:Fe, exchange anisotropy of Ni-ferrite precipitates 9-28520

NiO-CdO-Fe₂O₃ system, phase equilibria 9-11582

NiZn ferrite quarter wave type absorber 9-38386

NiZnCo ferrites, temp. stability, effect of Fe content and processing conditions 9-28993

Sm₂Tb_{1-x}FeO₃ orthoferrites, crystallo-optical props. 9-42027

SrFe₁₂O₁₉, exam. of factors affecting reaction kinetics, thermal analysis (German) 9-24471

SrFe₂O₁₉, ferrite, powder effect of SiO₂ during sintering, exam. of grain growth and phase diagram (German) 9-24473

SrFe₂O₁₉, prep. by fluidized bed technique, ceramic and magnetic props. 9-43445

SrO-SiO₂-Fe₂O₃, permanent mag. ceramics, exam. of phase diagram, using X-ray analysis, optical microscopy, electron probe anal., and thermal analysis (German) 9-29012

TbIG, mag. linear double refr., two-sublattice model (Russian) 9-28728

TbY ferrite garnet, Tb³⁺ energy level inversion, Faraday effect (Russian) 9-47418

YFe_{0.62}Co_{0.38}O₃, compensation of weakly ferrimag. moment 9-8035

YFe_{1-x}Ga_xO₃, zone refined, exam. of Curie point and magnetisation 9-4673

Y₂Fe_{3-x}Ga_xO₁₂, inhomogeneous stress effect on ferromagnetic resonance 9-24219

YFeO₃, domain walls vel. (Russian) 9-28553

YFeO₃, orthoferrite, domain boundary vel. exceeding limiting vel. (Russian) 9-24192

YFeO₃, spin-wave damping of domain walls 9-42795

YFeO₃, thermomag. recording in surface layer of orthoferrite 9-24165

YFeO₃, transit time meas. of domain-wall mobilities, magnetoelastic and magnetoacoustic effects 9-42794

YIG, mag. linear double refr., two-sublattice model (Russian) 9-28728

YIG, relax. after spin wave excitation in ferrite (Russian) 9-19783

YIG, single cryst., high temp. dislocation mobility 9-19255

YIG, spin wave instability, parametrically excited spin waves distrib. (Russian) 9-38317

YIG, substituted, effect of electron bombardment on mag. and elec. props. 9-42103

YbFeO₃:Co, mag. struct. factors, neutron diffr. study 9-47248

Zn ferrite, production by mechanochemical reactions by grinding in ball mill 9-20014

Zn₂Fe₂Mn₂Fe₂O₄, ferrite, production from Fe₂O₃, effect of impurities on props. (German) 9-4925

ZnFe₂O₄, duplex struct. formation during sintering, grain growth study 9-11541

ZnMn ferrites, prepared by wet chemical and ceramic methods, comparison of struct. and mag. props. (German) 9-24470

Zn_{0.7}Ni_{0.3}Fe₂O₄ film, epitaxial deposition, comp. and mag. prop. obs. using Mossbauer effect 9-38748

Zn_{0.75}Ni_{0.25}Fe₂O₄, mixed ferrite-spinel, helicoidal struct. 9-47242

ferroacoustic resonance

No entries

ferroelasticity

see also *shape memory effects*

boracites, spontaneous birefr., meas. and appl., ferroelectric/ferroelastic phases 9-15434

conference, Leningrad, USSR (1977) 9-15406

crystalline phase transitions, symmetry determined phenomena 9-46800

defect structure near phase transition pt., effect on solid props. (Russian) 9-37838

electronic micropositioning with ferroelastic-ferroelectrics 9-17392

isopropyl ammonium chloroplatinate and chlorostannate, ferroelastic transition, thermal, optical, and elastic meas. 9-28096

lithium ammonium tartrate, ferroelectric and ferroelastic transitions, Brillouin scatt. meas. 9-33716

phase transitions, ferroelectric and structural refractive indices and electro-optics 9-19850

ferroelasticity continued

- piezoelectric semiconductor, dissipative, amplification of spin waves 9-24000
- Rochelle salt, phase transition mechanisms by optical spectroscopy, elastic moduli 9-15411
- second-order transitions, cryst. unit cell modification, group theoretical anal. 9-37830
- TSCC ferroelastic monodomain crystals, dielec. behaviour 9-42888
- $\text{Ba}_2\text{AgNb}_2\text{O}_{15}$, $\text{Ba}_2\text{AgTa}_2\text{O}_{15}$, ferroelec. and ferroelastic props. (French) 9-24266
- $\text{BaCl}_2 \cdot 2\text{H}_2\text{O}$, ferroelastic effect obs. 9-28033
- $\text{Ba}_2\text{NaNb}_2\text{O}_{15}$, high-pressure phase transitions, ferroelastic phase 9-7687
- $\text{Ba}_2\text{NaNb}_2\text{O}_{15}$, low temp. ferroelectric transitions, birefr. and dielec. meas. 9-38499
- BiVO_4 , ferroelastic phase transition, thermodynamic theory 9-37832
- CsH_2PO_4 , domain obs. in paraelectric phase 9-24277
- ErNbO_4 , ^{93}Nb NQR spectra, 77 to 450K 9-38401
- $\beta\text{-Gd}_2(\text{MoO}_4)_3$, antiferromag., polarised ferroelec., ferroelastic, magneto-thermodynamics 9-7996
- Hg_2Br_2 , ferroelastic phase, softening of acoustic and optical modes 9-33064
- $\text{KD}_3(\text{SeO}_3)_2$, optical and dielec. props. near ferroelastic phase transition 9-38518
- $\text{K}_0.5\text{Eu}_{0.5}\text{Nb}_2\text{O}_6$, ^{93}Nb NQR spectra, 77 to 450K 9-38401
- KH_2PO_4 , differential γ -ray diffractometry, exam. of ferroelectric-ferroelastic cryst. in cyclic fields 9-38511
- $\text{KH}_2(\text{SeO}_3)_2$, lattice const. and thermal expansion tensors, X-ray diff. meas. 9-37856
- $\text{KH}_2(\text{SeO}_3)_2$, low-frequency elastic props., -190 to 50°C 9-37759
- $\text{KH}_2(\text{SeO}_3)_2$, optical and dielec. props. near ferroelastic phase transition 9-38518
- $\text{KSc}(\text{MoO}_4)_2$, soft modes and Raman spectrum at ferroelastic phase transitions 9-47450
- $\text{K}_{0.5}\text{Tm}_{0.5}\text{Nb}_2\text{O}_6$, ^{93}Nb NQR spectra, 77 to 450K 9-38401
- LaNbO_4 , ^{93}Nb and ^{139}La NQR spectra 9-38401
- LaNbO_4 , ferroelastic, cryst. struct. and twinning struct. 9-27965
- LaP_2O_7 , ferroelastic phase transition, thermal expansion and elastic const. tensors 9-42236
- $\text{NH}_4\text{HSO}_4 \cdot \text{VO}^{2+}$, ferroelastic, internal strains, ferroelec. transitions, EPR 9-47400
- $(\text{NH}_4)_2\text{SO}_4$, phase transition mechanisms by optical spectroscopy, elastic moduli 9-15411
- NdNbO_4 , ferroelastic, cryst. struct. and twinning struct. 9-27965
- NdP_2O_7 , ferroelastic, spectroscopy, ferroelastic/ferroelectric coupling, soft optical mode frequencies 9-19845
- $\text{Pb}_2\text{AgNb}_2\text{O}_{15}$, $\text{Pb}_2\text{AgTa}_2\text{O}_{15}$, ferroelec. and ferroelastic props. (French) 9-24266
- $\text{Pb}_3\text{KNb}_{1-x}\text{Ta}_x\text{O}_{15}$, ferroelastic-ferroelectric coupling, dielec. props. 9-38433
- $\text{Pb}_3(\text{PO}_4)_2$, ferroelastic transformations and struct. as function of temp., neutron diff. study 9-19188
- $\text{Pb}_3(\text{PO}_4)_2$, ferroelastic phase transition, thermodynamic theory 9-37832
- $\text{Pb}_3(\text{PO}_4)_2$, ferroelastic phase, structure domains, electron microscope obs. 9-42078
- $\text{Pb}_3(\text{PO}_4)_2$, phase transition at 180°C, dielectric meas. 9-37831
- $\text{Pb}_3(\text{PO}_4)_2 \cdot \text{Gd}^{3+}$, EPR near ferroelastic transition point 9-15350
- $\text{Pb}_3(\text{VO}_4)_2$, ferroelastic phase transition, thermodynamic theory 9-37832
- $\text{Rb}_2\text{Hg}(\text{CN})_4$, spinel, ferroelasticity and phase transformation 9-7646
- Sb_2O_7 , polytype 2MA, ferroelectric, ferroelastic, Raman scattering and symmetry anal. 9-38550
- $\text{Sr}_2\text{AgNb}_2\text{O}_{15}$, $\text{Sr}_2\text{AgTa}_2\text{O}_{15}$, ferroelec. and ferroelastic props. (French) 9-24266
- $\text{Tb}_2(\text{MoO}_4)_3$, thermal expansivity and spontaneous strain temp. depend. 9-14943
- YbNbO_4 , ^{93}Nb NQR spectra, 77 to 450K 9-38401

ferroelectric Curie temperature

- displacive ferroelectrics, connection between electron spectrum parameters and ferroelec. parameters 9-38483
- displacive type ferroelectrics with impurities, lattice dynamics 9-28061
- lattice dynamics of ferroelectrics with impurities 9-37802
- rare earth mixed molybdates, $\text{R}_2(\text{MoO}_4)_3$, $\text{R}_2(1-x)\text{R}'_{2x}(\text{MoO}_4)_3$, cryst. growth and crystallographic data, Curie temp. determ. 9-43132
- sodium benzoylacetate, pyroelectric effect, peak near Curie temp. 9-8096
- tetramethyl ammonium cobalt chloride, ferroelec., Curie temp. determ. 9-38485
- TGFB, Curie point press. coeff. tensor 9-33635
- TGFB, deuterated, effects of deuteration on lattice parameters and Curie temp. 9-24422
- TGS, Curie point press. coeff. tensor 9-33635
- TGS, thermoluminesc. near Curie temp., effect of DC elec. field 9-33848
- TGSe, Curie point press. coeff. tensor 9-33635
- TGSe, low freq. dielec. dispersion near Curie point 9-38432
- tris-sarcosine calcium bromide and chloride solid solns., Mn^{2+} doped, EPR linewidths and ferroelec. behaviour 9-24213
- tris-sarcosine calcium chloride, US attenuation and vel., elastic const., and permitt. near Curie temp. 9-37761
- vibronic theory of ferroelectricity 9-19854
- BaTiO_3 , exam. of anomalous pyroelectric effect above Curie point 9-33613
- BaTiO_3 films, effect of elec. field on dielec. props. 9-33642
- $\text{Bi}_2\text{TiO}_4\text{F}_2$, one-layer perovskite-like ferroelec., dielec. study 9-38486
- CSH_2AsO_4 , Mandelstam-Brillouin spectra and US vel. meas. near ferroelec. Curie point 9-38553
- $\text{Gd}_2(\text{MoO}_4)_3$, effect of ferroelec. ordering on refractive index 9-33653
- $\text{Gd}_2(\text{MoO}_4)_3$, optical activity, gyration tensor determ. near Curie point 9-33660
- KD_3PO_4 , attenuation const. meas. by SHF dielec. resonance, Curie point 9-47406
- KH_2PO_4 , and isomorphs, ferroelectric transition and Curie temp., soft mode effect, Green's function anal. 9-24269
- KH_2PO_4 , attenuation const. meas. by SHF dielec. resonance, Curie point 9-47406
- KH_2PO_4 , optical activity, gyration tensor determ. near Curie point 9-33660
- KH_2PO_4 -type crystals, H bond in ferroelectricity, role of high pressure research, T_c press. depend. 9-15414
- K_2ZnCl_4 , ferroelec. props. 9-4772
- LiNbO_3 , Raman spectra and dielec. props. near Curie point 9-38530
- LiTaO_3 , Raman spectra and dielec. props. near Curie point 9-38530

ferroelectric Curie temperature continued

- LiTaO_3 , single crystals, Czochralski growth, Curie temp. variations 9-33922
- NaNbO_3 - SrNb_2O_6 , phase diagram, props. meas. 9-11576
- $(\text{Pb}_{1-x}\text{Bi}_x)_2\text{Ge}_2\text{O}_{11}$, spontaneous and induced electrogyration 9-42946
- Pb_3GeO_8 , single crystal, props., grown by hydrothermal method 9-11504
- $\text{Pb}_3\text{KNb}_{1-x}\text{Ta}_x\text{O}_{15}$, ferroelastic-ferroelectric coupling, dielec. props. 9-38433
- PbNb_2O_6 , permittivity and elec. cond. meas., first order transition 9-24270
- $\text{PbNb}_{0.5}\text{Sb}_{0.5}\text{O}_3$, ceramic, dielec. props. 9-11392
- $\text{Pb}(\text{Zr,Ti})\text{O}_3$, polarisation effect on deform. and strength, Curie pt. region 9-42902
- $\text{Pb}(\text{Zr,Ti})\text{O}_3$, thin film evaporated on stainless steel, photovoltaic effect 9-4580
- Rb_2CoBr_4 , ferroelec., Curie temp. determ. 9-38485
- Rb_2CoCl_4 , ferroelec., Curie temp. determ. 9-38485
- RbH_2AsO_4 , attenuation const. meas. by SHF dielec. resonance, Curie point 9-47406
- RbH_2PO_4 , attenuation const. meas. by SHF dielec. resonance, Curie point 9-47406
- $\text{RbH}_2(\text{SeO}_3)_2$, ferroelectric phase transition, Raman spectra meas. 9-19871
- Rb_2ZnBr_4 , ferroelec., Curie temp. determ. 9-38485
- Rb_2ZnBr_4 , incommensurate phases, neutron scattering study 9-15417
- Rb_2ZnCl_4 , ferroelec., Curie temp. determ. 9-38485
- $\text{Sr}_2\text{Ta}_2\text{O}_7$ - $\text{Nd}_2\text{Ta}_2\text{O}_7$, SHG, effect of dopants on Curie temp. 9-24267
- ferroelectric devices**
- bimorph vibrator pump characts., using ferroelectric crystals 9-48182
- ferroelectric-semiconductor structure, effect of potential relief of ferroelectric substrate on props. 9-11235
- information display technology, symposium, San Francisco (1978) 9-9209
- PLTZ ceramics, photoferroelectric effects, image storage device appl. 9-42924
- PLTZ ceramics, photoferroelectric image storage in antiferroelectric phase 9-47404
- PLTZ real time 2 colour incoherent to coherent image convertor 9-3805
- ferroelectric domains** see *electric domains*
- ferroelectric materials**
- see also *antiferroelectric materials; electric domain walls; ferroelectric semiconductors; ferroelectric thin films; ferroelectric transitions; lattice dynamics of ferroelectric crystals*
- alums, dielec. behaviour and ferroelectricity 9-38431
- ammonium hydrogen chloracetate, order disorder type transition 9-47399
- ammonium Rochelle salt, incommensurate phase transitions under existence of Lifshitz invariant 9-15416
- bibliography, June 1977-Aug. 1977 9-19847
- bibliography, Sept. 1977-Jan. 1978 9-19848
- boracites, spontaneous birefr., meas. and appl., ferroelectric/ferroelastic phases 9-15434
- ceramic, optical modulation by electrostriction during electron beam charging, spatial characts. 9-7224
- conference, ferroelectric materials and their applications, Kyoto, Japan, Nov. 17-19, 1977 9-19846
- conference, Leningrad, USSR (1977) 9-15406
- coupled oscillation spectrum, phenomenological theory w.r.t. orientational transitions 9-8103
- l-p-decyloxybenzylidene-p'-amino-2-methylbutylcinnamate, ferroelec. liq. cryst., pulsed pyroelec. effect 9-15405
- dicalcium lead propionate, effect of particle size on dielec. behaviour 9-38429
- dicalcium strontium propionate, cryst. symmetry in low temp. phase 9-37693
- dicalcium strontium propionate, effect of particle size on dielec. behaviour 9-38429
- dicalcium strontium propionate, elastic stiffness const., determ. in US freq. region 9-37752
- dimethylammonium cadmium tetrachloride type compounds, structural phase transition model 9-37829
- displacive ferroelectrics, model, fluctuation effects 9-33063
- DOBAMBC, ferroelec. props. 9-32884
- doped displacive ferroelectrics, sound attenuation constant, Green's function technique 9-11397
- ester, smectic C phase liq. cryst., ferroelectricity and spontaneous polarisation (Russian) 9-8102
- F 9-42913
- ferroelec. crystal, Barkhausen effect study 9-38507
- guanidinium aluminium sulphate hexahydrate: Cr^{3+} pressure meas. from ESR 9-38375
- guanidinium aluminium sulphate hexahydrate, pyroelectric coeff., 1.8-300K, dynamic method (French) 9-19844
- guanidinium gallium sulphate hexahydrate: Cr^{3+} pressure meas. from ESR 9-38375
- HOAB-DOBAMBC nonchiral-chiral smectic C mixture, spontaneous polarization and induced circular dichroism 9-27910
- liquid crystals, kinetics of spontaneous polarisation (Russian) 9-8101
- lithium thallium tartrate, single cryst., thermal cond. at low temps. 9-33125
- lithium thallium tartrate monohydrate, paraelectric phase structure by neutron diffraction data 9-19238
- methylammonium chromium selenate, lattice const. and ferroelec. props. 9-33641
- methylammonium gallium selenate, lattice const. and ferroelec. props. 9-33641
- methylammonium-Ga(SO_4)₂·12H₂O, ferroelec. alum single crystals., dielec. dispersion and characts. 9-15408
- photovoltaic effect, photoelectron transport 9-4582
- PLTZ, diffuse phase transitions 9-33628
- PLTZ ceramics, ferroelec., special props. 9-42916
- polyvinylidene fluoride-tetrafluoroethylene, ferroelectric props. 9-42929
- PZT, ferroelec. ceramic, mechanical props. determ. by acoustic techniques 9-28685
- rare earth mixed molybdates, $\text{R}_2(\text{MoO}_4)_3$, $\text{R}_2(1-x)\text{R}'_{2x}(\text{MoO}_4)_3$, cryst. growth and crystallographic data 9-43132
- Rochelle salt, electrogyration during phase transitions 9-19859
- Rochelle salt, ferroelec. thin crystals., struct. investig. 9-27962
- Rochelle salt, phase transition mechanisms by optical spectroscopy 9-15411
- Rochelle salt, polarisation echo in ferroelec. phase transition region 9-42920

ferroelectric materials continued

- saccharose, single cryst. low-temp. pyroelectricity 9-42906
 schultenites, ferroelectric, sp. ht. 9-19853
 SEM, polarisation contrast of cathodolum. for natural and synthetic ferroelects. 9-7529
 smectic liquid crystals, piezoeffects and ferroelectric phenomena 9-32883
 smectic mesophases, viscoelastic properties and field instabilities 9-27904
 sodium ammonium tartrate, crysts., temp. depend. of elastic compliances at phase transition 9-15409
 sodium benzoylacetate, dielec. props. and cryst. struct. 9-8099
 sodium benzoylacetate, pyroelectric effect, peak near Curie temp. 9-8096
 stibiotantalite type structure ferro- and antiferroelectrics, props. and crit. points 9-38460
 Tanane, dielec. and electrooptic meas. near ferroelec. transition 9-33587
 tetragonal tungsten bronze structure ferroelec. mech. for ferroelec. transition 9-38481
 tetramethyl ammonium cobalt chloride, ferroelec., Curie temp. determ. 9-38485
 tetramethylammonium tetrachlorocobaltate, ferroelec., effects of hydrostatic press. on successive phase transitions 9-47402
 tetramethylammonium tetrachlorozincate, ferroelec., effects of hydrostatic press. on successive phase transitions 9-47402
 TGFB:Cr³⁺, polarisation reversal and ageing mechanisms, EPR meas. 9-8044
 TGFB, Curie point press. coeff. tensor 9-33635
 TGFB, deuterated, single cryst. growth and props. 9-24422
 TGFB, optical props. in 5 to 22 eV region, reflectance spectra 9-33652
 TGFB, refl. spectra 4-22 eV, optical const. 9-4821
 TGS:α-alanine, piezoelectric props., ferroelec. phase existence (*Russian*) 9-47387
 TGS:Cr³⁺, EPR obs. of ferroelectric monocrystals, fine struct. EHT-SCCC-MO calcs. 9-19769
 TGS, alignment on domains of nematic liq. cryst. 9-38506
 TGS, correlation between domain struct. and dielec. props. 9-42927
 TGS, critical region in sp. ht. 9-28106
 TGS, Curie point press. coeff. tensor 9-33635
 TGS, deuterated, undoped and alanine-doped, growth by rotating disc method and elec. props. 9-47611
 TGS, electrogyration during phase transitions 9-19859
 TGS, emission of free charge carriers in vacuum as symptom of pyroelec. props. 9-42908
 TGS, ferroelec., domain wall orientations and domain shapes 9-38508
 TGS, ferroelec., meas. of sp.ht. at constant elec. flux density by AC method 9-33098
 TGS, ferroelec., spontaneous polarisation, 2.2-20K 9-19849
 TGS, ferroelec., thermal expansion 9-37855
 TGS, ferroelec. crystal, Barkhausen effect study 9-38507
 TGS, ferroelectric crystal, non-linear pyroelec. effect in phase transition region 9-47393
 TGS, interaction of γ-irrad., induced defect electron microscope expts. 9-10876
 TGS, morphology of Au and AgCl films on complementary cleavage planes 9-15031
 TGS, optical props. in 5 to 22 eV region, reflectance spectra 9-33652
 TGS, pure and doped, thermal diffusivity, domain wall thickness determ. 9-42324
 TGS, pure and with lattice defects, elec. cond. 9-42538
 TGS, pyroelectric coeff., 1.8-300K, dynamic method (*French*) 9-19844
 TGS, pyroelectric coeff., polarising field effect 9-47391
 TGS, refl. spectra 4-22 eV, optical const. 9-4821
 TGS, switching induced electroolum. 9-38669
 TGS, temp. depend. of spontaneous polarization near ferroelec. transition 9-33597
 TGS, thermal exspn. coeffs. log. anomaly 9-28112
 TGS, thermoluminesc. near Curie temp., effect of DC elec. field 9-33848
 TGS, US propag. and vel. rel. to growth defects 9-28049
 TGS, with radiation defects, dielec. dispersion 9-42882
 TGS, X-irrad., glycine radicals, geom. struct. by ENDOR and INDO calc. 9-24230
 TGS cleavage faces, ferroelec., oriented growth of Te 9-38509
 TGS crystals, thermal props., γ-radiation defects and inhomogeneity of domain deposition 9-46810
 TGS deuterated, X-irrad., negative ENDOR, collective motion 9-47357
 TGS powder, complex dielectric const. temp. depend. 9-47379
 TGS substrate, ferroelec. field effect in Te films 9-42675
 TGS substrate, for AgCl epitaxial growth, model system for orientation mechanism determ. during epitaxy 9-11022
 TGS-type crystals:Cr³⁺, radiospectroscopic studies 9-15341
 TGSe, acoustic and thermal anomaly correlation near ferroelec. transition 9-4775
 TGSe, Curie point press. coeff. tensor 9-33635
 TGSe, ferroelec., domain wall orientations and domain shapes 9-38508
 TGSe, ferroelec., meas. of sp.ht. at constant elec. flux density by AC method 9-33098
 TGSe, low freq. dielec. dispersion near Curie point 9-38432
 TGSe, pyroelectric coeff., 1.8-300K, dynamic method (*French*) 9-19844
 TGSe, therm. strains, electrostriction, by combined two-beam and holographic interferometry 9-3650
 thiourea, commensurate-incommensurate phase transition, X-ray diffuse scatt. meas. (*French*) 9-19856
 thiourea, dielec. const. and IR spectra in ferroelec. and antiferroelec. phases 9-33589
 thiourea, ferroelectric transition, X-ray scatt. 9-47398
 thiourea, IR reflectivity study of ferroelec. and antiferroelec. phases, dielec. function model 9-33686
 thiourea, lattice vibr. in incommensurate phase 9-28056
 thiourea, pyroelectric coeff., 1.8-300K, dynamic method (*French*) 9-19844
 thiourea, Raman scattering spectra, soft mode frequency 9-24305
 triglycine selenate, ferroelec. coercive field as function of impressing rate of field 9-8108
 triglycine sulphate, paraelec. phase, thermal expansion coeff. and dielec. constant 9-8100
 tris-sarcosine calcium bromide and chloride solid solns., Mn²⁺ doped, EPR linewidths and ferroelec. behaviour 9-24213
 tris-sarcosine calcium chloride:Mn(Fe), influence of cryst. defects on ferroelec. transition, EPR 9-38466
 tris-sarcosine calcium chloride, US attenuation and vel., elastic const., and permitt. near Curie temp. 9-37761
 TSCC ferroelastic monodomain crysts., dielec. behaviour 9-42888

ferroelectric materials continued

- [(NH₄)_{1-x}Li_x]SO₄, NH₄⁺ dynamics, neutron scatt. study 9-42167
 Ag₃AsS₃, proustite, ferroelec. with no 180° polarisation reversal, ferroelec. phase transition 9-38465
 AgNa(NO₂)₂, crit. sp. ht. near ferroelec. transition 9-38474
 AgNa(NO₂)₂, ferroelec. transition, ²³Na elec. field gradient tensor, NMR meas. 9-4777
 AgNa(NO₂)₂, Raman spectrum, NO₂⁻ bending vibr. 9-28737
 AgNa(NO₂)₂, triplet absorpt. polarised spectra, near ferroelec. phase transition 9-47473
 Ag₃SbS₃, pyrraryrite, order-disorder phase transition and elec. polarisation 9-38468
 Ba_{0.25}Sr_{0.75}Nb₂O₆, inhomogeneous ferroelec., photorefractive effect 9-42935
 Ba₂AgNb₂O₁₅, Ba₂AgTa₂O₁₅, ferroelec. and ferroelastic props. (*French*) 9-24266
 Ba₂NaNb₂O₁₅, electrooptic coeffs. and refractive indices 9-33673
 Ba₂NaNb₂O₁₅, low temp. ferroelectric transitions, birefr. and dielec. meas. 9-38499
 Ba₂NaNb₂O₁₅, Raman spectra in elec. field 9-1763
 Ba_{4-x}(Na_{2-2x}Nb₁₀O₃₆), tetragonal tungsten bronze structure ferroelec. mech. for ferroelec. transition 9-38481
 Ba_{0.25}Sr_{0.75}Nb₂O₆, anomalous photovoltaic effect and photocond. 9-38122
 Ba₂Sr_{1-x}TiO₃, thin ferroelec. layers 9-42912
 BaTiO₃:Mn, ferroelec. domain stabilisation by bulk ordering of defects 9-42925
 BaTiO₃, anomalous photovoltaic effect and photocond. 9-38122
 BaTiO₃, Co substituted, ferroelec., diffuse behaviour 9-38475
 BaTiO₃, coherent excitation of soft polariton mode 9-15464
 BaTiO₃, crit. X-ray scatt. 9-33636
 BaTiO₃, dielec. and optical props. using shell model 9-33654
 BaTiO₃, diffr. of Mossbauer radiation near Curie point (*Russian*) 9-8079
 BaTiO₃, displacive type ferroelectric, SHG 9-36955
 BaTiO₃, domain struct., formation at phase transitions 9-38510
 BaTiO₃, electronic struct., XPS and band struct. calc. 9-38708
 BaTiO₃, exam. of anomalous pyroelectric effect above Curie point 9-33613
 BaTiO₃, ferroelec., appl. of pseudo-ionic model for ionic cryst. 9-33049
 BaTiO₃, ferroelec., reduction of hysteresis losses 9-42926
 BaTiO₃, ferroelec., X-ray diffr. topographic study of polarisation reversal 9-38442
 BaTiO₃, ferroelec. thin films, r.f. sputtering, X-ray and microprobe obs. 9-47627
 BaTiO₃, ferroelectric polydomain crysts., piezoresonance effects, appl. as transducer 9-4779
 BaTiO₃ films, ferroelec., effect of elec. field on dielec. props. 9-33642
 BaTiO₃, light scatt., Comes Lambert Guinier model 9-15471
 BaTiO₃, melt grown, drift mobility meas. 9-19596
 BaTiO₃, O_K X-ray emission band spectra (*Russian*) 9-15563
 BaTiO₃, piezoceramic, nonlinear piezoeffect 9-42900
 BaTiO₃, pure, dielec. behaviour at ultralow freq. 9-38425
 BaTiO₃, pure, dielectric const. and elastic compliance temp. depend. for various phases 9-19830
 BaTiO₃, pure and doped, photocurrent kinetics 9-42576
 BaTiO₃, single crysts., electron microscope study of domain and defect struct. 9-15425
 BaTiO₃, soft mode exam. 9-37799
 BaTiO₃, transform. of cryst. struct., at cubic-to-tetragonal phase transitions 9-37827
 BaTiO₃, transport and optical props., small polaron hopping theory 9-47096
 BaTiO₃, X-ray diffr. intensities, anomalous temp. depend. (*Russian*) 9-1484
 BaTiO₃:Fe, photoinduced Rayleigh scatt. and bulk photovoltaic effect 9-38554
 BaTiO₃:Fe, short circuit photocurrent, depend. on polarization 9-38121
 BaTiO₃:Mn²⁺, electrooptical effect, charge transfer mechanism, defect. pair form. 9-38519
 BaTiO₃:Nb, ferroelec. and paraelec. phases, props. 9-42919
 BaTiO₃:ZrO₂, dielec. loss tangent and const. 9-4769
 BaTiO_{3-x}, ferroelec., Auger spectroscopy of surface layers 9-42343
 Bi complex oxides, antiferroelec. and ferroelec., pyrochlore struct., dielec. and structural study 9-38488
 Bi_{1-x}SiO_{2-x}, optical information recording, PROM device resolution 9-41443
 Bi₂Ti₂Fe₂O₇, combined hyperfine interaction 9-28663
 Bi₂TiO₅F₂, one-layer perovskite-like ferroelec., dielec. study 9-38486
 Ca₂Nb₂O₇, ferroelec., temp. depend. of SHG intensity 9-24267
 CaTiO₃, O_K X-ray emission band spectra (*Russian*) 9-15563
 Cd₂(NH₄)₂(SO₄)₃, X-ray and optical studies of ferroelec. phase transition 9-38495
 Cd₂Nb₂O₈S, pyrochlore struct., ferroelec., dielec. and structural study 9-38488
 Ce₂Ti₂O₇, ferroelec., temp. depend. of SHG intensity 9-24267
 Cr₂BeO₄, magnetoferroelectricity, weak pyroelectric effect 9-42914
 Cr₂As₂O₄, ferroelec. phase transition, NMR study (*Chinese*) 9-33644
 CsH₂AsO₄, ferroelec., RF dielec. relax., loss mech. 9-38448
 CsH₂AsO₄, Mandelstam-Brillouin spectra and US vel. meas. near ferroelec. Curie point 9-38553
 CsH₂PO₄, domain obs. in paraelectric phase 9-24277
 CsH₂PO₄, ferroelec., press. induced antiferroelectricity 9-4774
 CsH₂PO₄, ferroelec., X-ray and dielec. studies on phase transition 9-38477
 CsH₂PO₄, paraelectric phase, struct. exam. by neutron diffr. 9-37679
 CsPbBr₃, critical thermodynamic props. around successive phase transitions 9-33627
 CsPbCl₃, critical thermodynamic props. around successive phase transitions 9-33627
 Cu-Cl boracite, ferroelec., X-ray study on phase transition 9-33622
 Cu₃B₇O₁₃Cl, Raman study of ferroelec. phase transition 9-38529
 ErNbO₄, ⁹³Nb NQR spectra, 77 to 450K 9-38401
 β-Gd₂(MoO₄)₃, antiferromag., polarised ferroelec., ferroelastic, magnetothermodynamics 9-7996
 Gd₂(MoO₄)₃, effect of ferroelec. ordering on refractive index 9-33653
 Gd₂(MoO₄)₃, ferroelec., anomalous damping of phonons, Raman spectra, stress and temp. effects 9-38503
 Gd₂(MoO₄)₃, optical activity, gyration tensor determ. near Curie point 9-33660
 Gd₂(MoO₄)₃, temp. depend. of spontaneous biref. and electrooptic response 9-33662

ferroelectric materials continued

- Gd₂(MoO₄)₃:Nd³⁺, optical spectrum, free ion wavefunctions, radiative transition probabilities 9-24339
 Gd₂Ti₂O₇, ferroelec., temp. depend. of SHG intensity 9-24267
 α-HfO₃, electrogyration coeff. meas. 9-19859
 *H₂SeO₃, IR overtone spectra and temp. depend. 9-47456
 K₂AsO₄, ferroelec. phase transition, NMR study (*Chinese*) 9-33644
 K₂PO₄, attenuation const. meas. by SHF dielec. resonance 9-47406
 K₂PO₄, electronic struct., UV reflection spectra 9-38558
 K₂PO₄, ferroelec. phase transition, NMR study (*Chinese*) 9-33644
 K₂PO₄, para- and ferroelec. phases spatial distrib. during first order phase transitions 9-42923
 K₂PO₄, struct. at high press. in rel. to effect of press. on T_c 9-42915
 K₂PO₄-type crystals, photorefractive and photovolt. effects 9-15189
 K_{0.5}Eu_{0.5}Nb₂O₆, ⁹³Nb NQR spectra, 77 to 450K 9-38401
 K₄Fe(CN)₆·3H₂O, nature of phase transition 9-38470
 KH₂AsO₄, electronic struct., UV reflection spectra 9-38558
 KH₂AsO₄, ferroelec., RF dielec. relax., loss mech. 9-38448
 KH₂AsO₄:Cr³⁺, ferroelec. phase transition, EPR intensity and linewidth meas. 9-4721
 KH₂AsO₄-KH₂PO₄, AsO₄⁴⁻ centre, EPR central peak dynamics 9-33523
 K(H_{1-x}D_x)₂PO₄, polar mode softening and elastic anomaly temps. 9-28067
 KH₂PO₄, ³⁹K spin-lattice relax. time double NMR meas. 9-47358
 KH₂PO₄, attenuation const. meas. by SHF dielec. resonance 9-47406
 KH₂PO₄, cryst. regeneration of z-cut plates, effect of impurities 9-43120
 KH₂PO₄ crystals, mechanism of growth in presence of impurities 9-1403
 KH₂PO₄, dielec. functions above and below ferroelec. transition 9-33588
 KH₂PO₄, differential γ-ray diffractometry, exam. of ferroelectric-ferroelastic cryst. in cyclic fields 9-38511
 KH₂PO₄, dispersion of permittivity, 6 to 12 cm⁻¹ 9-33616
 KH₂PO₄, E-symmetry Raman spectra 9-38535
 KH₂PO₄, electronic struct., UV reflection spectra and XPS 9-38558
 KH₂PO₄, electrophotoluminescence obs. 9-47521
 KH₂PO₄, ferroelec., RF dielec. relax., loss mech. 9-38448
 KH₂PO₄, ferroelec. thin crystals, struct. investig. 9-27962
 KH₂PO₄, IR overtone spectra and temp. depend. 9-47456
 KH₂PO₄, optical activity, gyration tensor determ. near Curie point 9-33660
 KH₂PO₄, paraelec., Raman scatt. spectra of B₂-polariton and B₂(LO) modes 9-28762
 KH₂PO₄, paraelectric phase, forward and backward Raman scatt. 9-33681
 KH₂PO₄, photoelectric phenomena nonlinear optical rectification (*Russian*) 9-19628
 KH₂PO₄, polarisation echo in ferroelec. phase transition region 9-42920
 KH₂PO₄, polycrystalline materials; pyroelec. temp. anal. as method for studying ferroelec. transitions 9-38502
 KH₂PO₄ powder, dynamic polarisation echoes 9-4773
 KH₂PO₄, pyroelectric coeff., 1.8-300K, dynamic method (*French*) 9-19844
 KH₂PO₄, struct. at high press. in rel. to effect of press. on T_c 9-42915
 KH₂PO₄, struct. memory effects in low temp. changes 9-28700
 KH₂PO₄, supersaturated solution, nucleation rates meas. from induction period 9-23549
 KH₂PO₄, tricrit. point, neutron diffr. study under high press. 9-33624
 KH₂PO₄, tricritical point and tricritical exponent 9-33623
 KH₂PO₄ type crystals, microhardness, expt. determ. 9-24603
 KH₂PO₄ type crystals, evidence of non-linear behaviour of soft modes, Raman spectra 9-33639
 KH₂PO₄-type crystals, H bond in ferroelectricity, role of high pressure research 9-15414
 KH₂PO₄-type crystals, photorefractive and photovolt. effects 9-15189
 KH₂(SeO₄)₂, ferroelastic, lattice const. and thermal expansion tensors, X-ray diffr. meas. 9-37856
 α-KIO₃.HIO₃, ¹²¹I NQR study of ferroelec. phase transition 9-38400
 K₂Li_{1-x}NbO₆ films, epitaxial growth by melting on K_{1.5}Bi_{1.6}Nb_{5.1}O₁₅ substrate 9-33204
 K₂Li_{1-x}NbO₃, epitaxial growth of single-cryst. films on K₂BiNb₂O₁₅ substrate by RF sputtering 9-15041
 K₂Mn₂(SO₄)₃, optical and dielectric props. 9-11403
 KNO₃, ferroelec. thin crystals, struct. investig. 9-27962
 α-KNO₃, lattice dynamics, inelastic neutron scatt. 9-4383
 KNbO₃, acoustic modes near orthorhombic-tetragonal phase transition, temp. depend. 9-28058
 KNbO₃, dielec. and optical props. using shell model 9-33654
 KNbO₃, elec. and thermoelec. singularities due to small polaron hopping motion cond. transition 9-42565
 KNbO₃, electronic struct., XPS and band struct. calc. 9-38708
 KNbO₃, one-dimens. ferroelectric, phonon dispersion surfaces 9-42180
 KNbO₃:Fe, photovoltages, photocurrents and photorefractive effects 9-42580
 K₂SeO₄, incommensurate phase transitions under existence of Lifshitz invariant 9-15416
 K₂SeO₄, incommensurate lattice instability, ferroelec. transition, neutron scatt. study 9-42210
 K₂SeO₄, unpolarised-noncommensurate-polarised phase transition, phenomenological theory 9-15422
 KTa_{1-x}Nb_xO₃, paraelectric phase, defect induced fluctuations, Raman meas. 9-15423
 KTa_{1-x}Nb_xO₃:Fe³⁺ (0 ≤ x ≤ 0.16), ferroelec., EPR meas. (*French*) 9-11337
 KTaO₃, dielec. response temp. depend. meas., dispersive Fourier transform spectroscopy 9-15449
 KTaO₃, electronic struct., XPS and band struct. calc. 9-38708
 KTaO₃, ferroelec., local field determ., phase transition study by EPR 9-38471
 KTaO₃, field depend. sp. ht. and soft modes at low temps. 9-8105
 KTaO₃, freq. depend. of soft mode self-energy, for IR dielec. response meas. 9-33632
 KTaO₃:Li, susceptibility extrinsic peak, dielectric const. meas. 9-11394
 K_{0.5}Tm_{0.5}Nb₂O₆, ⁹³Nb NQR spectra, 77 to 450K 9-38401
 K₂ZnCl₄, ferroelec. props. 9-4772
 K₂ZnCl₄, incommensurate phases, neutron scatt. 9-38501
 LaNbO₄, ⁹³Nb and ¹³⁹La NQR spectra 9-38401
 Li₃B₂O₅·xH₂O (x=0 to 1 mol.) glass, random elec. dipole, cooperative phenomena 9-28693
 LiGd(MoO₄)₂, defect struct. and phase transitions 9-28697
 LiIO₃, electrogyration coeff. meas. 9-19859
 (Li_{0.5}La_{0.5})Ba_{1-x}TiO₃, cryst. struct., dielec. and IR spectral meas. 9-46614

ferroelectric materials continued

- LiND₂SO₄, ⁷Li and ²D NMR exam. of high-pressure phase 9-11396
 LiNH₂SO₄, ferroelec. and press. induced phase transitions 9-38473
 LiNbO₃, acousto-optic interaction, phase grating production 9-41454
 LiNbO₃, anisotropy and phase velocities of prop. of elastic waves 9-1478
 LiNbO₃, anomalous photovoltaic effect and photocond. 9-38122
 LiNbO₃, crystallisation from solution in borate, vanadate and tungstate melts 9-1820
 LiNbO₃ crystals, activated by 3dⁿ ions, enhancement of polarisation echo 9-38439
 LiNbO₃, damping of LF elastic vibrs., internal friction meas. 9-28043
 LiNbO₃, ferroelectric, anomalous photovoltaic effect 9-7861
 LiNbO₃, light diffraction from volume phase holograms 9-36860
 LiNbO₃, planar optical waveguide, SHG in angle-matched conditions 9-41422
 LiNbO₃, pure and Fe doped, photorefraction kinetics under irradiation and heating 9-42934
 LiNbO₃, Raman spectra and dielec. props. near Curie point 9-38530
 LiNbO₃, transition metal doped, photorefractive phenomena and optical storage 9-42577
 LiNbO₃, X-ray diffuse scatt., temp. depend., 20 to 750°C 9-37800
 LiNbO₃:3Li₂O.Nb₂O₅, eutectic, dielectric props. 9-1743
 LiNbO₃:Fe, electron irradi., photoinduced charge transfer and hologram recording 9-36859
 LiNbO₃:Fe, influence of anomalous photovoltaic effect on exoelectron emission 9-28374
 LiNbO₃:Fe, local photodeformation 9-42932
 LiNbO₃:Fe, optical damage, Fe ion conc., EPR and optical spectra evaluation 9-42933
 LiNbO₃:Fe, photocond. and photorefractive effects 9-38124
 LiNbO₃:Fe, photoinduced Rayleigh scatt. and bulk photovoltaic effect 9-38554
 LiNbO₃:Fe, photovoltaic effect and charge transport mechanism 9-38123
 LiNbO₃:Fe³⁺, electrooptic effect, charge transfer mechanism, defect. pair form. 9-38519
 LiNbO₃:Fe(Cu)(Co), pure and doped, nonlinear excitation, multiphoton photorefractive process 9-36950
 LiNbO₃-Ca(NbO₃)₂, cryst. growth in baked mixture, Seignettelec. phase (*Russian*) 9-47395
 LiNd(MoO₄)₂, defect struct. and phase transitions 9-28697
 LiTaO₃, ¹⁸¹Ta NQR spectra, 77K to room temp. 9-38401
 LiTaO₃ high-temp. ferroelec. transition, soft mode IR reflectivity spectroscopy 9-33692
 LiTaO₃, Raman spectra and dielec. props. near Curie point 9-38530
 LiTaO₃, single crystals, Czochralski growth for SAW device appl. 9-33922
 LiTaO₃, X-ray diffuse scatt., temp. depend., 20 to 750°C 9-37800
 (ND₄)₂D(SO₄)₂, phase transitions, isotope effect, dielectric and dilatometric meas. 9-38500
 (NH₄)₂BeF₄, effect of surface layer on spontaneous polarisation 9-38445
 (NH₄)₂BeF₄, ferroelectric, Brillouin scattering study 9-15470
 (NH₄)₂BeF₄, ferroelectric, cryst. struct., phase transition, X-ray study 9-28689
 (NH₄)₂BeF₄, γ-irrad., trapped H atoms, ferroelec. transition, EPR meas. 9-4724
 (NH₄)₂BeF₄, incommensurate phase transitions under existence of Lifshitz invariant 9-15416
 (NH₄)₂Cd₂(SO₄)₃:Mn²⁺, UO₂²⁺, luminesc., vibr. modes 9-38629
 NH₄H₂AsO₄, H positions, paraelectric phase 9-19210
 NH₄H₂PO₄, electronic struct., UV reflection spectra and XPS 9-38558
 NH₄H₂PO₄, IR overtone spectra and temp. depend. 9-47456
 NH₄H₂PO₄, polycrystalline materials; pyroelec. temp. anal. as method for studying ferroelec. transitions 9-38502
 NH₄HSO₄:VO²⁺, ferroelastic, internal strains, ferroelec. transitions, EPR 9-47400
 NH₄LiSO₄, hydrostatic press. effect on I-II phase transition, dielec. meas. 9-38496
 (NH₄)₂SO₄, ESR study of NH₃⁺ radicals 9-38367
 (NH₄)₂SO₄, ferroelec. transition, EPR study 9-38472
 (NH₄)₂SO₄, mechanically twinned, orthorhombic, search for antiphase boundaries 9-37715
 (NH₄)₂SO₄, NH₃⁺ dynamics, neutron scatt. study 9-42167
 (NH₄)₂SO₄, phase transition mechanisms by optical spectroscopy 9-15411
 (NH₄)₂SO₄, phase transition theory 9-24275
 (NH₄)₂SO₄, polycrystalline materials; pyroelec. temp. anal. as method for studying ferroelec. transitions 9-38502
 (NH₄)₂SO₄-K₂SO₄ mixed crystal, ESR study of NH₃⁺ radicals 9-38367
 Na₂(Al₆Si₆O₂₄)(OH)₂·6H₂O, hydrosodalite, ferroelec. transition, pyro- and piezoelec. activity 9-15421
 Na_{0.5}Bi_{4.5}Ti₄O₁₅, hot-forged ferroelec. ceramic with layer struct. 9-43175
 NaClO₃, cryst. growth from soln., selective etching technique for observation of dislocations 9-19251
 NaD₃(SeO₃)₂, ²³Na resonance line temp. depend., of first order quadrupole shift and spontaneous polarisation 9-8069
 Na(H_{1-x}D_x)₂(SeO₃)₂, ferroelectric, dielectric behaviour at RF and microwave freq. 9-33640
 NaH₃(SeO₃)₂, ferroelec. crystal, Barkhausen effect study 9-38507
 NaH₃(SeO₃)₂:VO²⁺, ESR spectra 9-4718
 NaND₂SeO₄·2D₂O, nonlinear electromechanical props. above Curie temp. 9-33610
 NaNH₂SeO₄·2H₂O, atomic struct. exam. and phase transition 9-37678
 NaNO₂, complex dielectric constant, sinusoidal phase in ferroelectric material 9-11376
 NaNO₂, crit. X-ray scatt. 9-33636
 NaNO₂, ferroelec., electric field gradient (*Korean*) 9-15419
 NaNO₂, ferroelec., X-ray diffr. topographic study of polarisation reversal 9-38441
 NaNO₂, ferroelec. thin crystals, struct. investig. 9-27962
 NaNO₂, ferroelectric, NMR of ²³Na small particles 9-28629
 NaNO₂, lattice dynamics, two-phonon Raman scatt. and IR absorpt. 9-33684
 NaNO₂, second order phase transition prod. by strain 9-15420
 NaNO₂:Mn²⁺, zero-field splitting, ferroelec. soft-mode contrib., phase transition, EPR obs. 9-15344
 NaNbO₃, ferroelec., local field determ., phase transition study by EPR 9-38471
 NaNbO₃, memory effect, in ferroelec. phase, ESR meas. 9-28696
 NaVO₃, thermal expansion and ferroelec. phase transition 9-38482
 Nd(BrO₃)₃·9H₂O, single cryst. low-temp. pyroelectricity 9-42906

ferroelectric materials continued

- NdP₂O₇, ferroelastic, spectroscopy, ferroelastic/ferroelectric coupling, soft optic mode frequencies 9-19845
- Nd₂Ti₂O₇, ferroelec., temp. depend. of SHG intensity 9-24267
- Ni₃B₂O₁₃Cl, specific heat anomaly at F43c—Pca2₁ transition 9-28690
- Ni₃B₂O₁₃l, dynamics of ferroelec. phase transition, Raman spectra obs. 9-33630
- PLZT ceramic with memory, domain reorientation, alternating elec. field effect 9-47405
- PLZT ceramics, electro-optical props. (*Korean*) 9-11406
- PLZT ceramics, electro-optic; defect struct. and prop. 9-42910
- PLZT ceramics, photoferroelectric effects, image storage device appl. 9-42924
- PLZT ceramics, SHG, anomalous phase transition 9-45996
- PLZT ceramics, short circuit photocurrent, depend. on polarization 9-38121
- PLZT ceramics, stress-induced ferroelec. transition, pseudoelasticity and shape memory, bending meas. 9-24274
- PLZT ceramics, transparent ferroelec., photorefractive and photocond. study 9-42581
- PLZT composition, effect on its switching characts. 9-42917
- PLZT ferroelec. ceramics, piezoelec. props. 9-42897
- PLZT ferroelectric display electro-optical props. (*Russian*) 9-9211
- PLZT, fine grained 90° electric domain wall movement, interpretation of dielectric losses (*German*) 9-33646
- PLZT, prep. by liquid phase sintering of oxides 9-38778
- PLZT, reduced, exam. of ageing phenomena, using dielectric hysteresis (*German*) 9-33647
- PLZT, thin film epitaxial growth and characteris. 9-28918
- PLZT, transparent, optical exam. of small signal behaviour, of 90° electric domain walls (*German*) 9-33645
- PLZT, transparent, ceramics obtained by hot pressing, optimum conditions (*German*) 9-43176
- PLZT type ceramics, calorimetric meas. of energy of electrical polarisation 9-2770
- (PLZT)(PLZN) system, ferroelec. transparent, prep. and study 9-42911
- Pb₂AgNb₂O₁₅, Pb₂AgTa₂O₁₅, ferroelec. and ferroelastic props. (*French*) 9-24266
- (Pb_{1-x}Ba_x)_{1-x}La₂Nb_{2-x/2}O₆, ferroelec., phase transitions 9-38487
- PbBi₂Nb₂O₉ ceramic, grain oriented, dielectric and piezoelectric props. 9-42896
- PbBi₂Nb₂O₉, hot-forged ferroelec. ceramic with layer struct. 9-43175
- PbBi₂Ti₂O₁₃, hot-forged ferroelec. ceramic with layer struct. 9-43175
- PbCo_{0.33}Nb_{0.66}O₃, ferroelectric, exam. of permittivity and dielectric props. 9-1742
- Pb₂GeO₁₁, induced and spontaneous optical activity, permittivity 9-33661
- Pb₂GeO₁₁, dielec. behaviour, 60 Hz-100 kHz, particle size effects 9-33638
- Pb₂GeO₁₁, dielec. functions above and below ferroelec. transition 9-33588
- Pb₂GeO₁₁, electrogyration during phase transitions 9-19859
- Pb₂GeO₁₁, ferroelec. phase transition, for IR transmission meas. 9-38478
- Pb₂GeO₁₁, ferroelectric soft mode exam., Raman spectra 9-42202
- Pb₂GeO₁₁, Raman scatt., soft modes and damping near structural phase transition 9-28739
- Pb₂Ge_{3-x}Si_xO₁₁, ferroelec. phase transition, for IR transmission meas. 9-38478
- PbHAsO₄, ferroelec., far IR and submillimetre dielec. dispersion 9-38528
- PbH(D)PO₄, PbH(D)AsO₄, ferroelectric, sp. ht. 9-19853
- PbHPO₄, ferroelec. phase transition, Brillouin and Raman spectra obs. 9-33683
- PbHPO₄, ferroelec., far IR and submillimetre dielec. dispersion 9-38528
- PbHPO₄, neutron diff. exam. of struct. at room temp. 9-38490
- PbHPO₄, optical props. near ferroelec. transition 9-33663
- PbHPO₄, single cryst., dielec. props. 9-38426
- PbMg_{1/3}Nb_{2/3}O₃, crit. electron-phonon phenomena and diffuse phase transition in elec. field 9-38497
- PbMg_{1/3}Nb_{2/3}O₃ single cryst., electro-optical hysteresis curves and phase transitions (*German*) 9-28717
- PbMg_{0.33}Ta_{0.66}O₃, ferroelectric, exam. of permittivity and dielectric props. 9-1742
- PbMoO₄, electrogyration coeff. meas. 9-19859
- PbNb₂O₆, O defects and elec. props. anomalies 9-42898
- PbNb₂O₆, permittivity and elec. cond. meas., first order transition 9-24270
- PbNb₂O₆, surface (001), microstruct. obs. by optical, etching, and interferometric techniques 9-11399
- PbNb_{0.5}Sc_{0.5}O₃, ceramic, dielec. props. 9-11392
- PbO₂, photoconducting, phase transitions, occurrence of ferroelectricity, pyrocurrent obs. 9-11395
- Pb_{1-x}R_xTi_{0.5+x/2}(1-x-a), R=La or Sm exam. of permittivity as function of temp. 9-33586
- Pb₂S₂I₆, ferroelec., synthesis and hydrothermal growth 9-38731
- Pb(Ti,Zr)O₃, pyroelectric props., addition effects 9-33608
- PbTiO₃, domain struct., formation at phase transitions 9-38510
- PbTiO₃, mechanical twinning, spontaneous polarisation shielding 9-42930
- PbTiO₃, O K_α X-ray emission band spectra (*Russian*) 9-15563
- PbTiO₃, single crystals, lattice parameters and birefringence as function of temp. 9-38517
- PbTiO₃, spontaneous polaris. shielding destruction by polishing and scribing 9-15427
- PbTi_{1-x}Zr_xO₃, low freq. vibrational modes and ferroelec. transitions 9-33637
- Pb(Zr,Ti)O₃ ceramic, substrate for In₂O₃ film, ferroelec. field effect 9-47177
- Pb(Zr,Ti)O₃, piezoceramic, nonlinear piezoeffect 9-42900
- Pb(Zr,Ti)O₃, polarisation effect on deform. and strength, Curie pt. region 9-42902
- Pb(Zr,Ti)O₃, thin film evaporated on stainless steel, photovoltaic effect 9-4580
- Pb(Zr,Ti)O₃, X-ray study in tetragonal-rhombohedral phase-transition composition area 9-42921
- Pb(Zr,Ti)O₃:Nb ceramic, stress effects on ferroelec. hysteresis, macroscopic strain, US vel. 9-4778
- Pb(Zr,Ti)O₃:Nb₂O₅(Sc₂O₃), elec. cond. investigation with and without various dopants and stoichiometry 9-11120
- PbZrO₃ based ferroelec. ceramic, pressure-temp. phase diagrams 9-24273
- PbZrO₃, structural phase transition in super high elec. fields 9-33626

ferroelectric materials continued

- PbZr_{0.95}Ti_{0.05}O₃ ceramics, of ABO₃ type, dopant distrib. between A and B sites 9-42093
- Pb(Zr,Ti_{1-x})O₃, anomalous photovoltaic effect 9-19625
- Pb(Zr,Ti_{1-x})O₃ solid solns., elec. props. near morphotropic phase boundary 9-42566
- Pr₂Ti₂O₇, ferroelec., temp. depend. of SHG intensity 9-24267
- Rb₂Co₂(SO₄)₃, pyroelectric and dielectric props., ferroelectric transitions 9-38458
- Rb₂CoBr₄, ferroelec., Curie temp. determ. 9-38485
- Rb₂CoCl₄, ferroelec., Curie temp. determ. 9-38485
- Rb(H,D)₃(SeO₃)₂, improper ferroelec. phase transition, anomalous elastic props. 9-33634
- RbH₂AsO₄, attenuation const. meas. by SHF dielec. resonance 9-47406
- RbH₂PO₄, IR overtone spectra and temp. depend. 9-47456
- RbH₂PO₄ powder, phase transition in paraelectric (upper) phase by measuring damping const. and amplitude of phonon echoes 9-19855
- RbH₂PO₄, X-ray cryst. struct. refinement 9-14787
- RbH₂(SeO₃)₂, ferroelec. phase transition, X-ray study 9-38479
- RbLiSO₄, thermal and dielectric props., ferroelectricity 9-28688
- Rb₂ZnBr₄, ferroelec., Curie temp. determ. 9-38485
- Rb₂ZnBr₄, incommensurate phases, neutron scattering study 9-15417
- Rb₂ZnCl₄, ⁵¹Cr NQR, incommensurate struct. phase transition 9-47401
- Rb₂ZnCl₄, ferroelec., Curie temp. determ. 9-38485
- Rb₂ZnCl₄, incommensurate phase form., domain struct. near phase transition, NQR obs. 9-33643
- Rb₂ZnCl₄, incommensurate phases, neutron scatt. 9-38501
- Rb₂ZnCl₄, phase transitions, soft mode, Raman scatt. meas. 9-4389
- Sb_{1-x}Bi_xSI, mixed cryst., ferroelec. phase transition 9-33629
- SbNO₃, ferro- and anti-ferroelec., crit. points and props. 9-38460
- SbNbO₄, anomalous photovoltaic effect and photocond. 9-38122
- SbNbO₄, ferroelec., synthesis and hydrothermal growth 9-38731
- Sb₂O₇, polytype 2MA, ferroelectric, ferroelastic, Raman scattering and symmetry anal. 9-38550
- SbSI, ferroelec., dielec. props. 9-38428
- SbSI, tricrit. point, NQR under press. 9-38469
- SbTaO₄, ferroelec., synthesis and hydrothermal growth 9-38731
- Sm₂Ti₂O₇, ferroelec., temp. depend. of SHG intensity 9-24267
- SnCl₂·2H₂O, ferroelec., Cl NQR study 9-38467
- Sr₂AgNb₂O₁₅, Sr₂AgTa₂O₁₅, ferroelec. and ferroelastic props. (*French*) 9-24266
- Sr_{0.25}Ba_{0.75}Nb₂O₆ film, growth and electrophys. props. 9-42928
- Sr_{0.5}Ba_{0.5}Nb₂O₆ crystals, ferroelec., dislocation free, pyroelec. props. 9-42907
- Sr_{0.75}Ba_{0.25}Nb₂O₆ single cryst., electro-optical hysteresis curves and phase transitions (*German*) 9-28717
- Sr_{1-x}Ba_xNb₂O₆, tetragonal tungsten bronze structure ferroelec. mech. for ferroelec. transition 9-38481
- Sr₂CoReO₆, seignettomagnets with perovskite struct. 9-38459
- Sr₂Nb₂O₇, ferroelec., temp. depend. of SHG intensity 9-24267
- Sr_{1-x}Pb_xTeO₃, ferroelec. soln., prep. at room temp. (*French*) 9-43190
- Sr₂Ta₂O₇:Nd,Nd, SHG, effect of dopants on Curie temp. 9-24267
- SrTiO₃ based solid solns., ferroelec., US study 9-38476
- SrTiO₃, dielec. nonlinearity and parametric interactions at low temps. 9-38430
- SrTiO₃, doped, large gap ferroelectrics, phase transitions in mag. fields 9-33621
- SrTiO₃, electrooptic coeffs. 9-33673
- SrTiO₃ film, behaviour of ferroelects. in strong elec. microwave field 9-42884
- SrTiO₃, freq. depend. of soft mode self-energy, for IR dielec. response meas. 9-33632
- SrTiO₃, low temp. phase, X-ray cryst. struct. anal. at 77K 9-37683
- SrTiO₃, O K_α X-ray emission band spectra (*Russian*) 9-15563
- SrTiO₃, thermal motion at room temp., anharmonic or disordered 9-37805
- SrTiO₃:Fe³⁺, displacive struct. transition, order-disorder behaviour, phonon softening, EPR obs. 9-23695
- SrTiO₃:H(D), controlled doping, IR spectra 9-28007
- TGFB, emission of free charge carriers in vacuum as symptom of pyroelec. props. 9-42908
- TGSe:D,L-α-alanine crystals, with large unipolarity, dielec., piezoelec., elastic props. and internal friction 9-33615
- Tb₂(MoO₄)₃, mode softening near ferroelec. transition, Raman and Brillouin spectra 9-33685
- Tb₂(MoO₄)₃, thermal expansivity and spontaneous strain temp. depend. 9-14943
- TeO₂-WO₃ glass, dipole correlations, capacitances and TSC meas. 9-28670
- TiH₂PO₄, thermodynamics props. of solid phase transitions, heat capacity 9-10966
- Y₂Ti₂O₇, ferroelec., temp. depend. of SHG intensity 9-24267
- YbNbO₄, ⁹³Nb NQR spectra, 77 to 450K 9-38401
- Zn-Cl boracite, reinterpretation of EPR expt. on Cu²⁺ rel. to struct. 9-38372
- Zn-Cl boracite, X-ray powder spectra of structure 9-37828

ferroelectric phenomena *see ferroelectricity***ferroelectric semiconductor materials** *see ferroelectric semiconductors***ferroelectric semiconductors**

- barrier capacitance of p-n junction in region of strong ferroelec. instability 9-11218
- conference, ferroelectric materials and their applications, Kyoto, Japan, Nov. 17-19, 1977 9-19846
- ferroelectric transition, conductivity band theory rel. to vibronic theory of ferroelectricity 9-19854
- glass-ceramics, dielectric dispersion (*Russian*) 9-8097
- IV-VI semiconductors, crystal structure and symmetry of electron spectra, doping effects (*Russian*) 9-7696
- perovskite oxides, ferroelec., point defects and elec. props. 9-42533
- phase boundary structure 9-11398
- vibronic theory of ferroelectricity, developments 9-33620
- zero-gap, ferroelec. phase transitions, effect of Coulomb interaction on RPA calc. 9-28691
- Ba(Ti,Sn)O₃, thin film elec. and photoconductivity 9-33366
- BaTiO₃, acceptor doped, exam. of electrical conductivity 130 to 300°C 9-33286
- BaTiO₃, bulk photovoltaic effect in ferroelects. 9-15181

ferroelectric semiconductors continued

- BaTiO₃ electrode, surface comp. changes during photoelectrolysis, XPS obs. 9-7894
 BaTiO₃, exam. of PTC effect as function of Ti excess (*German*) 9-23960
 BaTiO₃ film, sputtered, elec. props. 9-42676
 BaTiO₃, thin film elec. and photoconductivity 9-33366
 BaTiO₃-BaNb₂O₆, semiconducting ferroelectric ceramic, nonlinearity of dielectric layer capacitance 9-8098
 BiTeI-SbTeI, solid solns., phase diagrams, photocond., elec. props. 9-38125
 LiNbO₃, influence of spontaneous polarisation on photoelec. emission 9-28898
 LiNbO₃:Fe, bulk photovoltaic effect in ferroelects. 9-15181
 LiNbO₃:Fe, intensity enhanced bulk photovoltaic effects 9-19616
 LiNbO₃:Fe, recording dynamical holograms in crystals with photovoltaic effect, nonstationary energy exchange (*Russian*) 9-31842
 (Pb_{1-x}Bi_x)₂Ge₂O₁₁, spontaneous and induced electrogyration 9-42946
 Pb_{1-x}Ge_xTe, p-n junctions, elec. characts., effect of ferroelec. phase transition 9-33338
 (Pb_{0.95}Sn_{0.05})(Zr_{0.53}Ti_{0.47})O₃+3% mol PbO, Seebeck effect, meas. and interpretation (*Polish*) 9-4574
 PbTiO₃, crystals, X-ray investigation of 90° domain struct. 9-15426
 Sb₂S₃, type chain crystals, ferroelec. phase transitions 9-33625
 SbSI, anomalous photovoltaic effect 9-38133
 SbSI, band gap photoreflectance spectra near ferroelec. transition 9-38559
 SbSI, ferroelec. semicond., influence of internal fields on polarisation reversal process 9-38443
 SbSI, ferroelec. semicond. near phase transition, anomalies of photocond. 9-42579
 SbSI, nonlinear sound propagation in case of polarisation switching 9-27458
 SbSI, photoelectric current, modulated due to light intensity 9-19626
 SbSI-BiSI, solid solns., phase diagrams, photocond., elec. props. 9-38125
 Sn₂Ge_{1-x}Te, ferroelec. semicond. structural phase transition, X-ray study 9-37836
 SnSeI film, growth, effect of artificial nucleation centres 9-11032
 SrTiO₃, semicond., structural phase transitions, US velocity meas. 9-28692

ferroelectric switching

- collinear ferroelectric, domain struct. changes on switching, liq. cryst. visualisation (*Russian*) 9-33648
 film switching transition meas. instrument, operating principle 9-17443
 TGSe:Cr³⁺, polarisation reversal and ageing mechanisms, EPR meas. 9-8044
 PLZT ceramics, photoferroelectric image storage in antiferroelectric phase 9-47404
 PLZT ceramics, photoferroelectric effects, image storage device appl. 9-42924
 PLZT composition, effect on its switching characts. 9-42917

ferroelectric thin films

- anisotropy properties, thermodynamic anal. (*Russian*) 9-28686
 conference, ferroelectric materials and their applications, Kyoto, Japan, Nov. 17-19, 1977 9-19846
 ferroelectric thin film, pyroelectric radn. detector development (*Russian*) 9-47394
 permittivity tensor at microwaves 9-42883
 switching transition meas. instrument, operating principle 9-17443
 Ba₂Sr_{1-x}TiO₃, thin ferroelec. layers 9-42912
 Ba(Ti_{1-x}Sn_x)O₃, thin film elec. and photoconductivity 9-33366
 BaTiO₃, ferroelec. thin films, r.f. sputtering, X-ray and microprobe obs. 9-47627
 BaTiO₃ film, sputtered, elec. props. 9-42676
 BaTiO₃ films, effect of elec. field on dielec. props. 9-33642
 BaTiO₃, thin film elec. and photoconductivity 9-33366
 K_{1-x}Li_xNbO₃ films, epitaxial growth by melting on K_{1.5}Bi_{1.0}Nb_{3.1}O₁₅ substrate 9-33204
 K₂Li_{1-x}NbO₃, epitaxial growth of single-cryst. films on K₂BiNb₃O₁₅ substrate by RF sputtering 9-15041
 PLZT, thin film epitaxial growth and characteris. 9-28918
 Pb(Zr,Ti)O₃, thin film evaporated on stainless steel, photovoltaic effect 9-4580
 Sr_{0.25}Ba_{0.75}Nb₂O₆ film, growth and electrophys. props. 9-42928
 SrTiO₃ film, behaviour of ferroelects. in strong elec. microwave field 9-42884

ferroelectric transitions

- see also critical fluctuations; displacive transformations; ferroelectric Curie temperature; order-disorder transformations
 ammonium hydrogen chloracetate, order disorder type transition 9-47399
 ammonium Rochelle salt, incommensurate phase transitions under existence of Lifshitz invariant 9-15416
 antiferroelectric transition, phenomenological theory 9-4771
 barrier capacitance of p-n junction in region of strong ferroelec. instability 9-11218
 conference, Leningrad, USSR (1977) 9-15406
 copper formate tetrahydrate, dielec. anisotropy and dimer theory 9-38427
 copper formate tetrahydrate, stress effect on antiferroelec. phase transition, dielec. meas. 9-38498
 crystalline phase transitions, symmetry determined phenomena 9-46800
 cubic crystal with dipole forces and anisotropic correlation function, phase transitions (*Russian*) 9-38504
 cubic ferroelectrics, crit. behaviour 9-33619
 defect structure near phase transition pt., effect on solid props. (*Russian*) 9-37838
 dicalcium lead propionate, effect of particle size on dielec. behaviour 9-38429
 dicalcium strontium propionate, effect of particle size on dielec. behaviour 9-38429
 dicalcium strontium propionate, elastic stiffness const., determ. in US freq. region 9-37752
 diffuse phase transitions 9-33628
 dimethylammonium cadmium tetrachloride type compounds, structural phase transition model 9-37829
 dispersion of permittivity near N-phase point in KTa_{1-x}Nb₂O₇-type ferroelectrics 9-24276
 displacive limit, existence of phase transition for class of ferroelec. models 9-8104
 displacive type, Ginzburg-Lavanyuk parameter 9-8106
 DOBAMBC, ferroelec. props. 9-32884

ferroelectric transitions continued

- doped displacive ferroelectrics, sound attenuation constant, Green's function technique 9-11397
 electroacoustic echoes and long-time storage in piezo- and ferroelectrics 9-38454
 geometric effects 9-38493
 hydrogen bond three-dimens. model with two critical points (*Chinese*) 9-24268
 hydrostatic press. effect on phase transitions in ferroelectrics 9-15413
 hysteresis cycle computing during ferroelec. transition, statistical model (*French*) 9-11393
 incipient ferroelectrics, mode-mode coupling 9-38464
 incommensurate phase transition, equivalent directions of modulation, unmodulated soft modes 9-24271
 IV-VI semiconductors, crystal structure and symmetry of electron spectra, doping effects (*Russian*) 9-7696
 large gap ferroelectrics, phase transitions in mag. fields 9-33621
 lattice dynamics of ferroelectrics with impurities 9-37802
 light scattering near phase transition points 9-15415
 lineal phase transitions, orders of 9-42206
 liquid crystal, ferroelec., helicoidal, smectic-C, dynamics 9-1396
 lithium ammonium tartrate, ferroelectric and ferroelastic transitions, Brillouin scatt. meas. 9-33716
 methylammonium aluminium sulphate dodecahydrate, ferro to paraelectric transition, low freq. dielectric behaviour 9-4770
 methylammonium chromium selenate, lattice const. and ferroelec. props. 9-33641
 methylammonium gallium selenate, lattice const. and ferroelec. props. 9-33641
 methylammonium-Ga(SO₄)₂·12H₂O, ferroelec. alum single crystals, dielec. dispersion and characts. 9-15408
 order parameter fluctuation spectrum, central peaks near ferroelectric phase transitions, review 9-19851
 order-disorder phase transitions, thermodynamics in mean field approx. 9-33633
 orthovanadates, centrosymmetric exhibiting cooperative Jahn-Teller effect, dielec. props. 9-28694
 perovskites, mechanisms of ferroelectric and structural phase transitions, structural distortions 9-15412
 phenomenological theory of phase transitions with incommensurate phase formation 9-38491
 PLZT, diffuse phase transitions 9-33628
 PLZT ceramics, ferroelec., special props. 9-42916
 polaron state of electron near structural instability in ferroelectrics and antiferroelectrics 9-33245
 polycrystalline materials; pyroelec. temp. anal. as method for studying ferroelec. transitions 9-38502
 properties near phase transition point, influence of defects 9-42918
 pyroelectric effect, non-linear in phase transition region 9-47393
 refractive indices and electro-optics at ferroelectric and structural phase transitions 9-19850
 Rochelle salt, electrogyration during phase transitions 9-19859
 Rochelle salt, phase transition mechanisms by optical spectroscopy 9-15411
 Rochelle salt, polarisation echo in ferroelec. phase transition region 9-42920
 Rochelle salt, spectra of absorption edge, low-temp. 9-4819
 schulzenites, ferroelectric, sp. ht. 9-19853
 semiconductor, phase boundary structure 9-11398
 smectic liquid crystals, piezoeffects and ferroelectric phenomena 9-32883
 sodium ammonium tartrate, crystals, temp. depend. of elastic compliances at phase transition 9-15409
 soft mode frequency and damping, temp. depend. 9-38484
 spontaneous coherent state transition, chaotic phases approx. (*Russian*) 9-4776
 stimulated emission from impurity atoms in ferroelectric, effect of phase transition 9-15490
 symmetry aspects of linear relations between anomalies at and near structural phase transitions 9-33618
 Tanane, dielec. and electrooptic meas. near ferroelec. transition 9-33587
 temperature gradient effect on phase boundary 9-8107
 tetragonal tungsten bronze structure ferroelec. mech. for ferroelec. transition 9-38481
 tetramethylammonium tetrachlorocobaltate, ferroelec., effects of hydrostatic press. on successive phase transitions 9-47402
 tetramethylammonium tetrachlorozincate, ferroelec., effects of hydrostatic press. on successive phase transitions 9-47402
 TGFB, optical props. in 5 to 22 eV region, reflectance spectra 9-33652
 TGS-α-alanine, piezoelectric props., ferroelec. phase existence (*Russian*) 9-47387
 TGS:Cr³⁺, EPR obs. of ferroelectric monocystals, fine struct. EHT-SCCC-MO calcs. 9-19769
 TGS, characts. of dispersion of permittivity near phase transition 9-28695
 TGS, electrogyration during phase transitions 9-19859
 TGS, ferroelec., meas. of sp.ht. at constant elec. flux density by AC method 9-33098
 TGS, ferroelec., thermal expansion 9-37855
 TGS, ferroelectric crystal, non-linear pyroelec. effect in phase transition region 9-47393
 TGS, optical props. in 5 to 22 eV region, reflectance spectra 9-33652
 TGS, temp. depend. of spontaneous polarization near ferroelec. transition 9-33597
 TGS, X-irrad., glycine radicals, geom. struct. by ENDOR and INDO calc. 9-24230
 TGS powder, complex dielectric const. temp. depend. 9-47379
 TGS-type crystals:Cr³⁺, radiospectroscopic studies, D parameter anomalies at phase transitions 9-15341
 TGSe, acoustic and thermal anomaly correlation near ferroelec. transition 9-4775
 TGSe, ferroelec., domain wall orientations and domain shapes 9-38508
 TGSe, ferroelec., meas. of sp.ht. at constant elec. flux density by AC method 9-33098
 thiourea, commensurate-incommensurate phase transition, X-ray diffuse scatt. meas. (*French*) 9-19856
 thiourea, dielec. const. and IR spectra in ferroelec. and antiferroelec. phases 9-33589
 thiourea, ferroelectric transition, X-ray scatt. 9-47398
 thiourea, IR reflectivity study of ferroelec. and antiferroelec. phases, dielec. function model 9-33686
 thiourea, Raman scattering spectra, soft mode frequency 9-24305

ferroelectric transitions continued

- tris-sarcosine calcium chloride: Mn(Fe), influence of cryst. defects on ferroelec. transition, EPR 9-38466
- uniaxial dipole system, order-disorder transition, computer expt. and high temp. expansion 9-38494
- uniaxial ferroelectrics, domain formation during second order phase transition 9-38505
- uniaxial ferroelectrics, microscopic theory, crit. behaviour and anomalous elastic consts. 9-38463
- vibronic theory, developments 9-33620
- vibronic theory of ferroelectricity 9-19854
- zero-gap semiconductor, ferroelec. phase transitions, effect of Coulomb interaction on RPA calc. 9-28691
- Ag₃SbS₃, proustite, ferroelec. with no 180° polarisation reversal, ferroelec. phase transition 9-38465
- AgNa(NO₂)₂, crit. sp. ht. near ferroelec. transition 9-38474
- AgNa(NO₂)₂, ferroelec. transition, ²³Na elec. field gradient tensor, NMR meas. 9-4777
- AgNa(NO₂)₂, ferroelectric phase transition, theory 9-24272
- AgNa(NO₂)₂, Raman spectrum, NO₂⁻ bending vibr. 9-28737
- AgNa(NO₂)₂, triplet absorpt. polarised spectra, near ferroelec. phase transition 9-47473
- Ag₃SbS₃, pyrrargyrite, order-disorder phase transition and elec. polarisation 9-38468
- Ba₂NaNb₂O₁₅, high-pressure phase transitions, ferroelastic phase 9-7687
- Ba₂NaNb₂O₁₅, low temp. ferroelectric transitions, birefr. and dielec. meas. 9-38499
- Ba₂NaNb₂O₁₅, optical mode softenings, Raman scatt. meas., 1.5 to 600K 9-33631
- Ba_{4+x}Na_{2-2x}Nb₁₀O₃₀, tetragonal tungsten bronze structure ferroelec. mech. for ferroelec. transition 9-38481
- BaTiO₃, Co substituted, ferroelec., diffuse behaviour 9-38475
- BaTiO₃, crit. X-ray scatt. 9-33636
- BaTiO₃, diff. of Mossbauer radiation near Curie point (*Russian*) 9-8079
- BaTiO₃, domain struct., formation at phase transitions 9-38510
- BaTiO₃, light scatt., Comes Lambert Guinier model 9-15471
- BaTiO₃, pure, dielectric const. and elastic compliance temp. depend. for various phases 9-19830
- BaTiO₃, soft mode exam. 9-37799
- BaTiO₃, transform. of cryst. struct., at cubic-to-tetragonal phase transitions 9-37827
- BaTiO₃, X-ray diff. intensities, anomalous temp. depend. (*Russian*) 9-1484
- BaTiO₃Nb, ferroelec. and paraelec. phases, props. 9-42919
- Cd₂(NH₄)₂(SO₄)₃, X-ray and optical studies of ferroelec. phase transition 9-38495
- Cd₂Nb₂O₆S, pyrochlore struct., ferroelec., dielec. and structural study 9-38488
- CsBi(MoO₄)₂, low temp. phase transition, permittivity meas. 9-28698
- CsCaCl₃, birefringence, twinning and structural phase transitions 9-38480
- CsD₂AsO₄, ferroelec. phase transition, NMR study (*Chinese*) 9-33644
- CsH₂AsO₄, ferroelec., RF dielec. relax., loss mech. 9-38448
- CsH₂PO₄, ferroelec., press. induced antiferroelectricity 9-4774
- CsH₂PO₄, ferroelec., X-ray and dielec. studies on phase transition 9-38477
- CsPbBr₃, critical thermodynamic props. around successive phase transitions 9-33627
- CsPbCl₃, birefringence, twinning and structural phase transitions 9-38480
- CsPbCl₃, critical thermodynamic props. around successive phase transitions 9-33627
- CsSrCl₃, birefringence, twinning and structural phase transitions 9-38480
- Cu-Cl boracite, ferroelec., X-ray study on phase transition 9-33622
- Cu₂B₂O₇Cl, Raman study of ferroelec. phase transition 9-38529
- Gd₃(MoO₄)₃, temp. depend. of spontaneous biref. and electrooptic response 9-33662
- H₂SeO₃, IR overtone spectra and temp. depend. 9-47456
- KCN, antiferroelectric phase, 83K phase transition based on model Hamiltonian 9-15418
- KD₂AsO₄, ferroelec. phase transition, NMR study (*Chinese*) 9-33644
- KD₂PO₄, Cr³⁺ EPR, line shape and elec. field effect 9-11336
- KD₂PO₄, electronic struct., UV reflection spectra 9-38558
- KD₂PO₄, ferroelec. phase transition, NMR study (*Chinese*) 9-33644
- KD₂PO₄, para- and ferroelec. phases spatial distrib. during first order phase transitions 9-42923
- KD₂PO₄, struct. at high press. in rel. to effect of press. on T_c 9-42915
- K₄Fe(CN)₆·3H₂O, nature of phase transition 9-38470
- KH₂AsO₄, electronic struct., UV reflection spectra 9-38558
- KH₂AsO₄, ferroelec., RF dielec. relax., loss mech. 9-38448
- KH₂AsO₄·Cr³⁺, ferroelec. phase transition, EPR intensity and linewidth meas. 9-4721
- KH₂AsO₄-KH₂PO₄, AsO₄⁴⁻ centre, EPR central peak dynamics 9-33523
- KH₂PO₄, and isomorphs, ferroelectric transition and Curie temp., soft mode effect, Green's function anal. 9-24269
- KH₂PO₄, dielec. functions above and below ferroelec. transition 9-33588
- KH₂PO₄, electronic struct., UV reflection spectra and XPS 9-38558
- KH₂PO₄, ferroelec., RF dielec. relax., loss mech. 9-38448
- KH₂PO₄, IR overtone spectra and temp. depend. 9-47456
- KH₂PO₄, neutron critical scatt. in struct. transition due to homogeneous crystal deform. 9-42922
- KH₂PO₄, polarisation echo in ferroelec. phase transition region 9-42920
- KH₂PO₄ powder, dynamic polarisation echoes 9-4773
- KH₂PO₄, struct. at high press. in rel. to effect of press. on T_c 9-42915
- KH₂PO₄, tricrit. point, neutron diff. study under high press. 9-33624
- KH₂PO₄, tricritical point and tricritical exponent 9-33623
- KH₂PO₄ type crystals, evidence of non-linear behaviour of soft modes, Raman spectra 9-33639
- KH₂PO₄-type crystals, H bond in ferroelectricity, role of high pressure research 9-15414
- KH₃(SeO₃)₂, ferroelastic, low-frequency elastic props., -190 to 50°C 9-37759
- α-KIO₃·HIO₃, ¹²⁷I NQR study of ferroelec. phase transition 9-38400
- KNbO₃, acoustic modes near orthorhombic-tetragonal phase transition, temp. depend. 9-28058
- K₂SeO₄, incommensurate phase transition, stress depend. of T_c 9-4391
- K₂SeO₄, incommensurate phase transitions under existence of Lifshitz invariant 9-15416
- K₂SeO₄, incommensurate structure, IR and Raman activity of soft mode 9-28738

ferroelectric transitions continued

- K₂SeO₄, incommensurate lattice instability, ferroelec. transition, neutron scatt. study 9-42210
- K₂SeO₄, unpolarised-noncommensurate-polarised phase transition, phenomenological theory 9-15422
- KTa_{1-x}Nb_xO₃, paraelectric phase, defect induced fluctuations, Raman meas. 9-15423
- KTaO₃, ferroelec., local field determ., phase transition study by EPR 9-38471
- KTaO₃, field depend. sp. ht. and soft modes at low temps. 9-8105
- KTaO₃, freq. depend. of soft mode self-energy, for IR dielec. response meas. 9-33632
- K₂ZnCl₄, incommensurate phases, neutron scatt. 9-38501
- Li₂B₂O₇·xH₂O (x=0 to 1 mol.) glass, random elec. dipole, cooperative phenomena 9-28693
- Li₂(MoO₄)₂, defect struct. and phase transitions 9-28697
- LiND₂SO₄, ⁷Li and ²D NMR exam. of high-pressure phase 9-11396
- LiNH₂SO₄, ferroelec. and press. induced phase transitions 9-38473
- LiNd(MoO₄)₂, defect struct. and phase transitions 9-28697
- LiTaO₃, high temp. ferroelec. transition, soft mode IR reflectivity spectroscopy 9-33692
- (ND₄)₂D(SeO₄)₂, phase transitions, isotope effect, dielectric and dilatometric meas. 9-38500
- (NH₄)₂BeF₄, ferroelectric, cryst. struct., phase transition, X-ray study 9-28689
- (NH₄)₂BeF₄, γ-irrad., trapped H atoms, ferroelec. transition, EPR meas. 9-4724
- (NH₄)₂BeF₄, incommensurate phase transitions under existence of Lifshitz invariant 9-15416
- NH₄H₂AsO₄·Cr³⁺, antiferroelec. phase transition, EPR intensity and linewidth meas. 9-4721
- NH₄H₂AsO₄·NH₄H₂PO₄, AsO₄⁴⁻ centre, EPR central peak dynamics 9-33523
- NH₄H₂PO₄, ¹H spin-lattice relax. in paraelec. and antiferroelec. phases 9-33555
- NH₄H₂PO₄, electronic struct., UV reflection spectra and XPS 9-38558
- NH₄H₂PO₄, IR overtone spectra and temp. depend. 9-47456
- NH₄HSO₄·VO₂⁺, ferroelastic, internal strains, ferroelec. transitions, EPR 9-47400
- NH₄LiSO₄, hydrostatic press. effect on I-II phase transition, dielec. meas. 9-38496
- (NH₄)₂SO₄, ferroelec. transition, EPR study 9-38472
- (NH₄)₂SO₄, phase transition mechanisms by optical spectroscopy 9-15411
- (NH₄)₂SO₄, phase transition theory 9-24275
- Na₉(Al₂Si₆O₂₄)(OH)₂·6H₂O, hydrosodalite, ferroelec. transition, pyro- and piezoelec. activity 9-15421
- Na(H_{1-x}D_x)₂(SeO₃)₂, ferroelectric, dielectric behaviour at RF and microwave freq. 9-33640
- NaH₂(SeO₃)₂, NaD₂(SeO₃)₂, IR and Raman spectral interpretation of ferroelectric phases 9-24312
- NaNd₂SeO₄·2D₂O, nonlinear electromechanical props. above Curie temp. 9-33610
- NaNH₂SeO₄·2H₂O, atomic struct. exam. and phase transition 9-37678
- NaNO₂, complex dielectric constant, sinusoidal phase in ferroelectric material 9-11376
- NaNO₂, crit. X-ray scatt. 9-33636
- NaNO₂, ferroelec., electric field gradient (*Korean*) 9-15419
- NaNO₂, lattice dynamics, two-phonon Raman scatt. and IR absorpt. 9-33684
- NaNO₂, NMR of ²³Na small particles 9-28629
- NaNO₂, second order phase transition prod. by strain 9-15420
- NaNO₂·Mn²⁺, zero-field splitting, ferroelec. soft-mode contrib., phase transition, EPR obs. 9-15344
- NaNbO₃, ferroelec., local field determ., phase transition study by EPR 9-38471
- NaNbO₃, memory effect, in ferroelec. phase, ESR meas. 9-28696
- NaVO₃, thermal expansion and ferroelec. phase transition 9-38482
- Nd(BrO₃)₃·9H₂O, single cryst. low-temp. pyroelectricity 9-42906
- Ni₂B₂O₇Cl, specific heat anomaly at F43c→Pca₂ transition 9-28690
- Ni₂B₂O₇Cl₃, dynamics of ferroelec. phase transition, Raman spectra obs. 9-33630
- Ni₂B₂O₇Cl₃, struct. and mag. transitions, light scatt. study 9-24308
- PLTZ ceramics, SHG, anomalous phase transition 9-45996
- PLTZ ceramics, stress-induced ferroelec. transition, pseudoelasticity and shape memory, bending meas. 9-24274
- PLTZ type ceramics, calorimetric meas. of energy of electrical polarisation 9-2770
- Pb ternary oxides, antiferroelec., growth and props. 9-38461
- Pb_{1-x}Bi_xGe_{1-x}O₁₁, Raman spectra, temp. depend. of ferroelec. soft A-mode 9-33682
- (Pb_{1-x}Bi_x)₂(La_{1-x}Nb_x)₂O₆, ferroelec., phase transitions 9-38487
- (Pb_{1-x}Bi_x)₂Ge₂O₁₁, spontaneous and induced electrogyration 9-42946
- Pb₂CoWO₆, antiferroelectric substruct. 9-38489
- Pb₂CrO₆, thermal X-ray and dielec. investigations, antiferroelec. phase transition 9-47403
- Pb₂GeO₁₁, induced and spontaneous optical activity, permittivity 9-33661
- Pb₂GeO₁₁, dielec. behaviour, 60 Hz-100 kHz, particle size effects 9-33638
- Pb₂GeO₁₁, dielec. functions above and below ferroelec. transition 9-33588
- Pb₂GeO₁₁, electrogyration during phase transitions 9-19859
- Pb₂GeO₁₁, ferroelec. phase transition, for IR transmission meas. 9-38478
- Pb₂GeO₁₁, ferroelectric soft mode exam., Raman spectra 9-42202
- Pb₂GeO₁₁, Raman scatt., soft modes and damping near structural phase transition 9-28739
- Pb₂GeO₁₁, single crystals, photoemission anomaly during ferroelectric phase transitions 9-47599
- Pb₂(Ge_{1-x}Si_x)₂O₁₁, ferroelec. soft mode, temp. and Si impurity, effects Raman scatt. 9-1762
- Pb₂Ge_{1-x}Si_xO₁₁, ferroelec. phase transition, for IR transmission meas. 9-38478
- Pb_{1-x}Ge_xTe, p-n junctions, elec. characts., effect of ferroelec. phase transition 9-33338
- PbHAsO₄, ferroelec., far IR and submillimetre dielec. dispersion 9-38528
- PbH(D)PO₄, PbH(D)AsO₄, ferroelectric, sp. ht. 9-19853
- PbHPO₄, ferroelec. phase transition, Brillouin and Raman spectra obs. 9-33683
- PbHPO₄, ferroelec., far IR and submillimetre dielec. dispersion 9-38528
- PbHPO₄, neutron diff. exam. of struct. at room temp. 9-38490

ferroelectric transitions continued

- PbHPO₄, optical props. near ferroelec. transition 9-33663
 PbMg_{1/3}Nb_{2/3}O₃, crit. electron-phonon phenomena and diffuse phase transition in elec. field 9-38497
 PbMg_{1/3}Nb_{2/3}O₃ single cryst., electro-optical hysteresis curves and phase transitions (*German*) 9-28717
 PbNb₂O₆, permittivity and elec. cond. meas., first order transition 9-24270
 PbO₂, photoconducting, phase transitions, occurrence of ferroelectricity, pyrocurrent obs. 9-11395
 Pb₃S₂I₆, ferroelec., synthesis and hydrothermal growth 9-38731
 Pb(Ti,Zr)O₃, pyroelectric props., addition effects 9-33608
 PbTiO₃, domain struct., formation at phase transitions 9-38510
 PbTi_{1-x}Zr_xO₃, low freq. vibrational modes and ferroelec. transitions 9-33637
 Pb(Zr,Ti)O₃, thin film evaporated on stainless steel, photovoltaic effect 9-4580
 Pb(Zr,Ti)O₃, X-ray study in tetragonal-rhombohedral phase-transition composition area 9-42921
 PbZrO₃ based ceramic, press. induced ferroelec. to antiferroelec. transition 9-24273
 PbZrO₃, structural phase transition in super high elec. fields 9-33626
 RbCdCl₃, birefringence, twinning and structural phase transitions 9-38480
 Rb₂Cd₂(SO₄)₃, pyroelectric and dielectric props., ferroelectric transitions 9-38458
 Rb(H,D)₃(SeO₃)₂, improper ferroelec. phase transition, anomalous elastic props. 9-33634
 RbH₂PO₄, IR overtone spectra and temp. depend. 9-47456
 RbH₂PO₄ powder, phase transition in paraelectric (upper) phase by measuring damping const. and amplitude of phonon echoes 9-19855
 RbH₂(SeO₃)₂, ferroelectric phase transition, Raman spectra meas. 9-19871
 RbH₂(SeO₃)₂, ferroelec. phase transition, X-ray study 9-38479
 RbLiSO₄, thermal and dielectric props., ferroelectricity 9-28688
 RbMnCl₃, birefringence, twinning and structural phase transitions 9-38480
 Rb₂ZnBr₄, incommensurate phases, neutron scattering study 9-15417
 Rb₂ZnCl₄, ³⁵Cl NQR, incommensurate struct. phase transition 9-47401
 Rb₂ZnCl₄, incommensurate phases, neutron scatt. 9-38501
 Rb₂ZnCl₄, incommensurate phase form., domain struct. near phase transition, NQR obs. 9-33643
 Rb₂ZnCl₄, phase transitions, soft mode, Raman scatt. meas. 9-4389
 Sb_{1-x}Bi_xSI, mixed cryst., ferroelec. phase transition 9-33629
 Sb₂O₃, polytype 2MA, ferroelectric, ferroelastic, Raman scattering and symmetry anal. 9-38550
 Sb₂S₃ type chain crystals, ferroelec. phase transitions 9-33625
 SbSI, band gap photoreflectance spectra near ferroelec. transition 9-38559
 SbSI, central mode, microwave freqs. 9-19852
 SbSI, ferroelec. semicond. near phase transition, anomalies of photocond. 9-42579
 SbSI, tricrit. point, NQR under press. 9-38469
 SnCl₂·2H₂O, ferroelec., Cl NQR study 9-38467
 Sn₂Ge_{1-x}Te_x, ferroelec. semicond. structural phase transition, X-ray study 9-37836
 Sr_{0.7}Ba_{0.25}Nb_{0.05}O₆ single cryst., electro-optical hysteresis curves and phase transitions (*German*) 9-28717
 Sr_{1-x}Ba_xNb₂O₆, tetragonal tungsten bronze structure ferroelec. mech. for ferroelec. transition 9-38481
 SrTiO₃ based solid solns., ferroelec., US study 9-38476
 SrTiO₃, doped, large gap ferroelectrics, phase transitions in mag. fields 9-33621
 SrTiO₃, freq. depend. of soft mode self-energy, for IR dielec. response meas. 9-33632
 SrTiO₃, semicond., structural phase transitions, US velocity meas. 9-28692
 SrTiO₃:Fe³⁺, displacive struct. transition, order-disorder behaviour, phonon softening, EPR obs. 9-23695
 Tb₂(MoO₄)₃, mode softening near ferroelec. transition, Raman and Brillouin spectra 9-33685
 TiH₂PO₄, thermodynamics props. of solid phase transitions, heat capacity 9-10966
 TiMnCl₃, birefringence, twinning and structural phase transitions 9-38480

ferroelectricity

- see also antiferroelectricity; ferroelectric devices; ferroelectric materials; ferroelectric switching; ferroelectric transitions*
 acceleration waves in elastic dielectrics with internal state variables 9-47396
 antiferromagnet, ferroelec., damping of spin waves and 'hard' excitation effect 9-28518
 ceramics, 1-D linear dynamic electromechanical responses 9-47397
 ceramics, elastic and piezoelec. eigenstate spaces 9-42901
 conference, Leningrad, USSR (1977) 9-15406
 dipole waves, low temp. sp.h. and spontaneous polarisation calc. 9-33614
 dispersion of permittivity near N-phase point in KTa_{1-x}Nb_xO₃-type ferroelectrics 9-24276
 displacive ferroelectrics, connection between electron spectrum parameters and ferroelec. parameters 9-38483
 displacive type ferroelectrics with impurities, lattice dynamics 9-28061
 electroacoustic echoes and long-time storage in piezo- and ferroelectrics 9-38454
 electronic micropositioning with ferroelastic-ferroelectrics 9-17392
 ferroelectroantiferromagnetics, spin wave spectrum and exchange amplification of magnetolectric correlation 9-38311
 geometric effects 9-38493
 homogeneous ferroelectrics; bulk photovoltaic effect 9-42578
 orthophosphates, dynamics of ferroactive cryst. 9-37801
 paraelectric state, Curie-Weiss law, anharmonic oscillator anal. 9-8087
 photoferroelectric phenomena, physical models derivation 9-15407
 photogalvanic effect in ferroelectrics, theory 9-42575
 powders, origin of memory in echo phenomena 9-38440
 repolarisation of ferroelectric materials in SEM 9-15424
 space modulated cryst. struct., theory of symmetry 9-38004
 stimulated emission from impurity atoms in ferroelectric, effect of phase transition 9-15490
 thin ferroelec. layers 9-42912
 uniaxial ferroelectrics, microscopic theory, crit. behaviour and anomalous elastic consts. 9-38463

ferroelectricity continued

- vibronic carrier, dependence of plasma frequency on spontaneous lattice distortions (*Russian*) 9-15410
 vibronic theory, developments 9-33620
 vibronic theory of ferroelectricity 9-38492
 Gd₂(MoO₄)₃, effect of ferroelec. ordering on refractive index 9-33653
 NH₄H₂PO₄ crystal, ferroelectricity, spontaneous polarisation obs. 9-28687
 (NH₄)₂SO₄, mechanically twinned, orthorhombic, search for antiphasic boundaries 9-37715

ferrofluids *see magnetic fluids***ferromagnetic-antiferromagnetic transitions**

- see also metamagnetism; Morin temperature*
 rare earth metal, ferromagnet-simple helix transition, cond. electron spin polarisation (*Russian*) 9-7995
 CdCr₂Se₄-ZnCr₂Se₄, single cryst., mag. props. 9-28526
 CeSb, commensurate-commensurate transitions, devil's stairs theor. 9-19740
 CoMnSi, CoMnSi_{0.85}Ge_{0.15}, mag. props. 9-42758
 (Cr_{1-x}Fe_x)_{1+x}Sb, interstitial occupancy, Cr:Fe distrib., X-ray and neutron diff. study 9-42012
 Dy-Sm alloys, elec. resist. singularities and mag. transitions (*Russian*) 9-47075
 DyVO₄, antiferromag.-ferromag. structural phase transition induced by elec. field (*Russian*) 9-46802
 Gd₂S₃, antiferromag. to ferromag. and semiconductor to metal transitions (*Russian*) 9-33485
 Mn_{1-x}Cr_xP, mag. susceptibility and transitions 9-47256
 Mn_{1-x}Fe_xP, magnetisation, susceptibility and mag. transitions 9-47256
 Tb-Y alloy, mag. hysteresis in antiferromag.-ferromag. transition (*Russian*) 9-33508

ferromagnetic Curie temperature *see Curie temperature***ferromagnetic-paramagnetic transitions**

- see also Curie temperature*
 ferromagnetic instability in two-band Hubbard model 9-1653
 Ising model, critical surface calc. 9-4692
 quadratic magnetostriction, exactly soluble model 9-8030
 Au-Ni, magnetisation and sp. ht., ferromag., paramag. and crit.-conc. regions 9-38330
 Be₂Mn_{1-x}Fe_x, mag. props., giant moment clusters 9-28508
 Co, oxidation at Curie temp. 9-29279
 CrO₂, optical conductivities and dielec. functions in 0.2-6 eV range, rel. to band struct., above and below T_c=392K 9-42938
 Fe complex, Fe(Cl)(S₂CN(C₂H₅)₂)₂, susceptibility near critical pt. 9-24147
 Fe, oxidation at Curie temp. 9-29279
 Fe-Al, Mossbauer study of ordering (*Japanese*) 9-19822
 Fe₂P, grown in liq. Cu medium, composition and mag. props. 9-11313
 GdAl₂-GdCo₂ system, EPR and mag. props. 9-33478
 Hg_{1-x}Mn_xTe, EPR investigation of ordering effects 9-47330
 MnAs, relation between displacive and first order ferromagnetic-paramagnetic transition 9-10908
 MnAs, struct. and mag. props., temp. depend., neutron study 9-47246
 Ni film, effects of finite size on crit. phenomena, resistivity anomaly 9-38192
 Ni, oxidation at Curie temp. 9-29279
 NiPB amorphous alloys, ³¹P and ¹¹B NMR near paramag.-ferromag. transition 9-33558
 Th₂Fe₃, H induced change from supercond. to mag. ordered state 9-28525

ferromagnetic properties of substances

- see also ferromagnetic relaxation; ferromagnetic resonance; ferromagnetism; magnetic semiconductors*
 alkaline earth transition metal ternary and quaternary oxides, ATO₃, ATi_{1-x}T_xO₃, and AZr_{1-x}T_xO₃, prep., mag. props. and struct. 9-15277
 alloys, ferromagnetic exam. of atomic ordering mech., when in mag. field (*Russian*) 9-11609
 amorphous materials, mag. fundamentals, props. and appl. (*German*) 9-28557
 amorphous materials status and appls. (*Japanese*) 9-15325
 amorphous metals, possibility of low temp. phase below ferromag. phase 9-4674
 amorphous ribbon, saturation magnetostriction, and electronically controllable delay line 9-1700
 austenitic stainless steel, heat conductivity, low temp. mag. susceptibility meas. (*Chinese*) 9-47080
 di-(2,2,6,6-tetramethyl-4-piperidiny-1-oxyl) substrate, nitroxide radical polarised neutron study in paramag. phase 9-47231
 dimethylammonium copper tetra(chlorobromide), mag. susceptibility, 1 to 30K, mag. phase transition 9-4675
 disordered ferromagnetic alloys, even magneto-optical effects, light cond. tensor 9-4792
 ferromagnetic cantilevered beam plate, magnetoelastic buckling 9-18761
 films, induced mag. anisotropy, temp. depend. (*Russian*) 9-42757
 fluid rotating about vertical axis, convective instability of layer 9-27698
 Gentalloy, in Fe-W system, damping capacity (*Japanese*) 9-20094
 Invar, deformed, magnetism and temp. depend. of effective field on ⁵⁷Fe (*Russian*) 9-24234
 Invar, mag. inhomogeneity, ⁵⁷Fe and ⁶¹Ni NMR 9-19803
 Invar alloys, mag. struct. small angle neutron scatt. study 9-47249
 Invar films, exchange interaction depend. on lattice parameter, spin-wave reson. and magnetisation meas. (*Russian*) 9-42751
 itinerant ferromagnet, spin-wave dispersion and linewidth 9-4668
 magnetisation noise and power loss 9-15197
 magnetoresistance anisotropy, planar Hall effect 9-23947
 metal, ferromagnetic, mechanically stressed, magnetic-inductive method of discontinuous vibration detection, theory (*German*) 9-20315
 metal, inhomogeneously magnetised, muon (μ^+) method, mag. struct. study 9-42739
 metallic glasses, review (*German*) 9-41962
 metals and alloys, coercive force, automatic meas. by remote means 9-24690
 Metglas 2605, and 2605 A, transport props., resist. and magnetoresist. 9-1590
 (Ni_{1-x}Co_x)_{0.98}Mn_{0.02}, average mag. moment of Mn atoms 9-28509
 organic alternant molecules with conjugated bonds, ground state multiplicity, ferromag. 9-774
 Permalloy, high permeability, effect of hardening additions on mag. props. (*German*) 9-28566

ferromagnetic properties of substances continued

- Permalloy, order-disorder transform, and magnetic props. obs., by neutron diffraction method (*Slovak*) 9-4963
- Permalloy cylindrical film, magnetisation in crossed steady/alternating fields, easy axis dispersion influence 9-8024
- Permalloy ferromagnetic noise eval. 9-2799
- Permalloy film, electrodeposition with zero magnetostriction composition, technological control 9-33955
- Permalloy film, perpendicular anisotropy, structural and thermal stresses (*Russian*) 9-4708
- Permalloy film, submicroscopic magnetisation structs. induced by fields normal to film plane 9-1697
- Permalloy film, velocity of motion of nonequilibrium walls of edge domains (*Russian*) 9-1694
- Permalloy film, with band domain struct., pulse mag. reversals (*Russian*) 9-38361
- Permalloy films, domain struct., nonuniform rotation of magnetisation (*Russian*) 9-47313
- Permalloy films, induced mag. anisotropy, temp. depend. (*Russian*) 9-42757
- Permalloy films, thickness depend. of Bloch line mobility 9-24204
- Permalloy-Co film, domain walls, magnetisation ripple (*Russian*) 9-47314
- rare earth alloys, amorphous, mag. props. rel. to struct., review 9-15298
- rare earth alloys, amorphous random anisotropy ferromagnetism in pair approx. 9-47276
- rare earth intermetallics, Al_2O_3 , cryst. field volume magnetostriction calc. 9-8029
- rare earth molybdenum sulphides, $\text{R}_2\text{Mo}_6\text{S}_8$, low temp. magnetisation meas., and supercond. props. 9-8018
- rare earth- $\text{Al}_2(\text{Zn})$, mag. coupling mechanism 9-4655
- rare earth-Co, RCo_3 ($\text{R}=\text{Gd}, \text{Dy}$ and Ho), effect of absorbed H_2 on mag. behaviour 9-33483
- rare earth-Co alloy, mag. anisotropy origin 9-38319
- rare earth-Co system, spin reorientation and sp. ht. anomaly (*Japanese*) 9-47287
- rare earth-Sb(Zn), cubic ferromag. single crystals, mag. and magnetoelastic props. 9-15332
- soft magnetic material, analysis by means of Barkhausen noise cross spectra 9-24199
- spin glass-ferromag. alloys, high-field magnetisation 9-33488
- steel, austenitic, Mn-Al-V-F2, EM characts. after nitriding, aging, austenitizing, NDT of nitrated layer depth 9-11750
- steel, coercive force measurement method of quality inspection of heat and thermomechanically treated parts 9-5113
- steel, low alloy and C, hardened and tempered parts, nondestructive magnetic inspection 9-1929
- steel, low C, mech. props. determ., NDT methods 9-29176
- steel, mild, plastic deform. during fatigue, detection by Barkhausen noise meas. 9-43524
- steel, Mn-Mo-Nb-C, transform. charact. and struct. during continuous cooling 9-29057
- steel, Si, with coating, grain-oriented, domain pattern measurements (*Japanese*) 9-38353
- steel, Si (6.5 wt.%) Mn, Ni and Al additions influence obs., on mech. and magnetic props. (*Slovak*) 9-5064
- steel 42NKhTya wire, hysteresis loop and differential permeab. after US and conventional drawing 9-15818
- superconductor, critical behaviour, coexistence near supercond.-ferromag. multicritical point 9-47197
- terbium ethyl sulphate, mag. and thermal props. 9-7971
- transition metal, mag. susceptibility, spin wave spectrum for improved itinerant-localised electron model 9-1654
- transition metal symmetric clusters, higher-order isotropic exchange, Schrodinger exchange model 9-7955
- transition metal-metalloid metallic glasses, deformed, mag. props., mag. screening 9-15287
- Au-Fe, spin-glass, characteristic temps. 9-38348
- Au-Fe (1-7 at.%), extraordinary Hall effect, near ferromag. percolation limit 9-19575
- Au-Ni, magnetisation and sp. ht., ferromag., paramag. and crit.-conc. regions 9-38330
- $\text{Au}_2(\text{Mn}, \text{Zn})_2$, Heusler alloy, ($\text{Z}=\text{Al}, \text{Cu}, \text{Ga}, \text{In}$ or Zn), magnetic order and coupling 9-38303
- Au_4V , partially disordered, magnetisation distrib., polarised neutron diff. study 9-47244
- BMN, ferromag., ^{55}Mn magnon-induced pseudoquadrupole processes 9-19802
- $\text{Be}_2\text{Mn}_{1-x}\text{Fe}_x$, mag. props., giant moment clusters 9-28508
- Co_2P , amorphous ferromag., spectral density functions calcs. 9-47269
- CdCr_2S_4 , EPR line profiles in paramag. and ferromag. phases 9-28602
- CdCr_2S_4 , ferromagnetic semiconductor films, prep. and props. (*Japanese*) 9-47308
- CdCr_2S_4 , Heisenberg ferromag., obs. of dynamic dipolar crossover, ESR linewidths meas. 9-24209
- CdCr_2S_4 , phonon Raman scatt., mag. circular polarization effects 9-8134
- CdCr_2S_4 , polycrystalline films, mag. semicond., spinel-type, magneto-optical effects (*Japanese*) 9-47415
- CdCr_2S_4 , Gd, ferromag. reson. and electrical cond. 9-28626
- $\text{CdCr}_2\text{S}_4\text{In}(\text{Ga})$, resist. and magnetoresist. meas., effect of donor impurities 9-19608
- $\text{CdCr}_2\text{S}_4(\text{Se}_4)$, ferromagnetic semiconductors, spinel-type, resonance Raman scattering and electronic structure (*Japanese*) 9-47421
- CdCr_2S_4 , ferromag. semiconductor, mag. props. near Curie pt., doping effects 9-1670
- CdCr_2S_4 , ferromagnetic semiconductor, single cryst. growth (*Japanese*) 9-47612
- CdCr_2S_4 , optical absorption due to transitions between bands and local levels 9-38537
- CdCr_2S_4 , resonant Raman scatt. 9-4802
- CdCr_2S_4 , single crystals, mag. semicond., spinel-type, magneto-optical effects (*Japanese*) 9-47415
- CdCr_2S_4 , Ag, ferromag. linewidth and eddy current losses 9-33541
- $\text{CdCr}_2\text{S}_4\text{ZnCr}_2\text{S}_4$, single cryst., mag. props. 9-28526
- $\text{CdCr}_2\text{Si}_4\text{Ga}$, negative magnetoresist. effects near Curie temp. 9-11152
- CdCr_2S_4 , press. depend. optical absorption edge shift and compressibility 9-28714
- $\text{Cd}_{1-x}\text{Fe}_x\text{Cr}_2\text{S}_4$, single cryst., mag. semicond., spinel-type, magneto-optical effects (*Japanese*) 9-47415
- $\text{Cd}_{1-x}\text{Hg}_x\text{Cr}_2\text{S}_4$, photoferromag. effect and photocond. obs. 9-28376
- Co-Sm-Co-Fe-Cu alloy, permanent magnet props. 9-8013
- CeCo_{5+x} , Cu and Fe modified, coercive force (*Czech*) 9-42805

ferromagnetic properties of substances continued

- CeSb, commensurate-commensurate transitions, devil's stairs theory 9-19740
- CeSb, mag. phase diagram for mag. field applied along (111) direction 9-33458
- Co, amorphous and liquid, density of electronic states 9-23881
- Co based alloys, mag. interactions, effects on moments (*Rumanian*) 9-15296
- Co, dipole field anisotropy, at interstitial sites, lattice-deformation effects 9-33584
- Co, electrodeposited coating, struct. and magnetic props. 9-46985
- Co, ferromag., energy band struct. X-ray emission spectra (*Russian*) 9-15564
- Co film, low-angle grain boundary struct. (*Russian*) 9-42807
- Co film, magnetic domain wall width, shadow and interf. electron microscope exam. 9-11330
- Co, oxidation at Curie temp. 9-29279
- Co particles, ferromagnetic colloids in toluene, small-angle X-ray scatt., interparticle correlations 9-11831
- Co, ultrafine particles prepared by vacuum evap. on running oil substrate, mag. behaviour 9-28565
- Co, uniaxial magneto-crystalline anisotropy, temp. depend. 9-42753
- Co-B alloys, amorphous, mag. moment and exchange stiffness constant 9-1662
- Co-B alloys, amorphous, saturation magnetisation, mag. moments, X-ray diff. obs. 9-4704
- Co-Fe (6 wt.%), alloy, operation at 850 to 1000°C range (*Slovak*) 9-4698
- Co-Fe alloy films, magnetostriction and orientation of easy magnetisation axes (*Russian*) 9-19756
- Co-Fe-B and Co-Fe-Cr-P-B sputtered amorphous films, mag. props. and corrosion resist. 9-28567
- Co-Fe-Nb, heavily cold worked, magnetic hardening 9-20073
- Co-Ga-Fe, small-angle mag. neutron scatt., states of mag. order study rel. to Mn and Fe substitution 9-11292
- β -Co-Mn-Sn Heusler alloy, constitution and magnetic props. (*German*) 9-34009
- Co-Ni-Fe, semi-hard magnet, irreversible magnetisation changes, directional distrib. 9-24196
- Co-P amorphous alloy, ferromagnetic reson. exam. 9-28620
- Co-P amorphous alloys, electrodeposited, magnetic anisotropy 9-28568
- Co-Pt films, mag. and magneto-optic props., appl. to holographic and bit-by-bit storage 9-33512
- Co-Sn, dil., ferromag., temp. anomalies of Sn mag. hyperfine field and thermal expansion 9-33270
- Co-transition metal, transition metal additives influence on struct., specific resistance, microhardness, mech. props., magnetic props. 9-29078
- Co-V (12.4-18.7 at.%), ferromag. behaviour 9-24163
- $\text{CoBr}_2 \cdot 2\text{H}_2\text{O}$, metamagnetic, relax. phenomena at phase transitions 9-24164
- $(\text{Co}_{0.83}\text{Cu}_{0.17})_6\text{Ce}$, cryst. struct. and mag. props., decomp. during ageing (*Russian*) 9-37661
- CoMnSi, CoMnSi_{0.85}Ge_{0.15}, mag. props. 9-42758
- $\text{Co}(\text{NH}_4)_2(\text{SO}_4)_2 \cdot 6\text{H}_2\text{O}$ Tutton salt, low-temp. spin orientation, mag. props. 0-0.1K 9-15286
- $\text{Co}(\text{S}_x\text{Se}_{1-x})_2$, metamagnetic transition, ^{59}Co NMR 9-38322
- Co_5Sm sintered magnet, effect of surface conditions on mag. props. 9-28556
- $\text{Co}_2(\text{Ti}, \text{Mn})\text{Sn}$, Heusler alloy, mag. meas. 9-47261
- Cr-Fe, superparamagnetism and mag. order charact. near critical conc., neutron scatt. study 9-11293
- Cr-Ge system, phase anal. and physical props. 9-24160
- CrBr₃ anisotropic ferromagnet, crit. mag. relax., field and temp. depend. 9-1717
- CrBr₃, two-dimensional mag. insulators, cryst. field spectra, mag. circular dichroism 9-47058
- CrBr₃, two-dimensional mag. insulator, cryst. field splitting, spectroscopic g-factors 9-47059
- $\text{Cr}_2(\text{CrO}_4)_3$, ferromagnet, ESR spectra near Curie temp. 9-8042
- $(\text{Cr}_{1-x}\text{Fe}_x)_{1+x}\text{Sb}$, interstitial occupancy, Cr:Fe distrib., X-ray and neutron diff. study 9-42012
- CrO_2 , synthesis and morphology 9-24481
- $\text{Cr}_{1-x}\text{Rh}_x\text{O}_2$, ferromag., new prep. method by high-pressure oxidation, SEM characterisation 9-43164
- CsNiF_3 , one dimens. ferromag., spin wave dynamics, inelastic neutron scatt. study 9-47270
- CsNiF_3 , one-dimens. ferromag., solitons in external mag. field 9-19724
- CsNiF_3 , one-dimens. ferromag. phonon dispersion surfaces 9-42180
- Cu-Mn-Al, mag. props. and atomic ordering 9-24139
- Cu-Ni, disordered ferromag., spin density asphericity, neutron diff. study 9-47251
- Cu-Ni-Fe, spinodal alloy, heat treatments for improved mech. props. 9-5024
- $\text{Cu}(\text{NH}_4)_2\text{Br}_2 \cdot 2\text{H}_2\text{O}$, Heisenberg ferromagnet, phase transition in mag. field 9-7992
- Dy, magnetic phase transitions, field-induced, isothermal magnetisation meas. 9-24161
- Dy-Sm alloys, elec. resist. singularities and mag. transitions (*Russian*) 9-47075
- DyAl₂, magnetisation, three-state Potts model 9-42804
- $\text{Dy}_2\text{Ce}_{1-x}\text{Ru}_x$, investig. of coexistence of supercond. and ferromagnetism 9-11267
- $\text{Dy}_2(\text{Fe}, \text{Co})_{17}$, mag. anisotropy fields by singular pt. detection 9-24156
- DyFe₂ powders, mag. and hysteresis props. (*Russian*) 9-42800
- DyVO_4 , antiferromag.-ferromag. structural phase transition induced by elec. field (*Russian*) 9-46802
- $\text{Dy}_2(\text{WO}_4)_2$, mag. props., 300 to 900K 9-28510
- ErFe_2 powders, mag. and hysteresis props. (*Russian*) 9-42800
- $\text{Er}_2\text{Ga}_2\text{Rh}_2\text{B}_8$, supercond. and mag. transitions at press. up to 19 kbar 9-38236
- $\text{Er}_2(\text{WO}_4)_3$, mag. props., 300 to 900K 9-28510
- EuB_6 , elec. cond. under hydrostatic press. 9-7832
- EuB_6 , single and bulk polycryst., EPR, temp. and freq. depend. 9-28606
- EuO (100), disordered, LEED and electron spectroscopy 9-28178
- EuO , excitation of spin waves by current carriers, magnetisation and elec. cond. reduction (*Russian*) 9-7981
- EuO , ferromag. reson. and nonlinear phenomena 9-28627
- EuO , light absorpt. during ferromag. reson. (*Russian*) 9-28618
- EuO , light scatt. from bulk and surface spin waves 9-28778
- EuO , optical orientation of f-electrons, Curie temp. variation due to exchange interactions (*Russian*) 9-15431

ferromagnetic properties of substances continued

- EuO:Gd, mag. props. and instability phenomena 9-1666
 EuO- Δ , thin film, Faraday effect dispersion and transmission, 0.5-1.1 μ , 20.4 and 77K, anion vacancies 9-19945
 EuO(S)(Se), superexchange interaction parameters, many-electron model calc. 9-7988
 EuS, ferromag., on W, electron field emission 9-8230
 EuS film, influence of prep. on mag. props. 9-24201
 EuS, three dims. Heisenberg ferromagnet, crit. relax. spectra mag. susceptibility 9-8000
 EuSr_{1-x}S, onset of ferromagnetism for x near 0.5 neutron diff. obs. 9-24181
 (Fe,Ni)₈₃B₁₅C₂, amorphous alloy, mag. props., possible appl. to power transformers 9-28558
 (Fe,Ni)₈₀P₁₄B₆ amorphous alloy, mag. props., possible appl. to power transformers 9-28558
 Fe, bulk modulus and thermal expansion coefficient, mag. contributions 9-8039
 Fe, coercive force measurement method of quality inspection of heat and thermomechanically treated parts 9-5113
 Fe complex, Fe(Cl)[S₂CN(C₂H₅)₂]₂, susceptibility near critical pt. 9-24147
 Fe, damping during and after deformation 9-43344
 Fe, ferromag., evidence for itinerant electron model, angle resolved photoemission from surface 9-24414
 Fe, ferromag., transient mag. field for ¹³C 9-47362
 Fe film, ferromag. reson., thermodynamical anal. 9-42840
 Fe film, low-angle grain boundary struct. (Russian) 9-42807
 Fe, internal friction near Curie point 9-24567
 Fe, irreversible magnetisation changes, directional distrib. 9-24196
 Fe, itinerant ferromagnet, neutron inelastic scatt. 9-7970
 Fe, muon⁺, 40 MeV, traversing magnetised plates, dynamic mag. fields 9-38422
 α -Fe, neutron irradiated, low temp. mag. relax. 9-8022
 Fe, oxidation at Curie temp. 9-29279
 Fe, photoemission study of (100), (110) and (111) surfaces, ferromag. band struct. 9-38714
 Fe, spectral thermal emission, partial circular polarization 9-23751
 Fe ultrafine particles, Fe₃O₄/ γ -Fe₂O₃ surface layers, Mossbauer expts. 9-8081
 Fe, ultrafine particles prepared by vacuum evap. on running oil substrate, mag. behaviour 9-28565
 Fe-Al-C alloys, C migration and mag. aftereffect, mag. permeab. disaccommodation and long-range order meas. 9-8020
 Fe-Al-Co-Ni, Alnico alloys, irreversible remagnetisation processes in rotating fields (Russian) 9-8015
 Fe-B (15-25 at.%) glass, quasicryst. struct. Mossbauer expts. 9-4255
 Fe-B ferromag. film, props. 9-4709
 Fe-B metastable alloys, Mossbauer spectroscopy and electron microscopy 9-28653
 Fe-B-C amorphous alloys, room-temp. saturation induction over 17.5 kG 9-47300
 Fe-C, electronic structure of interstitials 9-1583
 Fe-C, Fe-Si-B, and Fe-Cr-P-C sputtered amorphous films, mag. props. and corrosion resist. 9-28567
 Fe-Co, amorphous alloy, stress effect on mag. domain struct. 9-33502
 Fe-Co, mag. moment of Cr and Mn atoms, polarised neutron scattering 9-11290
 Fe-Co based alloys (52KF, 35KKh, 35KFN), effect of heat treatment and mech. working, on sensitivity of mag. props. to mech. stresses (Russian) 9-34161
 Fe-Co-Cr, magnetic, phase transform. obs. (French) 9-47676
 Fe-Co-Ni, at. mag. moments, neutron scatt. and Mossbauer meas. 9-42744
 Fe-Co-Ni-Si-B amorphous alloy, magnetostriction and permeability, effect of annealing 9-1701
 Fe-Co-Ta for semipermanent magnets (French) 9-47675
 Fe-Cr-Co, mag. props. of ductile permanent ductile alloys (Chinese) 9-19746
 Fe-Mn, dil. alloy, mag. moment distrib., temp. depend., diffuse polarised neutron scatt. study 9-47250
 Fe-Mn, electron redistrib. and BCC struct. stability, Mossbauer meas. (Russian) 9-42873
 Fe-Nb(Ta)-Co, Recalloys, semihard mag. alloys, mag. and elec. props., hardness, thermal expansion (Japanese) 9-5066
 Fe-Ni, FCC alloy, magnetovolume instability 9-8031
 Fe-Ni, FCC alloy, thermoelec. power, anomalous conc. depend. at high temp. 9-4548
 Fe-Ni, quenched irreversible alloy, zero or negative thermal dilatation 9-4419
 Fe-Ni alloy, low-noise, for cores of ferromag. probes and mag. modulators 9-8017
 Fe-Ni alloys, electronic struct. by XPS obs. 9-33226
 Fe-Ni films, dynamic domains and pulse mag. reversals (Russian) 9-28571
 γ -Fe-Ni Invar alloy, phase mixture produced by long annealing 9-5065
 Fe-Ni, hyperfine field, variation with atomic order 9-7953
 Fe-Ni-Co foils, mag. reversals of mag. domains in low-coercivity channels (Russian) 9-42813
 Fe-Ni-Cr-Ti-Al Elinvar alloys, dispersion-hardened, structural transform. (Russian) 9-1872
 Fe-Ni-Te alloys, magnetisation 9-7975
 Fe-Pd (47 at.%) alloy, powders and powder compacts, mag. props. rel. to heat treatment (Russian) 9-15816
 Fe-Pd alloy, uniaxial ferromag., anisotropic component of localised mag. field, Mossbauer meas. (Russian) 9-15382
 Fe-Pd-Pt alloy powders, coercive force and specific remanence (Russian) 9-47302
 Fe-Pt, Invar alloy, strong ferromagnetism, magnetostriction and thermal expansion 9-8037
 Fe-Pt, Invar alloy, thermodynamic properties, effects of forced magnetostriiction 9-11331
 Fe-Pt films, mag. and magneto-optic props., appl. to holographic and bit-by-bit storage 9-33512
 Fe-Rh, ferromag., spin wave stiffness constant calc. 9-38307
 Fe-Rh, mag. phase transitions, triple point 9-1672
 Fe-Rh alloy, nonmag. and mag., band theory 9-37973
 Fe-Si, grain-oriented, magnetostriction, and domain struct. 9-1703
 Fe-Si, hysteresis loops described by 180° Bloch wall (French) 9-15322
 Fe-Si, internal friction, domain boundary area (Russian) 9-24562
 Fe-Si, Mossbauer study of mag. ordering 9-24245

ferromagnetic properties of substances continued

- Fe-Si, ribbon, prep. by rapid quenching 9-33957
 Fe-Si, strips and rods, spatial extent of flux due to irreversible changes of mag. polarisation 9-33506
 Fe-Si (3 wt.%), hysteretic losses, domain struct. and cryst. defects 9-19747
 Fe-Si (3 wt.%), prediction of magnetisation hysteresis loops for distorted waveforms 9-47303
 Fe-Si (3 wt.%) alloy, domain structure influence obs. and calc. (Slovak) 9-4693
 Fe-Si (3 wt.%) laminations, orientation and stacking influence on losses obs. (Slovak) 9-4696
 Fe-Si (3 wt.%) layers, with ceramic coating, interface struct., electron microscopy and Mossbauer obs. (Russian) 9-28216
 Fe-Si (3 wt.%) mag. domain motion quasi-lifetime topography using white synchrotron radiation, mag. field effects 9-42797
 Fe-Si (3.22 wt.%), topographic and type-2 magnetic contrast, effect of collector position in SEM 9-12909
 Fe-Si ferromag. film, props. 9-4709
 Fe-Si sheets, grain oriented, with insulating coating, nondestructive grain identification methods (Slovak) 9-5090
 Fe-Sn, dil., ferromag., temp. anomalies of Sn mag. hyperfine field and thermal expansion 9-33270
 Fe-Ti:H(D), isotope effects of diatomic TiH and TiD complexes 9-47259
 Fe-V alloy, Curie temp. determ. using deviation from Mattheisen's rule 9-15306
 Fe₃Al, order-disorder transition effect on low energy spin waves 9-47271
 Fe_{100-x}B_x, amorphous, effect of metalloids on mag. props. 9-11304
 Fe_{100-x}B_x, amorphous alloys, magnetostriction meas. 9-19760
 Fe₈₀B₂₀ amorphous alloys, domain struct. exam., magneto-optic Kerr effect 9-28550
 Fe₈₀B₂₀ amorphous ribbons, magnetomechanical coupling constant and Young's modulus, mag. annealing 9-15333
 Fe₈₀B₂₀, binary amorphous ferromagnet, Mossbauer spectra 9-4749
 Fe₈₀B₂₀, elastic, magnetoelastic and thermal props. 9-19759
 Fe₈₀B₂₀, glassy, ferromag. anisotropy of resistivity 9-23939
 Fe_{100-x}Be_x, amorphous ribbon, saturation magnetostriction, and electronically controllable delay line 9-1700
 FeCl₂.2H₂O, metamagnetic, resonant magnon-optical phonon coupling 9-28773
 Fe₂Co_{1-x}S₂, ferromagnetic solid soln., electronic props. 9-7990
 (Fe_{1-x}Co_x)₇₅Si₁₀B₁₃ alloys, amorphous, induced mag. anisotropy by mag. annealing 9-4671
 (Fe_{1-x}Co_x)₇₅Si₁₀B₁₃, amorphous, mag. moments at 0K, Curie temp., mag. interactions 9-4670
 Fe_{1-x}Cu_xCr₂S₄, mag. semicond., mag. props. and elec. cond. (Japanese) 9-47111
 FeGe, cubic, spin reson., 4.2-300K, 3-35 GHz 9-38384
 Fe_{1.67}Ge, Mossbauer and X-ray expts. 9-1734
 Fe₃Ge, ¹¹⁵Sn mag. hyperfine interaction, Mossbauer spectra (Russian) 9-38420
 (Fe_{1-x}M_x)₂P, (M=Co,Ni), magnetisation, susceptibility, thermal expts. 9-11302
 Fe₇₈Mo₂B₂₀, amorphous ferromag., mag. props. 9-38309
 Fe₇₈Mo₂B₂₀, glassy, ferromag. anisotropy of resistivity 9-23939
 α -Fe₂Ni₂ film, mag. mechanism, at. mag. moment (Korean) 9-7973
 Fe_{1-x}Ni_x, elec. resist., anomalies in temp. depend. 9-23942
 Fe_{1-x}Ni_x, FCC, anomalies in sp. ht. and thermal expansion 9-19739
 Fe₆₅Ni₃₅ ferromagnetic alloy, zero sound anomaly, inelastic neutron scatt. 9-46764
 Fe_{80-x}Ni_xB₂₀, Fe_{80-x}Ni_xP₁₄B₆, amorphous, microhardness meas., dependence on mag. props. (Croatian) 9-11688
 (Fe₂Ni_{1-x})₈₀B₂₀, (Fe₂Ni_{1-x})₈₀P₁₄B₆, new soft amorphous ferromagnetic glasses (Croatian) 9-11298
 Fe₂Ni_{80-x}B₂₀, Fe₂Ni_{80-x}P₁₄B₆, amorphous Hall effect voltage meas. (Croatian) 9-11102
 Fe₂₃Ni₃₆Cr₁₄P₁₂B₆, elastic, magnetoelastic and thermal props. 9-19759
 Fe_{0.5}(Ni_{1-x}Mn_{1-x/2})_{0.5}, ferromag. ground state, elec. resist., anomalies in temp. depend. 9-23942
 Fe₄₀Ni₃₈Mo₄B₁₈ metallic glass, reorientation kinetics of magnetization 9-24155
 Fe₄₀Ni₄₀P₁₄B₆, amorphous ferromagnet, domain struct., Rayleigh region and coercive field 9-28559
 Fe₄₀Ni₄₀P₁₄B₆, amorphous, stress-induced mag. easy axis 9-33516
 Fe₄₀Ni₄₀P₁₄B₆, and Fe₂₃Ni₃₆Cr₁₄P₁₂B₆, glassy, ferromag. anisotropy of resistivity 9-23939
 Fe₄₀Ni₄₀P₁₄B₆, elastic, magnetoelastic and thermal props. 9-19759
 Fe₄₀Ni₄₀P₁₄B₆, hardness, elec. cond., photo emission, and mag. props. (Norwegian) 9-32909
 Fe₄₀Ni₄₀P₁₄B₆, metglas 2826, amorphous, Hall resistivity, thermal cycling and annealing effects 9-38050
 Fe₄₀Ni₄₀P_{20-y}, amorphous, mag. props. effect of metalloid elements 9-28658
 (Fe₂Ni_{1-x})₈₀P₁₄B₆, amorphous, hyperfine field distrib., ⁵⁷Fe Mossbauer spectra 9-11367
 (Fe₆₅Ni₃₅)₇₅P₁₆B₆Al₃, mag. excitations 9-7984
 (Fe₆₅Ni₃₅)₇₅P₁₆B₆Al₃, amorphous, spin wave excitations and low temp. magnetisation 9-33468
 (Fe_{1-x}Ni_x)₈₀PyB_{20-y}, local struct. disorder and crystallisation, Mossbauer exam. 9-1728
 Fe₃O₄ ferrofluid, mag. birefringence, estimation of particle size 9-33511
 Fe₃O₄.¹¹⁹Sn, magnetic interactions, Mossbauer spectra 9-15301
 Fe₂P, grown in liq. Cu medium, composition and mag. props. 9-11313
 FePd_{1-x}Pt_x, permanent magnet, coercive force increased by Pt 9-24157
 FePd, quenched, or annealed exam. of magnetostriction, galvanomagnetic and thermomagnetic props. (Russian) 9-19757
 Fe(Pd_{1-x}Au_x)₃ ordering alloys, mag. props., 4.2 to 500K (Russian) 9-47301
 Fe₂P, premartensitic phenomena (French) 9-8297
 Fe_{1-x}Se, phase relation 9-14926
 FeSi, (110), Neel cryst., refr. of neutrons in Bloch walls using double cryst. arrangement 9-24191
 FeSi, single cryst., orientation of pieces of zigzag Bloch walls, neutron small-angle scatt. determ. 9-24190
 Fe₅₀Si₅₀, thermal and elec. cond., heat transport by spin waves 9-38047
 Fe₇₅Si₁₀B₁₂ amorphous ribbons, magnetomechanical coupling constant and Young's modulus, mag. annealing 9-15333
 Fe₂Sn₂, mag. props., neutron diff. and magnetisation meas. 9-11294
 FeTi, surface segregation and catalytic effect on hydrogenation, AES and XPS study 9-11626

ferromagnetic properties of substances continued

Gd, dipole field anisotropy, at interstitial sites, lattice-deformation effects 9-33584
¹⁶⁰Gd, ferromagnetic, isotopically enriched single crystals short-range order 9-4653
 Gd-Ta, dil., mag. hyperfine field and elec. field gradient at ¹⁸¹Ta impurities, TDPAC meas. 9-47361
 Gd-Yb(Ir), dil., ferromag., mag. hyperfine fields of ¹⁷⁰Yb and ¹⁹³Ir, Mossbauer effect meas. 9-24242
 GdAl₂-GdCo₂ system, EPR and mag. props. 9-33478
 Gd₂Co, amorphous ferromag. obtained by splat cooling, local and bulk mag. props. 9-1685
 Gd(Co_{1-x}Fe_x)₂, mag. props., composition and temp. depend. 9-15289
 Gd(Co_{1-x}Ni_x)₂, mag. props., composition and temp. depend. 9-15289
 Gd₂(Fe,Co)₁₇, mag. anisotropy fields by singular pt. detection 9-24156
³He, liquid, surface ferromagnetic instability, attraction to solid substrate 9-46863
³He, superfluid A-phase 9-42333
 HgCr₂Se₄, initial mag. permeab., 77 to 300K, domain wall motion and damped ferromag. reson. 9-28562
 HoAl₂, Ho moment reorientation, polarized neutron diffr. study 9-42761
 Ho₂Au, mag. props., 4.2-300K 9-7972
 Ho₂(WO₄)₃, mag. props., 300 to 900K 9-28510
 HoZn, mag. excitations near spin rot. temp., neutron scatt. study 9-19731
 Ir ternary and quaternary oxides, prep., cryst. struct., and mag. props. 9-14771
 K₂CuF₄, 2-dimens. ferromagnet, low-temp. mag. struct. (*Japanese*) 9-33461
 K₂CuF₄, spin-wave relaxation, parallel pumping expt. 9-4729
 K₂CuF₄, 2-dimens. ferromagnet, half-field EPR line 9-19765
 K₂Cu_{1-x}Mn_xF₄ system, (0≤x≤0.2), prep., cryst. chem., and ferromag. props., X-ray and neutron diffr. study 9-24162
 K₂Cu₂Zn_{1-x}F₄, EPR, spin correlation decay rate 9-19772
 La_{1-x}Sr_xCoO₃ (0.5≤x≤1.0), mag. props. 9-24154
 LiHoF₄, crit. behaviour of mag. suscept. 9-33465
 LiTbF₄, magnetisation near crit. pt., temp. and field depend. 9-38337
 LuCo₂, high-field magnetisation, Fermi liquid model 9-11303
 (Lu_{1-x}Ho_x)Rh₄B₄, interaction between superconductivity and magnetism 9-38248
 Mn-Al-C alloy, anisotropic, permanent magnet appl., properties and production (*German*) 9-8309
 Mn-Bi film, amorphous, form. and crystn. 9-28923
 Mn-V-Al, magnetic props., heat treatment effects 9-29233
 MnAs, second-order phase transition, elastic anomalies 9-10908
 MnAs, struct. and mag. props., temp. depend., neutron study 9-47246
 MnBi, thin film, fine mag. domains, SEM obs. 9-24202
 MnBi, thin film, struct. and mag. props. 9-47315
 Mn_{1-x}Co_xSb, ferromagnetic, NMR exam. 9-24228
 Mn₂Cr_{0.5}O₄, mag. struct., neutron diffr. obs. 9-33460
 Mn_{1-x}Cr_xP, mag. susceptibility and transitions 9-47256
 Mn_{1-x}Fe_xP, magnetisation, susceptibility and mag. transitions 9-47256
 Mn_{1-x}Sb_{1-x}Sn_x, nuclear Zeeman effect, Mossbauer meas. 9-28654
 MnSi, itinerant ferromag, spin dynamics field depend. 9-38315
 Ni, (001) surface, spin polarised photoemission theory 9-15584
 Ni, creep, effect of AC mag. field, 1.5-4.2K (*Russian*) 9-11657
 Ni electrodeposits on (001)Cu films, growth and mag. anisotropy 9-42810
 Ni, ferromag., hyperfine field of positive muon 9-47378
 Ni, ferromag. reson., expt. data to explain asymmetry of reson. curves (*Russian*) 9-4728
 Ni, ferromagnetic state, energy bands, self-consistent calcs. 9-19509
 Ni film, effects of finite size on crit. phenomena, resistivity anomaly 9-38192
 Ni film, ferromag. reson., thermodynamical anal. 9-42840
 Ni film, ferromagnetic (100) and (110), energy bands 9-1630
 Ni film, light scatt. from surface acoustic spin waves 9-33719
 Ni film, low-angle grain boundary struct. (*Russian*) 9-42807
 Ni film, spin wave resonance 9-33542
 Ni film (111), ferromag., energy bands and planar densities of states, LCAO calc. 9-4509
 Ni films, evaporated, effect of CO adsorption on galvanomag. and mag. props. 9-33363
 Ni films, evaporated, effect of CO adsorption on galvanomag. and mag. props. 9-33364
 Ni, formed in decomposing β-NiH α-phase precipitate detection by Bitter powder pattern 9-28104
 Ni, Hopkinson effect, mag. field depend. (*Russian*) 9-4657
 Ni, itinerant ferromagnet, spin-wave dispersion and linewidth 9-4668
 Ni, mag. excitations variation of de Haas-van Alphen frequency 9-8019
 Ni, magnetic anisotropy constants fitting to torque curves 9-7989
 Ni, oxidation at Curie temp. 9-29279
 Ni, Si ion projectile bound s electron polaris. rel. to transient mag. fields 9-33023
 Ni, simultaneous obs. of Barkhausen and magnetoplastic effect 9-28583
 Ni single crystal near T_c, neutron transmission depolarisation 9-33479
 Ni, single-crystal films, spin wave reson. spectra 9-11350
 Ni, ultrafine particles prepared by vacuum evap. on running oil substrate, mag. behaviour 9-28565
 Ni wire, polycryst., inverse Wiedemann effect for low torsional stress 9-11332
 Ni:B, impurity electronic struct. calc., ¹²B NMR data anal., magnetisation decrease 9-47046
 Ni:F, ion-implanted, mag. hyperfine field, anomalous temp. depend., PAC meas. 9-4754
 Ni-Co, elementary excitations, exchange stiffness const., inelastic neutron scatt. study 9-47294
 Ni-Co film, spin wave resonance 9-33542
 Ni-Cr, elementary excitations, exchange stiffness const., inelastic neutron scatt. study 9-47294
 Ni-Cu alloy, magnetoresistance anisotropy, planar Hall effect 9-23947
 Ni-Fe, elementary excitations, exchange stiffness const., inelastic neutron scatt. study 9-47294
 Ni-Fe, new soft magnetic material for pulse transfer and choking in power electronics (*German*) 9-28555
 Ni-Fe alloys, high-permeability, development trends (*Slovak*) 9-4694
 Ni-Fe-Co, alloy with step hysteresis loops (*German*) 9-42806
 Ni-Mn, low temp. kinetic props., 4.2-77.3K (*Russian*) 9-19568
 Ni-Mn alloys, remanent magnetisation reversal, local environment model 9-33507

ferromagnetic properties of substances continued

Ni-Mn base polynary alloys, magnetic, and elec. props., composition and heat treatment effects 9-11710
 Ni-P alloy, amorphous, NMR expts. and interpretation 9-8060
 Ni-Pd alloy, magnetostriction and mag. anisotropy meas. 9-4713
 Ni-Sn(Sb), dilute ferromagnetic alloy, resistivity and magnetoresist. anisotropy 9-11106
 Ni-Ti alloy, Curie temp. determ. using deviation from Mattheisen's rule 9-15306
 Ni-V, elementary excitations, exchange stiffness const., inelastic neutron scatt. study 9-47294
 NiC, electronic structure of interstitials 9-1583
 NiFe film, ferromag. reson., thermodynamical anal. 9-42840
 NiFe film, stationarity and behaviour of Barkhausen noise 9-24198
 Ni₉₀Ru₁₀O₃, mag. moment distrib. polarised neutron study 9-42738
 Ni₂(Ti,Mn)Sn, Heusler alloy, mag. meas. 9-47261
 Pd-Fe alloys, dil., spin polarisation effect on hyperfine interactions, anal. of Mossbauer meas. (*Russian*) 9-47055
 Pd-Mn, spin glass-ferromag. alloys, high-field magnetisation 9-33488
 Pd₂MnIn_{1-x}Sn_x-Cd, dil., Heusler alloy, hyperfine mag. field on Cd, TDPAC obs. 9-8075
 Pd_{90-x}Si_{10-x}Fe_x, amorphous, low x, hyperfine interactions and mag. ordering temp. 9-15303
 Pr₂Ti, hyperfine interactions, sp. ht. and magnetisation meas. 9-28531
 Pt₂Mn, cryst. dynamics at 80K 9-23688
 PuFe₂, ferromag. mag. cross section, form factors, saturation magnetisation values, polarized neutron study 9-47245
 PuP, ferromag. mag. cross section, form factors, saturation magnetisation values, polarized neutron study 9-47245
 Rb₂CrCl₄, spin wave temp. depend. 9-4662
 Rb₂Cr₂O₁₆, Hollandite type compound, synthesis, struct. and magnetic props. 9-11543
 RbFeCl₃, linear chain cryst., quadrupole and mag. reson., rel. to CsFeCl₃ 9-38403
 Ru ternary and quaternary oxides, prep., cryst. struct. and mag. props. 9-14771
 Sc₂In, itinerant electron ferromag., low temp. sp. ht., mag. field depend. 9-42765
 Si, amorphised by ion implantation, EPR obs. of mag. ordering 9-24186
 Sm-Co-Cu-Fe-Te magnets, comp. and sintering effects on coercivity 9-15326
 SmCo₅ magnets, effect of heat treatment on coercive force (*Russian*) 9-1684
 SmCo₅ magnets, magnetisation and demagnetisation, heating effects 9-38357
 SmCo₅ material for accelerator permanent magnets 9-6776
 SmCo₅, single cryst., grown-in dislocations and stacking faults, TEM investigation 9-19253
 SmCo₅, single crystals, mag. props. study and role of anisotropy (*French*) 9-38356
 SmCo₅ sintered magnets, periodic struct. and coercive force (*Russian*) 9-28554
 SmCo₅, specific heat and kinetic props. at elevated temp. (*Russian*) 9-28530
 SmCo_{5-x}Co_x, Cu and Fe modified, coercive force, demagnetization curves (*Czech*) 9-42805
 SmCo_{5-x}Cu_{1-x}, single crystals, mag. props. study and role of anisotropy (*French*) 9-38356
 SmCo₅Cu, nonuniform comp., domain struct. and mag. reversals process (*Russian*) 9-1681
 SmCo₅Cu_{0.7}, highly anisotropic ferromag., mag. state after large Barkhausen jump (*Russian*) 9-4699
 SmFe₂ powders, mag. and hysteresis props. (*Russian*) 9-42800
 Sm_{0.5}Pt_{0.5}Co₅ sintered magnets, periodic struct. and coercive force (*Russian*) 9-28554
 Sn_{1-x}Mn_xTe, IR reflectivity, elec. susceptibility mag. order effects 9-47433
 Tb/Mo, point contact spectroscopy of magnons 9-38312
 Tb-Ho, thermal expansion in vicinity of Curie temp. 9-28524
 Tb_{0.5}Dy_{0.5}Fe₂, magnetostrictive, resonant coupling of shear waves 9-33517
 TbFe₂ powders, mag. and hysteresis props. (*Russian*) 9-42800
 Tb_{0.5}Ho_{0.5}, ferromag. and helical phase, spin wave dispersion relations 9-24149
 TbSe, basal plane magnetocrystalline anisotropy and ferromag. ordering 9-1667
 Tb₂(WO₄)₃, mag. props., 300 to 900K 9-28510
 Tb₂Fe₃, H induced change from supercond. to mag. ordered state 9-28525
 Tm₂(WO₄)₃, mag. props., 300 to 900K 9-28510
 UGa₂, cryst. struct., mag. and magnetoelastic props. (*Russian*) 9-38364
 USe, anisotropic mag. moments 9-42754
 UTe, ferromag., negative electron spin polarisation in photoemission 9-19967
 Y-Fe alloys, mag. interactions, effects on moments (*Rumanian*) 9-15296
 Y_{2-x}Co_{17-2x}, single crystal, magnetocrystalline anisotropy 9-38320
 Y₂(Fe,Co)₁₇, mag. anisotropy fields by singular pt. detection 9-24156
 Y₂(Fe,Al)_{1-x}Co_x, mag. props. 9-38308
 YIG, thin ferromagnetic film, exchange interaction constant, from paramag. resonance spectra of spin waves 9-42811
 Yb₂(WO₄)₃, mag. props., 300 to 900K 9-28510

ferromagnetic relaxation

see also ferromagnetic resonance

CrBr₃ anisotropic ferromagnet, crit. mag. relax., field and temp. depend. 9-1717
 Cr₂(CrO₄)₃, ferromagnet, ESR spectra near Curie temp. 9-8042
 EuS, three dims. Heisenberg ferromagnet, crit. relax. spectra mag. susceptibility 9-8000

ferromagnetic resonance

see also ferromagnetic relaxation

asymmetry of ferromag. reson. curve, theory and expt. data for Ni (*Russian*) 9-4728

ferromagnet, cubic, magnetised along (110) with negative first anisotropy constant, stability of lamellar domain struct. 9-15323
 film, electron-nuclear oscillations in conditions of strong coupling between electronic and nuclear subsystems (*Russian*) 9-19782
 film, spin wave parametric reson. near phase transition 9-8053
 homogeneous, natural oscils. in ferromag. plate, subject to delay 9-28624

ferromagnetic resonance continued

- Invar films, exchange interaction depend. on lattice parameter, spin-wave reson. and magnetisation meas. (*Russian*) 9-42751
- magnetoresonance forces, comments (*Russian*) 9-1713
- magnetoresonance forces, reply to comments (*Russian*) 9-1714
- metals, s-d exchange interactions, effect on attenuation of spin waves (*Russian*) 9-19730
- nuclear spin echo in the NMR and FMR overlap region 9-24229
- quarter wave absorbers, C-band, NiZn ferrite appl. 9-38386
- semiconductor, ferromag., parametric excitation of magnetoplasma reson. 9-28623
- spectrometer for wide resonant line meas. (*Slovak*) 9-12829
- superparamagnet, magnetodipole broadening of reson. line (*Russian*) 9-38385
- thin film, with uniaxial-biaxial anisotropy, low freq. ferromag. reson. 9-8055
- thin uniaxial platelet with stripe domain struct. magnetised along easy axis, FMR absorpt. 9-42841
- YIG, reson. magnetostatic modes, spectrum in inhomogeneous mag. field 9-28621
- Ba ferrite platelets in multidomain state and at saturation, FMR absorpt. 9-42841
- CdCr₂S₄/Gd, ferromag. reson. and electrical cond. 9-28626
- CdCr₂Se₄/Ag, ferromag. linewidth and eddy current losses 9-33541
- Co-P amorphous alloy, ferromagnetic reson. exam. 9-28620
- EuO, ferromag. reson. and nonlinear phenomena 9-28627
- EuO, light absorpt. during ferromag. reson. (*Russian*) 9-28618
- Fe film, ferromag. reson., thermodynamical anal. 9-42840
- FeBO₃, weak ferromagnet, spin wave band struct. and microwave props. 9-1661
- FeGe, cubic, spin reson., 4.2-300K, 3-35 GHz 9-38384
- Gd-Co amorphous films, mag. anisotropy, static and ferromag. reson. expts. 9-33477
- HgCr₂Se₄, initial mag. permeab., 77 to 300K, domain wall motion and damped ferromag. reson. 9-28562
- K₂CuF₄, spin-wave relaxation, parallel pumping expt. 9-4729
- Li ferrite, ferromag. reson., linear elec. field shift 9-1716
- Mn_{0.9}Fe_{2.1}O₄ cylinder, low-resist., ferromag. reson. absorpt. 9-1718
- Ni expt. data used to explain asymmetry of reson. curves (*Russian*) 9-4728
- Ni film, ferromag. reson., thermodynamical anal. 9-42840
- Ni film, spin wave resonance 9-33542
- Ni-Co film, spin wave resonance 9-33542
- NiCo film, crit. angle meas., pinning mech. 9-1719
- NiFe film, ferromag. reson., thermodynamical anal. 9-42840
- NiO:Fe, exchange anisotropy of Ni-ferrite precipitates 9-28520
- W, ferromagnetic layer coating, longitudinal conduction electron spin waves, Larmor wave 9-33543
- (Y,Ca)₂(Fe)₂(FeGe)₂O₁₂ film, exchange const., ferromag. reson. meas. 9-8023
- Y₃Fe_{5-x}Ga_xO₁₂, inhomogeneous stress effect on ferromagnetic resonance 9-24219
- YIG, diamagnetically substituted, annealing effects on cation distrib. 9-1455
- YIG, relax. after spin wave excitation in ferrite (*Russian*) 9-19783
- YIG, single crysts. grown by floating zone method, quality eval. of etching and optical microscopy, ferromag. resonance linewidth meas. 9-19990
- YIG, thin ferromagnetic film, exchange interaction constant, from paramag. resonance spectra of spin waves 9-42811
- YIG: Ca(Mg), films, microwave losses induced by Fe⁴⁺ ions, ferromag. reson. study 9-1715
- YIG:Pr³⁺ influence of Pr³⁺ ions on spin-wave damping 9-28625

ferromagnetism

- see also *ferromagnetic properties of substances; ferromagnetic relaxation; ferromagnetic resonance; Ising model; spin waves*
- alloy, FCC, binary, on Ising system, sublattice magnetisation, tricrit. point, simulation 9-33491
- alloy, partially ordered, spin wave stiffness const. 9-24150
- alloys, binary, anomalous Hall effect (*Russian*) 9-42521
- amorphous alloys, props. and appls. 9-8016
- amorphous ferromagnet, localised spin and phonon excitations, theory 9-7979
- amorphous ferromagnet, metastable states in random anisotropy model 9-19710
- amorphous ferromagnet, spin waves 9-24148
- amorphous ferromagnet, thermal cycling and annealing, critical behaviour 9-42790
- amorphous ferromagnets, classical-spin model 9-33446
- amorphous ferromagnets, dispersion rels. and spin-wave spectroscopy (*Russian*) 9-7983
- amorphous ferromagnets, spatial fluctuations of magnetisation 9-19727
- amorphous Heisenberg ferromagnet, spin wave excitations and magnetization curve 9-15292
- BCC and HCP crystals, anisotropy of dipole fields, at interstitial sites 9-33584
- binary alloy, electrical resist. temp. depend. (*Russian*) 9-1592
- binary ordered alloy, dynamic mag. susceptibility, spin wave stiffness const. 9-38307
- Bloch electrons, dynamic longit. spin susceptibility 9-19709
- Bloch wall-Neel wall transformation in a mag. field (*Russian*) 9-1682
- catastrophe theory, appl. to ferromag. mol. field, for teaching 9-35467
- critical dynamics under quenched random magnetic fields 9-4681
- critical spin dynamics, appl. of 3-D neutron polarimeter 9-18098
- cubic crystal, mag. and magnetoelastic props. 9-15332
- cubic crystal with dipole forces and anisotropic correlation function, phase transitions (*Russian*) 9-38504
- cubic ferromagnet, magnetised along (110), stability of lamellar domain struct. 9-15323
- cubic ferromagnet, second magnetoacoustic harmonic generation (*Russian*) 9-42816
- degenerate semiconductor, ferromag., magnon spectrum near instability of homogeneous state 9-28516
- dil. classical, crit. props. Heisenberg ferromagnet 9-28536
- dilute alloys, mag. ordering impurities, random phase approx. and conc. limits 9-24187
- dilute ferromagnet, Ising model, crit. props. in percolation limit 9-1677
- dilute ferromagnets, Curie temp. (*Japanese*) 9-33484
- dislocations, dynamic slowing down near Curie point (*Russian*) 9-8036
- disordered binary alloy, mag., with mixed exchange interaction, crit. behaviour (*Russian*) 9-1675

ferromagnetism continued

- disordered substitutional alloy, mag. props., Heisenberg model 9-38342
- domain boundary interaction with solute atoms, review (*Russian*) 9-42098
- domain wall crit. vel. of ferromagnet in external mag. field 9-38354
- domain wall dynamics and soliton theory, coercive force determ. 9-42796
- domain wall width, comments on definition 9-24193
- dynamic magnetic field on fast charged particle traversing ferromagnet 9-38423
- electron gas, ferromagnetic, short-ranged correlations 9-7798
- electron scatt. from ferromagnet in presence of mag. surface reconstruction 9-1705
- exchange and dipoles coupled ferromags., light scatt. from mag. surfaces, response theory 9-42820
- exciton ferromagnet, and Peierls antiferromagnet, two-parameter Landau expansion 9-23907
- exciton ferromagnet, spin-lattice relax., light and US absorption (*Russian*) 9-7960
- fermi crystal, mag. props. of vacancies (*Russian*) 9-46881
- Fermi liquid, ferromag. stability conditions 9-47224
- ferromagnet, refractive index, magnetic contribution 9-28727
- ferromagnetism, Bethe-Peierls-Weiss model, phase transition calc. 9-2585
- film, crit. angle of external mag. field for surface spin waves 9-47309
- film, domain wall width meas. with electron microscope, astigmatism effects 9-19753
- film, ground state, effect of surface and bulk anisotropy (*Russian*) 9-11328
- film, magnetostatic surface wave propag. 9-4661
- film spin wave parametric reson. near phase transition 9-8053
- films, (111), macrostripe and microstripe domain structs. (*Russian*) 9-28572
- free electron pair, possible ferromagnetism of triplet state 9-30272
- Goldstone mode singularities, eqn. of state of isotropic magnet 9-42803
- hardening, of ferromagnets by non-magnetic inclusions 9-38841
- Heisenberg, ferromagnet, nearly two-dimensional and nearly one-dimensional thermodynamic props., Green's function investigation 9-15275
- Heisenberg ferromagnet, consistent linearised Green's function theory for $s=1/2$ 9-4685
- Heisenberg ferromagnet, dil., localisation of excitations near percolation threshold 9-15271
- Heisenberg ferromagnet, localized magnons in a spin chain with two 'surface' impurities 9-38310
- Heisenberg ferromagnet, randomly noncollinear mag. struct. and spin waves (*Russian*) 9-42764
- Heisenberg ferromagnet, $S=1/2$, two magnon bound states, redefinition 9-42725
- Heisenberg ferromagnet, spin waves at low temp., method of variational derivatives 9-24152
- Heisenberg ferromagnet with biquadratic exchange 9-38338
- Heisenberg ferromagnet with higher-order exchange interactions, thermodynamic props. 9-42770
- Heisenberg ferromagnets, surface effect on thermodynamic props. and excitation spectra 9-11282
- Heisenberg model, pseudoparticle solns. 9-47223
- Heisenberg theory, spin wave exam. (*Dutch*) 9-1663
- Heisenberg three-dimens. quantum models, ferromag. phase, conditions for $T_c=0$ K 9-38345
- inhomogeneous itinerant electron ferromagnet, mag. and thermal props. 9-7964
- invariant equilibrium states and surface tension in ferromagnetic systems 9-40491
- Ising, rectangular, susceptibility, determ. of critical indices 9-28537
- Ising ferromagnet, three-dimens., transition temp. with two- and four-spin interactions 9-42769
- Ising ferromagnet, upper bounds for correlation functions 9-42718
- Ising ferromagnets Ursell function inequality 9-4640
- Ising model, disordered, thermodynamic pot., ferro- and antiferromagnetic bonds, mag. moment and entropy (*Russian*) 9-19714
- Ising model, effective field theory 9-4684
- Ising model, two dimensional, second neighbour interaction, Pade approximant, critical behaviour 9-4682
- Ising model crit. props. of site and bond diluted model 9-42766
- Ising spin-s model, crit. curve 9-4679
- Ising spins randomly located, with oscillatory exchange interactions 9-42778
- isotropic ferromagnet, critical behaviour in random uniaxial anisotropy model 9-38349
- itinerant electron ferro- and antiferromagnetism, spin fluctuations 9-7961
- itinerant electron ferromagnetic alloys, magnon energy, effect of ordering 9-7986
- itinerant ferromagnet, Einstein temp. 9-24126
- itinerant ferromagnet, spin wave stiffness const., electron correl. effects 9-19733
- itinerant ferromagnet, spin-wave dispersion and linewidth 9-4668
- itinerant ferromagnet, thermodynamics 9-4645
- itinerant strong ferromagnetism, effect of electron correlations 9-7962
- Landau-Ginzburg model, static and dynamic correl. functions near magnetization curve 9-15318
- Landau-Lifshitz eqns., self-localised solns., accidental degeneracy (*Russian*) 9-33444
- Landau-Lifshitz nonlinear equation, N-soliton solutions (*Russian*) 9-24184
- layered system, coexistence of superconductivity and ferromagnetism (*Russian*) 9-7918
- Lifshitz point, critical behaviour, universal amplitude ratio calc. 9-33496
- linear chain, Heisenberg Hamiltonian, existence of isolated magnon 9-4666
- liquids, mean-field criterion for ferromagnetism 9-42791
- localised model for systems with double-exchange coupling 9-38318
- magnetic field asymmetry correction on fast moving ions 9-14862
- magnetostriiction is magnetic field, sound-spin wave coupling 9-15334
- metal, spin wave propagation 9-7982
- metal, temp. depend. of hyperfine fields at impurities 9-15300
- metal, two-band model, ordinary Hall effect and spin-depend. phenomena 9-19577
- mixed valence state, electronic structure 9-11092
- narrow domain walls, lattice coercivity 9-28552
- noise charact., applicability of physical similitude 9-4705
- non-purely ferromagnetic systems, correlation inequalities 9-47219
- nuclear magnetisation, temp. dependence 9-33462

ferromagnetism continued

- one-dimensional, thermodynamically stable long-range order (*Russian*) 9-27946
- one-dimensional ferromagnet with biquadratic exchange, solitary bound states of magnons and lattice deform. 9-19732
- paramagnet and ferromagnet, multiboson spin wave representation 9-4664
- phase transition of spin-one Ising system with biquadratic interaction 9-4683
- polycrystalline materials, law of approaching saturation, expt. study (*Chinese*) 9-24144
- random anisotropy and random field models, textural singularities and frustration 9-24182
- random ferromagnetic-antiferromagnetic alloy, elementary excitations 9-8001
- random ordered phase in site model, statistical theory 9-47218
- rare earth alloys, amorphous, study of hysteresis effects using Monte Carlo technique 9-1686
- rectangular bodies surface charge distribution, meas. and calc. w.r.t. non-linear field-dependent susceptibility (*Slovak*) 9-4656
- semiconductor, double exchange and small-polaron hopping 9-19591
- semiconductor, exciton ferromagnetism 9-28293
- semiconductor, ferromag., parametric excitation of magnetoplasma reson. 9-28623
- semiconductor, ferromagnetic, with mag. impurities, low-energy localised states (*Russian*) 9-19543
- semiconductor, free carrier absorption below Curie temp. 9-47440
- shear waves, horizontally polarised, generation in ferromagnets using magnetostrictively coupled meander-coil EM transducers 9-46144
- singlet ground state ferromag., Heisenberg Hamiltonian model 9-11283
- sintering theory and diffusion flow of ferromagnets 9-28977
- soft ferromagnetic elastic solid, magnetoelastic interaction with penny shaped crack in const. mag. field 9-18829
- spherical ferromagnetic models, Yang-Lee edge singularity density in thermodynamic limit 9-30378
- spherical model, phase separation 9-44869
- spin wave system, stationary weakly turbulent distrib. (*Russian*) 9-38316
- spin X-Y, correl. functions 9-47221
- spinglass, ferromagnetic clusters, mean-field approx., static props. 9-4689
- steady field penetration into ferromagnetic halfspace (*German*) 9-45878
- surface structure, adatoms, electron state at high coverages 9-28400
- system with two parameters, Mott and ferromagnetic transitions, phase diagram of the extended Caron Pratt model 9-15083
- thin film, unipolar simple domain walls (*Rumanian*) 9-19752
- total spin distrib. in spherical model with long-range pot. 9-30383
- twin crystals, Bloch mag. struct., depend. on crystallite thickness and mag. field (*Russian*) 9-42792
- uniaxial antiferromagnet, spin configuration in ferromag. phase, field and temp. depend. 9-38321
- uniaxial crystals, linear Cosserats theory description of magnetoelastic interactions 9-28576
- uniaxial ferromagnet, in transverse mag. field, quantum theory (*Russian*) 9-15297
- uniaxial ferromagnets, US attenuation and kinetic coeffs. near crit. point, renormalisation group theory 9-4715
- uniaxial plates, domain struct. and magnetisation curves (*Russian*) 9-19743
- weak magnetic samples, conduction of flux 9-28560
- Pt-Ni (42 wt.%) relationship between mag. saturation flux and tensile strength 9-15819

ferromagnets see *ferromagnetic properties of substances; ferromagnetism*

ferrous alloys see *iron alloys*

Feshbach resonances see *atomic resonant states; molecular resonant states*

f.e.t. see *field effect transistors*

few-nucleon reactions see *nuclear reactions involving few nucleon systems*

few-nucleon scattering see *nuclear scattering involving few nucleon systems*

few-nucleon systems see *nuclei with mass number 1 to 5*

Feynman diagrams

- amplitudes in cross section calcs., computer code 9-13094
- atoms, and ions, parity nonconservation effects 9-10086
- axion production, astrophys. implications of new light Higgs boson 9-22007
- Feynmann path integral, cylindrical approx. 9-105
- finite-range effects in the $\pi\pi\pi$, $\pi\pi\Delta$ and $\pi\Delta\Delta$ vertices 9-22129
- high-energy behaviour of a double discontinuity and the bare Pomeron 9-17696
- N-particle system, many body correl. and scatt. amplitudes 9-30683
- nonrelativistic, loop and triangular, existence of excited states of $A=3$ nuclei 9-9553
- nuclear reaction diagram theory, nucleon identity effects 9-9530
- numbers and weights of Feynman diagrams, ϕ^4 , QED and non-Abelian theories 9-2937
- Pauli-Villars regularization for non-Abelian gauge theories 9-21956
- planar diag. enumeration 9-26239
- QCD, 2-dimens., confinement effects on analyticity meson inelastic form factor, scatt. amplitude 9-333
- scalar supersymmetric theory, α -representations 9-30680
- space-time structure of the two-Reggeon exchange process 9-9311
- two-particle system in QED, Dyson-Schwinger eqn. 9-2962
- vertex functions of chronological exponential, renormalised system of equations 9-30661
- virtual processes, Coulomb interaction, scope for experiments 9-9438
- Yang-Mills 2-D theory in leading $1/N$ expansion 9-26242
- β^{2N} field theory, asymptotic graphs counting techniques 9-17608
- $\beta(d,d')$, 12.8 MeV, two stage mechanism described by square Feynman diagrams (*Russian*) 9-22299
- $\beta(p,p')$, 6.4 MeV, two stage mechanism described by square Feynman diagrams (*Russian*) 9-22299
- $^{13}\text{C}(d,d')$, 12.8 MeV, two stage mechanism described by square Feynman diagrams (*Russian*) 9-22299
- $^{208}\text{Pb}(p,p')$, 5 to 8 MeV, hyperfine reson. struct., Feynman diagrams 9-6589

fibre optics

- basic theory 9-32037
- bronchoscope, Kr laser, for early lung cancer detection (*German*) 9-12024
- cable design, testing and installation 9-37026
- catheter tip pressure transducer, for intracardiac press. meas. 9-2150
- commercial developments, 1978 state of art 9-3776

fibre optics continued

- component polished end degradation in storage 9-32064
- CRT recording technique, medicine and research appl. 9-27389
- CW backward-wave generation, degenerate four-wave mixing in CS_2 filled optical fibres 9-27327
- damaged layer struct. after diamond grinding and polishing 9-7220
- diverse applications 9-27414
- dosimeter on Navigational Technology Satellite 2 9-22487
- electronics appl., components operation and technical data (*Hungarian*) 9-18514
- endoscope with rigid to flexible imaging multifibre coupling, MTF 9-23052
- esophagogastroscope, flexible fibre optic instrument, experience of use of 9-34622
- guided wave optical systems and devices, conf. Washington DC, USA, 1978, Mar. 9-37031
- illumination output speckle, smoothing methods 9-7209
- illuminators for hologram recording and reconstruction 9-41353
- image intensifier with fibre optic plates for astronomy (*Russian*) 9-40079
- image quality at fibre laser amplifier output, comparative anal. under active, passive conditions 9-7225
- integrated subsystems, progress in development and appls. 9-46068
- laser gyro signal detection and processing technique 9-37037
- light guide for lighting inlet slit of metal spectroscope (*Russian*) 9-41456
- liquid crystal thermometry, optically active binary mixture 9-42952
- marketing data for 1977-8, USA trends 9-18513
- medical application of monofibres (*French*) 9-39462
- medical applications, diagnostic and therapeutic 9-39466
- moving-fibre panoramic camera, image motion velocity calc. 9-26168
- nitrobenzene-in-benzene optical fibre amplifier performance estimation 9-7217
- optical time domain reflectometer 9-37036
- phase-nulling fibre optical laser gyro 9-36949
- radiation thermometer with fibre-glass bundle, up to 1000°C (*German*) 9-35745
- Raman oscillator, CW optical fibre, using two-mirror resonator config. 9-7152
- Raman ring laser 9-22981
- rotation sensor (FORS), signal detection and processing 9-37034
- Sagnac fibre-ring interferometer gyro with electronic phase sensing 9-17472
- single-mode optical fibre phase modulators, pressure sensitivity meas. 9-7205
- single-mode optical waveguides for ring interferometer, Fresnel drag 9-37035
- spectrophotometer head with small-spot fibre-optic viewer 9-30525
- stereo-fiberscope with magnetic interlens bridge for laryngeal observation 9-44068
- units and terminology used in light meas. rel. to photometry and displays 9-21691
- vibration meter, high sensitivity, laser type using a fibre-optic probe 9-7351
- CsI:Tl , X-ray screens consisting of scintillating crystal fibers 9-6244
- SiO_2 fibre near IR Raman laser, as universal fibre optic meas. system 9-23070

fibre reinforced composites

see also *carbon fibre reinforced composites; glass fibre reinforced plastics*

- acoustic imaging 9-15918
- AE monitoring review 9-17135
- anisotropic reinforced resin laminate, cyclically reversing load, strain behaviour determ., approx. method (*German*) 9-5096
- aramid fibre reinforced acrylic bone cement, tensile strength and fracture toughness, SEM study 9-29667
- beam, rigid plastic, impulsive loading 9-3928
- cement matrix, mech. and rheological props. (*German*) 9-20129
- concrete, beam with mixed type of reinforcement, shear and bending strength 9-20124
- concrete, reinforced deep beams, with web opening, structural idealization 9-20125
- crack-tip analysis for elastic materials reinforced with strong fibres 9-27594
- cylinders, fibre-reinforced, singular stress layers 9-14268
- dynamically induced interfacial stresses 9-18727
- elastic moduli, representative volume calcs. by photoelasticity method (*Russian*) 9-34094
- epoxy resin reinforced by multilayer systems, exam. of stress states, using photoelastic method 9-41638
- failure, role of binding agent 9-1912
- fiberglass materials, fatigue damage effects on light scatt. 9-11706
- fibre reinforced silicone rubber composites, interfacial slip and damping 9-5010
- filament-wound pipe, microscopy of failure mechanisms 9-24604
- fracture mechanics, review 9-27597
- glass fibre reinforced polyester, photoelasticity, optical characts. 9-18709
- glass reinforced brittle matrix, failure anal. by fault tree technique 9-29193
- impact response analysis, perpendicular to fibres (*Japanese*) 9-43377
- inextensible elastic materials, general solns. in equilib. theory 9-12602
- Kevlar aramid fibre reinforced composites, flexural strength 9-11671
- lamination theory for failure envelope prediction under biaxial loading 9-38931
- layered or reinforced composites, elastic constants and stress-strain parameters (*Russian*) 9-46209
- non-linear optimized fibre reinforced plates in bending 9-27550
- organic matrix composites, use of unidirectional flexural tests, to assess environmental behaviour 9-20301
- plastic, dynamic strains investigation using EM wave method 9-20321
- plastic, fatigue mech., charact. and defect detection 9-24687
- plastic, mech. damage, thermodynamic anal. (*Ukrainian*) 9-37186
- plastics, mech. props. stabilisation by PVA fibres modification 9-20022
- plastics, spread of strength rel. to stress conc. (*Japanese*) 9-24610
- polyethylene, high density, self-reinforced thermoplastic, extrusion 9-15699
- preparation by crystallizing metallic and metal-ceramic eutectics (*Polish*) 9-20008
- rigid plastic fibre reinforced plates, impulsive loading, dynamic deformations theory 9-23222
- shell, cylindrical, axisymmetric damped vibrations calc. 9-14297

fibre reinforced composites continued

- shell-type structures, strength estimation using limit state method 9-18820
- steel, stainless, fibre reinforced Al, CC strengthened by lattice transformations, mech. props. study (*Japanese*) 9-43332
- steel, stainless wire reinforced Al-Zn-Mg system, resistance to crack propagation 9-43409
- steel fibre reinforced Cu, fatigue 9-29221
- steel reinforced concrete, local bond-stress/slip relationships under repeated loading 9-20123
- steel reinforced concrete, steel corrosion (*Japanese*) 9-39038
- steel reinforced concrete slabs, connected via shear connectors, exam. of fatigue in shear connectors, exam. of method 9-43539
- thermal cycling, elastoplastic strain calc. under action of external stresses (*Russian*) 9-38896
- thermoelastic anal. of finite orthotropic slab 9-1111
- thin films on reinforcing fibres, morphological stability (*Russian*) 9-37928
- Thornel reinforced epoxy laminates, strength and biaxial stress-strain response, analytical expt. correlation 9-29131
- unidirectional, Saint-Venant effect 9-34121
- viscoelasticity measurement using mech. drive viscoelastic tester (*Japanese*) 9-34232
- viscous matrix, random stresses in components, laws of distrib. 9-23226
- wear mechanisms, quantitative model 9-47786
- Al₂O₃-SiO₂ fibre/mineral wool fibre composites, exam. of strength and shrinkage characts. rel. to Al₂O₃-SiO₂ fibre content effects 9-20105
- B fibre reinforced Al, prep. by reaction sintering 9-38769
- B fibre reinforced Al, stress redistribution in fibre elastic deformation failure (*Russian*) 9-47740
- B fibre reinforced Al alloy 6061, cross plied laminate, tension-compression fatigue 9-38940
- B fibre reinforced Al alloy, influence of bond strength on failure (*Russian*) 9-43387
- B fibre reinforced Al composites, corrosion, electrochem. behaviour 9-20225
- Ni wire reinforced epoxy resin, and cement paste matrices, debonding and pull-out of wires 9-29142
- Ni wire reinforced epoxy resin, crack propagation 9-29188
- Ni-TaC, eutectic alloy, fibre reinforced, directionally solidified, anisotropic yielding behaviour 9-11675
- W wire reinforced Cu, exam. of thermal cycling induced deformation 9-5050
- W wire reinforced Ni alloy, heat resist. testing, specimen gripping arrangement 9-15895

fibres

- see also carbon fibres; composite materials; fibre reinforced composites; glass fibres; optical fibres
- acrylic fibre, oxidative stabilisation, O₂ takeup and general model 9-38998
- acrylic fibres, oxidative stabilisation dynamics 9-38999
- albuminated Dacron prostheses as improved blood vessel substitutes 9-29669
- cellulose acetate fibre and film, stabilisation, post UV-irrad. mech. strength (*Russian*) 9-24778
- cellulose fibres, from jute, crystallinity percentage, estimation by X-ray methods 9-7553
- cotton, optical anisotropy, multiple-beam interferometric obs. 9-8115
- filament, thin, technical strength rel. to diameter environmental effects (*German*) 9-27529
- interconnected fibre masses, precipitated from polymer solns. under sonic agitation 9-47655
- Kevlar fibres, effect of crystallinity and orientation on mech. props. (*Japanese*) 9-38952
- Kevlar fibre, mech. props. in aq. H₂SO₄ soln. (*Japanese*) 9-47753
- mechanical props. meas. using automated direct reading dynamic viscoelastometer, Rheovibron 9-3980
- metal, fibres, cubic struct., texture form. in uniaxial deform. theory 9-24532
- metal fiber permeable materials, struct. characts. 9-24464
- Nylon 6,6 fibres, birefringence determination, using backscattered light intensity distrib. 9-42939
- nylon 6, microfibril dimensions, from small-angle X-ray scattering 9-37574
- Nylon 6 fibre, shrinkage, influence of chain rupture during tensile deform. 9-34055
- nylon 6 fibres, chain rupture during tensile deform. 9-15740
- nylon 6 fibres, dynamic mech. props., interpretive nonlinear viscoelasticity 9-4994
- nylon 6 fibres, struct. changes due to strain annealing 9-15692
- Nylon-12, hydrostatic extrusion, struct. change (*Japanese*) 9-15693
- paper, fracture behaviour, SEM investigation 9-34149
- PET fibre, aminolyzed, dynamic viscoelasticity and thermal behaviour (*Japanese*) 9-38880
- PET fibres, adhesivity improvement by plasma surface treatment 9-15823
- poly(p-phenylene terephthalamide) fibres, optical anisotropy determ. 9-4786
- poly-m-phenylene isophthalamide, precipitated from soln., morphology (*Japanese*) 9-14706
- polydiacetylene fibre resonance Raman spectrum meas. 9-17507
- polyester fibres, plasma surface treatment, ESR detect. of free radicals 9-15824
- polyethylene fibre growth from flowing solns., kinetics 9-47654
- polymer fibres, ultra high modulus, prep. by soln. and melt spinning, review 9-11544
- polypropylene, helically twisted, small-angle light scatt. 9-1765
- polypropylene fibers, and films, and their hard elastic precursor small-angle X-ray diff. studies 9-10815
- polypropylene fibres, EPR during glass transition, γ -irrad. 9-8445
- polypropylene monofilaments, draw rate effect on long period 9-47726
- polystyrene monofilaments, uniaxial extension, strengthening 9-8334
- refractory, exam. of deform. behaviour and thermal cond. (*French*) 9-15719
- size measurement, using Fraunhofer diffraction 9-171
- steel, austenitic stainless, porous fibre, sintered and compacted, mech. props. 9-15623
- steel, reinforcing wires, high strength, microstruct. obs. (*Czech*) 9-43342
- steel, Si (6.5 wt.%) Mn, Ni and Al additions influence obs., on mech. and magnetic props. (*Slovak*) 9-5064

fibres continued

- steel, stainless, filament produced by glass coated melt spinning, new metastable tetragonal struct. 9-20072
- structure, interatomic forces calcs. 9-22875
- textile fibres, polymer treated, sectioning technique for SEM 9-2891
- B fibres, plasticizing and wettability-enhancing coatings 9-29252
- B filament, uncoated and SiC coated, high temp. physicomech. props. 9-20140
- B, prep. 9-28983
- K₂Ti₂O₇ fibres, synthesis by kneading, drying, calcination process (*Japanese*) 9-38779
- K₂Ti₂O₇ fibres, synthesis by the hydrothermal dehydration method 9-43121
- SiC, continuous fibre synthesis with high tensile strength and Young's modulus 9-15633
- SiC fibres, plasticizing and wettability-enhancing coatings 9-29252
- SiO₂ fibres, fused, load-elongation curves, elastic hysteresis, tensile testing machine 9-1891
- W fibres, dependence of fine struct., on processing parameters 9-34082
- field, crystal internal** see crystal field interactions
- field effect devices**
see also field effect integrated circuits; field effect transistors; metal-insulator-semiconductor devices
- SOS device structure, nonlinear B impurity redistrib., numerical soln. 9-1625
- field effect integrated circuits**
see also charge-coupled device circuits
- CMOS analogue gate, small DC voltage meas., at low temp. 9-35776
- four-channel EEG amplifier 9-39535
- MOS, charge build-up due to radiation, mathematical model 9-19667
- MOS RAM, Siemens HYB 4116 16 384-bit, failure anal. using modified scanning electron microscope 9-21876
- PMOS process with ion implanted threshold adjust, radiation hardening 9-46689
- SOS capacitors, ion-implanted with negative charge gamma radiation effects 9-23645
- field effect transistor circuits**
Used for general papers and papers where the use of field effect transistors is significant
- autodyne detector of acoustic nuclear magnetic resonance 9-17457
- field effect transistors**
see also field effect integrated circuits; insulated gate field effect transistors; junction gate field effect transistors; Schottky gate field effect transistors
- computer simulation, student lab expt. 9-44673
- spectrum measurements of oscillatory data, appl. to de Haas-van Alphen effect 9-42434
- GaAs, epitaxial layer uniformity and reproducibility, data 9-38744
- GaAs FET buffers, high purity LPE growth by sliding boat method (*Japanese*) 9-28955
- GaAs, LPE, residual impurities and deep levels, FET fabrication 9-28964
- GaAs, MBE, semi-insulating growth and use as buffer layer 9-28946
- Ge FET, fabrication on high purity substrate 9-45579
- field emission, electron** see electron field emission
- field emission electron microscopes**
see also field emission electron microscopy
- contrast transfer function, beam intensity influence 9-30621
- high resolution electron holography 9-30614
- high vacuum, modification for simultaneous meas. of local and integral emission characts. of electron emitters 9-9263
- metal-Al₂O₃-Au type uniformly emitting MIM thin film cathode with evaporated insulator (*German*) 9-19675
- SEM field emission electron gun (*Czech*) 9-6240
- field emission electron microscopy**
see also field emission electron microscopes
- electron beam exposure system for semiconductor fabrication 9-30624
- ferritin particle visibility in SEM with field emission gun 9-25174
- microfield effects on spectrum of electrons emitted from surface 9-6227
- Au film, on W substrate, chemisorbed N₂ effect on crystallite growth, FEM obs. 9-46976
- Au, lattice images, obs. with a field emission electron microscope 9-14659
- Ni, lattice images, obs. with a field emission electron microscope 9-14659
- Pt, adsorption and decomp. of ethylene, 90 to 500K 9-46933
- W (100) surface, Pb and Fe adsorption, field emission microscopy study 9-15015
- W, coadsorption of Ni and K, average work function change 9-28190
- field emission ion microscopes**
see also field emission ion microscopy
- No entries
- field emission ion microscopy**
see also atom probe field ion microscopy; field emission ion microscopes
- atoms, direct obs., application to ultra-fine processing (*Japanese*) 9-7532
- black chrome, electroplated layer, field ion microscopy study 9-28246
- ion current-voltage characts., field ionisation and field evaporation mechanisms 9-15594
- ring counting in field-ion micrographs 9-17565
- BaO, film, initial struct., field electron emission microscopy and LEED determ. 9-11033
- Fe-Cu (0.34 wt.%), neutron irradiated, field-ion microscope detection of ultra-fine defects 9-42116
- Ni, electroplated layer, field ion microscope study 9-28246
- Ni-Cu(5%), absolute composition depth profile, surface segregation, field-ion microscope obs. 9-33166
- Ru surface, clean, oxidation, FIM study 9-47796
- W, neutron irradiated, FIM obs. of radiation damage 9-7632
- ZnO (0001) and (0001), Ar field ion microscopy 9-47601
- field evaporation**
semiconductor surface, field ionisation and field evaporation mechanisms 9-15594
- Ag, field desorbed ions, appearance pots. 9-24417
- Ge surface, field penetration and band bending in high elec. fields 9-42613
- Si, anomalous field evaporation 9-15596
- Si surface, field penetration and band bending in high elec. fields 9-42613

field intensity patterns (antenna) *see antenna radiation patterns*

field interactions (condensed matter)

see also crystal field interactions; hyperfine field interactions (condensed matter)

transition metal halide-alkali halide binary melt, spectra by cryst. field theory 9-4820

Ni-rare earth intermetallics, RNi_3 , amorphous alloys, mag. and transport props. 9-42513

field ion emission

dendrite growth on ion emitters for field desorption mass spectroscopy 9-2873

inert gases, temp. effects on appearance potentials of gas phase field ions 9-19978

integral energy distributions of ions, evaluation method 9-38723

monopole-dipole interaction, field adsorption 9-19979

into plasma of electric arc, current density eqn. 9-43108

Ag vapour, field ion appearance potential spectroscopy, temp. effects 9-19978

field ion microscopy, atom-probe *see atom probe field ion microscopy*

field ionisation

atom, microwave ionisation of highly excited states, and excitation 9-31482

1-heptene, field ionisation mass spectra, surface processes 9-11503

orbitron device, electronic injection, ionisation phenomena and space charge influence 9-40587

semiconductor, low temp. field ionisation of localised impurity levels 9-47600

semiconductor surface, field ionisation and field evaporation mechanisms 9-15594

tetracyanoethylene molecule with high electronegativity on field polarisation, electron affinity determ. 9-27111

Ga, field ion microscopy using mag.-sector atom probe, ionisation characts. 9-43106

GaAs, deep level, strongly anisotropic field ionisation 9-28317

Ge surface, field penetration and band bending in high elec. fields 9-42613

K, fine-struct. intervals, polarisabilities, highly excited d states 9-27100

Na, Rydberg states, elec. field ionisation, sensitive detection of multiple thresholds 9-7026

Na, Rydberg states, optically pumped, electric field ionis. (Russian) 9-27095

Si surface, field penetration and band bending in high elec. fields 9-42613

Yb, Rydberg states, optically pumped, electric field ionis. (Russian) 9-27095

ZnO (0001) and (0001), Ar field ion microscopy 9-47601

field measurement, electric *see electric field measurement*

field measurement, magnetic *see magnetic field measurement*

field plotting

see also field strength measurement

absolute ECG and clinical map curve experiences 9-39556

body surface mapping of cardiac field, computer-aided pattern recognition 9-39553

cardioelectrical field, human, intraindividual variability obs. 9-39404

coronary artery disease diagnosis, exercise ECG, VCG and body surface mapping 9-44046

ECG, isopotential surface map data reduction 9-39557

ECG map reconstruction computer system 9-39561

ECG surface mapping, gradient and potential data acquisition system 9-39555

ECG vector and isopotential maps, convertibility and comparison 9-39554

epicardial activation sequence rel. to body surface maps, right bundle branch block induced in dogs 9-39402

equipotential and mag. intensity contour line visualisation by SEM 9-6149

high-energy physics magnet meas. 9-31353

LF fields in linear media, two-dimensional finite element analysis 9-41297

pericardial potential simulation and mapping in dog 9-39399

plasma, self-generated mag. fields, two-dimens. distrib., laser-plasma reson., mag. tape irradiation 9-41877

SEM potential distribution mapping technique 9-21857

supraventricular tachycardia, diagnosis and management, instrumentation and therapeutic techniques, review 9-39598

thoracic surface, human, heart potentials distrib. with left bundle branch blocks 9-39403

field strength measurement

see also electric field measurement; magnetic field measurement

EM field, broadband antenna probes (Polish) 9-21722

EM near field power density meas. (Polish) 9-21721

intensity meter calibration for 20 kHz to 300 MHz range 9-2786

field theories, unified *see unified field theories*

field theory, classical *see classical field theory*

field theory, crystal *see crystal field interactions*

field theory, electromagnetic *see electromagnetic field theory*

field theory, meson *see meson field theory*

field theory, quantum *see quantum field theory*

fields, electric *see electric fields*

fields, magnetic *see magnetic fields*

filament lamps

framing spotlight, optimizing the compound reflector 9-3766

spatial image filter with noncoherent incandescent source, model and expt. (Russian) 9-7083

W incandescent lamp, thermostatic control 9-36970

filled polymers

acrylic cement, porous, sucrose filled, femoral tissue ingrowth in dogs 9-39611

adhesive joint contact layer, dried polymer dispersion intermol. interaction with substrate and filler (German) 9-8421

elastic moduli, effect of particle shape at finite conc. 9-15712

elastomers, filled, unfilled, Poisson ratio, dilatometric method 9-11733

elastomers with inert fillers, swollen state, network density determ. from stress/strain meas. 9-34112

electrical conductivity of conductive filler polymer composites, theoretical study 9-19585

electrically conducting polymeric compositions, struct. effect on elec. props., review (Russian) 9-33317

filled polymers continued

epoxy polymer, glass microsphere-filled, glass transition temp. (Russian) 9-24489

epoxy-rubber glass transition rel. to filler, cooling rate 9-4403

filler materials, scanning microscopy, plasticiser absorpt. obs. (German) 9-39082

glassy, glass bead filled, crazing characts., slope-discontinuity method 9-11712

hollow spherical particle filled, strength criterion 9-11682

mechanical props. 9-29162

PMMA, and hydroxides, heat resistant, electrically insulating, production methods 9-38787

polybutadiene, C black filled, positron annihilation and positronium form. 9-28856

polyethylene, filled, linear, struct., strength 9-29149

polyethylene, with various antioxidant, stabilized and TiO_2 pigment additions, photo-yellowing and oxidation 9-16015

polymer-elastomer mixtures, temp-time analogy 9-19317

polypropylene, glass bead filled melt, velocity field rearrangement in stagnation flow leading to diverging radial flow between parallel plates 9-37360

polypropylene, metallic glass filled, mech. props. rel. to temp., strain rate filler content (Japanese) 9-15742

polypropylene/peanut-hull flour composite, strength 9-8365

polystyrene, (-Kraton G blend), rubber toughened, charact. by SEM 9-14697

polystyrene, rubber-modified, fracture mechanics anal. of effect of rubber content, craze formation 9-29190

polystyrene- SiO_2 , glass transition rel. to filler, cooling rate 9-4403

polyurethane foam, SiO_2 particulate filled, mechanical props. 9-11666

polyurethanes, crosslinked, effect of oligoglycol mol. wt. and SiO_2 filling on viscoelasticity and supermol. struct. (Russian) 9-34092

PVC, antiplasticised, linear-nonlinear viscoelasticity transition 9-5015

PVC, effects of mol. wt. and plasticiser on fatigue crack propagation rates 9-5044

PVC, plasticised, processing-morphology-mech. props. relation 9-8264

PVC, rheology, viscoelasticity, panel discussion 9-3984

PVC, rigid asbestos reinforced, stabilization and dynamic thermal stability 9-8270

PVC, secondary relax., effect of different plasticisers 9-4995

PVC, slightly plasticised, fracture toughness tests, impact tests 9-5037

PVC, with varying plasticiser content, deformative props. in highly elastic state, temp. depend. 9-20099

PVC cpds., rigid, plasticised, capillary flow 9-4046

PVC metal particle composite, effect of size, shape, and oxide content of metal particles, on segregated network form. 9-20021

PVC plastisols, thermally hardened, rheological props. (German) 9-29154

styrene butadiene rubber-glass bead composites, network density determ. from stress/strain meas. 9-34112

styrene-acrylic terpolymer surface tension rel. to temp., compatibility of external plasticiser 9-15834

thermal expansion, effect of particle shape at finite conc. 9-19384

transducer, viscoelastic, in-situ, Duomorph, appl. to polymeric materials 9-30463

viscoelasticity measurement using mech. drive viscoelastic tester (Japanese) 9-34232

Al_2O_3 -Epon 828-Z, mixture, acoustic wave prop. characts., using differential-path US technique 9-42151

films

see also adsorbed layers; coatings; foils; helium films; Langmuir films; liquid films; monolayers; optical films; polymer films; replicas; thick films; thin films

No entries

filtering and prediction theory

see also information theory; Kalman filters; random processes; Walsh functions

adaptive model for flood warning system, on-line, desk-top computer appl. 9-34977

algorithms taking into account noise in input data, efficiency 9-25344

array algebra appls. 9-44702

aural signal central spectral pattern anal. based on cochlear neural timing and freq. filtering 9-5300

biological n-compartment model, identification by filtering techniques 9-34507

cardiovascular parameter estimation, nonlinear filter statistical parameters optimal choice 9-5308

chemoreflex responses to hypercapnic stimuli models 9-34578

continuous-time linear system, varying environment, state estimation methods 9-12581

digital filter for exptl. data anal. 9-17403

digital terrain modelling, reflexive prediction 9-2175

earthquake model, nonstationary, identification, nonlinear filtering approach 9-5458

EMG in moving finger muscle, pattern recognition by linear prediction 9-8555

gamma-ray flaw detection, use of Kalman filter 9-5121

hydrophysical polygons, dynamic-stochastic approach to anal. of density field obs. (Russian) 9-8707

image multiplication using duplex spatial sampling filtering 9-7090

image restoring with constrained optimisation filtering 9-39494

interpolation, multirate digital filtering approach appl. to common-depth-point stacking 9-29876

ionosphere electron content data, mixing freq. components identification by multiplicative homomorphic filtering 9-29929

Kalman-Bucy filters, extended, for passive microwave sounding of atmospheric temp. 9-21053

kinematic multiple wave analogues strongest families, parameter prediction algorithm (Russian) 9-39943

magnetotelluric probing in complex geoelec. conditions, data interpretation (Russian) 9-39932

nuclear power system and fuel channels stochastic identification and parameter estimation 9-3201

optimal multichannel filtering, simulated nerve signal appl. 9-48233

optimal multichannel filtering for nerve signals, modelling 9-48232

reflection seismograph data, maximum likelihood filtering 9-5453

seismic linear multichannel systems employed in regular waves separation, efficiency comparative anal. (Russian) 9-39922

seismic multiple waves, prediction filtering in non-ideal conditions (Russian) 9-44131

seismic surveys, optimum multichannel filters theory (Russian) 9-39921

finite element analysis continued

- rectangular plates, moderately thick, free flexural vibr., effect of geometric nonlinearity 9-3940
- reinforced concrete structures, nonlinear finite element anal. 9-41569
- rooms, field anal. by finite element method (*Japanese*) 9-27465
- rotating flow, Navier-Stokes eqns., upwind scheme 9-1201
- salt dome dynamics 9-20789
- seismic SH-waves propag. in stratified medium with local inhomogeneities, finite element treatment (*Russian*) 9-34763
- semicircular plate of variable thickness, finite element stress anal. 9-37180
- shear lag problem; finite element anal. 9-32246
- sheet metal stamping, finite element anal. 9-7344
- shell, cylindrical, semi-infinite, with end plate subjected to centrifugal force, large deflection analysis (*Japanese*) 9-1104
- shell calc., parabolic, shallow, thin, elastic behaviour calc. 9-57
- shell of rotation exposed to vibrs., optimum shape and reinforcing struct. 9-18792
- shells, free-form, nonlinear anal. by flat finite elements 9-14247
- shells of revolution, rigid-plastic limit anal. under rotationally symmetric loading (*French*) 9-14276
- shells of revolution, ring type finite element method (*German*) 9-14250
- shells with internally attached structures, transient response 9-3941
- shock capturing application of the finite element method 9-27665
- sliding interfaces and impact, numerical treatment 9-41631
- slip model for finite element plasticity 9-32301
- soil, freezing processes, finite element simulation 9-16527
- soil-structure systems, time integration, mixed methods 9-41568
- solar energy thermal processes, appl. 9-24890
- solid mechanics, natural mode technique, review 9-44728
- solute transport in a saturated-unsaturated porous medium 9-23362
- square cantilever plate immersed in water, finite element method for dynamic behaviour 9-37224
- stamp problem, elastic layer or half space, variational formalism, numerical soln. 9-1106
- steady viscous incompressible flow, two dimens., finite element anal. 9-23297
- stiffness matrix for sandwich beams with thick anisotropic laminated faces 9-46182
- Stirling cycle analysis, accuracy evaluation 9-48170
- stratified environmental flow, book contrib. 9-34875
- stream function-vorticity finite element solns. for Navier-Stokes eqns. 9-14368
- stress deformation states in 3-layer cylindrical shells (*Russian*) 9-14256
- structural anal., axisymmetric solid of revolution elements based on assumed stress hybrid model 9-3917
- structural analysis, dynamic condensation method 9-3943
- structural analysis, nonlinear theory of shells 9-30230
- structural engineering problems, finite element analysis 9-2607
- structural plasticity problems, nonlinear finite element anal., mathematical programming 9-46224
- superconducting dipole magnets for high energy accelerators, stress and strain distribs. 9-31250
- surface waves, long period, explicit-implicit method 9-4026
- surface waves, over submerged obstacle, finite-difference method 9-4027
- symbolic generation of finite element stiffness matrices 9-32244
- tapered cantilever columns, post buckling finite element anal. 9-1119
- tapered circular plates elastically restrained against rotation at edges, nonlinear vibrs. 9-18791
- tectonics, finite element modelling of Nazca plate stresses 9-20802
- tectonics, Zagros collision orogeny, finite element modelling of lithosphere deformation 9-20803
- temperature field equations, steady-state and transient case, 2-D, 3-D, finite element anal. 9-23182
- temperature field in hot rolled T-section finite element anal. (*Russian*) 9-29101
- tension creep, finite element anal. of void growth 9-18739
- thermal analysis, finite element method for temp. depend. parameters 9-32184
- thermal loads in elastoplastic stress finite element anal. 9-46225
- thermal stresses computing rel. to uncoupled thermoelasticity (*Italian*) 9-18719
- thermoelasticity in solid symmetrical bodies of revolution, thermal transients calc., appl. (*Spanish*) 9-23208
- thin orthotropic plates, bending stability and free vibration 9-3961
- thin plate Semiloof element for structural anal. 9-3913
- thin plates, limit load and elasto-plastic bending, finite element anal. 9-27544
- thin shell structs. mixed elements, theory, criticism, examples (*German*) 9-27506
- thin structures, large displacement anal. 9-27514
- three dimensional stationary supersonic flow fluid, progenka process calcs. 9-7383
- three-dimensional field modelling, finite-element interactive computer methods (*French*) 9-41294
- tidal flow, interlacing channels, nonlinear computer model 9-34828
- tidal flow, shallow water eqns., semi-implicit approach 9-34829
- time domain finite element solns., accuracy and stability 9-37232
- time-varying magnetic field problems, finite element formulations 9-41265
- Timoshenko beams, finite element for vibr. anal. 9-18774
- Timoshenko beams, resting on elastic foundation, dynamic stability 9-18775
- Tokamak plasma equilb. by finite elements, book contrib. 9-32805
- Tokamak reactors, supercond. toroidal magnets, max. mag. fields, mech. stress calcs. 9-36405
- trabecular bone-porous coating-hip prosthesis interface, mechanical behaviour 9-39436
- transient nonlinear mechanics problems, finite element anal., computational aspects 9-41565
- transonic aerodynamics, finite element method, book contrib. 9-32556
- transonic aerodynamics, variational formulation and finite element anal., book contrib. 9-32555
- transonic flow, finite element and finite difference calcs., book contrib. 9-32558
- transonic flow simulation by finite element method via optimal control, book contrib. 9-32557
- triangular finite difference scheme for large deflection problems 9-32233
- triangular plate elements, numerical investigation using variation principles with relaxed continuity conditions (*German*) 9-10465
- turbulence of air intake, calc. in 2-dimens. 9-3999

finite element analysis continued

- turbulent flow, computational modelling by finite elements 9-1163
- turbulent flow, Navier-Stokes eqns. 9-1162
- turbulent flow, one-eqn. models, finite element soln. 9-7371
- turbulent shear flow behind prolate spheroid, numerical model 9-23304
- two dimensional steady flow problems, numerical soln., finite element method 9-23296
- two-dimensional nonlinear magnetostatic fields, isoparametric Hermite finite element program 9-41275
- two-phase flow through porous media, simulation by finite elements 9-41752
- ultracentrifuge, flow, isotope conc. field, numerical model 9-1199
- unmagnetised plasma column, anomalous skin effect, finite element calc. 9-14552
- unsteady boundary layer over an impulsively started flat plate using finite elements 9-14366
- upwindings of high order Galerkin methods in conduction-convection problems 9-3886
- uterine muscle penetration by flexible IUCD shield 9-29556
- variable thickness, curved beam and shell stiffening element with shear deformations 9-44733
- vibrating beams, calc. of higher freqs. by simultaneous iteration technique 9-23258
- vibrating thin rectangular plates, influence of thermal grad. on natural freq. 9-32353
- vibration of Mindlin plates, finite strip models 9-3966
- vibration problems, element spaces and separation for determining bounds to eigenvalues 9-14317
- visco-plasticity problem with hardening, finite element anal. (*French*) 9-46222
- viscoelastic body eigenfrequency determ. (*German*) 9-23270
- viscous fluid anal., book contrib. 9-32522
- wave equations, finite difference approx. using cubic spline technique 9-49
- waves in shallow water, improved finite difference scheme 9-4028
- weighted residuals, improved finite element formulation by using least squares fit 9-52
- world ocean, normal modes, finite-element barotropic model 9-16489
- Al alloy 2024-0, work hardened circular plates, theoretical predictions of nonlinear-finite element computer code, deflection and strain data 9-38893
- C fibre reinforced plastic, stress analysis of butt strap joint 9-43300
- Th-PuO₂ kernels, effect of fuel particle size on power excursions, Doppler feedback mechanism 9-30911
- Ti, integral composite joints, finite element and expt. eval. 9-11670
- Finlay-Freundlich red-shift hypothesis** *see gravitational red shift*
- fireproofing** *see flameproofing*
- fires**
- see also accidents; combustion; flames; safety*
- brush fires, influence on W.African atmospheric aerosols (*French*) 9-34883
- buoyant flow, thermally driven, equations of motion 9-23334
- LMFBR, expts. on extinguishing large quantities of burnina Na 9-41016
- materials flammability testing, problems, language and scientific basis 9-5092
- nuclear power plant fire frequency and core damage probability estimation 9-13461
- radiation augmented fires within enclosures 9-32206
- Na fires, origination and mechanism, form. and sedimentation of Na aerosols, review (*Czech*) 9-30956
- fission**
- see also fission of plutonium; fission of uranium; photofission; spontaneous fission*
- absolute cross section meas. using fixed energy neutron sources 9-13365
- actinide muonic atoms, n emission from radiationless muonic transitions and μ capture 9-3599
- actinide nuclei, fission width calc. using doorway state approach 9-13278
- carbonaceous chondrites, fission Kr and Xe origin 9-35199
- delayed fission neutron technique, review 9-1979
- discovery of fission 9-26418
- dynamical interpretation of the statistical theory of fission 9-45311
- dynamics, effects of shell struct. and pair correl. 9-6560
- electrofission of light nuclei, recent obs. 9-3185
- Fermi system particle distrib., nuclear matter, heavy ion collisions and fission 9-36183
- fissionable nuclei A=232 to 252, systemization of relative yields of retarded neutrons 9-40974
- fragment formation as clustering effect, many-nucleon correl. 9-6561
- frictional effects on post-scission dynamics and fission fragment kinetic energies 9-36225
- heavy fissile nuclei, nuclear constants estimation (*Russian*) 9-30779
- heavy ion collisions, resonance states in two-body breakup channels, theory of fragmentation 9-9619
- heavy nuclei, fission process gamma ray analysis (*Rumanian*) 9-40973
- natural nuclides from meteorites, spontaneous fission neutron multiplicity (*Russian*) 9-40977
- neutron evaporation and fission widths, statistical formula correction (*Russian*) 9-13281
- neutron standards and appl., conference, Gaithersburg, MD, USA (March 1977) 9-9581
- pair excitation lifetime in nuclear fission, model 9-521
- polar emission in fission, nuclear orbiting, three-body trajectory classical calc. 9-3131
- polarisation, order-disorder model of balance neutron distribution 9-13279
- proton-induced fission, 70 to 200 MeV compound nucleus formation, fragment ang. anisotropy (*Russian*) 9-13359
- r-process and r-cooling process, nuclear fissions 9-16816
- reaction rate standards and applications 9-9650
- review of recent progress, barrier crossing, static and dynamical aspects (*French*) 9-520
- scission configuration determ., incorrect use of ternary fission data 9-36224
- spectrum-averaged cross section, integral meas. in standard neutron fields 9-13364
- standard neutron fields, integral meas. 9-13363
- ternary fission, three-centre shell model 9-36226
- two spherical nuclei system, pot. energy calcs. for fission and fusion 9-13326

fission continued

- unified pot. from liquid drop model, description of nuclear props.
9-22213
- (α, f) 140, 150 MeV, fission cross sections and probabilities, isomeric yield ratio 9-45308
- μ^- induced instantaneous fission, mesoatomic X-ray radiation (*Russian*)
9-30869
- Au(α, X), 227 MeV, ang. momentum transfer in deep inelastic collisions
9-45281
- Au($^{63}\text{Cu}, X$), 365 and 443 MeV, ang. momentum transfer in deep inelastic collisions 9-45281
- $^{197}\text{Au}(^{86}\text{Kr}, X)$, 730 MeV, heavy fragment coincidences, sequential fission probability 9-22316
- $^{197}\text{Au}(p, x)$ ^{22}Na - ^{166}Au , 1-100 GeV radionuclide recoil props., fission, fragmentation and spallation 9-3149
- $^{40}\text{Ca}+^{16}\text{O}$, fusion cross section calc. in boundary condition model 9-9656
- ^{252}Cf fission, isotopic mass dispersion discontinuity, neutron shell effect 9-45312
- ^{252}Cf fission fragment hard β -radiation 9-45306
- ^{252}Cf spontaneous fission, prompt neutrons and fission fragments (*Russian*)
9-40976
- ^{128}In yield from symmetrical fission at 15 MeV, delayed neutron yield (*Russian*) 9-22266
- ^{252}No , high mass asymmetry distrib. in fissioning nuclei, shell effects
9-3186
- ^{237}Np , absolute fast neutron fission cross sections 9-13366
- ^{237}Np , appl. as neutron dosimeter for personnel 9-13539
- ^{237}Np threshold detector, subthreshold phenomena effects on nondestructive assay of reactor fuel 9-22409
- $^{237}\text{Np}(n, f)$, 14.7 MeV, Xe relative cumulative yields, fine struct. peak (*Russian*) 9-30868
- $^{237}\text{Np}(n, f)$, fission cross sections, use as standards in MeV region
9-13362
- ^{231}Pa , calc. of critical mass and radius by three group diffusion theory
9-13419
- $^{231}\text{Pa}(n, f)$ sub-barrier fission, fragment mass and kinetic energy distrib.
9-17942
- $^{231}\text{Pa}(n, f)$ thermal neutron-induced fission cross-section 9-30859
- $^{252}\text{Si}(e, f)$, alpha cluster model approach, intermediate state to $^{12}\text{C}+^{16}\text{O}$
9-40972
- $^{252}\text{Si}(p, ^{14}\text{N})^{14}\text{N}$, $Q = -27.2$ MeV 9-6717
- ^{240}Th ($A = 230, 232$), fission penetrabilities, three-hump model of fission barrier 9-26419
- $^{230}\text{Th}(n, \gamma)$ 720 keV, fission barrier third minimum, ^{231}Th , asymmetrically deformed, rot. bands 9-3068
- ^{232}Th fission, isotopic mass dispersion discontinuity, neutron shell effect
9-45312
- $^{232}\text{Th}+^{16}\text{O}$, fission following transfer below Coulomb barrier 9-22346
- $^{232}\text{Th}+^{19}\text{F}$, fission following transfer below Coulomb barrier 9-22346
- $^{232}\text{Th}(n, f)$, 1.35-5.3 MeV, yields and kinetic energies, vibrational states
9-45307
- ^{234}Th , anomaly in fission penetrability through a triple humped pot. barrier 9-3132
- ^{234}Th , penetration through three peaks barrier, semiclassical approx. (*Russian*)
9-9544
- U(Xe, f), Coulomb fission problem, uniform semi-classical approach to forbidden transitions 9-36287
- $^{238}\text{U}(e, p)$, 40 MeV, p spectra, deduced ternary fission cross section
9-9549

fission counters

- fissile resistors, appl. to intense neutron flux pulse meas. 9-31326
- position-sensitive ionization fission chamber 9-26819
- ^{237}Np threshold detector, subthreshold phenomena effects on nondestructive assay of reactor fuel 9-22409

fission of plutonium

- determination system by passive neutron counting 9-40985
- energy autocorrel. of fission cross-section data in resonance region, probability table method 9-36284
- fast pulse reactor $^{237}\text{Np}/^{238}\text{U}$ and $^{239}\text{Pu}/^{237}\text{Np}$ spectral index meas. and calc. 9-9804
- fragment recoil mass spectrometer HIAWATHA 9-9940
- LMFBR fuelling requirements rel. to Pu isotopic composition, core design
9-9738
- prediction of fission-product mass yields and related parameters 9-30862
- ZPPR-4 control rod worth meas. and calc. 9-9803
- ZPPR-5 Source Level Flux Monitor expt. analysis 9-9705
- DT-Pu plasma, neutron induced fission, fission fragment slowing down
9-26749
- DT-Pu plasma, neutron induced fission, enhancement of neutron prod. and fusion rate 9-26750
- ^{240}Pu , $A = 239, 240, 241$, LMFBR 300 MWe, burnup characts. 3-D numerical anal. 9-22371
- ^{240}Pu , $A = 239, 241, 2200$ m/s and 20°C Maxwellian neutron data 9-9651
- ^{240}Pu , $A = 239, 241$, thermal neutrons, review of meas. of average number of neutrons emitted per fission 9-9652
- $^{240}\text{Pu}(n, f)$, $A = 239, 242, 0.1$ to 10 MeV fission cross section rel. to ^{235}U
9-13354
- $^{240}\text{Pu}(n, f)$, fission product decay heat calc. by summation method, appl. to FBR 9-30863
- ^{239}Pu , cross sections for α -decay and neutron induced fission (*Russian*)
9-17944
- ^{239}Pu , fast reactor dosimetry using zero-power facility ZEBRA 9-3219
- ^{239}Pu fission, isotopic mass dispersion discontinuity, neutron shell effect
9-45312
- ^{239}Pu , irradiated in BOR-60 reactor, fission yields 9-17971
- ^{239}Pu , prompt fission neutron spectra 9-9654
- ^{239}Pu thermal fission, prompt neutrons and fission fragments (*Russian*)
9-40976
- $^{239}\text{Pu}(n, f)$, 0.024 to 7.4 MeV fission cross section $^{235}\text{U}/^{239}\text{Pu}$ ratio
9-40975
- $^{239}\text{Pu}(n, f)$, 0.1 - 1 MeV, light charged particle emission, saddle point states
9-22343
- $^{239}\text{Pu}(n, f)$, abs. meas. of fission cross-sections with photoneutron sources
9-30860
- $^{239}\text{Pu}(n, f)$, cumulative yields of Ru and Pd isotopes 9-576
- $^{239}\text{Pu}(n, f)$, fission cross-section averaged over ^{252}Cf neutron spectrum
9-30861
- $^{239}\text{Pu}(n, f)$, thermal n, fission fragment energy correlation meas., fine struct. and deformation 9-13355

fission of plutonium continued

- ^{240}Pu subbarrier resonances and fission probabilities from $^{239}\text{Pu}(d, pf)$
9-13266
 - $^{240}\text{Pu}(n, f)$, mass yield distrib. and absolute fission yields 9-13356
 - $^{240}\text{Pu}(n, f)$ 10 to 250 keV, subthreshold neutron fission cross section meas.
9-22344
 - ^{241}Pu (n, f), 0.02 - 7.4 MeV, fission cross section ratio to ^{235}U 9-45313
 - ^{241}Pu , multilevel resonance parameters for 0.01 to 100 eV neutrons
9-36154
 - $^{241}\text{Pu}(n, f)$ 1 keV to 30 MeV neutrons, cross section meas. rel. to ^{235}U
9-36286
- ## fission of uranium
- breeder reactor, with circulating liquid-salt fuel, fission product radioactivity reduction and residual heat release 9-26490
 - energy autocorrel. of fission cross-section data in resonance region, probability table method 9-36284
 - exploration, delayed fission neutron and prompt fission neutron logging, comparison of predicted signals 9-39879
 - fast pulse reactor $^{237}\text{Np}/^{238}\text{U}$ and $^{239}\text{Pu}/^{237}\text{Np}$ spectral index meas. and calc. 9-9804
 - fragment recoil mass spectrometer HIAWATHA 9-9940
 - fusion-plasma neutron fission and activation of U fuels 9-13521
 - (n, f), 1 to 7 MeV, ratio of ^{238}U and ^{235}U cross sections 9-30867
 - Oklo natural nuclear reactor, discovery and reactor parameters, geological formation 9-2240
 - Weale expt. calc. using modified ENDF/B-IV cross sections 9-17908
 - Th/ ^{233}U fuel cycle in FBR and thermal converters 9-9745
 - U spontaneously fissionable isomers, excitation by K shell e^+ annihilation, shape isomery model (*Russian*) 9-30802
 - ^{208}Pb , f , 1535 MeV, direct evidence for multiple sequential fission
9-30866
 - ^{238}U (n, f), 1785 MeV, direct evidence for multiple sequential fission
9-30866
 - ^{238}U , $A = 233, 235, 2200$ m/s and 20°C Maxwellian neutron data 9-9651
 - ^{238}U , $A = 233, 235$, thermal neutrons, review of meas. of average number of neutrons emitted per fission 9-9652
 - ^{238}U fission, $A = 233, 235, 238$, isotopic mass dispersion discontinuity, neutron shell effect 9-45312
 - $^{238}\text{U}(n, f)$, $A = 232$ to $236, 238$, prediction of fission-product mass yields and related parameters 9-30862
 - $^{238}\text{U}(u, f)$, $A = 233, 235$, cumulative yields of Ru and Pd isotopes 9-576
 - $^{238}\text{U}(d, pf)$, fission fragment energy-velocity correlation meas. 9-45309
 - $^{238}\text{U}(n, f)$, 0.02 - 7.4 MeV, fission cross section ratio to ^{235}U 9-45313
 - ^{238}U subbarrier resonances and fission probabilities from $^{233}\text{U}(d, pf)$
9-13266
 - ^{235}U , ^{238}U , absolute fast neutron fission cross sections 9-13366
 - ^{235}U , cross sections for α -decay and neutron induced fission (*Russian*)
9-17944
 - ^{235}U , delayed neutron groups from thermal fission 9-30864
 - ^{235}U , fission and activation by fusion plasma neutrons 9-13521
 - ^{235}U , irradiated in BOR-60 reactor, fission yields 9-17971
 - ^{235}U , prompt fission neutron spectra 9-9654
 - ^{235}U , spontaneous to induced ratio, B and Li impurity effects 9-45305
 - ^{235}U thermal fission product long-term activity meas. and calc. 9-9644
 - ^{235}U , thermal n induced ternary fission, α energy and ang. distrib.
9-22345
 - $^{235}\text{U}(n, f)$ 0.024 to 7.4 MeV fission cross section $^{235}\text{U}/^{239}\text{Pu}$ ratio
9-40975
 - $^{235}\text{U}(n, f)$, fission cross-section for 2200 m/s neutrons 9-17943
 - $^{235}\text{U}(n, f)$, 0.001 - 25 keV, polarised n, spin separated cross sections, resonance struct. 9-3126
 - $^{235}\text{U}(n, f)$, 0.1 to 10 MeV fission cross section rel. to ^{239}Pu and ^{242}Pu
9-13354
 - $^{235}\text{U}(n, f)$, 0.1 - 20 MeV neutron fission cross section 9-9655
 - $^{235}\text{U}(n, f)$, 1 keV to 30 MeV neutrons, cross section meas. rel. to ^{241}Pu
9-36286
 - $^{235}\text{U}(n, f)$, abs. meas. of fission cross-sections with photoneutron sources
9-30860
 - $^{235}\text{U}(n, f)$, fission cross-section averaged over ^{252}Cf neutron spectrum
9-30861
 - $^{235}\text{U}(n, f)$, thermal fission, fission product decay heat evaluation by least-squares method 9-30865
 - $^{235}\text{U}(n, f)$, thermal n, fission fragment energy correlation meas., fine struct. and deformation 9-13355
 - $^{235}\text{U}(n, f)$, thermal n, fission product isobaric charge distrib., parity effects
9-17791
 - $^{235}\text{U}(n, f)$ cross section, thermal normalization technique for meas. of neutron cross section vs. energy 9-9590
 - $^{235}\text{U}(n, f)$ fission cross section standard, propagation of uncertainties, critical benchmark meas. 9-13361
 - $^{235}\text{U}(n, f)$ sub-barrier fission, fragment mass and kinetic energy distrib.
9-17942
 - $^{235}\text{U}(n_{th}, f)$, neutrons ang. correl., multiplicity 9-3187
 - $^{235}\text{U}(n_{th}, f)$ nuclide yields, direct physical meas. 9-9641
 - ^{236}U fission, two parameter study, fragment mass and energy, thin film scintillators 9-13357
 - ^{236}U formation in $^{118}\text{Pd}+^{118}\text{Pd}$, time depend. Hartree-Fock-Bogoliubov calc. 9-36265
 - ^{236}U nuclear instability and fission in strong mag. field energy level deformation (*Russian*) 9-13360
 - ^{236}U , subbarrier resonances and fission probabilities from $^{235}\text{U}(d, pf)$, 11 - 17 MeV, ^{236}U 9-13266
 - ^{236}U two-peaked fission barrier penetrability, quasiclassical approximation (*Russian*) 9-13280
 - ^{238}U Doppler effect obs. in advanced fuels critical assemblies 9-9739
 - ^{238}U , fast reactor dosimetry using zero-power facility ZEBRA 9-3219
 - ^{238}U , fission and activation by fusion plasma neutrons 9-13521
 - ^{238}U , high mass asymmetry distrib. in fissioning nuclei, shell effects
9-3186
 - ^{238}U , photofission with bremsstrahlung, charge distrib., fractional independent yields 9-36283
 - ^{238}U , spontaneous fission, constant of disintegration meas. (*Portuguese*)
9-36282
 - ^{238}U , Xe-induced Coulomb fission, rotation-vibration model for target nucleus 9-13367
 - $^{238}\text{U}+n$, 2.47 MeV, energy spectra and ang. distrib. of neutrons 9-40927
 - $^{238}\text{U}(^{40}\text{Ar}, f)$, 212 - 340 MeV, I prod. relative thresholds from fusion and transfer induced fission 9-9640
 - $^{238}\text{U}(\alpha, f)$, 140 MeV, fission cross sections and probabilities, isomeric yield ratio 9-45308

fission of uranium continued

- ²³⁸U(γ, f), 12-70 MeV bremsstrahlung, cumulative and fractional product yields for A=128-136 9-36288
²³⁸U(n,f), fission cross sections, use as standards in MeV region 9-13362
²³⁸U(n,f), fission product decay heat calc. by summation method, appl. to FBR 9-30863
²³⁸U(n,f) fast neutron fission yield determ. 9-40970
²³⁸U(p,f), 11.5 GeV, He and heavy fragment energy and ang. correlation 9-45310
²³⁹U, induced by ²³⁸U(d,p), subthreshold cross section meas., 2-centre shell model calc. 9-6719
U(n,f) fission cross section ratio of ²³⁵U to ²³⁸U for 0.1 to 25 MeV neutrons 9-36285

fission products

- A=90 to 160, neutron capture cross-section adjustment based on integral meas. 9-9578
breeder reactor, with circulating liquid-salt fuel, fission product radioactivity reduction and residual heat release 9-26490
charge and slope polarisation of nuclei, liquid drop model anal. 9-9543
Chinese explosion 1977 Sept. 18, time distrib. and anal. fallout particles 9-25796
consensus and subsidiary yields, integral meas. in standard neutron fields 9-13364
decay heat calc. by summation method, appl. to FBR 9-30863
decontamination by Purex solvent extraction process 9-36387
deexcitation, statistical model anal. of spin effects 9-17941
delayed fission product γ spectra following short neutron irradiation 9-9645
EBR-II fission product control, cover-gas cleanup system and graphite trap 9-9791
EBR-II primary system fission gas behaviour 9-9692
fragment recoil mass spectrometer HIAWATHA 9-9940
frictional effects on post-scission dynamics and fission fragment kinetic energies 9-36225
gaseous fission product retention in fuel reprocessing 9-31153
HTGR fission product release following LOCA 9-13457
light ternary fission product charge distributions and fission probabilities 9-9643
LMFBR, pin plenum fission gas release model to describe fission gas effects in voided channel 9-31042
LMFBR core disruptive accident, fission gas bubble modelling 9-31043
LWR fuel performance calcs., effect of Cs and I₂ release 9-31054
LWR LOCA, fission product gamma-ray energy absorption in emergency cooling solns. 9-31052
post-scission motion of fission fragments 9-26420
prediction of fission-product mass yields and related parameters 9-30862
pyrocarbon coated particles, influence of fast neutrons on transport behaviour of solid fission products (German) 9-13427
review of recent progress, barrier crossing, static and dynamical aspects (French) 9-520
solvent extraction kinetics 9-26685
superheavy elements in Fe meteorites, fission rel. to trace element abundances 9-48742
thermal and fast fission yields, meas. techniques and data status 9-9649
volatile fission product atmospheric release from nuclear reactors and fuel reprocessing plants 9-34461
volatile fission products from nuclear fuel cycle and power stations, pollution effects (Russian) 9-31152
¹³⁴Ba, A=134 to 138, 135, sensibility anal. of effect of key parameters of fission prod. conc. 9-30870
¹⁴¹Ba, gaseous fission products, β -decay energies 9-9519
¹⁴¹Br, A=85 to 89, total β -decay energies and atomic masses of neutron-rich isotopes 9-40889
¹⁴⁴Ce, errors in activity ratio determ. in reactor RA used fuel element 9-41061
¹⁴⁴Ce/Pr, CANDU fuel, burnup determ. by γ -scanning 9-9825
²⁵²Cf, empirical limitations for spontaneous fission energy dissipation, fragment deformation 9-3188
²⁵²Cf fission fragment hard β -radiation 9-45306
²⁵²Cf spontaneous fission, prompt neutrons and fission fragments (Russian) 9-40976
²⁵²Cf spontaneous fission neutron spectrum meas. 9-9653
¹³⁵Cs, A=133 to 137, sensibility anal. of effect of key parameters of fission prod. conc. 9-30870
¹³⁷Cs, A=147, 148, T_{1/2} determ. 9-9524
¹³⁷Cs, error in activity ratio determ. in reactor RA used fuel element 9-41061
¹³⁸Cs, fractional independent yield form ²³⁸U photofission with bremsstrahlung 9-36283
¹³⁷Cs concentration determ. in LMFBR Na heat carrier 9-41043
¹³⁷Cs, errors in activity ratio determ. in reactor RA used fuel element 9-41061
¹³⁸Cs, independent isomeric yield ratio from spontaneous fission of ²⁵²Cf 9-22342
³He-Xe, nucl. pumped laser plasma, distrib. functions 9-36880
¹I, A=127, 129, 130, 131, sensibility anal. of the effect of key parameters on fission prod. conc. 9-36290
¹I, A=133, 135, sensibility anal. of effect of key parameters of fission prod. conc. 9-30870
¹²⁷(n, γ)¹²⁸I in fast reactors, effective cross sections calc., from expt. results (Dutch) 9-537
Kr, fission gas atoms, diffusion into UO₂ 9-6746
Kr, gaseous, continuous determ. of content in reactor loop 9-30905
²³¹Pa(n,f) sub-barrier fission, fragment mass and kinetic energy distrib. 9-17942
Pd isotope cumulative yields, from fission of U and Pu 9-576
¹⁰⁷Pd fission product neutron capture and total cross-section obs. 9-9573
¹⁵⁰Pm, fractional independent yield from ²³⁸U photofission with bremsstrahlung 9-36283
²³⁹Pu, irradiated in BOR-60 reactor, fission yields 9-17971
²³⁹Pu thermal fission, prompt neutrons and fission fragments (Russian) 9-40976
²³⁹Pu(n,f), 0.1-1 MeV, light charged particle emission, saddle point states 9-22343
²³⁹Pu(n,f), thermal n, fission fragment energy correlation meas., fine struct. and deformation 9-13355
¹Ar, A=96 to 100, half-lives and neutron emission probabilities in neutron rich isotopes 9-17864
⁹⁰Rb, independent isomeric yield ratio from spontaneous fission of ²⁵²Cf 9-22342
Ru isotope cumulative yields, from fission of U and Pu 9-576

fission products continued

- ¹⁰⁶Ru, errors in activity ratio determ. in reactor RA used fuel element 9-41061
¹²⁷Sb, sensibility anal. of the effect of key parameters on fission prod. conc. 9-36290
⁹⁰Si transmutation in fusion reactors 9-26559
Sm decay chain expansion significance 9-9712
¹Te, A=127m, 128, 129m, 130, 131m, 132, sensibility anal. of the effect of key parameters on fission prod. conc. 9-36290
²³²Th(n,f), 1.38 MeV, prediction of fission-product mass yields and related parameters 9-30862
U-Ni dilute alloy fission product source design and use at EBR-II 9-9932
UO_{2+x}, model of response of fission gas bubbles to dynamic behaviour of point defects 9-37735
¹U(n,f) A=232 to 236, 238, prediction of fission-product mass yields and related parameters 9-30862
²³³U(d,p,f), fission fragment energy-velocity correlation meas. 9-45309
²³⁵U fission fragments and fission neutrons, reliability of use in simulating neutron irradiation 9-42113
²³⁵U, irradiated in BOR-60 reactor, fission yields 9-17971
²³⁵U thermal fission product long-term activity meas. and calc. 9-9644
²³⁵U, thermal n induced ternary fission, α energy and ang. distrib. 9-22345
²³⁵U(n,f), thermal fission, fission product decay heat evaluation by least-squares method 9-30865
²³⁵U(n,f), thermal n, fission product isobaric charge distrib., parity effects 9-17791
²³⁵U(n,f), thermal n, fission fragment energy correlation meas., fine struct. and deformation 9-13355
²³⁵U(n,f) sub-barrier fission, fragment mass and kinetic energy distrib. 9-17942
²³⁵U(n_{th},f) nuclide yields, direct physical meas. 9-9641
²³⁶U fission, two parameter study, fragment mass and energy, thin film scintillators 9-13357
²³⁸U(γ, f), 12-70 MeV bremsstrahlung, cumulative and fractional product yields for A=128-136 9-36288
²³⁸U(p,f), 11.5 GeV, He and heavy fragment energy and ang. correlation 9-45310
Xe bonded fission gas, radial distrib. in mixed carbide fuel pins, electron probe anal. 9-36318
Xe, gaseous, continuous determ. of content in reactor loop 9-30905
¹³⁶Xe, A=128 to 132, 129m, 131m, 133m, sensibility anal. of the effect of key parameters on fission prod. conc. 9-36290
¹³⁶Xe, A=133 to 136, sensibility anal. of effect of key parameters of fission prod. conc. 9-30870
¹³⁵Xe, control of space-time distrib. in reactors 9-36364
¹³⁵Xe, determ. of fission gas degassing constant from liquid Na to cover gas 9-41009
- fission reactor cooling and heat recovery**
see also cooling: fission reactor core control and monitoring
axial momentum altered transverse transport in coolant flows during oscillatory instabilities 9-17964
blowdown, fluid behaviour in pressure vessel (Japanese) 9-17999
boiling, forced convection type, in uniformly heated vert. tube, generalised crit. heat flux correlation 9-27498
boiling heat transfer during rewetting, one-dimens. cond. model 9-598
boiling mixing studies in water loops, BWR, PWR reactors 9-26502
boric acid management in VVER reactor power plants (Russian) 9-30896
BWR, core flow fluctuations, noise source, expt. study 9-13386
BWR, design and operation, review of water chemistry, in feed water, coolant and steam systems 9-36311
BWR, radiochemical management, reactor cooling system, gamma spectroscopy of radionuclides 9-9731
BWR, shutdown dose rate of primary cooling system, prediction by empirical formula 9-22408
BWR bundles, countercurrent flow limitation correl. during LOCA 9-31057
BWR channel stability, problem anal. 9-13387
BWR coolant oscillatory flow perturbations, altered transverse momentum transport 9-608
BWR power distribution analysis, three-dimensional calc. program 9-9674
BWR power stations, operating record and reliability, reviews 9-22403
BWR suppression pool, role of Taylor instability during vent cleaning 9-31046
BWR with graphite channels, safety of nuclear power stations 9-26561
BWR-4 neutron noise analysis spectra characterisation 9-13482
CANDU nuclear power station safety, Atomic Energy Control Board guidelines 9-22425
CANDU-PHW reactors, primary and secondary water chemistry, review 9-22382
channel array with interconnections, finite-difference scheme 9-4012
CIRENE, heavy water moderated BWR, LOCA simulation of recirculation circuit rupture 9-30949
Climch River Breeder Reactor primary coolant pipe chaseaway neutron streaming analysis 9-9661
composite prismatic bars, doubly connected cross section, heat flow shape factors, anal. determ. 9-1068
convection with volumetric heat sources, fluid layer in spherical segment 9-614
coolant circuits, fracture mech. appl. 9-43430
cooling water chemical reagent pyrogallic acid, radiation effects (Russian) 9-43603
Creys-Malville station, nuclear boiler studies and construction, Super Phenix 1 (French) 9-36301
diversion cross-flow between two parallel channels communicating by a lateral slot 9-30901
dryout in an SGHWR rod bundle, exptl. and calc. comparison 9-3192
EBR-II primary system fission gas behaviour 9-9692
EBR-II primary system piping evaluation for safety research modification 9-9785
emergency reactor cooling, mathematical models and methods (Russian) 9-17975
fast reactor coolant blockages, detection by temp. noise tech. 9-30899
fast reactor fuel rods, burnup-dependent heat transfer from fuel to cladding 9-36323
fast reactors, Na purification system for primary and secondary loops 9-45344

fission reactor cooling and heat recovery continued

- fast reactors employing dissociating N_2O_4 , thermophysical anal. (*Russian*) 9-30909
- FBR, experimental, math. model for control system design in FBR plants 9-17990
- FBR, thermal-hydraulic flow fields, stochastic processes 9-30991
- fluid-saturated porous layer with heat source, thermal convection onset 9-13406
- fuel assemblies in vertical flow channels, computer dynamic model 9-22379
- fuel element bundles, temp. field calc. 9-591
- fuel element centering system, flow through narrow sphere-cylinder channel 9-17962
- fuel elements, control rods, transient thermal stress anal. 9-599
- fuel pins with eccentric pellets, two-dimensional temp. profile calc. 9-9677
- gas-solid turbulent suspension flow, frictional pressure drop Prandtl's mixing-length anal. 9-14458
- gaseous fission products, continuous determ. of content in reactor loop 9-30905
- GCFR cores, heat transfer with He and Na coolants, review 9-45331
- generalized pressure drop correlation, in two-phase flow 9-9664
- heat exchanger tubes, US inspection by rotating search units method 9-9667
- heat generating fluids, one-dimens. flow, thermal unsteady regimes, nuclear reactor appl. 9-1179
- heat transfer finite difference computer programs 9-14221
- heat transfer from round-bottom pool with internal heat generation, expt., LMFBR appl. 9-13470
- heat transfer tube failure propagation due to Na-water reaction in steam generator 9-6748
- heavy water production, Canadian experience 9-30929
- heterogeneous Gas Core Reactor power plants 9-9671
- HTGR multihole fuel, equivalent thermal conductivity calc. (*Japanese*) 9-45346
- HTGR piping, heat transfer characts. of horizontal annular insulation layer (*Japanese*) 9-26520
- in-core measuring system for VVER-440 and VVER-1000 type reactors 'INCORMER' (*Russian*) 9-30965
- inlet coolant temp. fluctuations transfer function, space-depend. global component 9-30887
- IRT-2M reactor with loop channels in active area, physical parameters (*Russian*) 9-31067
- Kohlestein insulation, influence of high axial press. gradients (*German*) 9-13414
- liquid metals, flow at high temperatures through circular pipes, connection mechanism (*Spanish*) 9-37315
- liquid Na, thermocouple transfer function and flow velocity meas. by temp. noise 9-13394
- LMFBR, acoustic anal. from Na boiling tests using THORS bundle 6A 9-31033
- LMFBR, calc. vs. exptl. temp. distrib. behind six-channel central blockage 9-31028
- LMFBR, computer control system for Na test loops 9-26550
- LMFBR, coolant thermodynamics and fluid dynamics (*Spanish*) 9-6726
- LMFBR, detection of fuel assembly flow reduction in heterogeneous core 9-31032
- LMFBR, liq. Na natural convection from vertical plate 9-3202
- LMFBR, localised boiling in radial blanket due to hypothetical major pipe leak 9-22376
- LMFBR, maximum wake temp. and Nusselt number behind blockages in Na-cooled bundles 9-31026
- LMFBR, molten fuel coolant interaction (*Japanese*) 9-17997
- LMFBR, Na coolant transient flow and heat transfer in outlet plenum 9-26472
- LMFBR, Na incipient boiling under forced convection in seven pin bundle 9-22401
- LMFBR, Na pump, multimode heat transfer, computer codes 9-610
- LMFBR, Na-H₂O steam generator, calc. local heat fluxes in circular channels 9-36312
- LMFBR, natural circulation decay heat removal 9-31010
- LMFBR, once through boiling flow system, density wave instability 9-9666
- LMFBR, pool-type, PLOOP code for primary loop coolant flow and heat transfer anal. 9-31012
- LMFBR, red. of two-phase thermal cond. and heat transfer by entrained inert gases 9-30897
- LMFBR, safety c.f. thermal reactors 9-26562
- LMFBR, steam generator LOCA signalling by EM flowmeter (*Czech*) 9-6751
- LMFBR, transient boiling of Na in 7-pin fuel bundle under loss-of-flow conditions 9-41007
- LMFBR 1200 MW(e) performance rel. to core height reduction 9-9684
- LMFBR 19-pin simulated fuel assembly, dynamic boiling tests 9-31029
- LMFBR accident anal., noncondensible void fraction effect on freezing of flowing fluids 9-31013
- LMFBR coolant flow monitoring by balanced outlet temp. signals 9-13393
- LMFBR core design for Na void effect minimisation 9-9683
- LMFBR core disruptive accidents, flow regime obs. in two-phase volume heated boiling pools 9-31014
- LMFBR core orificing computer code 9-9681
- LMFBR finite hexagonal bundles, laminar mixed-convection heat transfer 9-607
- LMFBR fuel rod, hydraulic anal. of turbulent fluid flow by Galerkin method 9-30893
- LMFBR fuel subassembly, approach for treating two-dimensional coolant boiling 9-31030
- LMFBR fuel subassembly temp. noise prediction, Monte Carlo approach 9-13392
- LMFBR Na-cooled 7-rod bundle acoustic and temp. noise obs. 9-13391
- LMFBR pin bundle, model to correlate wake residence time meas. behind blockages 9-31027
- LMFBR postulated core meltdown, onset of foam flow regime in volume heated boiling pool 9-31015
- LMFBR primary heat transport pipe rupture and hydraulic response 9-9784
- LMFBR primary pool, transient buoyancy induced flow stratification 9-612
- LMFBR steam generator tube thermal oscillation obs. 9-9672

fission reactor cooling and heat recovery continued

- LMFBR steam generators, leak detection of steam or water into sodium 9-13434
- LMFBR subassembly local boiling detection by outlet temp. fluctuation analysis 9-13390
- LMFBR subchannel coolant flow behind blockage, temp. noise obs. 9-13389
- LMFBR thermal transients, impact of bypass flow 9-9680
- LMFBR wire wrap spaced rod bundles, laminar, transition, and turbulent parallel flow press. drop 9-26478
- LMFBR wire-wrapped subassemblies, Na boiling behaviour 9-31031
- LOCA, 3-dimens. flow with multiple interfaces 9-41024
- LOCA, extreme loads and associated safety aspects, review 9-22405
- LOCA, models for estimation of critical flow in two-phase systems 9-36361
- LOCA, transient flow boiling anal. method 9-26549
- LOFA, transient crit. heat flux, Freon 12 coolant 9-30954
- LWR, generalized theory for predicting mass effluence during reactor reflooding 9-36352
- LWR, stationary boiling front in liquid film cooling of a vertical heated rod 9-45341
- LWR emergency core cooling component experience data, defect anal. programme 9-18010
- LWR LOCA safety analysis, thermohydraulic phenomena, review (*German*) 9-13430
- LWR primary circuit component production, metallurgical aspects 9-36330
- MHD chemically reactive channel flow, effect of external circuit on dispersion of soluble matter 9-1267
- mobile He cooling loop system for post-accident heat removal expts. 9-13403
- molten fuel-coolant interaction, simulation experiment 9-17991
- molten metal-reactor coolant interaction, vapour film collapse expts. 9-13474
- Na loop safety facility expts., disassembly at HFEF/N 9-45444
- nuclear power stations, transport process models for dissociative cooling (*Russian*) 9-13410
- nuclear power stations, unsteady state processes for dissociative coolant (*Russian*) 9-13411
- once-through boiling flow system, density wave instability 9-22367
- PBHTR, primary coolant purification by Ti gettering (*German*) 9-3204
- PBR, LOCA, evaluation code NAKOGAS-1 9-13492
- PHENIX reactor exchanger, gas natural convection effect in annular spaces (*French*) 9-613
- pool swell dynamics during depressurization 9-30900
- pool-type reactor noise analysis and expt. 9-3195
- Prototype Large Breeder Reactor pool concept 9-9670
- PWR, coolant pump motors, max. freq. decay rate determ. 9-45337
- PWR, German, U-tube steam generators, inspection findings 9-9849
- PWR, heat transfer equations for boiler tubes (*Rumanian*) 9-3189
- PWR, LOCA, anal. of LOFT semiscale test (*Japanese*) 9-17998
- PWR, LOCA, cold leg break during blowdown, ROSA II study (*Japanese*) 9-6750
- PWR, rod bowed to contact departure from nucleate boiling tests in cold-wall thimble cell geometry 9-30892
- PWR, steam generators, design, subcooled and bulk boiling correls. 9-611
- PWR coolant system corrosion product composition and significance 9-9689
- PWR crud descriptive model 9-9691
- PWR differential rod worth and feedback coeff. online estimation system 9-9798
- PWR fuel assembly, thermohydrodynamic process, obs. 9-30902
- PWR fuel pin transient heat conduction and open hot channel DNBR evaluation 9-9679
- PWR LOCA, effects of downstream geometry on blowdown of subcooled liquid 9-31063
- PWR LOCA, high-pressure Freon blowdown studies with inlet break 9-36367
- PWR LOCA, ROSA-II severe hot leg break for core cooling during blowdown (*Japanese*) 9-9769
- PWR power plants, safety technical problems, core cooling (*Russian*) 9-31085
- PWR primary circuit, in-service inspection (*French*) 9-22385
- PWR primary circuit constituent materials, design features verification (*French*) 9-17976
- PWR primary coolant system, in-service inspection programs 9-22384
- radiochemical management, reactor cooling system, gamma spectra of radioactive I from direct fission 9-9732
- radiochemical management, reactor cooling system, rapid determ. of radioactive I contamination 9-9733
- reactor containment expts., Fourier transform anal. of transient condensation heat transfer coeff. 9-22410
- residual heat removal system, reliability calc., importance sampling and Monte Carlo advantages 9-606
- rewetting model using generalised boiling curve 9-9675
- rod bundle with helical spacers, air distrib. in water flow 9-30894
- rod cluster, recirculating flow due to blockage, finite difference method for temp. 9-3200
- small PWR containment complex and coolant system 9-13402
- spent fuel pool natural convection, multichannel analysis 9-9786
- steam generating channels, volumetric steam content determ. by slow neutron method 9-30903
- Stellite-6 in liquid Na, tribology 9-26525
- temperature dist. in cylindrical fuel pins with gap and cladding (*Italian*) 9-13397
- thermal mixer temp. fluctuation and pressure loss, scale model tests 9-9673
- Tokamak-driven hybrid breeder reactor, liquid metal coolant, MHD effects 9-17974
- transient temp. field in nuclear fuel rod, calc. by variational procedure 9-9772
- Trino power plant, in-service inspection and operating experience, main coolant circuit (*Italian*) 9-17992
- turbulent convective heat transfer from rough surfaces 9-27638
- two phase flow induced vibrations in fuel pin model 9-13388
- two-phase annular flow, multifluid modelling of adiabatic and boiling flows 9-1233
- vapour phase heat transfer in post critical heat flux region 9-9668
- volumetric steam content determ. by noncontact neutron sensor 9-30904

fission of uranium continued

- ²³⁸U(γ, f), 12-70 MeV bremsstrahlung, cumulative and fractional product yields for A=128-136 9-36288
²³⁸U(n,f), fission cross sections, use as standards in MeV region 9-13362
²³⁸U(n,f), fission product decay heat calc. by summation method, appl. to FBR 9-30863
²³⁸U(n,f) fast neutron fission yield determ. 9-40970
²³⁸U(p,f), 11.5 GeV, He and heavy fragment energy and ang. correlation 9-45310
²³⁹U, induced by ²³⁸U(d,p), subthreshold cross section meas., 2-centre shell model calc. 9-6719
²³⁸U(n,f) fission cross section ratio of ²³⁵U to ²³⁸U for 0.1 to 25 MeV neutrons 9-36285

fission products

- A=90 to 160, neutron capture cross-section adjustment based on integral meas. 9-9578
 breeder reactor, with circulating liquid-salt fuel, fission product radioactivity reduction and residual heat release 9-26490
 charge and slope polarisation of nuclei, liquid drop model anal. 9-9543
 Chinese explosion 1977 Sept. 18, time distrib. and anal. fallout particles 9-25796
 consensus and subsidiary yields, integral meas. in standard neutron fields 9-13364
 decay heat calc. by summation method, appl. to FBR 9-30863
 decontamination by Purex solvent extraction process 9-36387
 deexcitation, statistical model anal. of spin effects 9-17941
 delayed fission product γ spectra following short neutron irradiation 9-9645
 EBR-II fission product control, cover-gas cleanup system and graphite trap 9-9791
 EBR-II primary system fission gas behaviour 9-9692
 fragment recoil mass spectrometer HIAWATHA 9-9940
 frictional effects on post-scission dynamics and fission fragment kinetic energies 9-36225
 gaseous fission product retention in fuel reprocessing 9-31153
 HTGR fission product release following LOCA 9-13457
 light ternary fission product charge distributions and fission probabilities 9-9643
 LMFBR, pin plenum fission gas release model to describe fission gas effects in voided channel 9-31042
 LMFBR core disruptive accident, fission gas bubble modelling 9-31043
 LWR fuel performance calcs., effect of Cs and I₂ release 9-31054
 LWR LOCA, fission product gamma-ray energy absorption in emergency cooling solns. 9-31052
 post-scission motion of fission fragments 9-26420
 prediction of fission-product mass yields and related parameters 9-30862
 pyrocarbon coated particles, influence of fast neutrons on transport behaviour of solid fission products (German) 9-13427
 review of recent progress, barrier crossing, static and dynamical aspects (French) 9-520
 solvent extraction kinetics 9-26685
 superheavy elements in Fe meteorites, fission rel. to trace element abundances 9-48742
 thermal and fast fission yields, meas. techniques and data status 9-9649
 volatile fission product atmospheric release from nuclear reactors and fuel reprocessing plants 9-34461
 volatile fission products from nuclear fuel cycle and power stations, pollution effects (Russian) 9-31152
¹³⁴Ba, A=134 to 138, 135, sensibility anal. of effect of key parameters of fission prod. conc. 9-30870
¹⁴¹Ba, gaseous fission products, β -decay energies 9-9519
¹⁴¹Br, A=85 to 89, total β -decay energies and atomic masses of neutron-rich isotopes 9-40889
¹⁴¹Ce, errors in activity ratio determ. in reactor RA used fuel element 9-41061
¹⁴⁴Ce/Pr, CANDU fuel, burnup determ. by γ -scanning 9-9825
²⁵²Cf, empirical limitations for spontaneous fission energy dissipation, fragment deformation 9-3188
²⁵²Cf fission fragment hard β -radiation 9-45306
²⁵²Cf spontaneous fission, prompt neutrons and fission fragments (Russian) 9-40976
²⁵²Cf spontaneous fission neutron spectrum meas. 9-9653
¹³⁵Cs, A=133 to 137, sensibility anal. of effect of key parameters of fission prod. conc. 9-30870
¹³⁷Cs, A=147, 148, T_{1/2} determ. 9-9524
¹³⁷Cs, error in activity ratio determ. in reactor RA used fuel element 9-41061
¹³⁷Cs, fractional independent yield from ²³⁸U photofission with bremsstrahlung 9-36283
¹³⁷Cs concentration determ. in LMFBR Na heat carrier 9-41043
¹³⁷Cs, errors in activity ratio determ. in reactor RA used fuel element 9-41061
¹³⁸Cs, independent isomeric yield ratio from spontaneous fission of ²⁵²Cf 9-22342
³He-Xe, nucl. pumped laser plasma, distrib. functions 9-36880
¹⁴¹La, A=127, 129, 130, 131, sensibility anal. of the effect of key parameters on fission prod. conc. 9-36290
¹⁴¹La, A=133, 135, sensibility anal. of effect of key parameters of fission prod. conc. 9-30870
¹²⁷(In, γ)¹²⁸In in fast reactors, effective cross sections calc., from expt. results (Dutch) 9-537
 Kr, fission gas atoms, diffusion into UO₂ 9-6746
 Kr, gaseous, continuous determ. of content in reactor loop 9-30905
²³¹Pa(n,f) sub-barrier fission, fragment mass and kinetic energy distrib. 9-17942
 Pd isotope cumulative yields, from fission of U and Pu 9-576
¹⁰⁷Pd fission product neutron capture and total cross-section obs. 9-9573
¹⁵⁰Pm, fractional independent yield from ²³⁸U photofission with bremsstrahlung 9-36283
²³⁹Pu, irradiated in BOR-60 reactor, fission yields 9-17971
²³⁹Pu thermal fission, prompt neutrons and fission fragments (Russian) 9-40976
²³⁹Pu(n,f), 0.1-1 MeV, light charged particle emission, saddle point states 9-22343
²³⁹Pu(n,f), thermal n, fission fragment energy correlation meas., fine struct. and deformation 9-13355
¹⁴⁰Rb, A=96 to 100, half-lives and neutron emission probabilities in neutron rich isotopes 9-17864
⁹⁰Rb, independent isomeric yield ratio from spontaneous fission of ²⁵²Cf 9-22342
 Ru isotope cumulative yields, from fission of U and Pu 9-576

fission products continued

- ¹⁰⁶Ru, errors in activity ratio determ. in reactor RA used fuel element 9-41061
¹²⁷Sb, sensibility anal. of the effect of key parameters on fission prod. conc. 9-36290
⁹⁰Si transmutation in fusion reactors 9-26559
 Sm decay chain expansion significance 9-9712
¹⁴¹Te, A=127m, 128, 129m, 130, 131m, 132, sensibility anal. of the effect of key parameters on fission prod. conc. 9-36290
²³³Th(n,f), 1.38 MeV, prediction of fission-product mass yields and related parameters 9-30862
 U-Ni dilute alloy fission product source design and use at EBR-II 9-9932
 UO_{2+x}, model of response of fission gas bubbles to dynamic behaviour of point defects 9-37735
¹⁴¹U(n,f) A=232 to 236, 238, prediction of fission-product mass yields and related parameters 9-30862
²³³U(d,pf), fission fragment energy-velocity correlation meas. 9-45309
²³⁵U fission fragments and fission neutrons, reliability of use in simulating neutron irradiation 9-42113
²³⁵U, irradiated in BOR-60 reactor, fission yields 9-17971
²³⁵U thermal fission product long-term activity meas. and calc. 9-9644
²³⁵U, thermal n induced ternary fission, α energy and ang. distrib. 9-22345
²³⁵U(n,f), thermal fission, fission product decay heat evaluation by least-squares method 9-30865
²³⁵U(n,f), thermal n, fission product isobaric charge distrib., parity effects 9-17791
²³⁵U(n,f), thermal n, fission fragment energy correlation meas., fine struct. and deformation 9-13355
²³⁵U(n,f) sub-barrier fission, fragment mass and kinetic energy distrib. 9-17942
²³⁵U(n_{th},f) nuclide yields, direct physical meas. 9-9641
²³⁶U fission, two parameter study, fragment mass and energy, thin film scintillators 9-13357
²³⁸U(γ, f), 12-70 MeV bremsstrahlung, cumulative and fractional product yields for A=128-136 9-36288
²³⁸U(p,f), 11.5 GeV, He and heavy fragment energy and ang. correlation 9-45310
 Xe banded fission gas, radial distrib. in mixed carbide fuel pins, electron probe anal. 9-36318
 Xe, gaseous, continuous determ. of content in reactor loop 9-30905
¹⁴¹Xe, A=128 to 132, 129m, 131m, 133m, sensibility anal. of the effect of key parameters on fission prod. conc. 9-36290
¹⁴¹Xe, A=133 to 136, sensibility anal. of effect of key parameters of fission prod. conc. 9-30870
¹³⁵Xe, control of space-time distrib. in reactors 9-36364
¹³⁵Xe, determ. of fission gas degassing constant from liquid Na to cover gas 9-41009
- fission reactor cooling and heat recovery**
see also cooling, fission reactor core control and monitoring
 axial momentum altered transverse transport in coolant flows during oscillatory instabilities 9-17964
 blowdown, fluid behaviour in pressure vessel (Japanese) 9-17999
 boiling, forced convection type, in uniformly heated vert. tube, generalised crit. heat flux correlation 9-27498
 boiling heat transfer during rewetting, one-dimens. cond. model 9-598
 boiling mixing studies in water loops, BWR, PWR reactors 9-26502
 boric acid management in VVER reactor power plants (Russian) 9-30896
 BWR, core flow fluctuations, noise source, expt. study 9-13386
 BWR, design and operation, review of water chemistry, in feed water, coolant and steam systems 9-36311
 BWR, radiochemical management, reactor cooling system, gamma spectroscopy of radionuclides 9-9731
 BWR, shutdown dose rate of primary cooling system, prediction by empirical formula 9-22408
 BWR bundles, countercurrent flow limitation correl. during LOCA 9-31057
 BWR channel stability, problem anal. 9-13387
 BWR coolant oscillatory flow perturbations, altered transverse momentum transport 9-608
 BWR power distribution analysis, three-dimensional calc. program 9-9674
 BWR power stations, operating record and reliability, reviews 9-22403
 BWR suppression pool, role of Taylor instability during vent cleaning 9-31046
 BWR with graphite channels, safety of nuclear power stations 9-26561
 BWR-4 neutron noise analysis spectra characterisation 9-13482
 CANDU nuclear power station safety, Atomic Energy Control Board guidelines 9-22425
 CANDU-PHW reactors, primary and secondary water chemistry, review 9-22382
 channel array with interconnections, finite-difference scheme 9-4012
 CIRENE, heavy water moderated BWR, LOCA simulation of recirculation circuit rupture 9-30949
 Clinch River Breeder Reactor primary coolant pipe chaseway neutron streaming analysis 9-9661
 composite prismatic bars, doubly connected cross section, heat flow shape factors, anal. determ. 9-1068
 convection with volumetric heat sources, fluid layer in spherical segment 9-614
 coolant circuits, fracture mech. appl. 9-43430
 cooling water chemical reagent pyrolytic acid, radiation effects (Russian) 9-43603
 Creys-Malville station, nuclear boiler studies and construction, Super Phenix 1 (French) 9-36301
 diversion cross-flow between two parallel channels communicating by a lateral slot 9-30901
 dryout in an SGHWR rod bundle, exptl. and calc. comparison 9-3192
 EBR-II primary system fission gas behaviour 9-9692
 EBR-II primary system piping evaluation for safety research modification 9-9785
 emergency reactor cooling, mathematical models and methods (Russian) 9-17975
 fast reactor coolant blockages, detection by temp. noise tech. 9-30899
 fast reactor fuel rods, burnup-dependent heat transfer from fuel to cladding 9-36323
 fast reactors, Na purification system for primary and secondary loops 9-45344

fission reactor cooling and heat recovery continued

- fast reactors employing dissociating N_2O_4 , thermophysical anal. (*Russian*) 9-30909
- FBR, experimental, math. model for control system design in FBR plants 9-17990
- FBR, thermal-hydraulic flow fields, stochastic processes 9-30991
- fluid-saturated porous layer with heat source, thermal convection onset 9-13406
- fuel assemblies in vertical flow channels, computer dynamic model 9-22379
- fuel element bundles, temp. field calc. 9-591
- fuel element centering system, flow through narrow sphere-cylinder channel 9-17962
- fuel elements, control rods, transient thermal stress anal. 9-599
- fuel pins with eccentric pellets, two-dimensional temp. profile calc. 9-9677
- gas-solid turbulent suspension flow, frictional pressure drop Prandtl's mixing-length anal. 9-14458
- gaseous fission products, continuous determ. of content in reactor loop 9-30905
- GCFR cores, heat transfer with He and Na coolants, review 9-45331
- generalized pressure drop correlation, in two-phase flow 9-9664
- heat exchanger tubes, US inspection by rotating search units method 9-9667
- heat generating fluids, one-dimens. flow, thermal unsteady regimes, nuclear reactor appl. 9-1179
- heat transfer finite difference computer programs 9-14221
- heat transfer from round-bottom pool with internal heat generation, expt., LMFBFR appl. 9-13470
- heat transfer tube failure propagation due to Na-water reaction in steam generator 9-6748
- heavy water production, Canadian experience 9-30929
- heterogeneous Gas Core Reactor power plants 9-9671
- HTGR multihole fuel, equivalent thermal conductivity calc. (*Japanese*) 9-45346
- HTGR piping, heat transfer characts. of horizontal annular insulation layer (*Japanese*) 9-26520
- in-core measuring system for VVER-440 and VVER-1000 type reactors 'INCORMER' (*Russian*) 9-30965
- inlet coolant temp. fluctuations transfer function, space-depend. global component 9-30887
- IRT-2M reactor with loop channels in active area, physical parameters (*Russian*) 9-31067
- Kohlestein insulation, influence of high axial press. gradients (*German*) 9-13414
- liquid metals, flow at high temperatures through circular pipes, connection mechanism (*Spanish*) 9-37315
- liquid Na, thermocouple transfer function and flow velocity meas. by temp. noise 9-13394
- LMFBFR, acoustic anal. from Na boiling tests using THORS bundle 6A 9-31033
- LMFBFR, calc. vs. exptl. temp. distrib. behind six-channel central blockage 9-31028
- LMFBFR, computer control system for Na test loops 9-26550
- LMFBFR, coolant thermodynamics and fluid dynamics (*Spanish*) 9-6726
- LMFBFR, detection of fuel assembly flow reduction in heterogeneous core 9-31032
- LMFBFR, liq. Na natural convection from vertical plate 9-3202
- LMFBFR, localised boiling in radial blanket due to hypothetical major pipe leak 9-22376
- LMFBFR, maximum wake temp. and Nusselt number behind blockages in Na-cooled bundles 9-31026
- LMFBFR, molten fuel coolant interaction (*Japanese*) 9-17997
- LMFBFR, Na coolant transient flow and heat transfer in outlet plenum 9-26472
- LMFBFR, Na incipient boiling under forced convection in seven pin bundle 9-22401
- LMFBFR, Na pump, multimode heat transfer, computer codes 9-610
- LMFBFR, Na-H₂O steam generator, calc. local heat fluxes in circular channels 9-36312
- LMFBFR, natural circulation decay heat removal 9-31010
- LMFBFR, once through boiling flow system, density wave instability 9-9666
- LMFBFR, pool-type, PLOOP code for primary loop coolant flow and heat transfer anal. 9-31012
- LMFBFR, red. of two-phase thermal cond. and heat transfer by entrained inert gases 9-30897
- LMFBFR, safety c.f. thermal reactors 9-26562
- LMFBFR, steam generator LOCA signalling by EM flowmeter (*Czech*) 9-6751
- LMFBFR, transient boiling of Na in 7-pin fuel bundle under loss-of-flow conditions 9-41007
- LMFBFR 1200 MW(e) performance rel. to core height reduction 9-9684
- LMFBFR 19-pin simulated fuel assembly, dynamic boiling tests 9-31029
- LMFBFR accident anal., noncondensible void fraction effect on freezing of flowing fluids 9-31013
- LMFBFR coolant flow monitoring by balanced outlet temp. signals 9-13393
- LMFBFR core design for Na void effect minimisation 9-9683
- LMFBFR core disruptive accidents, flow regime obs. in two-phase volume heated boiling pools 9-31014
- LMFBFR core orificing computer code 9-9681
- LMFBFR finite hexagonal bundles, laminar mixed-convection heat transfer 9-607
- LMFBFR fuel rod, hydraulic anal. of turbulent fluid flow by Galerkin method 9-30893
- LMFBFR fuel subassembly, approach for treating two-dimensional coolant boiling 9-31030
- LMFBFR fuel subassembly temp. noise prediction, Monte Carlo approach 9-13392
- LMFBFR Na-cooled 7-rod bundle acoustic and temp. noise obs. 9-13391
- LMFBFR pin bundle, model to correlate wake residence time meas. behind blockages 9-31027
- LMFBFR postulated core meltdown, onset of foam flow regime in volume heated boiling pool 9-31015
- LMFBFR primary heat transport pipe rupture and hydraulic response 9-9784
- LMFBFR primary pool, transient buoyancy induced flow stratification 9-612
- LMFBFR steam generator tube thermal oscillation obs. 9-9672

fission reactor cooling and heat recovery continued

- LMFBFR steam generators, leak detection of steam or water into sodium 9-13434
- LMFBFR subassembly local boiling detection by outlet temp. fluctuation analysis 9-13390
- LMFBFR subchannel coolant flow behind blockage, temp. noise obs. 9-13389
- LMFBFR thermal transients, impact of bypass flow 9-9680
- LMFBFR wire wrap spaced rod bundles, laminar, transition, and turbulent parallel flow press. drop 9-26478
- LMFBFR wire-wrapped subassemblies, Na boiling behaviour 9-31031
- LOCA, 3-dimens. flow with multiple interfaces 9-41024
- LOCA, extreme loads and associated safety aspects, review 9-22405
- LOCA, models for estimation of critical flow in two-phase systems 9-36361
- LOCA, transient flow boiling anal. method 9-26549
- LOFA, transient crit. heat flux, Freon 12 coolant 9-30954
- LWR, generalized theory for predicting mass effluence during reactor reflooding 9-36352
- LWR, stationary boiling front in liquid film cooling of a vertical heated rod 9-45341
- LWR emergency core cooling component experience data, defect anal. programme 9-18010
- LWR LOCA safety analysis, thermohydraulic phenomena, review (*German*) 9-13430
- LWR primary circuit component production, metallurgical aspects 9-36330
- MHD chemically reactive channel flow, effect of external circuit on dispersion of soluble matter 9-1267
- mobile He cooling loop system for post-accident heat removal expts. 9-13403
- molten fuel-coolant interaction, simulation experiment 9-17991
- molten metal-reactor coolant interaction, vapour film collapse expts. 9-13474
- Na loop safety facility expts., disassembly at HFEF/N 9-45444
- nuclear power stations, transport process models for dissociative cooling (*Russian*) 9-13410
- nuclear power stations, unsteady state processes for dissociative coolant (*Russian*) 9-13411
- once-through boiling flow system, density wave instability 9-22367
- PBHTR, primary coolant purification by Ti gettering (*German*) 9-3204
- PBR, LOCA, evaluation code NAKOGAS-1 9-13492
- PHENIX reactor exchanger, gas natural convection effect in annular spaces (*French*) 9-613
- pool swell dynamics during depressurization 9-30900
- pool-type reactor noise analysis and expt. 9-3195
- Prototype Large Breeder Reactor pool concept 9-9670
- PWR, coolant pump motors, max. freq. decay rate determ. 9-45337
- PWR, German, U-tube steam generators, inspection findings 9-9849
- PWR, heat transfer equations for boiler tubes (*Rumanian*) 9-3189
- PWR, LOCA, anal. of LOFT semiscale test (*Japanese*) 9-17998
- PWR, LOCA, cold leg break during blowdown, ROSA II study (*Japanese*) 9-6750
- PWR, rod bowed to contact departure from nucleate boiling tests in cold-wall thimble cell geometry 9-30892
- PWR, steam generators, design, subcooled and bulk boiling correls. 9-611
- PWR coolant system corrosion product composition and significance 9-9689
- PWR crud descriptive model 9-9691
- PWR differential rod worth and feedback coeff. online estimation system 9-9798
- PWR fuel assembly, thermohydrodynamic process, obs. 9-30902
- PWR fuel pin transient heat conduction and open hot channel DNBR evaluation 9-9679
- PWR LOCA, effects of downstream geometry on blowdown of subcooled liquid 9-31063
- PWR LOCA, high-pressure Freon blowdown studies with inlet break 9-36367
- PWR LOCA, ROSA-II severe hot leg break for core cooling during blowdown (*Japanese*) 9-9769
- PWR power plants, safety technical problems, core cooling (*Russian*) 9-31085
- PWR primary circuit, in-service inspection (*French*) 9-22385
- PWR primary circuit constituent materials, design features verification (*French*) 9-17976
- PWR primary coolant system, in-service inspection programs 9-22384
- radiochemical management, reactor cooling system, gamma spectra of radioactive I from direct fission 9-9732
- radiochemical management, reactor cooling system, rapid determ. of radioactive I contamination 9-9733
- reactor containment expts., Fourier transform anal. of transient condensation heat transfer coeff. 9-22410
- residual heat removal system, reliability calc., importance sampling and Monte Carlo advantages 9-606
- rewetting model using generalised boiling curve 9-9675
- rod bundle with helical spacers, air distrib. in water flow 9-30894
- rod cluster, recirculating flow due to blockage, finite difference method for temp. 9-3200
- small PWR containment complex and coolant system 9-13402
- spent fuel pool natural convection, multichannel analysis 9-9786
- steam generating channels, volumetric steam content determ. by slow neutron method 9-30903
- Stellite-6 in liquid Na, tribology 9-26525
- temperature dist. in cylindrical fuel pins with gap and cladding (*Italian*) 9-13397
- thermal mixer temp. fluctuation and pressure loss, scale model tests 9-9673
- Tokamak-driven hybrid breeder reactor, liquid metal coolant, MHD effects 9-17974
- transient temp. field in nuclear fuel rod, calc. by variational procedure 9-9772
- Trino power plant, in-service inspection and operating experience, main coolant circuit (*Italian*) 9-17992
- turbulent convective heat transfer from rough surfaces 9-27638
- two phase flow induced vibrations in fuel pin model 9-13388
- two-phase annular flow, multifluid modelling of adiabatic and boiling flows 9-1233
- vapour phase heat transfer in post critical heat flux region 9-9668
- volumetric steam content determ. by noncontact neutron sensor 9-30904

fission reactor cooling and heat recovery continued

- VVER-440 reactors, emergency operating conditions following main circulation pipe failure, computer-aided analysis 9-9823
- waste heat storage, convection onset in horizontal water layer, with max. density effects 9-46164
- water cooled and moderated reactors in Soviet Union nuclear power generation 9-642
- water depressurisation, early response 9-30908
- West German nuclear power plant liquid radioactive effluent control 9-13550
- wire-wrapped 61-rod bundle edge subchannel flow distrib. 9-9676
- WWER-1000 main cooling system solutions for different steam generators (*Russian*) 9-26480
- Na leakage in reactor steam generators, solution kinetics of solid NaOH in Na 9-36365
- ⁶⁰Co distribution in N₂O₄ condensate cooling circuit (*Russian*) 9-13491
- ³H formation in water cooled, water moderated reactors, role of nuclear reactions 9-17970
- ³H meter for Na coolant systems 9-9690
- ⁵⁴Mn distribution in N₂O₄ condensate cooling circuit (*Russian*) 9-13491
- N₂O₄ circular channel hydraulic resistance and heat transfer expts. (*Russian*) 9-14213
- N₂O₄ flow in axisymmetric channels, heat transfer calc. (*Russian*) 9-14214
- Na boiling acoustic emission burst detection in parasitic noise 9-3214
- Na boiling detection technique tests, FFTF capabilities 9-13395
- Na coolant, effect of high reactivity with air and water on reactor design (*French*) 9-26526
- Na cooled power reactor noise analysis for malfunction diagnosis 9-13450
- T buildup in D₂O of CANDU reactors, due to ³He(n,p)³H reaction 9-22389

fission reactor core control and monitoring

- see also *fission reactor safety; fission research reactors; nuclear engineering; nuclear reactor instrumentation*
- advanced control room design 9-45362
- advanced reactor cycles, total core analysis 9-9782
- anticipated transients without reactor scram and other safety devices for PWR and LWR 9-18002
- automatic reactor regulator and xenon oscillations 9-41015
- axial momentum altered transverse transport in coolant flows during oscillatory instabilities 9-17964
- Buffalo PULSTAR reactor refuelling 9-9793
- BWR, core flow fluctuations, noise source, expt. study 9-13386
- BWR, expt. reactor, design of control systems using Horowitz method 9-45338
- BWR, prediction model for shutdown margin reactivity 9-26476
- BWR, void reactivity feedback, space-time anal. 9-22414
- BWR control blade homogenization, influence on nodal coupling parameters 9-26563
- BWR control rod programming, heuristic and mathematical approaches 9-9779
- BWR island-design Pu recycle fuel assemblies, nuclear fuel performance meas. 9-30907
- BWR neutron noise source identification from existing instrumentation 9-13483
- BWR noise anal., identifiability of dynamics using autoregressive modelling 9-45340
- BWR nuclear plant nonlinear digital simulator, optimal digital control methods appl. 9-9826
- BWR power distribution analysis, three-dimensional calc. program 9-9674
- BWR power distribution changes, online prediction evaluation 9-9780
- BWR-4 neutron noise anal. of incore instrum. tube vibr. and impacting 9-36353
- BWR-4 neutron noise analysis spectra characterisation 9-13482
- Calvert Cliffs power manoeuvring control strategy 9-9863
- CANDU, optimum burnup distribution in a continuously fueled reactor 9-36305
- CANDU, Th-fueled, axial fuel management strategies 9-26586
- CANDU nuclear power station safety, Atomic Energy Control Board guidelines 9-22425
- CANDU plant DDC, dual redundant minicomputer system max. utilisation 9-36375
- CIRENE reactor control, two phase flow rods, BUANA and TICO-codes 9-17994
- CIRENE reactor power channel, fuel string dynamics and pressure tube fretting corrosion 9-30950
- Clinch River Breeder Reactor Project ex-vessel transfer machine design and development 9-9787
- continuous noisy signal analysis by autoregression time-series model 9-3209
- control rod reactivity meas. error analysis 9-9783
- core bowing history computer program 9-9688
- core hot spot temperature, probabilistic evaluation (*Japanese*) 9-13440
- core operating limit supervisory system stochastic simulation 9-630
- core physics parameter meas. uncertainty 9-9801
- core power distribution calc., FLAME33 nodal core accuracy 9-9703
- core protection and surveillance system 9-9811
- CRT man-machine communication system in nuclear power stations 9-45364
- development of maneuvering strategies using optimal control theory 9-30959
- dosimetry standards 9-9824
- Dounreay Fast Reactor surveillance, noise analysis development 9-3215
- dynamic measurements of a nuclear reactor using low-peak-factor excitation signals 9-36349
- EBR-II fission product control, cover-gas cleanup system and graphite trap 9-9791
- EBR-II primary system fission gas behaviour 9-9692
- EBR-II reactor shutdown system upgrading, safety features 9-9796
- ENDF/B-IV benchmark analyses with full spectrum three-dimensional Monte Carlo models 9-9701
- enrichment zoning and control rod programming for reactivity and power shape control 9-18003
- fast commercial reactor, hypothetical disruptive accidents in the core (*Spanish*) 9-45357
- fast pulse reactor ²³⁷Np/²³⁸U and ²³⁹Pu/²³⁷Np spectral index meas. and calc. 9-9804
- fast reactor boiling detection by noise analysis 9-13449

fission reactor core control and monitoring continued

- fast reactor core and shielding, performance calc. improvement by data adjustment 9-9698
- fast reactor dosimetry using zero-power facility ZEBRA 9-3219
- fast reactor neutron noise analysis, energy-dependent formalism 9-13489
- FBR, experimental, math. model for control system design in FBR plants 9-17990
- FBR, in-pile testing, nonprototypic effects due to fuel length and number of pins 9-30988
- FFTF core component measuring system 9-45446
- FFTF element measuring system 9-9729
- FFTF fuel element measuring system 9-45447
- FFTF Interim Examination & Maintenance cell equipment mock-up testing 9-9816
- fission product activity ratios in RA used fuel element, γ -ray spectroscopy 9-41061
- fission reaction rate standards and applications 9-9650
- FTR-type fuel motion in TREAT transient overpower test E6 9-36366
- fuel element centering system, flow through narrow sphere-cylinder channel 9-17962
- fuel management optimization, influence of poison management 9-26585
- fuel power detector for CANDU power reactors 9-41022
- FUGEN, 165 MWe prototype HW moderated BW cooled reactor, zero-power startup tests (*Japanese*) 9-26553
- full-range reactor power meas., pulsed ion chamber methodology 9-13480
- GCFR simulation central Doppler worth evaluation 9-9814
- heavy water production, Canadian experience 9-30929
- HFR test reactor, HIP-TEDDI code for neutron flux calcs. 9-3223
- Horowitz method of reactor control system design, BWR appl. 9-45338
- HTGR fuel elements, reactivity of multiplying systems determ., kinetic methods, pulsed neutron method 9-3220
- HWR dynamics modelling for digital control system design 9-9829
- in-core measuring system for VVER-440 and VVER-1000 type reactors 'INCORMER' (*Russian*) 9-30965
- in-reactor small high temp. ionisation chamber 9-18087
- in-reactor temp. meas. accuracy, thermometer construction effects 9-17969
- International Electrotechnical Commission standards for reactor instrumentation and controls 9-45366
- IRT-2M reactor with loop channels in active area, physical parameters (*Russian*) 9-31067
- KEMA Suspension Test Reactor neutron flux and Dodewaard BWR temp. noise 9-3193
- laser-based pin profilometry, noncontact gauging systems appl. 9-2745
- LMFBR, 300 MWe, ΔP_u , A=239, 240, 241, burnup characs. 3-D numerical anal. 9-2371
- LMFBR, alternative core disruption accidents 9-9774
- LMFBR, anisotropic diffusion effect on criticality of plate lattice fast assembly 9-26463
- LMFBR, computer control system for Na test loops 9-26550
- LMFBR, fuel motion diagnostics instrumentation, evaluation with PARKA 9-45360
- LMFBR, SNR-300, criticality prediction 9-40989
- LMFBR, transient boiling of Na in 7-pin fuel bundle under loss-of-flow conditions 9-41007
- LMFBR boiling acoustic detection sensitivity, PFR commissioning expts. 9-13452
- LMFBR coolant flow monitoring by balanced outlet temp. signals 9-13393
- LMFBR core compaction, nonuniform interassembly gap effects 9-9682
- LMFBR fuel pin power calibration prediction, transient correction factor analysis 9-9719
- LMFBR fuel pins, reactor illuminated, coded aperture imaging 9-30989
- LMFBR fuel rod, hydraulic anal. of turbulent fluid flow by Galerkin method 9-30893
- LMFBR inherent shutdown system, expts. and analyses 9-31041
- LMFBR Na vapour bubble collapse detection by acoustic emission 9-13451
- LMFBR PHENIX vibration-induced neutron noise obs. 9-13453
- LMFBR reactivity surveillance using ex-core detectors 9-9802
- LMFBR subassembly fault detection, microprocessor-based distributed system appl. (*Japanese*) 9-41002
- LMFBR surveillance technique development 9-13448
- loose parts monitoring, USA technology status and recommendations 9-623
- loose parts monitoring techniques and experience 9-3211
- LWR, generalized theory for predicting mass effluence during reactor refueling 9-36352
- LWR, optimum fuel loading and coastdown operation 9-30970
- LWR, power distrib. monitoring using gamma thermometers 9-45368
- LWR, stationary boiling front in liquid film cooling of a vertical heated rod 9-45341
- LWR fuel management decision analysis with fuel integrity prediction 9-9781
- LWR lattices of UO₂ and Gd₂O₃ rods, critical expt. 9-26474
- LWR steam explosion pressure buildup estimation 9-13473
- Maine Yankee reactor protection system setpoint calc. 9-13479
- malfunction detection by Dynamic Data System methodology 9-622
- molten salt breeder reactor, reactivity control capability of fuel-salt processing system 9-22399
- multicomponent noise signal decomposition 9-3210
- multiple fuel failure resolution with gas tagging, barycentric coordinate technique 9-13485
- multiplex systems, reliability, reliability with repair and availability 9-41012
- negative reactivity reactor expts. using controlled intensity neutron sources 9-17967
- neutron flux density distribution meas., azimuthal-axial, at fuel element surface (*Czech*) 9-36344
- neutron flux optimum control during nuclear station load following 9-9761
- neutron importance meas. by dynamic method in subcritical reactor core 9-17956
- neutron noise anal. techniques, unified theory 9-30886
- new load-follow strategy for improved return-to-power capability 9-9794
- nondestructive burnup meas. by incore and out-of-core methods 9-17987
- nuclear fuel management via fuel quality factor averaging 9-30943
- nuclear power plant performance improvement by Reactor Power Cutback System 9-9795
- nuclear reactor kinetics and control, book 9-26461

fission reactor core control and monitoring continued

one zone fast reactors, reactivity measurement by pulsed neutron method 9-45377
 online digital core protection calculator, thermal margin routine 9-9777
 online Reactor Noise, Vibration and Loose Parts Monitor 9-3212
 optimisation of spatial flux distrib. and Xe fluctuations by differential dynamic programming 9-45358
 plant information measures selection criteria nuclear reactor monitoring appl. 9-41006
 pool-type reactor noise analysis and expt. 9-3195
 power plant availability improvement by acoustic emission surveillance 9-3213
 power plant diagnostic instrumentation experience 9-3218
 power reactor noise analysis, nonlinear kinetics effects and new techniques 9-13454
 power reactor resonance determ. by rod-drop method, Fourier anal. 9-22407
 power spectral density signature analysis, statistical algorithm 9-624
 pressure vessel, Oconee nuclear station, surveillance capsule results 9-18019
 PURINAMA, PuO₂-fueled zero-energy fast reactor 9-40988
 PWR, core flux meas. by microprocessor based automatic flux mapping system 9-45359
 PWR, ex-core neutron detectors, calc. of spatial weighting func. 9-36351
 PWR, high-speed in-core fuel management system 9-30971
 PWR, improved load follow strategy for return-to-power capability 9-41010
 PWR, rod bowed to contact departure from nucleate boiling tests in cold-wall thimble cell geometry 9-30892
 PWR, rod ejection accident anal. by reactivity weighting method 9-22419
 PWR, sensor response monitoring, time series modelling 9-26659
 PWR, spatial Xe oscillation time-optimal control 9-628
 PWR and BWR hot channel factors, nuclear, thermohydraulic and technological factors (*Spanish*) 9-36336
 PWR control elements, Decontic control system appl. and features (*German*) 9-26548
 PWR core Doppler spatial weight factor 9-9713
 PWR core support barrel motion monitoring by ex-core detectors 9-13446
 PWR differential rod worth and feedback coeff. online estimation system 9-9798
 PWR in-core fuel management, nonequilib. fuel cycle for reload optimisation 9-30942
 PWR internal vibrations, neutron noise monitoring 9-13445
 PWR internals, vibration mode shape computation and expts. 9-13444
 PWR LOCA, ROSA-II severe hot leg break for core cooling during blow-down (*Japanese*) 9-9769
 PWR manoeuvring strategy optimisation 9-629
 PWR multisection ex-core detector spatial weighting functions 9-13481
 PWR neutron noise increase with operating time 9-13447
 PWR neutron noise meas. and modelling 9-13443
 PWR pin power peaking factor prediction 9-9714
 PWR power plant modelling and simulation 9-9828
 PWR power plant self-tuning control and simulation 9-9827
 PWR power unit, automatic control and meas. system design lines (*Russian*) 9-30964
 PWR reactor core barrel, vibrations, influence of boundary conditions and co-vibrating liquid obs., using model 9-36302
 PWR reactor with reactivity perturbations, accident anal., methodical approach (*Czech*) 9-22402
 reactivity determination, real time program 9-45379
 reactor noise analysis, Polish developments 9-3216
 reactor optimal shutdown problem algorithm by branch and bound method (*Japanese*) 9-36341
 reactor protection system, in-core power distribution synthesis from three-segment ex-core detectors 9-9865
 reflected reactors, two-group theory of noise, appl. to vibr. absorbers 9-26468
 reload core design optimisation 9-604
 rod response coeffs., end effect depend. 9-30888
 self-powered detectors, reactor in-core monitoring (*Slovak*) 9-31322
 self-powered detectors for incore monitoring 9-45367
 self-powered neutron and gamma-ray detectors, review 9-45558
 self-powered neutron detectors for incore meas., comparative performance 9-45369
 space craft thermionic reactors, reflector drum control mechanism, fuel and moderator 9-17988
 spatial control during nuclear station load cycling, multivariable control algorithm 9-13490
 spectral fine-structure effects on material and Doppler reactivity worths 9-26473
 subcritical reactivity determ., more direct method 9-9717
 Super Phenix core design and development, fuel assembly behaviour (*French*) 9-30889
 Super Phenix fuel fabrication for Creys-Malville station, core controls (*French*) 9-31089
 tagged assembly failure location analysis program 9-13486
 thermal benchmark lattice expts., quantitative consistency testing 9-9700
 transient temp. field in nuclear fuel rod, calc. by variational procedure 9-9772
 TREAT, fast neutron hodoscope perform. tests on 91-pin fuel bundle 9-41005
 TREAT fast-neutron hodoscope, time and mass resolution of fuel motion, data acquisition system 9-41003
 triaxial chamber use and experience at V.I. Lenin Leningrad nuclear power station 9-22377
 VVER, fuel burnup determ. by exact methods 9-41014
 VVER-440, role of IAEA (*Hungarian*) 9-13435
 water cooled and moderated reactors in Soviet Union nuclear power generation 9-642
 West German LWR primary system online surveillance 9-3217
 ZPPR-4 control rod worth meas. and calc. 9-9803
 ZPPR-5 Source Level Flux Monitor expt. analysis 9-9705
 B₂C-Al composite moderator rods, production and props. (*Russian*) 9-18006
 CANDU fuel, burnup determ. by γ -scanning of ¹⁴⁴Ce/Pr and ¹³⁴Cs/¹³⁷Cs 9-9825
²⁵²Cf shuttling source for nuclear fuel reactivity monitoring 9-9813
¹³⁷Cs distributions effects on γ -intensity in γ scan method for reactor fuel bundle (*Japanese*) 9-36342

fission reactor core control and monitoring continued

³H formation in water cooled, water moderated reactors, role of nuclear reactions 9-17970
 Na boiling detection technique tests, FFTF capabilities 9-13395
 Na cooled power reactor noise analysis for malfunction diagnosis 9-13450
²³⁷Np threshold detector, subthreshold phenomena effects on nondestructive assay of reactor fuel 9-22409
 PuO₂-UO₂, light water moderated lattices, critical expts. 9-6728
 Rh self-powered neutron detectors, reliability anal. 9-41078
 Th-PuO₂ kernels, effect of fuel particle size on power excursions, Doppler feedback mechanism 9-30911
 UO₂-water tightly-packed lattices, ENDF/B-IV data evaluation 9-9805
²³³UO₂/ThO₂ water-moderated lattice analysis with ENDF/B-IV data 9-9800
¹³⁵Xe, control of space-time distrib. in reactors 9-36364
¹³⁵Xe, determ. of fission gas degassing constant from liquid Na to cover gas 9-41009

fission reactor fuel

see also claddings; fission of plutonium; fission of uranium; fission reactor fuel preparation and reprocessing; isotope separation; radioactive waste
 1 GW(e) mixed fuel cycle LMFBR performance, effect of ²³³U in core 9-9868
 advanced FBR fuel, behaviour at high power density 9-30935
 advanced fuels, Xe retention, microprobe anal. meas. 9-40997
 advanced fuels programme carbide benchmark critical assembly, nuclear data sensitivity 9-9707
 advanced nuclear energy systems, emerging concepts, conf., Graz, Austria (March 1978) 9-13381
 assessments of nuclear systems and use of nuclear power, review 9-45334
 automatic surface flaw inspection of nuclear fuel pellets 9-30939
 BWR, transactinide buildup in nuclear fields, sensitivity anal. rel. to neutron flux and spectra (*Italian*) 9-45356
 BWR physics methods compared with ²³²Th lattice benchmarks 9-9711
 BWR with graphite channels, safety of nuclear power stations 9-26561
 CANDU, Pu-topped Th fuel cycle characts. 9-36322
 CANDU 600 MW, spent fuel bundle counter, safeguard design 9-13495
 CANDU fuel, 15 years' power reactor experience 9-30928
 carbide fuel element development advances, fast reactor appl. 9-31138
 carbide fuel pins, mixed, radial distrib. of Xe bonded fission gas, electron probe anal. 9-36318
 ceramic (*Polish*) 9-17985
 ceramic type (*Polish*) 9-22394
 ceramics, quantitative image anal. using light and SEM obs. 9-12912
 characteristic fuel element temps. calcs., statistical treatment of defects 9-45351
 Clinch River Breeder Reactor Project ex-vessel transfer machine design and development 9-9787
 Clinch River Breeder Reactor Project fuel core design advances 9-9686
 cluster tests in NSRR 9-22369
 commercial LMFBR spent fuel shipping system 9-9821
 conference, San Diego, Calif., USA (June 1978) 9-17972
 conference on nuclear power and fuel cycle, Salzburg, Austria, (May 77) 9-26503
 converter reactors, fuel supply enhancement by use of non-fission neutrons 9-17960
 critical arrays, effects of packaging materials 9-26567
 criticality safety broadgroup library validation using uranium systems 9-26564
 CRNL experimental fuel element postirradiation exam. hot cell facility 9-9749
 defect test loop remote handling system design 9-9730
 defective fuel rods, behaviour under continued reactor operation 9-30915
 defective fuel rods ultra sensitive detection with low core burn-up, method 9-45374
 denatured fuel cycles for international safeguards 9-41011
 denatured Th cycle in symbiotic systems, potential role 9-26484
 denatured Th fuel cycle evaluation 9-13421
 denatured Th fuel cycle safeguards against proliferation 9-13422
 DIMCO system for mechanical calculations on nuclear fuels (*Spanish*) 9-6727
 disposal, in vault, preliminary assessment of temp. distrib., model simulation 9-636
 dynamic materials accounting for LWR fuel cycle 9-36325
 EBR-II breached fuel element experience, safe reactor operation 9-9736
 fast breeder reactors, fuel rod behaviour, influence of design, materials and operation (*Spanish*) 9-36314
 fast power reactor fuel, physical characts., effect on fuel cycle (*Russian*) 9-30936
 fast power reactor fuels, physical props. and fuel cycle effects 9-31097
 fast reactor fuel development, safety considerations 9-26649
 fast reactors, programme and state of work in the Soviet Union 9-643
 FBR, fission product decay heat calc. by summation method 9-30863
 FBR current status and development trends, review 9-22374
 FFTF element measuring system 9-9729
 fissile fuel dynamics of breeder/converter reactors 9-13385
 fission gas behaviour in fuel pins prior to transient testing 9-30921
 fission product activity ratios in RA used fuel element, γ -ray spectroscopy 9-41061
 Fort St. Vrain HTGR power station, review of design and operation 9-45353
 FTR subassembly failure pattern under transient overpower accident 9-31006
 fuel adjustment clause for collecting nuclear fuel costs 9-31105
 fuel cycle options without Pu separation 9-26676
 fuel defect test loop, remote handling system design 9-45395
 fuel failure behaviour of unirradiated fuel rods under reactivity initiated accident conditions (*Japanese*) 9-30955
 fuel pin profilometry adaptation, cutoff saw 9-45452
 fuel rod deformation, precision in-reactor meas. techniques 9-26542
 fuel-coolant interactions, role of Rayleigh-Taylor flow instabilities 9-17983
 Fuels and Materials Examination Facility, design features and objectives 9-45448
 Fuels and Materials Examination Facility, equipment design and development 9-45449
 fusion-fission hybrid reactor, laser driven, fuel breeding and power prod. 9-22473
 fusion-fission hybrid reactor energy research program 9-22471

fission reactor fuel continued

fusion-fission hybrid reactor fuel cycle considerations 9-22474
 gas bubbles, nonequilibrium intragranular, role during transient heating of fuel 9-6740
 gas cooled reactor experience and programs in France, reviews 9-45332
 gaseous core reactor nonproliferation features 9-9740
 gaseous core reactor U plasma radiative temp. calc. 9-9807
 GCFR cermet cylindrical core swelling (*Russian*) 9-13425
 GCFR simulation central Doppler worth evaluation 9-9814
 heterogeneous Gas Core Reactor power plants 9-9671
 HFEF/N irradiated fuel element eddy-current exam., cladding performance 9-9750
 high power accelerators for spallation breeders of fissile materials (*Japanese*) 9-26517
 hot fuel examination, neutron radiography facility 9-9725
 hot fuel examination, sodium loop safety facility, loop disassembly system 9-9727
 hot fuel examination facility, air cell decontamination and refurbishment 9-9910
 hot fuel examination facility, air sampling system 9-13541
 hot fuel examination facility/north, equipment repair room modifications 9-9723
 hot fuel examination facility/north, wall feedthrough removal, portable glove box system 9-9724
 HTGR multihole fuel, equivalent thermal conductivity calc. (*Japanese*) 9-45346
 HTR, fuel temp. coeff. of k_{∞} , determ. by null reactivity oscillator method 9-30890
 HTR fuel spheres, ice cleavage and subsequent examinations 9-36319
 in-core molten fuel pool expt., heat flux and struct. ablation 9-13407
 in-reactor fuel-to-sheath heat transfer meas. 9-13408
 irradiated fuel rod NDT using encircling and probe eddy-current systems 9-9751
 irradiated fuel rods, computer-controlled gamma scanning 9-9753
 irradiated nuclear fuel, transport, packaging, UK experience 9-26782
 isotopic correlations in irradiated nuclear fuel, fissile material accounting 9-40994
 large-bundle LOCA expts., fuel rod ballooning probabilistic analysis 9-13462
 light water reactor fuel, Pu determ. by γ -ray spectrometry 9-11872
 LMFBR, CAMEL single-pin fuel sweepout test C2 9-30983
 LMFBR, Clinch River, material release for advanced fuels following hypothetical core disruptive accident 9-31065
 LMFBR, combined fuel and coolant motion under high-ramp transient overpower conditions 9-31003
 LMFBR, fuel motion diagnostics instrumentation, evaluation with PARKA 9-45360
 LMFBR, idealised equilibrium expansion of mixtures calc. for UO_2 vapour bubbles in Na 9-22390
 LMFBR, molten fuel coolant interaction (*Japanese*) 9-17997
 LMFBR, post-test anal. of transient overpower TREAT test R9 for BOL FFTF-type fuel 9-30985
 LMFBR, preirradiated mixed oxide fuel, EOS series of expts. in TREAT 9-30986
 LMFBR fuel failure dynamics, appl. of Larson-Miller parameter 9-31002
 LMFBR fuel pin power calibration prediction, transient correction factor analysis 9-9719
 LMFBR fuel pin transient behaviour, effect of shutdown cracks in TREAT tested pins 9-31001
 LMFBR fuel pins, computer anal. and control for nondestructive gamma scanning 9-9754
 LMFBR fuel storage facilities, criticality calcs. 9-26568
 LMFBR fuel subassembly temp. noise prediction, Monte Carlo approach 9-13392
 LMFBR fuelling requirements rel. to Pu isotopic composition, core design 9-9738
 LMFBR mixed oxide fuel pins, proposed mechanism for internal cladding corrosion 9-8384
 LMFBR performance of Th-based fuel cycles 9-9744
 low-enriched fuel particle performance review 9-13426
 LWR design modification for in-core Pu utilisation improvement 9-9709
 LWR fuel, performance and reliability 9-26540
 LWR fuel, power ramp failure propensity, exptl. investigations 9-26543
 LWR fuel design, Italian progress in manufacturing, testing and management 9-26539
 LWR fuel elements, behaviour under accident conditions 9-26545
 LWR fuel failure under reactivity initiated accident conditions, NSRR experiments (*Japanese*) 9-36340
 LWR fuel management decision analysis with fuel integrity prediction 9-9781
 LWR fuel performance calcs., effect of Cs and I_2 release 9-31054
 LWR fuel reliability, experience and future assessment, failure modes 9-26541
 LWR fuel safety, failure thresholds, NSRR programme 9-26595
 LWR lattices of UO_2 and Gd_2O_3 rods, critical expt. 9-26474
 LWR plant availability rel. to refuelling cycle duration 9-22440
 LWR Pu isotopics, Advanced Recycle Methodology Program calc. 9-9710
 LWR version of URANUS integral code for fuel rod mechanical calculations (*Spanish*) 9-36315
 meaningful chemical analysis for nuclear fuels and reactor materials (*Japanese*) 9-26519
 metallographic anal., quantitative, computer program, QMA 9-15951
 mixed oxide fuel pellets, close coupled X-ray anal. 9-11876
 mixed-oxide fuel, two-component gas transport within interconnected porosity 9-617
 modelling techniques, best-estimate calc. 9-17984
 molten fuel-coolant interaction, simulation experiment 9-17991
 multiple fuel failure resolution with gas tagging, barycentric coordinate technique 9-13485
 neutron radiography facility handling equipment 9-9726
 nondestructive assay, by ^{235}Np threshold detector, subthreshold phenomena effects 9-22409
 nondestructive burnup meas. by incore and out-of-core methods 9-17987
 nuclear fuel cycle, demand and supply estimates, U supply 9-26694
 nuclear fuel management via fuel quality factor averaging 9-30943
 nuclear fuel performance and radiation enhanced neutron diffusion (*Japanese*) 9-30914
 nuclear fuel standard materials, analytic chemistry of trace impurities, and standard sample preparation 9-26521

fission reactor fuel continued

nuclear material control for safeguard purposes in Czechoslovakia, anal. methods 9-26546
 nuclear raw materials prospecting, isotopic dating methods (*Russian*) 9-30925
 nuclear symbiosis, development of FBR and thermal spectrum near breeder reactors, review 9-45335
 optimum location of reactor fuel assemblies 9-17968
 oxide crust thermal stress effect in LMFBR accident 9-13471
 oxide fuel, solubility and migration of fission product Ba 9-19373
 oxide fuel response to simulated thermal transients 9-22391
 oxide fuels, in-pile densification by vacancy boil-off and vacancy knockout, model 9-8259
 Peach Bottom 1, HTGR nuclear power station, review of design and operation 9-45327
 pebble-bed HTR thermal breeding 9-9715
 periphography of fuel element surfaces 9-17512
 Phenix reactor, fuel behaviour and characts. (*French*) 9-31162
 pin diameter meas., sectioning cutoff saw adaptation 9-9748
 pins with eccentric pellets, two-dimensional temp. profile calc. 9-9677
 portable comprehensive irradiated-fuel inspection stand 9-9836
 PWR fuel dissolution, Idaho processing plant remote systems 9-45455
 PWR fuel pin transient heat conduction and open hot channel DNBR evaluation 9-9679
 PWR fuel rods, unirradiated and irradiated, pellet-cladding interaction phenomena 9-31053
 PWR fuel storage pool, safety calcs. and benchmarking 9-26565
 PWR in-core fuel management, nonequib. fuel cycle for reload optimisation 9-30942
 PWR spent fuel storage pools, graphic method for neutron multiplication factor comparison 9-26566
 pyrocarbon coated particles, influence of fast neutrons on transport behaviour of solid fission products (*German*) 9-13427
 radioactive materials, reactor fuel transport requirements, Poland 9-31232
 radioactive waste management, closed nuclear fuel cycle, W.Germany 9-619
 RBMK-1000 channel U-graphite reactor, fuel assembly and fuel element design 9-40991
 reprocessed nuclear fuel transportation 9-30918
 research activities in OECD Halden Reactor Project (*Japanese*) 9-30913
 resource potential, geochemical surveys of large areas in USA and Alaska 9-30924
 safeguarding on-power-fuelled reactors-instrumentation and techniques 9-26657
 scanning, Ge(Li) gamma spectroscopy, ANGEL computer program 9-9755
 SGHWR fuel performance, safety and reliability 9-36333
 simulated rods for HTGR, pre- and postirradiational thermal transport and thermal expansion 9-6742
 SNR fuel design, critical aspects from experimental evidence 9-30910
 space craft thermionic reactors, reflector drum control mechanism, fuel and moderator 9-17988
 spent fuel pool natural convection, multichannel analysis 9-9786
 spent fuel storage expansion planning, site preparation, and installation 9-9819
 spent nuclear fuel re-enrichment without reprocessing, calculation simulation 9-26660
 storage options compared, dry, shallow pool and deep pool 9-9843
 storage pool criticality calc., transport-consistent diffusion algorithm 9-9721
 Super Phenix core design and development, fuel assembly behaviour (*French*) 9-30889
 swelling, depend. of evolving cavity distrib. functions on cavity growth kinetics 9-3206
 temperature dist. in cylindrical fuel pins with gap and cladding (*Italian*) 9-13397
 thermal hydraulics, sensitivity theory development 9-17963
 Tokamak demonstration hybrid reactor, fissile fuel breeding and blanket power prod. 9-22470
 Tokamak fusion-fission breeder, blanket fuel selection 9-22468
 transient overpower accident, transient press. field of gas in MOX fuel porosity 9-36348
 TREAT, fast neutron hodoscope perform. tests on 91-pin fuel bundle 9-41005
 TREAT fast-neutron hodoscope, time and mass resolution of fuel motion, data acquisition system 9-41003
 Venezuelan research reactor reload fuel optimisation 9-9737
 VVER, fuel burnup determ. by exact methods 9-41014
 water reactor fuel, Federal Republic of Germany technology, development and experience 9-26703
 CANDU fuel, burnup determ. by γ -scanning of $^{144}\text{Ce}/\text{Pr}$ and $^{134}\text{Cs}/^{137}\text{Cs}$ 9-9825
 LMFBR, U-Pu-Zr fuelled breeding potential assessment 9-9685
 LMRBF, ^{235}U -Th fuelled pin diameter optimisation 9-9687
 Na pool fuel vapour and aerosol transport in HCDA 9-13455
 ^{23}Pa , calc. of critical mass and radius by three group diffusion theory 9-13419
 (Pu, UO_2), <5 wt.% PuO_2 , criticality data generated by SU-HAMMER 9-3198
 (Pu, UO_2) fuel rods, in island design BWR, performance meas. 9-30907
 Pu and radioactive waste management, Swedish approach 9-31075
 Pu fuel and fuel elements for fast and power reactors 9-616
 Pu, fume aerosols, aerodynamic and dissolution behaviour of laser-ignited droplets 9-13438
 Pu, hazards and nuclear fuel reprocessing 9-45387
 Pu, mixed oxide fuels, development status, Japan 9-31130
 Pu oxide fuels, recycling in thermal reactors and fast breeders 9-31129
 Pu, power reactor fuel and fuel elements (*Russian*) 9-30933
 Pu, recycle facilities in Forum countries, status and prospects 9-31131
 Pu, recycle fuel experience in LWR in West Germany 9-30932
 Pu, recycle options in USA, benefit/cost anal. 9-31132
 Pu, safe working, safety measures 9-41040
 Pu use, present status and prospects, use in fast and breeder reactors 9-26533
 Pu, utilisation in fast breeder and light water reactors, Italy 9-30931
 Pu, utilisation in thermal and fast reactors in Japan 9-26534
 Pu, utilization in reactors (*French*) 9-30930
 Pu-containing fuel, safety training program 9-18053
 $\text{PuO}_2\text{-UO}_2$, actinide redistribution in the outer regions of mixed-oxide fuel 9-36321

fission reactor fuel continued

- PuO₂-UO₂, light water moderated lattices, critical expts. 9-6728
 PuO₂-UO₂ mixed oxide fuel, plutonia particle behavior during sintering in Ar-H₂ (8%) atmosphere 9-8258
²⁴⁰Pu, A=239, 240, 241, LMFBR 300 MWe, burnup characts. 3-D numerical anal. 9-22371
²³⁹Pu aerosol, characterisation inside safety enclosures of mixed oxide fuel fabrication facility 9-13501
²³⁹Pu, criticality of thin flat foils versus spherical shells, two-group diffusion anal. 9-26530
²³⁹Pu, irradiated in BOR-60 reactor, fission yields 9-17971
²³⁹Pu production in fusion-fission hybrid reactor, mirror confinement, fuel design consideration 9-22472
²⁴⁰Pu resonance capture in reactor cell codes, parametric description 9-13384
²⁴¹Pu (n, f), 0.02-7.4 MeV, fission cross section ratio to ²³⁵U 9-45313
²⁴¹Pu, multilevel resonance parameters for 0.01 to 100 eV neutrons 9-36154
²⁴¹Pu(n, f) 1 keV to 30 MeV neutrons, cross section meas. rel. to ²³⁵U 9-36286
 SiC coated fuel particles, failure during thermal excursion above 2000°C 9-36317
 Th cycle, potential use in PWRs, parametric anal. 9-26467
 Th fuel cycle and technology 9-31114
 Th fuel cycle performance in CANDU reactors and LMFBR 9-9742
 Th fuel cycle role in thermal and fast reactors 9-13420
 Th fuel cycles in power reactors, anal. of waste hazards 9-30941
 Th fueled CANDU, axial fuel management strategies 9-26586
 Th fuelled FBR performance characteristics 9-9815
 Th, HTGR fuel, French, fabrication, irradiation performance (French) 9-30934
 Th use in LMFBR blankets 9-9743
 Th/²³⁵U fuel cycle in FBR and thermal converters 9-9745
 Th-²³⁵U cycle, in molten-salt reactor, efficient fuel utilization without Pu separation 9-26499
 Th-PuO₂ kernels, effect of fuel particle size on power excursions, Doppler feedback mechanism 9-30911
 (U,Pu)O₂, close coupled O-to-metal ratio anal., rapid thermogravimetric method 9-11878
 (U,Pu)O_{2-x}, chemical diffusion of O (French) 9-42300
 (U,Pu)O_{2+x}, O chemical diffusion coeff. 9-10977
 (U,Pu)O_{2+x}, solid state transport as mechanism of O thermomigration 9-19395
 U and Th, resources and prospecting techniques and equipment development in India 9-30923
 U, deposit distribution patterns and formation investigation (Russian) 9-30926
 U, enrichment, Italian activities 9-31126
 U, enrichment, separation nozzle process 9-31124
 U, enrichment by gas centrifuge, Japan 9-31123
 U, enrichment by gaseous diffusion process (French) 9-31120
 U, enrichment by gaseous diffusion, Japan, research and development, economic evaluation 9-31121
 U, enrichment processes in France (French) 9-31127
 U, exploration and evaluation techniques for ore bodies 9-26536
 U, exploration in Australia, Alligator Rivers Uranium Province 9-30922
 U, exploration in Egypt, exploration under arid conditions 9-26538
 U, fuel for HWR, radiation stability (Russian) 9-13424
 U, HTGR fuel, French, fabrication, irradiation performance (French) 9-30934
 U, isotope separation, new processes 9-31128
 U, low-enriched, appl. of Rasching Ring Standard 9-26528
 α-U, martensitic behaviour 9-29058
 α-U, mech. behaviour, strain rate influence, 300 to 550°C 9-38907
 U, modern prospecting techniques evaluation, Athabaska sandstone deposits 9-26537
 U ore treatment plants and techniques (French) 9-26699
 U, reactor fuel supply, exploration and production capacities, review 9-22388
 U removal from P₂O₅ in Spain, pilot plants (Spanish) 9-30927
 U requirements for advanced fuel cycles in nuclear power systems 9-18027
 U resource utilisation and antiproliferation reactor concept 9-9735
 U sphere, enriched, water-reflected, critical measurements 9-26569
 U, supply and demand for reactor fuel, industrial and commercial considerations 9-26535
 U, supply situation in the Federal Republic of Germany 9-30916
 U-Nb (4.5 wt.%), correlation between oxidation and stress corrosion cracking 9-20253
 U-Ni dilute alloy fission product source design and use at EBR-II 9-9932
 (U-Pu)O₂ interaction with stainless steel cladding, corrosion products, electron microprobe anal. 9-26524
 (U-Th)C fueled reactor system, large plant, performance parameters 9-26500
 UBC, crystallographic relationship with CrB, α-MoB, ThBC 9-42025
 UC-UN, in equilibrium with UC₂ and/or C, relationship between N₂ pressure and composition, phase relationships 9-43223
 UF₆-He circulating gas critical expts. 9-13488
 UH₃ critical mass calc. by Monte Carlo methods as function of ²³⁸U enrichment 9-36320
 UN form. by UO₂ reaction with C in NH₃ and N₂-H₂ mixture 9-47914
 UN, lattice parameters determ. by X-ray diff. 9-19212
 UO₂ and UC drops, fragmentation on entering Na pool in LMFBR 9-3225
 UO₂, dense solid reactor fuel particle preparation by sol-gel technique 9-31136
 UO₂, diffusion of Kr and Xe fission gas atoms 9-6746
 UO₂ dynamic vaporisation, rate effects rel. to fast reactor safety anal. 9-31034
 UO₂ effective eqn.-of-state meas. to determ. vapour pressure, rel. to LMFBR safety 9-31036
 UO₂, electronic contribution to thermodynamics, sp. ht. 9-7699
 UO₂, fine grained, low-stress creep study, metallographic obs. 9-43312
 UO₂, fragmentation gas thermodynamics 9-13458
 UO₂ fuel, fission product gas emission measurement 9-17980
 UO₂ in UO₂-PuO₂, fast reactor fuel pins, Cs interaction 9-6743
 UO₂, interconnected grain edge porosity 9-17979
 UO₂, irradiated, grain edge porosity growth 9-19285
 UO₂, liq., splashed on Na, no evidence of entrapment 9-41000
 UO₂, liquid, eqn. of state 9-14910

fission reactor fuel continued

- UO₂, liquid, surface tension 9-7733
 UO₂ microspheres, prep. from UO₃ (NH₃)₂, exam. of mech. and physical preps. 9-6758
 UO₂, modified Ashby's computer method for constructing sintering diagrams 9-43165
 UO₂, molten, fragmentation in flowing Na under TOP accident conditions 9-30978
 UO₂, neutron and electron irradiated, imperfect dislocation loops (French) 9-7606
 UO₂, neutron irradiated, thermal recovery of defects 9-45348
 UO₂, non-stoichiometric, oxidation reactions and dopants 9-42087
 UO₂, O diffusion during UO₂-Zircaloy interaction 9-10986
 UO₂ powders, sintering characterisation 9-43189
 UO₂ rate-dependent heat capacity, rel. to fast reactor safety 9-31035
 UO₂, relative growth rates of fission-gas bubbles on grain faces 9-6739
 UO₂, single crystals, nucl. neutron diff. intensity meas. analysis, extinction 9-27957
 UO₂ sintering, effect of impurity 9-33962
 UO₂ sintering, thermal anal., hexavalent uranium xerogel drying, thermal treatment modelling (Czech) 9-36378
 UO₂, solid state diffusion of Pu 9-7711
 UO₂, superplastic creep 9-15730
 UO₂, surface energy (German) 9-7742
 UO₂, vapour press. meas. up to 500K, critical point data prediction, present state of art 9-45347
 UO₂, Y₂O₃ stabilised, O self diffusion 9-28135
 UO₂-PO₂, swelling in mixed-oxide fuel pins 9-22393
 UO₂-PuO₂, effects of stoichiometry on cladding attack 9-26523
 UO₂-PuO₂, reaction with Zircaloy-2 9-17982
 UO₂-PuO₂ fast reactor fuel rods, burnup-dependent heat transfer from fuel to cladding 9-36323
 UO₂-PuO₂ powder compacts, homogenization kinetics study by X-ray diff. technique 9-37883
 UO₂-Zr fuel performance evaluation in power ramp tests 9-26544
 UO_{2+x} dissolution in MgO, shell model calcs. of enthalpy, computer program for formation energies 9-42251
 UO_{2+x}, model of response of fission gas bubbles to dynamic behaviour of point defects 9-37735
 U₃O₈-Al cermet fuel for research reactors 9-9835
 U₃O_{8-x}, therm. cond. from 200 to 750K using scanning temp. method 9-37886
 U₃Pu_{1-x}O₂, theoretical study of electronic thermodynamic and valence props. 9-37655
 US-UC-UC₂ system, potential nuclear fuels, phase solid soln. studies, prep. and props. exam. 9-40996
²⁴¹U, A=235, 238, fission and activation by fusion plasma neutrons 9-13521
²³³U enriched fuel for PWR 9-26513
²³³U fissile fuel FBR physics parameters 9-9722
²³³U-²³²Th fuel cycle alternatives to LMFBR 9-9741
²³³UO₂/ThO₂ water-moderated lattice analysis with ENDF/B-IV data 9-9800
²³⁵U (n, f), 0.02-7.4 MeV, fission cross section ratio to ²³⁵U 9-45313
²³⁵U, irradiated in BOR-60 reactor, fission yields 9-17971
²³⁵U isotope separation, laser photochemistry appl., LASL developments 9-31719
²³⁵U thermal fission product long-term activity meas. and calc. 9-9644
²³⁵U-Al castings in water, pulsed reactivity meas., Monte Carlo anal. 9-26522
²³⁵U-Al castings in water moderated lattices, pulsed reactivity meas. 9-26529
²³⁵U(n, f), 1 keV to 30 MeV neutrons, cross section meas. rel. to ²⁴¹Pu 9-36286
²³⁸U Doppler effect obs. in advanced fuels critical assemblies 9-9739
 U(n, f), 1 to 7 MeV, ratio of ²³⁸U and ²³⁵U cross sections 9-30867
 U(n, f) fission cross section ratio of ²³⁵U to ²³⁸U for 0.1 to 25 MeV neutrons 9-36285

fission reactor fuel preparation and reprocessing

- see also isotope separation; radioactive waste
 accelerator-driven reactor fuel cycle 9-26678
 actinide elements, solvent extraction by triallylammonium nitrate carboxylic acid mixtures 9-22444
 actinide removal for reprocessing wastes by solubilisation and solvent extraction 9-36384
 actinide transmutation in fission reactors 9-26584
 advanced converter reactors with proliferation-resistant single fuel cycle 9-41026
 asymmetric separation processes, two types of ideal cascade 9-36377
 Barnwell nuclear fuel reprocessing plant, remote sampling and on-line anal. system 9-13511
 behaviour of coated fuel particles and spherical fuel elements in accident temperatures (German) 9-3228
 breeder reactor spent-fuel shipping cask design 9-9834
 BWR, fuel cycle cost sensitivity anal. 9-31104
 BWR spent fuel cask handling problems and solns. 9-9799
 CANDU—Canadian experience and expectations with the heavy-water reactor 9-26593
 CANDU reactor, Pu-topped Th cycle characts. 9-31101
 CANDU Th advanced fuel cycle, accelerator breeder concept 9-45393
 carbide fuel element development advances, fast reactor appl. 9-31138
 chemical analysis, appls., conf., Gatlinburg, USA (Oct. 1977) 9-9847
 chemical technology development in nuclear power generation fuel cycle factories 9-31096
 Civex, a diversion resistant nuclear fuel cycle, historical developments 9-9832
 Civex, flow diagram for diversion resistant nuclear fuel cycle 9-9833
 CMEA reactor development, fuel cycle aspects (Russian) 9-26505
 commercial LMFBR fuel handling and storage system 9-9845
 concrete canister spent fuel storage facility, conceptual design study 9-45378
 conference, San Diego, Calif., USA (June 1978) 9-17972
 conference on nuclear engineering remote systems technology, San Francisco, USA (Nov.-Dec. 1977) 9-45438
 conference on nuclear power and fuel cycle, Salzburg, Austria, (May 77) 9-26503
 conference on nuclear power and its fuel cycle, Salzburg, Austria (May 1977) 9-26504
 coprocessing, chemical reprocessing without Pu separation, technical feasibility 9-18023

fission reactor fuel preparation and reprocessing continued

criticality analysis of dry fuel in ANO-2 fuel storage pool 9-26672
 criticality control and long-term storage of spent fuel 9-26712
 criticality safety, fault tree logic anal. of violations 9-22445
 crossed progeny and other non-standard fuel cycles 9-26498
 denatured fuel cycles for international safeguards 9-41011
 drum storage capacity computation via inventory model 9-9776
 dynamic materials accounting for LWR fuel cycle 9-36325
 economic indices improvement for LWR power stations and fuel cycles (Russian) 9-26744
 EEC Commission, role in nuclear fuel industry (French) 9-31117
 effluent monitoring programme design and organisation principles 9-13548
 energy analysis of nuclear power plants and their fuel cycle 9-26746
 energy extraction without reprocessing to separate Pu, alternative methods 9-26675
 enrichment by centrifuge, Urenco/Centec project 9-31122
 Exxon nuclear fuel recovery and recycling center, safety analysis 9-36389
 Exxon nuclear fuel recovery and recycling center facility description 9-36388
 Exxon nuclear fuel recovery centre, maintenance philosophy 9-45459
 fast power reactor fuel, physical characts., effect on fuel cycle (Russian) 9-30936
 fast power reactor fuels, physical props. and fuel cycle effects 9-31097
 fast reactor, denatured fuel, symbiotic system 9-26682
 fast reactor fuel cycle, safety considerations 9-36396
 fast reactor fuel cycle cost, sensitivity anal. 9-26501
 fast reactor fuel design and development 9-31133
 fast reactor fuel recovery, basic problems (Russian) 9-31144
 fast reactor fuel reprocessing, French technology (French) 9-31146
 fast reactor fuel reprocessing, UK experience 9-31145
 FBR, Clinch River, design and fabrication of ex-vessel storage tank 9-30973
 FBR, role in nuclear nonproliferation environment 9-26681
 FBR, status and programme in UK, out-of-pile fuel cycle 9-26736
 FBR/Civex diversion resistant nuclear fuel cycle 9-9831
 FFTF fuel element measuring system 9-45447
 fissionable isotopes, in aq. soln., pulsed neutron interrogation method assay 9-11874
 fissionable material, assay by neutron methods in presence of fission products 9-13513
 fluoride-volatility processes, form. of Ru compounds 9-31090
 fluoride-volatility processes, separation of Ru from PuF₄ 9-31091
 Forum member countries, nuclear power programme financial aspects 9-26697
 fuel cycle, industrial integration, Argentina (Spanish) 9-31154
 fuel cycle, radioactive material release, cost/benefit anal. 9-26605
 fuel cycle and material international safeguards, current technical issues 9-26714
 fuel cycle and nuclear power plant development in USSR, economic aspects 9-644
 fuel cycle and radioactivity, regulatory control in Canada 9-26620
 fuel cycle back-end services, utility optimization model 9-30906
 fuel cycle cost sensitivity to data uncertainties, interactive graphic computation 9-9837
 fuel cycle evaluation in Korea (Korean) 9-6757
 fuel cycle facilities, advantages of on-site facilities 9-31118
 fuel cycle options without Pu separation 9-26676
 fuel cycle plants, radioactive discharges, limits 9-26779
 fuel cycle services, international cooperation 9-31116
 fuel design, manufacture and development in France (French) 9-26705
 fuel fabrication and reprocessing plants, Pu neutron emission checks (French) 9-26720
 fuel industry minimum size, India's integrated planning 9-26704
 fuel irradiation, German-Brazilian co-operation 9-31155
 fuel reprocessing and waste treatment at Karlsruhe nuclear research centre 9-31143
 fuel reprocessing in India 9-31142
 fuel reprocessing plant safety aspects 9-26708
 fuel reprocessing streams, remote anal. techniques 9-13510
 fuel storage basin water, chloride ion removal 9-30975
 fusion-fission reactors, performance parameters, design and fuel cycle anal. 9-17973
 fusion-triggered fusion pellets design, review 9-13519
 gas centrifuges, shock-induced pressure recovery at high Mach number rotation 9-22480
 gaseous fission product retention in fuel reprocessing 9-31153
 gaseous isotope separation by supersonic acceleration 9-22482
 gaseous waste, adsorptive removal of rare gases 9-31094
 German nuclear fuel cycle centre 9-31109
 German Waste Management Centre, technical project design phase status (German) 9-13432
 HFEF/N, equipment repair room modifications 9-45439
 high level waste reprocessing, management in France (French) 9-26598
 high power accelerators for spallation breeders of fissile materials (Japanese) 9-26517
 high-burnup fuel reprocessing, hot cell facilities and techniques 9-9841
 high-speed slitter for irradiated stainless-steel tubing 9-45450
 hot cell facilities and techniques, Karlsruhe 9-45458
 HTGR, electrolytic feed adjustment for separation of Np, Pu (German) 9-3229
 HTGR, LMFBR fuel reprocessing technology, USA 9-31148
 HTGR, solids handling and fluidised-bed combustion techniques development, pilot plant 9-45397
 HTGR fuel, French, fabrication, irradiation, performance (French) 9-30934
 HTGR fuel and fuel cycle technology 9-31134
 HTGR fuel cycle, reprocessing technology, West Germany 9-31147
 HTGR fuel reprocessing, high-level solid waste, long term isolation from environment 9-26576
 HTGR fuel reprocessing off gases, simulated, efficiency of CO₂ removal 9-26577
 HTGR reprocessing plant off-gas streams, ⁸⁵Kr removal 9-30972
 HTR, pebble bed, once-through cycles 9-31100
 in-line monitors for fuel reprocessing plant 9-13509
 Iodex process for iodine removal from air with hyperazeotropic nitric acid 9-31107
 irradiated CANDU fuel, long-term storage under water 9-41020
 irradiated fuel rods, storage options, comparisons 9-45383
 irradiated fuel sipping, inspection and repair 9-9844
 irradiated nuclear fuel storage, waste management implications 9-31079

fission reactor fuel preparation and reprocessing continued

Italian nuclear power programme, fuel cycle industry development 9-31069
 Japanese reactor fuel reprocessing plant remote maintenance 9-9840
 JUPITER experimental facility, engineering aspects of chemical process components 9-36379
 lanthanides (III), extraction with di-isodecyl phosphoric acid from HNO₃ soln. 9-22398
 large scale nuclear facilities and reprocessing plants, international safeguards 9-26715
 large-scale fuel cycle centres, USA 9-31150
 laser appl. to reprocessing 9-31719
 laser beam appl., LASL developments 9-31719
 laser-fission-fusion systems, coupled nuclear-thermohydrodynamic anal. 9-13520
 liquid waste handling facilities for LWR fuel reprocessing plant 9-36390
 LMFBR, fuel handling and storage system 9-45394
 LMFBR, spent fuel shipping system 9-45385
 LMFBR safety and fuel cycle, accident anal. 9-26650
 LMFBR spent fuel coprocessing to ameliorate proliferation and waste management problems 9-26677
 low-decontamination approach to proliferation-resistant fuel cycle 9-26679
 low-enriched fuel particle performance review 9-13426
 LWR, fuel enrichment by linear accelerator 9-13497
 LWR, optimum fuel loading and coastdown operation 9-30970
 LWR, system inception and fuel cycle in France (French) 9-26689
 LWR fuel, partial partitioning of U and Pu by coprocessing solvent extraction 9-36382
 LWR fuel cycle, past and future in the Federal Republic of Germany 9-26688
 LWR fuel cycle costs, future trends, waste disposal and reprocessing 9-26696
 LWR fuel design, Italian progress in manufacturing, testing and management 9-26539
 LWR fuel fabrication plant, Japanese national safeguards system 9-26717
 LWR fuel reprocessing and mixed oxide fuel fabrication plant safety 9-26710
 LWR spent fuel coprocessing to ameliorate proliferation and waste management problems 9-26677
 LWR-HWR tandem fuel flow concept 9-26496
 mass diffusion cascade, effectiveness increase using asymmetric schemes for combining stages 9-45392
 materials accounting and control system 9-13507
 materials testing reactors, low enriched fuel cycle 9-31095
 mixed oxide fuel fabrication plant, operating conditions, general description 9-41028
 moderation control, risks and benefits evaluation 9-26671
 molten salt breeder reactor, reactivity control capability of fuel-salt processing system 9-22399
 MX-type fuel and fuel pin swelling, 1973-76, fabrication and characterisation 9-41001
 national energy programme of USA, nuclear power, fuel enrichment and waste disposal 9-26686
 non-destructive assay technology and automated 'real-time' materials control 9-26721
 nuclear energy centres, power development, economic and ecological problems, USSR (Russian) 9-31149
 nuclear energy synergistics, characts. of integrated systems 9-13382
 nuclear fuel cycle, demand and supply estimates, U supply 9-26694
 nuclear fuel cycle facilities in USSR, nuclear material control and accounting (Russian) 9-26718
 nuclear fuel cycle safeguards techniques development and appl. in European Community 9-26719
 nuclear fuel cycles, U enrichment and nonproliferation safeguards (French) 9-26698
 Nuclear Fuel Recovery & Recycling Center maintenance design criteria 9-9842
 nuclear fuel technology project, implementation, Rumania 9-31156
 nuclear material transport, West Germany, status future aspects 9-31234
 nuclear materials, nondestructive assay instruments for DYMAC program 9-11875
 nuclear power in Czechoslovakia, review (Czech) 9-31157
 nuclear power plant spent fuel element reprocessing, basic problems (Russian) 9-26692
 nuclear power programme, Philippines, prospects, problems 9-31175
 nuclear power project management, book 9-30875
 nuclear safeguards, anal. chem. in nucl. fuel reprocessing 9-13505
 nuclear safety aspects at power and fuel cycle plants in USSR (Russian) 9-26709
 nuclear waste disposal, geological aspects 9-9759
 Peach Bottom 1, HTGR nuclear power station, review of design and operation 9-45327
 pilot reprocessing plants, Italian experience 9-31140
 PNC Pu fuel and reprocessing facilities, safety aspects 9-26711
 power plant fuel management, fuel cycle and in-core management 9-26702
 power reactor design and fuel cycles, COMECON members' collaboration 9-603
 power reactor fuel cycles, Pu, Th and U evaluation 9-26706
 power reactor fuel manufacture, technological aspects 9-640
 power reactors, fuel preparation, technological aspects (Russian) 9-31137
 process control in fuel reprocessing, destructive and nondestructive physical testing appls. 9-13512
 proliferation and Pu recycling, effects of future nuclear power 9-18021
 proliferation resistant fuel cycle based on low decontamination approach 9-18022
 Purex process, adaptation of centrifuge technology to active conditions 9-26684
 Purex solvent extraction process for fuel recovery and recycling 9-36387
 PWR, economics of fuel cycle options 9-31102
 PWR, planned cycle stretchout 9-31103
 PWR, Point Beach Nuclear Plant, spent fuel storage modification 9-30974
 PWR and BWR systems and fuel cycle in USA 9-26687
 PWR fuel dissolution, Idaho processing plant remote systems 9-45455
 PWR fuel storage, criticality eval. of low-density moderation 9-26667
 PWR refuelling fuel shuffle scheduling 9-9866
 quality control in nuclear fuel reprocessing and refabrication 9-13506

fission reactor fuel preparation and reprocessing continued

- radioactive effluent discharges, European Community, 1972-76, radiological aspects 9-41019
 radioactive particulates in gaseous effluents at nuclear fuel reprocessing facility 9-9848
 radioactive waste, final disposal possibilities, waste conditioning, storage and safety, review 9-26554
 radioactive waste, reprocessing, solidification vitrification of liquid waste, review 9-9762
 radioactive waste in fuel cycle (*Japanese*) 9-9766
 Rapsodie fast reactor, closed fuel cycle (*French*) 9-31161
 reactor fuel cycles and proliferation, resource conservation and waste management (*German*) 9-13500
 recycle facility, utility ownership 9-31099
 regional fuel cycle centres for South and South-East Asia 9-31151
 regional nuclear fuel cycle centres. IAEA study project 9-31119
 remote handling experience, Windscale 9-45456
 remote systems and maintenance, Japanese reprocessing plant 9-45457
 reprocessed nuclear fuel transportation 9-30918
 reprocessing, status and prospects 9-26693
 reprocessing deferment policy anal., Pu recycle and nuclear proliferation 9-26680
 reprocessing plant for spent fuel, construction experience, Japan 9-31141
 reprocessing plant off-gas, abatement techniques, control of ^{128}I , ^{85}Kr , ^{14}C , T 9-3221
 reprocessing plant safety and protection anal. (*French*) 9-26713
 reprocessing plants, design, construction, operation, maintenance (*French*) 9-31139
 reprocessing technology, research and development, review 9-26662
 risk analysis of the fuel cycle in the Netherlands 9-26624
 ROVER fuel, nondestructive anal. using isotopic source assay system 9-11873
 safeguard application to Italian nuclear power plants and fuel cycle 9-26716
 South African isotope enrichment project, development and progress 9-31125
 spent fuel disposal in Germany (*German, English*) 9-9771
 spent fuel element reprocessing, fundamental problems 9-26665
 spent fuel integrity in water pool storage 9-30976
 spent fuel storage expansion, planning, site preparation, installation considerations 9-45381
 spent fuel storage facilities, design and operational characts. 9-36355
 spent fuel storage in water pools, technology assessment 9-36357
 spent fuel storage racks, design, safety calcs. and benchmarking 9-22416
 spent nuclear fuel re-enrichment without reprocessing, calculation simulation 9-26660
 spent THTR fuel, in-line and off-line destructive chem. anal. 9-13508
 subsurface storage of commercial spent nuclear fuel 9-36356
 Super Phenix fuel fabrication for Creys-Malville station, core controls (*French*) 9-31089
 thermal reactor stations in USSR, fuel reprocessing and waste disposal (*Russian*) 9-26592
 thorium sol-gel processes 9-13503
 UK reactor fuel reprocessing plant remote handling experience 9-9839
 underground solidified high-level radioactive waste retrieval system development 9-9818
 USA nuclear policy, fuel supply, fuel cycle services 9-31115
 VHTR fuel research, status in Japan 9-31135
 vitrified waste, effects of post-devitrification leaching rel. to microstruct. 9-22417
 volatile fission product atmospheric release from nuclear reactors and fuel reprocessing plants 9-34461
 volatile fission products from nuclear fuel cycle and power stations, pollution effects (*Russian*) 9-31152
 VVER, proposals for increasing power station efficiency 9-26491
 waste management in the Federal Republic of Germany. A survey of policy and research and development 9-26599
 waste management problem (*German*) 9-13499
 water reactor fuel, Federal Republic of Germany technology, development and experience 9-26703
 water reactor fuel, reprocessing, waste disposal 9-36395
 wiped-film evaporators for evaporating alkaline light water reactor radioactive wastes 9-36391
 $^{14}\text{CO}_2$ meas. in Karlsruhe Reprocessing Plant exhaust air 9-3231
 ^{129}I and organic compound determ. in LWR irradiated fuel solns. (*French*) 9-3230
 ^{85}Kr absorption in liquid CO_2 (KALC process), mass transfer efficiencies of packed columns 9-36354
 Pu aerosols, charge distribution, from mixed-oxide reactor fuel fabrication lab. 9-5181
 Pu, analysis, in fuel fabrication facility 9-16115
 Pu and radioactive waste management, Swedish approach 9-31075
 Pu computerised inventory control system 9-36386
 Pu, fuel and fuel elements for fast and power reactors 9-616
 Pu, hazards and nuclear fuel reprocessing 9-45387
 Pu, mixed oxide fuels, development status, Japan 9-31130
 Pu oxide fuels, recycling in thermal reactors and fast breeders 9-31129
 Pu, power reactor fuel and fuel elements (*Russian*) 9-30933
 Pu, recycle facilities in Foratom countries, status and prospects 9-31131
 Pu, recycle options in USA, benefit/cost anal. 9-31132
 Pu recycle programme fuel cycles with reduced proliferation characteristics, review 9-18024
 Pu recycling, influence on US future nuclear power developments 9-36394
 Pu recycling in LWR 9-45391
 Pu, recycling in mixed oxide fuel for LWR 9-36385
 Pu recycling in PWR reactors, VVER-440 reactor operation (*Czech*) 9-31093
 Pu, safe working, safety measures 9-41040
 Pu, unmoderated, criticality safety practices for handling in glove boxes 9-26669
 Pu, utilisation in thermal and fast reactors in Japan 9-26534
 PuO_2 storage unit, design 9-41027
 Pu(VI) reduction to Pu(IV) with NO_2 and NO gases 9-31108
 ^{238}Pu fuel form facility, Savannah River 9-45396
 ^{238}Pu fuel form facility at Savannah River Plant 9-9846
 ^{238}Pu aerosol, characterisation inside safety enclosures of mixed oxide fuel fabrication facility 9-13501
 ^{238}Pu , fissile fuel preparation by spallation of ^{238}U (*Russian*) 9-22441
 ^{239}Pu in organic media, survey of criticality parameters 9-26670
 Ru, hazards and control in nuclear fuel cycle, review 9-36392

fission reactor fuel preparation and reprocessing continued

- SiC pyrolytic coatings for HTGR fuel particles, props. rel. to deposition conditions 9-31088
 $(\text{Th,U})\text{O}_2$ recycled fuel elements, composition calc. 9-13504
 Th, fuel cycle, utilisation in light and heavy water reactors 9-26690
 Th fuel cycle and technology 9-31114
 Th, fuel cycle in water moderated reactor systems 9-26691
 Th nuclear fuel element reprocessing, avoidance of third phase (*German*) 9-6756
 Th reprocessing by Thorex solvent extraction process at Savannah River Plant 9-36381
 Th-containing nuclear fuel, reprocessing, proliferation-resistant fuel cycles (*German*) 9-639
 ^{232}Th , assay in phosphate containing materials by solvent extraction-liquid scintillation method 9-22447
 ^{232}Th cycle, review of low cost fuel cycles using two separate fuels 9-45389
 ^{232}Th enrichment by linear accelerator for LWR 9-13497
 ^{232}Th enrichment by proton accelerator 9-13498
 ^{232}Th utilisation in reactor fuel cycles, review 9-45390
 U and fission products, solvent extraction kinetics 9-26685
 U, assay in phosphate-containing materials by solvent extraction-liquid scintillation method 9-22447
 U, enrichment, Italian activities 9-31126
 U enrichment, jet membrane process 9-26683
 U enrichment, layout of gas centrifuge cascades 9-26587
 U enrichment, random-walk model of holdup time of gas mols. in separation process 9-22481
 U, enrichment, separation nozzle process 9-31124
 U enrichment, US 1978 policy and future recommendations 9-36393
 U, enrichment by gas centrifuge, Japan 9-31123
 U, enrichment by gaseous diffusion, Japan, research and development, economic evaluation 9-31121
 U, enrichment by gaseous diffusion process (*French*) 9-31120
 U, enrichment processes in France (*French*) 9-31127
 U, enrichment services availability 9-26695
 U, extraction from natural water (*Russian*) 9-31112
 U extraction from sea water in Japan 9-31113
 U extraction process for systems, with 2 extractable macrocomponents, graphical calc. 9-31098
 U fuel, reprocessing of highly active fast reactor fuel 9-26666
 U, isotope separation, new processes 9-31128
 U isotope separation in countercurrent vortex tube, energy consumption (*German*) 9-27099
 U, isotope separation in $\text{Fe}^{3+}(\text{III})$ water-glycerine solution-U(IV) cationic resin 9-41025
 U isotope separation using ion exchange chromatography, U(IV)-U(VI) exchange isotope effects 9-36376
 U kernels preparation by external gelation process 9-26663
 U, mass analysis for accountability in nucl. fuel processing 9-16112
 U, milling waste management in USA 9-31077
 U, mining and milling radioactive waste management N.Australia 9-31076
 U, Mo and V, complex recovery from sedimentary ores 9-26701
 U ore processing by filtration-free sorption method 9-26664
 U ore processing using nonfiltration sorption method (*Russian*) 9-31110
 U ore treatment plants and techniques (*French*) 9-26699
 U, poor ore radiometric enrichment, plant flow scheme (*Russian*) 9-26700
 U production from low grade Swedish shale 9-31111
 U requirements for advanced fuel cycles in nuclear power systems 9-18027
 U, separation, gas centrifuge 9-3227
 UC_2 -PuCn, re fabricated fuel for breeder reactor, C determ. 9-11877
 UF_6 centrifuge cascade, power supply loss accidents anal. 9-13502
 UF_6 vapor release in postulated accident 9-22442
 U(IV) photochem. prod. for use as reductant for Pu(IV) 9-36383
 UO_2 , dense solid reactor fuel particle preparation by sol-gel technique 9-31136
 UO_2 , effect of H_2O vapour during sintering by sol-gel process (*Czech*) 9-31092
 UO_2 microspheres, prep. from $\text{UO}_3(\text{NH}_3)_2$, exam. of mech. and physical preps. 9-6758
 UO_2 particle preparation by deposition on a fluidised bed 9-26707
 UO_2 pellet storage facility, large dry, criticality eval. 9-26668
 UO_2 powders, cond. between sintering and agglomeration phenomena 9-9830
 UO_2 rods, 2.35 wt.% ^{235}U enriched, in water with fixed neutron poisons, critical separation between subcritical clusters 9-26673
 UO_2 rods, 2.35 wt.% ^{235}U enriched, in water with fixed neutron poisons, benchmark calcs. for subcritical clusters 9-26674
 UO_2 sintered dense spheres from sol-gel technique intermediate products, characterisation (*Czech*) 9-22443
 UO_2 sintering, thermal anal., hexavalent uranium xerogel drying, thermal treatment modelling (*Czech*) 9-36378
 U_2O_8 -Al cermet fuel for research reactors 9-9835
 $\text{UO}_2(\text{NO}_3)_2$ highly enriched solns., benchmark critical expt. calc. study, KENO-IV code 9-18026
 $\text{UO}_2(\text{NO}_3)_2$ highly enriched solution systems, benchmark critical expts. 9-18025
 US-UC- UC_2 system, potential nuclear fuels, phase solid soln. studies, prep. and props. exam. 9-40996
 ^{235}U , fissile fuel preparation by spallation of ^{232}Th (*Russian*) 9-22441
 ^{235}U , production by ^{232}Th cycle, review 9-45388
 ^{235}U enrichment, separation nozzle process 9-31106
 ^{235}U enrichment by chemical exchange process (*Japanese*) 9-26661
 ^{235}U , low enriched, use of borosilicate glass Raschig rings 9-22446
 ^{235}U -Al castings in water, pulsed reactivity meas., Monte Carlo anal. 9-26522
 ^{238}U enrichment by linear accelerator for LWR 9-13497
 ^{238}U enrichment by proton accelerator 9-13498
 Zr, PWR fuel dissolution process remote maintenance cell 9-9838
 Zr-Nb (1 at.%) fuel element shells, high-temp. nitriding effects 9-24668

fission reactor instrumentation see *nuclear reactor instrumentation*

fission reactor materials

see also *claddings; fission reactor fuel; fusion reactor materials; materials handling; moderators; radioactive waste*
 actinide waste burning in laser fusion driven hybrid reactor 9-22421
 advanced nuclear energy systems, emerging concepts, conf., Graz, Austria (March 1978) 9-13381

fission reactor materials continued

- alloy, solid soln. strengthening, HTR appl. 9-15688
 amine process for heavy water, design 9-615
 behaviour during RBMK reactors start up and shutdown, investigation 9-9822
 BOR-60 reactor shim-rod sockets, Kh18N9 steel neutron irradiation 9-46716
 borosilicate glass Raschig rings, appl. to low enriched ^{235}U fuels 9-22446
 breeder reactor, with circulating liquid-salt fuel, fission product radioactivity reduction and residual heat release 9-26490
 burnup anal., depletion perturbation theory for coupled neutron-nuclide field 9-45339
 BWR LOCA, numerical simulation of hydrodynamic impact loads on cylinders 9-36350
 BWR piping cracks, relation between crack and stress 9-40995
 BWR power stations, operating record and reliability, reviews 9-22403
 BWR with graphite channels, safety of nuclear power stations 9-26561
 CANDU-PHW reactors, primary and secondary water chemistry, review 9-22382
 Caorso BWR power station, structural acceptance tests of primary containment (*Italian*) 9-30951
 ceramics utilization in nuclear industry, current status and future trends, review 9-45349
 chemical thermodynamic data of fission product compounds in irradiated nucl. fuels (*Japanese*) 9-22387
 CIRENE reactor power channel, fuel string dynamics and pressure tube fretting corrosion 9-30950
 component reliability, non-destructive testing and flaw evaluation (*French*) 9-24711
 component-support impact dynamics, elastic anal. by model expansion method 9-45343
 computer assisted accountancy and control system (*German*) 9-13415
 concrete, gamma-ray buildup factors, Tchebycheff-fitted Berger coeffs. 9-31226
 concrete reactor vessels, behaviour of perforated slabs under temp. and external load 9-30917
 conference, San Diego, Calif., USA (June 1978) 9-17972
 crack propaga., fracture, and ductile-brittle transition (*Spanish*) 9-36316
 creep, cyclic plasticity, recovery, unified approach to interaction prediction 9-8329
 criticality calculations, random geometry model of fissile solns. containing borates Raschig rings 9-36310
 cylinders, eigenload formulation of thermoelastic stress 9-46213
 cylindrical rods, anal. of self-equilibrating end stresses by Lanczos-Chebyshev method 9-46212
 data acquisition shelf monitor system for special nuclear material real-time inventory 9-45426
 Dragon HTR project, review 9-45326
 dynamic materials accounting for LWR fuel cycle 9-36325
 EBR-II preparation for breached-element operation, safety concerns 9-9792
 elastic-plastic struct. cyclic thermomech. loading 9-7299
 elastomer compound O-rings for service in hot water, evaluation 9-29257
 fast reactor ceramic fuel-steel system, freezing of flowing liquid in melting tube, simulation expt. 9-30981
 fast reactor peripheral fuel element shells, radiational swelling circumferential nonuniformity 9-19289
 fast reactor safety, Na boiling expts. (*Italian*) 9-9764
 fast reactors Na cooled, core component material irradiation induced void swelling and creep, technological consequences summary 9-36327
 FFTF Fuels & Materials Examination Facility design features and objectives 9-9746
 FFTF Fuels & Materials Examination Facility equipment design and development 9-9747
 flow-induced vibration anal. of nuclear reactor components 9-22380
 Fort St. Vrain HTGR power station, review of design and operation 9-45353
 fuel cladding tube deformation monitoring, photodiode image scanning technique 9-30938
 fuel cycle and material international safeguards, current technical issues 9-26714
 fuel pin claddings, fission gas driven creep calcs. 9-26531
 fuel pin profilometry adaptation, cutoff saw 9-45452
 fuel pin tubes, obtaining material properties from the ring compression test 9-47755
 fuel-coolant interactions, role of Rayleigh-Taylor flow instabilities 9-17983
 Fuels and Materials Examination Facility, design features and objectives 9-45448
 Fuels and Materials Examination Facility, equipment design and development 9-45449
 fusion-fission hybrids, mag. mirror blankets and drivers 9-13517
 gas cooled reactors, background and status in UK, review 9-45333
 gas core reactor, high temp., wall stabilisation, possible use of graphite 9-3190
 graphite, heat strength calc. for power reactors 9-36331
 graphite, material properties, neutron irradiation effects, model 9-10880
 graphite, nuclear, change in ratio of thermal expansion coeffs. at elevated temps. 9-42283
 graphite, pyrolytic C coating within pores 9-41035
 graphite, radiational size stability, effect of technological factors 9-26527
 graphite, reactor material, ultrasonic nondestructive testing (*Japanese*) 9-43520
 graphite, stress and strain determ. depend. of mech. characts. on temp. and fluence 9-40998
 graphitic reactor materials, determ. of macro and mesoporosity by stereometric anal. (*German*) 9-3205
 Hastelloy-X, carburization and carburisation in high press. He environment (*Japanese*) 9-26516
 Hastelloy-X, electron irradiation, void swelling 9-14822
 heavy water, process simulation of production plants 9-22396
 heavy water prod. plants, Girdler-Sulphide process, developments 9-22397
 heavy water production, Canadian experience 9-30929
 HFEF, irradiated fuel examination by eddy currents 9-45461
 HTBFR, constitutive equations of structural austenitic steels 9-6730
 HTGR piping, heat transfer characts. of horizontal annular insulation layer (*Japanese*) 9-26520
 HTR, failure processes, life prediction, elevated temp. codes 9-6745
 HTR components, design implications of inelastic structural anal. 9-6729

fission reactor materials continued

- HTR primary component materials, properties, advantages, and limitations 9-36329
 Incoloy 800, chem. behaviour and mech. performance in HTR He at high temps. 9-47842
 Incoloy 800, contamination and decontamination of samples from KFA experimental duct of DRAGON reactor 9-45600
 Incoloy 800, corrosion and carburization in liquid Na up to 973K 9-47841
 Incoloy 800, corrosion resist. props. in high temp. steam, review 9-47839
 Incoloy 800, creep and fatigue props. in high temp. gas cooled reactor He environment 9-47776
 Incoloy 800, design codes and lifetime prediction aspects for nuclear and non nuclear apps. 9-47778
 Incoloy 800, design problems in steam generators of high temp. reactors 9-45352
 Incoloy 800, from KFA experimental duct at 700°C and 480 d in DRAGON reactor, mech. props. before and after contamination 9-47777
 Incoloy 800, high temp. corrosion and mech. props. in Na environment 9-47840
 Incoloy 800, mechanical props., heat treatment and appl., conf., Petten, Netherlands (March 1978) 9-43296
 Inconel 625, surface treatment of plane and hollow components in glow discharges 9-1923
 Inconel-718, blistering by 2 MeV He^+ ions, optical microscopy and SEM obs. 9-42119
 inelastic structural anal., thermomech. constitutive eqns. 9-6731
 inspection by acoustic emission (*German*) 9-45373
 irradiated fuel rods, examination by eddy currents 9-45464
 irradiated fuel sipping, inspection, and repair at Point Beach Nuclear Plant 9-45384
 liquid radioactive waste, treatment system at CAMEN (*Italian*) 9-30952
 LMFBR, Na incipient boiling under forced convection in seven pin bundle 9-22401
 LMFBR, post-accident containment, high-temp. behaviour of concrete 9-31000
 LMFBR, red. of two-phase thermal cond. and heat transfer by entrained inert gases 9-30897
 LMFBR, safety c.f. thermal reactors 9-26562
 LMFBR, transient boiling of Na in 7-pin fuel bundle under loss-of-flow conditions 9-41007
 LMFBR accident, large scale Na/concrete reactions 9-30999
 LMFBR materials, electron transport method, expt. verification, energy deposition 9-22386
 LMFBR slow overpower transient, simplified computing method for cladding and fuel strain 9-31005
 LWHR, source driven, Li-free neutron sources, feasibility and comparisons 9-13383
 LWR, press. vessel and piping design, plasticity-related damage prevention 9-6735
 LWR lattices of UO_2 and Gd_2O_3 rods, critical expt. 9-26474
 LWR primary circuit component production, metallurgical aspects 9-36330
 LWR steam explosion triggering expts. with oxidised Corium-E simulants 9-13472
 meaningful chemical analysis for nuclear fuels and reactor materials (*Japanese*) 9-26519
 metals, He behaviour 9-17981
 metals, irradiated, general rate theory model of void swelling 9-23655
 metals, vacancy porosity kinetics at high irradiation doses of fast neutrons 9-28018
 multiaxial creep-fatigue damage, determ. of strain range 9-7650
 MX-type fuel and fuel pin swelling, 1973-76, fabrication and characterisation 9-41001
 neutron and heavy ion damage correlation, predicted temp. shift on swelling with radiation dose rate change 9-7630
 neutron radiography at HFEE/N 9-45442
 Nimonic PE16, Ni ion irradiated, Ni segregation to voids 9-28020
 Nimonic PE 13, mass spectrometric study, high temp. reactor system appl. 9-43663
 non-destructive assay technology and automated 'real-time' materials control 9-26721
 nuclear energy synergetics, characts. of integrated systems 9-13382
 nuclear materials management, design of minicomputer system 9-22395
 Peach Bottom 1, HTGR nuclear power station, review of design and operation 9-45327
 piping components, fracture mech. methods, safety anal. 9-11698
 piping components, safety anal., fracture mechanics methods 9-11699
 piping fracture testing, impact loading (*Japanese*) 9-43373
 plastics, applications in nuclear power industry 9-6744
 power conference, Lausanne, Switzerland (Oct. 1977) 9-36326
 pressure vessel, Oconee nuclear station, surveillance capsule results 9-18019
 pressure vessel brittle fracture, safeguards, American and German ductility requirements (*German*) 9-41017
 pressure vessel components reliability, conf. Vienna, Austria, 1977 9-17986
 pressure vessel reliability, sensitivity to material and other factors 9-18018
 pressure vessels, pre-stressed concrete, historical review 9-601
 pressure vessels, use of prestressed cast steel for HTGR (*German*) 9-3196
 prestressed concrete reactor vessels, construction movements, finite element anal. 9-621
 PWR, availability of pressure vessel after small LOCA 9-30967
 PWR, spatial Xe oscillation time-optimal control 9-628
 PWR power stations, operating record and reliability, reviews 9-22404
 PWR pressure vessel nozzle, comparison of 3-D and axisymm. finite element anal. 9-13423
 pyrocarbon, low temp., isotropic, permeability study (*French*) 9-7549
 pyrocarbon coatings on HTGR fuel particles, Bacon anisotropy factors meas. technique 9-13418
 radiational swelling of fast reactor materials modelling by inert gas ion irradiation 9-40999
 radioactive waste, final disposal possibilities, waste conditioning, storage and safety, review 9-26554
 reactor protection system performance, impact of ageing mechanism 9-18000
 reactor radiation damage, neutron metrology for irradiation parameters 9-46717

fission reactor materials continued

safeguard systems effectiveness, SNAP network analysis technique 9-26658
 seawater distillation, heavy water concentration, numerical model calc. 9-26514
 seismic response of flexible cylindrical liquid storage tanks 9-31241
 SIPA irradiation creep, material with preferred direction for dislocation Burgers vector, cold worked 9-20118
 solid analysis by secondary ion mass spectroscopy 9-30602
 special nuclear materials, computer-based in-plant nondestructive assay instrumentation 9-9752
 stainless steel, cladding void swelling obs. by HV electron microscope (Japanese) 9-42108
 stainless steel, He production by neutron effects, cross section determ. 9-22282
 steam generator tubes with dented and wastage configurations 9-36332
 steel, API 5LX-X60, pipe fatigue strength under cyclic internal pressure, inner surface defects 9-38980
 steel, austenitic, ASTM A533B and A542, H₂ embrittlement behavior of unirrad. steels for nuclear reactor press. vessels 9-8340
 steel, austenitic, cold worked, derivation of simple void-swelling equation 9-7631
 steel, austenitic, Ni-Cr, precipitation strengthened, anelasticity, plastic creep limit, 823K 9-1899
 steel, austenitic, stainless, life prediction of high temp. low cycle fatigue, strain rate effect 9-8360
 steel, austenitic, type 316, void swelling, role of bulk point-defect recombination 9-42105
 steel, austenitic AISI 310, creep damage and rupture 9-20127
 steel, austenitic stainless, AISI 316, irradiation effects on phase stability 9-11566
 steel, austenitic stainless, cladding, stress-corrosion cracking 9-20293
 steel, austenitic stainless, DIN 1.4970, influence of He on high temp. mech. props. 9-7636
 steel, austenitic stainless, effect of irradiation and other factors on fatigue crack propagation 9-20194
 steel, austenitic stainless, effect of Soviet BR-5 reactor operating conditions on vacancy porosity 9-32990
 steel, austenitic stainless, electron transmission microscopy, microstructural zones (Spanish) 9-39059
 steel, austenitic stainless, HVEM irradiation, point defect trapping influence on void swelling 9-23652
 steel, austenitic stainless, postirradiation mechanical props. of honeycomb spacer grids 9-36324
 steel, austenitic stainless, type FV 548, 20% cold worked irradiated with 22 MeV C²⁺ ions or 46 MeV Ni⁶⁺ ions, study of void swelling 9-37744
 steel, austenitic stainless in liq. Na, mechanical props., review 9-20150
 steel, austenitic stainless oxide film morphology, irradiation effects in N₂O₄ (Russian) 9-33209
 steel, C-Mn-V and Cr-Mo-V, fracture toughness and fatigue characts. 9-20192
 steel, Cr-Mo, high-temp. props. and constitutive equations 9-34146
 steel, Cr-Mo (2.25, 1 wt.%), annealed, tertiary creep behaviour 9-43326
 steel, development for FBR, low swelling and creep at high neutron fluxes 9-22374
 steel, for pressure component, fracture charact., implications for reliability 9-20199
 steel, low alloy, reactor pressure vessel, effect of Mn and C content on irradiation response 9-20196
 steel, metallurgical stability and corrosion in He atmos., HTR appl. 9-36329
 steel, Mn (1.10 to 1.55 wt.%), reactor vessel material, assessment of weld heat affected zone mech. props. 9-29217
 steel, Mn-Ni-Mo, PWR pressure vessel, irradiation induced embrittlement, chemical composition effect (French) 9-20195
 steel, Mn-V and Cr-Mo, for pressure vessels, hydrogen embrittlement evaluation (Czech) 9-38950
 steel, neutron irradiated press. vessel material, small angle neutron scattering meas. 9-13428
 steel, pressure vessel, fracture toughness at elevated temps. 9-20193
 steel, prestrained pressure vessel, dynamic toughness characts., expt. correlations 9-15783
 steel, PWR pressure components, mechanical factors affecting reliability (French) 9-20198
 steel, role of ASTM in providing standards 9-22435
 steel, stainless, 304, beam, elastic-plastic response to impulse loads 9-34118
 steel, stainless, 304, thermal fatigue and strength estimation, creep fatigue interaction 9-11708
 steel, stainless, boiling water reactor, corrosion and oxidation potentials monitoring 9-20252
 steel, stainless, carbonisation and carburisation in high press. He environment (Japanese) 9-26516
 steel, stainless, Cr-Ni-Nb stabilised, Te vapour effect on creep and tensile props. 9-24583
 steel, stainless, diffusion bonding in presence of Fe intermediate layer 9-10987
 steel, stainless, dose rate and cascade collapse effects on swelling 9-23656
 steel, stainless, irradiated, vacancy loop effect on swelling 9-14852
 steel, stainless, solution treated, irradiated to low doses with 22 MeV C²⁺ and 46.5 MeV Ni⁶⁺ ions, interstitial loops 9-14855
 steel, stainless, type 304, description of deformation induced plastic anisotropy 9-43268
 steel, stainless, type 304L, neutron irradiated, TEM study of ferrite formation 9-42112
 steel, stainless, type 316, blistering by 2 MeV He⁺ ions, optical microscopy and SEM obs. 9-42119
 steel, stainless, type 316, neutron irradiated, ferrite formation, study by mag. meas. and TEM 9-37742
 steel, stainless 304, secondary ion emission due to H ion bombardment 9-8216
 steel, stainless 316, carbide precipitation rel. to in-reactor deform. 9-8302
 steel, stainless 316, cladding failure during thermal transients 9-8316
 steel, stainless and C, radioactive contamination under applied potential in high temp. water 9-24646
 steel, stainless LMFBR fatigue in elevated temp. Na environment 9-24666
 steel A533A, review of data in reln. to fracture toughness at upper shelf temp. 9-15797

fission reactor materials continued

steel austenitic stainless, Cr-Ni 316 type, electron irradiated, void swelling 9-42104
 steel pressure vessel, reliability aspects 9-22430
 steel pressure vessel surveillance capsule exam., appl. of ASTM standards 9-22436
 steel products for nuclear power stations, research and development (Russian) 9-34080
 steel stainless capsules, soln. annealed He pressurised, type 304L, neutron irradiation-induced creep 9-42111
 Stellite-6 in liquid Na, tribology 9-26525
 stress intensity factors for reactor vessel nozzle cracks 9-15796
 structural alloys, time-depend. fatigue behaviour 9-1909
 structural materials in nuclear power stations with RBMK reactors, corrosion monitoring 9-9756
 swelling, depend. of evolving cavity distrib. functions on cavity growth kinetics 9-3206
 thermal hydraulics, sensitivity theory development 9-17963
 THTR-300 PBR, nuclear material safeguards system 9-22427
 tritides, He behaviour 9-17981
 UMFBF molten core debris and core containment material interactions 9-13469
 USA fission energy R&D redirection, weapon material utilization 9-26510
 void densities, interpretation from critical radius arguments 9-23657
 water coolant decontamination (Spanish) 9-45345
 welded pressure components, effect of material property changes on operating conditions 9-20197
 β -Zircalloy, creep charact. 9-8317
 Zircaloy, cladding in fuel rods, stress corrosion fracture on power increase 9-47818
 Zircaloy, deposits on inside surface in LWR cladding, SEM obs. 9-6741
 Zircaloy, O diffusion during UO₂-Zircaloy interaction 9-10986
 Zircaloy, post irradiation recovery of growth 9-46711
 Zircaloy 4, creep anal. and appl. in prediction of residual stress relaxation 9-43325
 Zircaloy clad defective fuel rods, behaviour under continued reactor operation 9-30915
 Zircaloy clad fuel rod burst behaviour in simulated PWR LOCA 9-36337
 Zircaloy corrosion in water reactors, comparison of uniform and nodular forms 9-47817
 zircaloy fuel cladding tubes, prod. and inspection (Japanese) 9-26518
 Zircaloy-2, anisotropic irradiation creep 9-8333
 Zircaloy-2, annealed, neutron irradiation growth 9-42109
 Zircaloy-2, irradiation induced creep in reactor claddings under biaxial stress conditions 9-30912
 Zircaloy-2, neutron irradiation damage characterization by TEM 9-42110
 Zircaloy-2, reaction with UO₂-PuO₂ 9-17982
 Zircaloy-2, reactor cladding, delta-wrinkly zone near crack edge obs. 9-3203
 Zircaloy-2 irradiation growth at 353 and 553K, texture and temp. cycling effect 9-46709
 Zircaloy-2 thin walled large diam. tubes in CANDU reactors 9-13429
 Zircaloy-4, interdiffusion with Ni 9-42320
 zircaloy-4, oxidation in high temp. steam atm. effect on cladding ductility 9-26515
 Zircaloy-4, polytype struct. of intermetallic precipitates, electron microscopy obs. 9-43250
 Zircaloy-4, strain rate sensitivity parameter measurement, from expt. load vs. time curves, superplastic range 9-8406
 Zircaloy-4 cladding, steady-state creep, 940 to 1873K 9-15759
 Zircaloy-4 fuel sheaths, ballooning behaviour at heating rate 0.5°C s⁻¹ 9-24593
 Zircaloy-4 spent fuel cladding, tensile props. and annealing characts. 9-22392
 Zircaloy-4 tubes, I stress corrosion cracking (Korean) 9-34195
 Zircaloy-clad UO₂ fuel elements, stability during long-term storage 9-26588
 Zircalloys, I₂ induced stress corrosion cracking 9-8381
 Na leakage in reactor steam generators, solution kinetics of solid NaOH in Na 9-36365
 Al, struct. metal, effective damage levels in neutron radiation environment 9-36236
 Al-graphite two-dimensional shield, neutron penetration meas. 9-3245
²⁴¹Am(α ,n), neutron yield in AmO₂ 9-17912
 B₂C-Al composite moderator rods, production and props. (Russian) 9-18006
 Be, ion bombarded, D trapping 9-19291
 C, heat-treatment and neutron irradiation effects on US atten. and Young's modulus 9-11644
 Cu, neutron irradiation, replacement sequences, calcs. using ADDES and COMENT codes 9-46714
 Fe, group consts., neutron spectra of small pile surrounded by Pb reflector 9-6738
 Fe struct. metal, effective damage levels in neutron radiation of environment 9-36236
 Fe-Cr-Ni, solid soln. strengthened and precipitation hardened, in-reactor creep 9-43327
 Fe-Cu-Ti, improvement of irradiation-enhanced Cu embrittlement by Ti addition 9-43393
 Fe-N, neutron irradiation effects on mech. props. 9-4338
 H permeation in HTR (German) 9-3204
 He coolant in GCFR cores, heat transfer props., review 9-45331
 He corrosion test facility at Springfield's nucl. power development lab. 9-23327
 Li₂O pellets, sintered, reaction with Mo and Ho alloys 9-47913
 Mo alloy, metallurgical stability and corrosion in He atmos., HTR appl. 9-36329
 Mo-V alloys, corrosion in high purity liquid Na containing \approx 1 ppm O, at 700°C for 500 h 9-8383
 Na coolant, effect of high reactivity with air and water on reactor design (French) 9-26526
 Na coolant in GCFR cores, heat transfer props., review 9-45331
 Na droplet, preignition oxidation process, rel. to LMFBR accident 9-30996
 Na fibres, origination and mechanism form. and sedimentation of Na aerosols (Czech) 9-30956
 Na, splashing of liq. UO₂, no evidence of entrapment 9-41000

fission reactor materials continued

- Na vapour diffusion in Ar(He), diffusion coeffs. meas. by Stefan method 9-41785
 Na-cooled fast reactors, material corrosion problems 9-36328
 Ni alloy, metallurgical stability and corrosion in He atmos., HTR appl. 9-36329
 Ni neutron and heavy ion damage correlation, dose rate and He injection effects 9-7629
 Ni-Si (1 at.%), dose depend. of ion irradiation induced segregation 9-42123
 Pb, reactor radiation-induced hardening, computer modelling (*Russian*) 9-37738
 $\text{Pd}_{0.8}\text{Si}_{0.2}$, amorphous, He^{2+} ion irradiation effect on structure 9-42120
 Pt, boiling water reactor, corrosion and oxidation potentials monitoring 9-20252
 Pu, energy autocorrel. of fission cross-section data in resonance region, probability table method 9-36284
 ^{239}Pu , isotope form. calc., effect of reactor characts. 9-26489
 Sn melt fragmentation on quenching in n-pentadecane and water 9-15706
 T buildup in D_2O of CANDU reactors, due to $^3\text{He}(n,p)^3\text{H}$ reaction 9-22389
 T permeation in HTR (*German*) 9-3204
 $\text{Th}_3\text{B}_2\text{C}_3$, crystal struct. 9-14772
 ^{232}Th utilisation in reactor fuel cycles, review 9-45390
 Ti-Al (14.4 at.%), void form. and solute segregation under Ni ion irradiation 9-42122
 (U, Me)C, Me=Hf, Ti, Zr, Nb or Ta, effects of alloying and interaction with C 9-45350
 U, energy autocorrel. of fission cross-section data in resonance region, probability table method 9-36284
 α -U, martensitic behaviour 9-29059
 U-ZrH system, neutron spectrum in critical pile 9-45322
 $\text{U}_2\text{Ni}_3\text{Sb}_6$, and related compounds, X-ray diffr. cryst. struct. determ. 9-42009
 UO_2 , fission gas release during irradiation 9-17978
 UO_2 heat-generating, molten, interaction with MgO brick 9-13468
 UO_2 -Na contact interface temp., effect of internal radiation 9-13477
 UO_2 - PuO_2 , fast reactor fuel rods, burnup-dependent heat transfer from fuel to cladding 9-36323
 $\text{UO}_2(\text{NO}_3)_2$, highly enriched solns., benchmark critical expt. calc. study, KENO-IV code 9-18026
 $\text{UO}_2(\text{NO}_3)_2$, highly enriched solution systems, benchmark critical expts. 9-18025
 W, neutron irradiated, FIM obs. of radiation damage 9-7632
 ^{135}Xe , control of space-time distrib. in reactors 9-36364
 Zr, blistering by 2 MeV He^+ ions, optical microscopy and SEM obs. 9-42119
 Zr, deformed at 77K, effect of fast-neutron irradiation on deformation twinning, TEM and optical microscopy obs. 9-37741
 Zr, neutron induced displacement damage anal., program DISPKAN 9-14854
 Zr, TEM obs. of irradiation damage, critical review 9-10879
 Zr-Nb (2.5 wt.%), cold-worked pressure tubing for CANDU reactors, slit burst testing 9-26532
 Zr-Nb (1 wt.%), static strain ageing between 295 to 773K, TEM obs. of plastic strain 9-38855
 Zr-Nb (1 wt.%), TEM study on intermetallics in Zr alloys 9-11622
 Zr-Nb (1 wt.%), tensile props., 295 to 773K 9-8318
 Zr-Nb (2.5 wt.%), annealed, irradiation growth at 353K 9-46710
 Zr-Nb (2.5 wt.%), hydride TEM obs. in pressure tubing 9-8338

fission reactor operation

- see also fission reactor cooling and heat recovery; fission reactor core control and monitoring; fission reactor safety
 1 GW(e) mixed fuel cycle LMFBR performance, effect of ^{233}U in core 9-9868
 assessments of nuclear systems and use of nuclear power, review 9-45334
 BN-350 reactor, development, design and operating experience (*Russian*) 9-26511
 BR-5 Soviet reactor, effect of operating conditions of vacancy porosity of austenitic stainless steel 9-32990
 BWR, design and operation, review of water chemistry, in feed water, coolant and steam systems 9-36311
 BWR, fuel cycle cost sensitivity anal. 9-31104
 BWR, radiochemical management, reactor cooling system, gamma spectroscopy of radionuclides 9-9731
 BWR, shutdown dose rate of primary cooling system, prediction by empirical formula 9-22408
 BWR and PWR, 1973-7 West European experiences (*Czech*) 9-36345
 BWR island-design Pu recycle fuel assemblies, nuclear fuel performance meas. 9-30907
 BWR power stations, operating record and reliability, reviews 9-22403
 CANDU, Pu-topped Th fuel cycle characts. 9-36322
 CANDU generating stations, reliability of performance 9-18029
 conference, San Diego, Calif., USA (June 1978) 9-17972
 conference on nuclear power and its fuel cycle, Salzburg, Austria (May 1977) 9-26504
 Creys-Malville centre, siting, operation, safety, containment and waste (*French*) 9-30945
 critical point reactor, response to inherent reactivity noise input 9-45336
 defective fuel rods ultra sensitive detection with low core burn-up, method 9-45374
 denatured fuel cycles for international safeguards 9-41011
 Dragon HTR project, review 9-45326
 EBR-II breached fuel element experience, safe reactor operation 9-9736
 EBR-II preparation for breached-element operation, safety concerns 9-9792
 FBR, Th fuelled, performance characteristics 9-9815
 fissile fuel dynamics of breeder/convertor reactors 9-13385
 Fort St. Vrain HTGR power station, review of design and operation 9-45353
 fuel adjustment clause for collecting nuclear fuel costs 9-31105
 FUGEN, 165 MWe prototype HW moderated BW cooled reactor, zero-power startup tests (*Japanese*) 9-26553
 gas cooled reactor experience and programs in France, reviews 9-45332
 gas cooled reactors, background and status in UK, review 9-45333
 gaseous core reactor U plasma radiative temp. calc. 9-9807
 health risks of nuclear power, for teachers 9-35506
 HFEF/N, equipment repair room modifications 9-45439
 HFR test reactor, HIP-TEDDI code for neutron flux calcs. 9-3223

fission reactor operation continued

- Ikata Power Station Unit 1, operating experience (*Japanese*) 9-36397
 LMFBR, computer control system for Na test loops 9-26550
 LMFBR 1200 MW(e) performance rel. to core height reduction 9-9684
 LWR, design meas. to reduce radiation dose to reactor personnel 9-3199
 LWR, LOCA separated air-water two-phase flow, mathematical anal. (*Japanese*) 9-36334
 LWR, reliability demonstration test (*Japanese*) 9-26552
 LWR plant availability rel. to refuelling cycle duration 9-22440
 LWR plants in Japan, safety aspects and operating experience 9-26628
 new load-follow strategy for improved return-to-power capability 9-9794
 nuclear energy complexes, economic and ecological problems of nuclear power development 9-645
 nuclear energy synergetics, characts. of integrated systems 9-13382
 nuclear merchant ship propulsion, operation experience 9-26745
 nuclear power project management, book 9-30875
 nuclear power stations, gross operator error rates, evaluation of operator reliability 9-45371
 nuclear symbiosis, development of FBR and thermal spectrum near breeder reactors, review 9-45335
 on-line surveillance of nuclear reactors based on decision theory 9-9775
 PBHTR, design operation and applications, review 9-45328
 PBHTR net-breeding reactor system 9-3197
 Peach Bottom 1, HTGR nuclear power station, review of design and operation 9-45327
 power stations, computer control systems for data acquisition and process control 9-22426
 PURINAMA, PuO_2 -fuelled zero-energy fast reactor 9-40988
 PWR, commissioning and start-up procedures (*Slovak*) 9-36346
 PWR, planned cycle stretchout 9-31103
 PWR load factor statistical analysis 9-9789
 PWR neutron noise increase with operating time 9-13447
 PWR occupational radiation exposure reduction techniques 9-9901
 PWR power stations, operating record and reliability, reviews 9-22404
 PWR reactivity changes, influence on transient processes (*Slovak*) 9-36343
 PWR steam generator tubing, corrosion problems 9-24683
 radiochemical management, reactor cooling system, gamma spectra of radioactive I from direct fission 9-9732
 radiochemical management, reactor cooling system, rapid determ. of radioactive I contamination 9-9733
 RBMK, startup and shutdown, H_2O_2 and Fe compounds behaviour investigation 9-9822
 Sandia Pulsed Reactor III operational history 9-9790
 stable adaptive schemes, parameter identification nonlinear point reactor 9-9765
 testing pressure vessel, safeguarding containment (*German*) 9-13433
 Trino power plant, in-service inspection and operating experience, main coolant circuit (*Italian*) 9-17992
 underwater repair, innovative technique 9-3226
 US reactor operating experience, qualitative assessment 9-26627
 water cooled reactor, gas stripping in two-phase flow 9-638
 Na, liquid, purification by mesh-packed cold traps, effect of shape on perform. 9-40986
 Pu recycling in LWR 9-45391
 Th fuel cycle role in thermal and fast reactors 9-13420
 UF₆-He circulating gas critical expts. 9-13488
- fission reactor safety**
 see also fission reactor cooling and heat recovery; fission reactor core control and monitoring
 accident dosimetry calcs., comparison with expt. data 9-36422
 actinide waste burning in laser fusion driven hybrid reactor 9-22421
 advanced reactor Centralised Reliability Data Organisation 9-13463
 alternative containment designs, value/impact comparison, containment failure and safety aspects 9-13464
 anticipated transients without reactor scram and other safety devices for PWR and LWR 9-18002
 atmospheric dispersion calcs. for nuclear plants, EFFAIR code 9-18007
 blowdown, fluid behaviour in pressure vessel (*Japanese*) 9-17999
 boiling heat transfer during rewetting, one-dimens. cond. model 9-598
 BWR, shutdown dose rate of primary cooling system, prediction by empirical formula 9-22408
 BWR, void reactivity feedback, space-time anal. 9-22414
 BWR bundles, countercurrent flow limitation correl. during LOCA 9-31057
 BWR LOCA, numerical simulation of hydrodynamic impact loads on cylinders 9-36350
 BWR passive containment system, LOCA safety features 9-13466
 BWR piping cracks, relation between crack and stress 9-40995
 BWR power plant availability improvement by acoustic emission monitoring 9-9809
 BWR power stations, operating record and reliability, reviews 9-22403
 BWR pressure suppression pool, use of orificing to accomplish small scale representation 9-31051
 BWR shutdown margin prediction, multidimensional linear regression model 9-9778
 BWR suppression pool, role of Taylor instability during vent cleaning 9-31046
 BWR with graphite channels, safety of nuclear power stations 9-26561
 CANDU—Canadian experience and expectations with the heavy-water reactor 9-26593
 CANDU 600 MW, spent fuel bundle counter, safeguard design 9-13495
 CANDU 600 MW(e) station, man-rem expenditures 9-13493
 CANDU nuclear power station safety, Atomic Energy Control Board guidelines 9-22425
 CANDU power reactor, pressure tubes, design and development 9-36372
 CANDU reactor safety and reliability requirements 9-26634
 Caorso BWR power station, structural acceptance tests of primary containment (*Italian*) 9-30951
 CIRENE, heavy water moderated BWR, LOCA simulation of recirculation circuit rupture 9-30949
 class 1E electronic equipment qualification, ageing evaluation using Arrhenius techniques 9-45361
 Clinch River breeder reactor, ALARA nature of design effluents 9-22420
 component improved reliability, design consideration 9-22383
 component reliability, non-destructive testing and flaw evaluation (*French*) 9-24711
 conference, San Diego, Calif., USA (June 1978) 9-17972

fission reactor safety continued

conference on nuclear power and fuel cycle, Salzburg, Austria, (May 77) 9-26503
 containment leakage from Na fire anal., response surface method, SPOOL-FIRE code 9-18004
 convection with volumetric heat sources, fluid layer in spherical segment 9-614
 coolant circuits, fracture mech. appl. 9-43430
 core protection and surveillance system 9-9811
 count-doubling time monitor, new reactor safety circuit for low-power-level operation 9-41004
 Creys Malville station, Super Phenix project safety (*French*) 9-30948
 Creys-Malville centre, siting, operation, safety, containment and waste (*French*) 9-30945
 Creys-Malville station, safety arrangements (*French*) 9-30946
 criticality calculations, random geometry model of fissile solns. containing borates Raschig rings 9-36310
 criticality incident detect. with γ dose rate alarm 9-36423
 criticality safety broadgroup library validation using uranium systems 9-26564
 decommissioning nuclear reactors to safe condition, Windscale AGR work 9-26547
 defective fuel rods, behaviour under continued reactor operation 9-30915
 defective fuel rods ultra sensitive detection with low core burn-up, method 9-45374
 design and construction, safety and reliability criteria, especially pressure boundary components 9-18009
 digital radiation monitoring, plant-wide systems, design alternatives 9-41082
 dissociating N_2O_4 power plants, safety and accident response (*Russian*) 9-31066
 dynamic response to earthquake, aircraft impact, soil structure interact. 9-3208
 earthquake frequency/magnitude prediction for selected surface regions 9-16415
 earthquake response spectrum amplitudes, probabilistic computation 9-8610
 earthquake response spectrum estimation from stimulated spectrum 9-686
 earthquakes, structural anal. of lifting-off 9-596
 EBR-II, neutronics design of safety research modification 9-30990
 EBR-II breached fuel element experience, safe reactor operation 9-9736
 EBR-II preparation for breached-element operation, safety concerns 9-9792
 EBR-II primary system piping evaluation for safety research modification 9-9785
 EBR-II reactor shutdown system upgrading, safety features 9-9796
 elementary catastrophe theory modelling of Duffing's equation for seismic excitation of nuclear power facilities 9-31240
 emergency reactor cooling, mathematical models and methods (*Russian*) 9-17975
 environmental effects from nuclear energy, effects of small radiation doses 9-2312
 environmental protection, radioactive waste from power plants in USSR 9-26601
 European in-pile investigations of fast breeder reactor safety (*French*) 9-26653
 Farley Nuclear Plant Data Link System 9-9797
 fast commercial reactor, hypothetical disruptive accidents in the core (*Spanish*) 9-45357
 fast reactor, HCDA, heat conduction calc., method of weighted residuals 9-635
 fast reactor, UO_2 dynamic vaporisation, rate effects 9-31034
 fast reactor, UO_2 rate-dependent heat capacity 9-31035
 fast reactor boiling detection by noise analysis 9-13449
 fast reactor ceramic fuel-steel system, freezing of flowing liquid in melting tube, simulation expt. 9-30981
 fast reactor coolant blockages, detection by temp. noise tech. 9-30899
 fast reactor fuel development, safety considerations 9-26649
 fast reactor safety, Na boiling expts. (*Italian*) 9-9764
 fast reactor transient overpower accident, cladding loading by two component gas 9-31038
 fast reactors, programme and state of work in the Soviet Union 9-643
 fatigue life prediction, defn. of safety factors 9-6732
 fatigue loading, growth of underclad flaws 9-22429
 FBR, above-core structural response to molten core disassembly 9-30992
 FBR, comparison of computer code predictions with COVA expts. under postulated accident conditions 9-30995
 FBR, dispersive potential of irradiated fuel during thermal transient 9-31037
 FBR, energy increase from bubble collapse following recriticality in large molten pools 9-31023
 FBR, in-pile testing, nonprototypic effects due to fuel length and number of pins 9-30988
 FBR, slug impact and coolant spillage anal. using hybrid Lagrangian Eulerian method 9-30993
 FBR, thermal-hydraulic flow fields, stochastic processes 9-30991
 FBR, void reactivity effects on hypothetical core disruptive accident excursion energy 9-31024
 FBR current status and development trends, review 9-22374
 FBR safety analysis, multicomponent hydrodynamics, implicit Eulerian technique 9-634
 FBR SNR 300, design information, risk factors (*German*) 9-26727
 FFTF loss-of-flow accident, integrated FUMO/SAS3A (FUSS) neutronics update system 9-31009
 fission gas behaviour in fuel pins prior to transient testing 9-30921
 flaw detection probability estimation from inspection data 9-24712
 flexible dual-containment approach design and licensing 9-13400
 fluid-saturated porous layer with heat source, thermal convection onset 9-13406
 French regulatory requirements and administrative practices in nuclear installation safety (*French*) 9-26623
 French safety reliability methods for power plants (*French*) 9-26644
 FTR subassembly failure pattern under transient overpower accident 9-31006
 FTR-type fuel motion in TREAT transient overpower test E6 9-36366
 fuel cluster tests in NSRR 9-22369
 fuel cycle, radioactive material release, cost/benefit anal. 9-26605
 fuel cycle and radioactivity, regulatory control in Canada 9-26620
 fuel cycle facilities, advantages of on-site facilities 9-31118
 fuel cycle plants, radioactive discharges, limits 9-26779

fission reactor safety continued

fuel energy extraction without reprocessing to separate Pu, alternative methods 9-26675
 fuel failure behaviour of unirradiated fuel rods under reactivity initiated accident conditions (*Japanese*) 9-30955
 fuel power detector for CANDU power reactors 9-41022
 fuel rod geometry changes, mech. interactions calcs. 9-40993
 fuel rod modelling techniques, best-estimate calc. 9-17984
 fuel-coolant interactions, role of Rayleigh-Taylor flow instabilities 9-17983
 full-scale reactor safety experiments performed in the Marviken power station, Sweden 9-26633
 gas-cooled fast reactor safety 9-26654
 gaseous fission products, continuous determ. of content in reactor loop 9-30905
 gate values for nuclear facilities, high leak tightness and large diameter 9-36347
 GCFR benchmark shielding expts. 9-9902
 GCFR with N_2O_4 coolant, power plant nuclear and chemical safety 9-30969
 health hazards, for teachers 9-35506
 heat exchanger tube, oval straight, plastic collapse under external pressure 9-10508
 heat exchanger tubes, US inspection by rotating search units method 9-9667
 heat transfer finite difference computer programs 9-14221
 heat transfer from round-bottom pool with internal heat generation, expt., LMFBFR appl. 9-13470
 heat transfer tube failure propagation due to Na-water reaction in steam generator 9-6748
 HFR test reactor, HIP-TEDDI code for neutron flux calcs. 9-3223
 hot fuel examination, sodium loop safety facility, loop disassembly system 9-9727
 HTGR, unlimited core heatup, fission product release, hypothetical accident anal. 9-6754
 HTGR fission product release following LOCA 9-13457
 IAEA nuclear safety standards program for protection, electric, instrumentation systems 9-45365
 IAEA safety codes and guides for thermal neutron power plants 9-26616
 in-core molten fuel pool expt., heat flux and struct. ablation 9-13407
 Inconel, pressure vessel bottom, subcritical crack growth in ligament between instrumentation rods 9-22428
 international cooperation incentives in safety practices and standards (*French*) 9-26618
 International Electrotechnical Commission standards for reactor instrumentation and controls 9-45366
 IRAN-1,2, plants, calc. of radioactive releases 9-18056
 irradiated fuel shipping, inspection, and repair at Point Beach Nuclear Plant 9-45384
 KWU-LWR safety systems design 9-31086
 large fast neutron reactor, safety requirements and options (*French*) 9-26647
 large-bundle LOCA expts., fuel rod ballooning probabilistic analysis 9-13462
 leak detection system operating experience 9-9808
 LMFBFR, 1200 MW(e), comparison of SAS3D LOF transient anal. for conventional and nonconventional core designs 9-31039
 LMFBFR, acoustic anal. from Na boiling tests using THORS bundle 6A 9-31033
 LMFBFR, alternative core disruption accidents 9-9774
 LMFBFR, bubble collapse reactivity increases in boiling fuel/steel pools 9-31025
 LMFBFR, calcs. vs. exptl. temp. distrib. behind six-channel central blockage 9-31028
 LMFBFR, CAMEL single-pin fuel sweepout test C2 9-30983
 LMFBFR, Clinch River, material release for advanced fuels following hypothetical core disruptive accident 9-31065
 LMFBFR, Clinch River Plant, system damage potential 9-31019
 LMFBFR, combined fuel and coolant motion under high-ramp transient overpower conditions 9-31003
 LMFBFR, comparison of REXCO and ICEPEL code calcs. with tests of plastically deformable pipes filled with compressible fluids 9-30994
 LMFBFR, computer model for H transport and release 9-36371
 LMFBFR, detection of fuel assembly flow reduction in heterogeneous core 9-31032
 LMFBFR, determ. of ^{137}Cs conc. in Na heat carrier 9-41043
 LMFBFR, expts. on extinguishing large quantities of burnina Na 9-41016
 LMFBFR, fast integral modelling of HCDA 9-26555
 LMFBFR, filtration of Na fire aerosols 9-30998
 LMFBFR, fragmentation dynamics of molten UO_2 in Na under TOP conditions 9-30978
 LMFBFR, fuel motion diagnostics instrumentation, evaluation with PARKA 9-45360
 LMFBFR, generic, gas tag design for failed core assembly identification 9-31040
 LMFBFR, hypothetical core disruptive accident, molten fuel relocation dynamics, simulant fluids 9-30980
 LMFBFR, hypothetical loss of flow accident, computer simulation 9-3222
 LMFBFR, local heat flux density reduction by highly cond. liner 9-637
 LMFBFR, localised boiling in radial blanket due to hypothetical major pipe leak 9-22376
 LMFBFR, LOF, molten fuel cladding relocation, multichannel model 9-26556
 LMFBFR, maximum wake temp. and Nusselt number behind blockages in Na-cooled bundles 9-31026
 LMFBFR, molten fuel coolant interaction (*Japanese*) 9-17997
 LMFBFR, Na droplet, preignition oxidation process 9-30996
 LMFBFR, Na fire, statistical parametric anal. 9-30997
 LMFBFR, Na incipient boiling under forced convection in seven pin bundle 9-22401
 LMFBFR, natural circulation decay heat removal 9-31010
 LMFBFR, pin plenum fission gas release model to describe fission gas effects in voided channel 9-31042
 LMFBFR, pool-type, PLOOP code for primary loop coolant flow and heat transfer anal. 9-31012
 LMFBFR, post-accident containment, high-temp. behaviour of concrete 9-31000
 LMFBFR, post-test anal. of transient overpower TREAT test R9 for BOL FFTF-type fuel 9-30985
 LMFBFR, post-test eval. of SLSF loss-of-flow safety expt. P2 9-30984

fission reactor safety continued

- LMFBR, preirradiated mixed oxide fuel, EOS series of expts. in TREAT 9-30986
- LMFBR, safety c.f. thermal reactors 9-26562
- LMFBR, safety research and development, review 9-36362
- LMFBR, steam generator LOCA signalling by EM flowmeter (Czech) 9-6751
- LMFBR, transient boiling of Na in 7-pin fuel bundle under loss-of-flow conditions 9-41007
- LMFBR, transient simulation code CURL 9-31011
- LMFBR, UO_2 effective eqn.-of-state meas. to determ. vapour pressure 9-31036
- LMFBR, UO_2 vapour bubble characts. determ. for core disruptive accident 9-22390
- LMFBR 19-pin simulated fuel assembly, dynamic boiling tests 9-31029
- LMFBR accident, large scale Na/concrete reactions 9-30999
- LMFBR accident anal., noncondensable void fraction effect on freezing of flowing fluids 9-31013
- LMFBR accidents, licensing decisions and safety research 9-26651
- LMFBR containments, post-accident conds., gravitational agglomeration of aerosols 9-36369
- LMFBR containments, severe post-accident conds., approx. in aerosol behaviour models for source-term calcs. 9-31064
- LMFBR core design anal., initiating phase energetics in core disruptive accidents 9-22415
- LMFBR core disruptive accident, effect of internal circulation vel. and noncondensable gas on vapour condensation from rising bubble 9-31017
- LMFBR core disruptive accident, fission gas bubble modelling 9-31043
- LMFBR core disruptive accident, SIMMER-VENUS II comparison for mechanical disassembly 9-31018
- LMFBR core disruptive accidents, flow regime obs. in two-phase volume heated boiling pools 9-31014
- LMFBR core disruptive accidents, SIMMER-I accident consequence calcs. 9-31020
- LMFBR debris bed simulation expt., in-reactor expt. 9-13404
- LMFBR finite hexagonal bundles, laminar mixed-convection heat transfer 9-607
- LMFBR fuel failure dynamics, appl. of Larson-Miller parameter 9-31002
- LMFBR fuel pin transient behaviour, effect of shutdown cracks in TREAT tested pins 9-31001
- LMFBR fuel pins, reactor illuminated, coded aperture imaging 9-30989
- LMFBR fuel subassembly, approach for treating two-dimensional coolant boiling 9-31030
- LMFBR hypothetical accident, use of sonic agglomerators for aerosol particle suppression 9-36370
- LMFBR hypothetical core disruptive accident, simplified multicomponent phase transition model 9-31016
- LMFBR hypothetical overpower accident, intersubassembly incoherencies and grouping techniques 9-31008
- LMFBR inherent shutdown system, expts. and analyses 9-31041
- LMFBR loss-of-flow accident, 28-pin cladding relocation simulation expt. 9-30979
- LMFBR loss-of-flow accident, empirical fuel motion model for TREAT test F1 9-30977
- LMFBR Na-cooled 7-rod bundle acoustic and temp. noise obs. 9-13391
- LMFBR performance of Th-based fuel cycles 9-9744
- LMFBR pin bundle, model to correlate wake residence time meas. behind blockages 9-31027
- LMFBR postulated accident, aerosol behaviour within containment, Na_2O agglomerate props. 9-36368
- LMFBR postulated core meltdown, onset of foam flow regime in volume heated boiling pool 9-31015
- LMFBR primary heat transport pipe rupture and hydraulic response 9-9784
- LMFBR probabilistic accident anal., stochastically variable parameters 9-31021
- LMFBR prompt burst excursion expt., hydrodynamic anal. 9-30987
- LMFBR reactivity surveillance using ex-core detectors 9-9802
- LMFBR safety and fuel cycle, accident anal. 9-26650
- LMFBR safety application of US thermometry 9-45400
- LMFBR shock-induced fragmentation and detonating thermal explosions 9-13475
- LMFBR slow overpower transient, simplified computing method for cladding and fuel strain 9-31005
- LMFBR small core disruptive accidents, transport/diffusion comparisons 9-31022
- LMFBR steam generators, leak detection of steam or water into sodium 9-13434
- LMFBR steam generators, reliability considerations 9-22437
- LMFBR subassembly fault detection, microprocessor-based distributed system appl. (Japanese) 9-41002
- LMFBR subchannel coolant flow behind blockage, temp. noise obs. 9-13389
- LMFBR surveillance technique development 9-13448
- LMFBR test facility, exptl. determ. of reliability data of sodium components 9-18015
- LMFBR transient over power accident, plateau and thermal loading of ejected fuel 9-30982
- LMFBR transient overpower accident anal. using PLUTO2 code 9-31004
- LMFBR unprotected loss-of-flow accidents, boiling incoherency effects 9-31007
- LMFBR wire-wrapped subassemblies, Na boiling behaviour 9-31031
- LMFBRs, tritium control, sources and removal 9-36335
- LMFBRs evaluation of local accidents out-and-in-pile expts. 9-26652
- LOCA, 3-dimens. flow with multiple interfaces 9-41024
- LOCA, effect of drop evaporation rate on containment pressure transients 9-22413
- LOCA, extreme loads and associated safety aspects, review 9-22405
- LOCA, models for estimation of critical flow in two-phase systems 9-36361
- LOCA, reflow heat transfer and entrainment expts. 9-31060
- LOCA, response of reactor containments 9-30958
- LOCA, transient flow boiling anal. method 9-26549
- LOCA 9-633
- LOCA anal. in Federal Republic of Germany, computer models 9-26642
- LOCA mathematical models for PWR safety analysis (Russian) 9-30963
- LOFA, transient crit. heat flux, Fren 12 coolant 9-30954
- loose parts monitoring, USA technology status and recommendations 9-623

fission reactor safety continued

- LWFBFR, neutron balance in chain reaction, delayed neutrons role, reactor safety (German) 9-26726
- LWR, design meas. to reduce radiation dose to reactor personnel 9-3199
- LWR, generalized theory for predicting mass effluence during reactor reflooding 9-36352
- LWR, LOCA separated air-water two-phase flow, mathematical anal. (Japanese) 9-36334
- LWR, reliability demonstration test (Japanese) 9-26552
- LWR, reliability of piping 9-18017
- LWR, stationary boiling front in liquid film cooling of a vertical heated rod 9-45341
- LWR, Zircaloy cladding, internally pressurized, effect of temp. nonuniformity on diametral expansion during transient heating in steam 9-30920
- LWR accidents, containment venting and filtration approaches 9-13465
- LWR blow down accident, French studies, assessment codes (French) 9-26641
- LWR emergency core cooling component experience data, defect anal. programme 9-18010
- LWR emergency core cooling system, effects of pressure and materials on quenching of solids 9-31061
- LWR fuel, power ramp failure propensity, exptl. investigations 9-26543
- LWR fuel elements, behaviour under accident conditions 9-26545
- LWR fuel failure under reactivity initiated accident conditions, NSRR experiments (Japanese) 9-36340
- LWR fuel performance calcs., effect of Cs and I_2 release 9-31054
- LWR fuel safety, failure thresholds, NSRR programme 9-26595
- LWR hypothetical core meltdown, vapour explosion potentials at high interface temp. 9-13476
- LWR LOCA, fission product gamma-ray energy absorption in emergency cooling solns. 9-31052
- LWR LOCA safety analysis, thermohydraulic phenomena, review (German) 9-13430
- LWR plants in Japan, safety aspects and operating experience 9-26628
- LWR post-accident aerosol removal, steam condensation expt. 9-13456
- LWR power plant human errors 9-13459
- LWR power plants, inservice inspection 9-30944
- LWR power plants, radioactivity release in LOCA uncertainties 9-26639
- LWR pressure boundary failure and LOCA studies 9-26640
- LWR pressure vessel, unstable fracture (Japanese) 9-9767
- LWR primary circuit, austenitic stainless steel cladding, stress-corrosion cracking 9-20293
- LWR safety considerations in Sweden, reactor design for power plants 9-26631
- LWR safety research in the Federal Republic of Germany 9-26638
- LWR safety research in USA 9-26645
- LWR steam explosion pressure buildup estimation 9-13473
- LWR steam explosion triggering expts. with oxidised Corium-E simulants 9-13472
- LWR with superheated steam isolation valve, blowdown expts. 9-625
- Maine Yankee reactor protection system setpoint calc. 9-13479
- MARIA, Polish high flux test reactor, leakage rate meas. in reactor containment 9-18001
- mirror fusion-fission reactor, safety 9-22461
- mixed-oxide fuel, two-component gas transport within interconnected porosity, during melting 9-617
- mobile He cooling loop system for post-accident heat removal expts. 9-13403
- molten core debris contact with Na, particulate debris bed formation expt. 9-13405
- molten fuel-coolant interaction, simulation experiment 9-17991
- molten metal-reactor coolant interaction, vapour film collapse expts. 9-13474
- MSBR safety anal. using one point kinetics model 9-22400
- multiple-support excitation piping problems, automated anal. 9-9773
- multiplex systems, reliability, reliability with repair and availability 9-41012
- network computations using a transient two-phase velocity difference model 9-26477
- neutron dosimetry, standardized techniques for appl. beyond reactor core 9-9920
- NORHAV—a Nordic reactor safety evaluation project 9-26619
- nuclear accident dosimetry systems, comparison 9-22496
- nuclear accident dosimetry systems, Czechoslovak-Hungarian comparison 9-45437
- nuclear accidents, review 9-618
- nuclear accidents, review 9-3207
- nuclear energy complexes, economic and ecological problems of nuclear power development 9-645
- nuclear facility safety requirements and experience in Federal Republic of Germany 9-26621
- nuclear installation safety assessment criteria in UK 9-26615
- nuclear power plant, class 1E auxiliary power systems, degraded or loss of voltage protection 9-45363
- nuclear power plant, quality systems standards comparison 9-22439
- nuclear power plant, seismic design requirements in Japan 9-26747
- nuclear power plant cost reduction by containment elimination 9-13467
- nuclear power plant fire frequency and core damage probability estimation 9-13461
- nuclear power project management, book 9-30875
- nuclear power station, safety, USSR basic approaches 9-627
- nuclear power stations, ambient radiology, equipment and methods, review (Spanish) 9-45425
- nuclear power stations, gross operator error rates, evaluation of operator reliability 9-45371
- nuclear pressure vessel surveillance capsule remote dismantling and testing 9-9817
- nuclear reactor kinetics and control, book 9-26461
- nuclear safety and licensing, OECD member country cooperation 9-26617
- nuclear safety aspects at power and fuel cycle plants in USSR (Russian) 9-26709
- nuclear safety issues in Japan (Japanese) 9-9894
- occupational radiation exposure reduction techniques 9-9898
- online digital core protection calculator, thermal margin routine 9-9777
- online inform. retrieval system, development 9-26551
- oxide crust thermal stress effect in LMFBR accident 9-13471
- PBR, LOCA, evaluation code NAKOGAS-1 9-13492
- PWRs in India, reactivity requirements and safety systems 9-26635
- pipe blowdown, expts. and nonequilib. anal. 9-30960
- pipework integrity assessment 9-22431

fission reactor safety continued

piping components, fracture mech. methods, safety anal. 9-11698
 piping components, safety anal., fracture mechanics methods 9-11699
 plant component design, dynamic analysis, nonlinear effects, research status and needs 9-593
 pool swell dynamics during depressurization 9-30900
 population exposure doses from USSR power plants, evaluation, prediction, regulation (*Russian*) 9-26776
 population exposure standards, determination problems (*Russian*) 9-26778
 population radiation exposure, radioactive effluent from nuclear facilities in West Germany 9-26781
 potential radiation exposure, West German nuclear installations 9-26603
 power plant, contrib. of quality assurance to safety and reliability 9-22438
 power plant availability improvement by surveillance techniques 9-9812
 power plant decommissioning, technical and economic aspects 9-26602
 power plant design for underground rock cavity location, safety aspects 9-13398
 power plant machinery monitoring and online diagnostic systems 9-9810
 power plant operational diagnostics and control computerisation 9-3233
 power plant safety, merits of separation against multiple failures 9-26626
 power plant safety in USSR (*Russian*) 9-26614
 power plant safety systems, reliability criteria 9-18014
 power plants, channel type, graphite BWR, safety problems in USSR (*Russian*) 9-26637
 power reactor, off-site power loss probability estimation 9-13460
 power reactor resonance determ. by rod-drop method, Fourier anal. 9-22407
 power reactor safety and technology, world-wide standardisation by ISO 9-22434
 power reactor underground siting feasibility, Californian programme 9-13399
 pressure components, common cause failures 9-18012
 pressure pulses generated by gas released from a breached fuel element 9-26557
 pressure vessel, failure risk due to manufacturing defect 9-22432
 pressure vessel, Oconee nuclear station, surveillance capsule results 9-18019
 pressure vessel, safeguarding containment (*German*) 9-13433
 pressure vessel brittle fracture, safeguards, American and German ductility requirements (*German*) 9-41017
 pressure vessel prestressed concrete model, gas press. testing (*Dutch*) 9-13436
 pressure vessel reliability, sensitivity to material and other factors 9-18018
 pressure vessel reliability and safety, in-service inspection, surveillance specimens 9-18020
 pressure vessel safety and reliability evaluation, two-criteria approach 9-18016
 pressure vessel steel, fracture toughness at elevated temps. 9-20193
 pressure vessel surveillance capsule exam., appl. of ASTM standards 9-22436
 pressure vessel surveillance capsules, remote disassembly and examination 9-45463
 pressure vessel walls, ultrasonic inspection reliability 9-24713
 pressure vessels, 3D finite element anal. of surface cracks 9-10535
 pressure vessels, prestressed concrete, safety and reliability 9-22412
 pressure vessels, warm prestressing effects, fracture mechanics during severe thermal shock 9-22411
 pressure vessels for LWRs, brittle fracture initiation, propagation and arrest, investigation 9-22422
 pressurized systems reliability, influence of codes, standards and practices 9-22433
 prestressed concrete reactor vessels, construction movements, finite element anal. 9-621
 prestressed concrete safety containments, calc. and constructional problems (*Russian*) 9-30961
 prestressed secondary containments, explosive characts. near ultimate load., review 9-30968
 probabilistic analysis, review of ANS symposium 9-45354
 protection system performance, impact of ageing mechanism 9-18000
 protective coating, for components in contact with HTR-He, CVD W coatings 9-626
 PURINAMA, PuO₂-fueled zero-energy fast reactor 9-40988
 PWR, availability of pressure vessel after small LOCA 9-30967
 PWR, choice of vent flow formulation for subcompartment anal. 9-31047
 PWR, combined injection reflood studies 9-31062
 PWR, coolant pump motors, max. freq. decay rate determ. 9-45337
 PWR, effects of early core flow predictions and CHF correl. characts. in RELAP4/MOD5 best estimate blowdown calcs. 9-31059
 PWR, German, U-tube steam generators, inspection findings 9-9849
 PWR, LOCA, anal. of LOFT semiscale test (*Japanese*) 9-17998
 PWR, LOCA, cold leg break during blowdown, ROSA II study (*Japanese*) 9-6750
 PWR, LOCA, phase-change front propagation during reactor transients 9-631
 PWR, LOCA anal., turbulent flow in fuel rod bundle with partial flow blockages 9-30898
 PWR, meas. of transient steam/air fraction in vent pipes 9-31044
 PWR, meltdown accident risk-analysis 9-45375
 PWR, rod ejection accident anal. by reactivity weighting method 9-22419
 PWR, sensor response monitoring, time series modelling 9-26659
 PWR, subcompartment pressure-temp. response comparison between anal. and exptl. results 9-31050
 PWR and BWR hot channel factors, nuclear, thermohydraulic and technological factors (*Spanish*) 9-36336
 PWR blowdown processes, homogeneous nonequilibrium model 9-632
 PWR containment, effect of separation of steam and air in blowdown transients 9-31045
 PWR containment pressure-temp. transients eval., nonequilibrium states 9-31048
 PWR containment vessel wall electrical penetration tests (*Japanese*) 9-6747
 PWR control elements, Decontic control system appl. and features (*German*) 9-26548
 PWR fuel rods, unirradiated and irradiated, pellet-cladding interaction phenomena 9-31053
 PWR fuel storage, criticality eval. of low-density moderation 9-26667
 PWR fuel storage pool, safety calcs. and benchmarking 9-26565

fission reactor safety continued

PWR internal vibrations, neutron noise monitoring 9-13445
 PWR internals, vibration mode shape computation and expts. 9-13444
 PWR LOCA, cavity pressurization relief with rotating neutron shield tanks 9-31049
 PWR LOCA, effects of downstream geometry on blowdown of subcooled liquid 9-31063
 PWR LOCA, generalized model for predicting mass effluence during reflooding 9-31056
 PWR LOCA, high-pressure Freon blowdown studies with inlet break 9-36367
 PWR LOCA, ROSA-II severe hot leg break for core cooling during blowdown (*Japanese*) 9-9769
 PWR neutron noise meas. and modelling 9-13443
 PWR power plants, safety technical problems, core cooling (*Russian*) 9-31085
 PWR power stations, operating record and reliability, reviews 9-22404
 PWR pressure components reliability and residual life evaluation and precipitation 9-20191
 PWR pressure vessel availability after small LOCA 9-31055
 PWR pressure vessel failure probability from pressure transients, OCTAVIA computer code 9-18011
 PWR pressure vessel vibration excitation, noise correlation and modelling 9-13442
 PWR primary circuit, in-service inspection (*French*) 9-22385
 PWR primary coolant system, in-service inspection programs 9-22384
 PWR reactivity changes, influence on transient processes (*Slovak*) 9-36343
 PWR reactor core barrel, vibrations, influence of boundary conditions and co-vibrating liquid obs., using model 9-36302
 PWR reactor with reactivity perturbations, accident anal., methodical approach (*Czech*) 9-22402
 PWR safety considerations in USA 9-26630
 PWR with reactivity perturbations, accident anal. by FATRAP code, logic construction (*Czech*) 9-30957
 PWRs, fault analysis and calcs., FORTRAN program (*German*) 9-41018
 quasi-redundant protective systems, optimal design 9-17996
 quasilinear reactor system subject to white Gaussian multiplicative noise, moment stability anal. 9-22373
 radiation heating in stainless steel and Na shield 9-9903
 radioactive effluent release reduction, Japanese LWRs 9-31078
 radioactive releases from nuclear installations, eval. of accidental atmos. discharges 9-39529
 radioactive waste, final disposal possibilities, waste conditioning, storage and safety, review 9-26554
 radioactive waste hazards due to Th fuel cycle use in power reactor systems 9-30941
 Rasmussen report on reactor safety, retrospective and prospective view 9-26632
 reactor accidents and the environment 9-30940
 reactor components inspection by acoustic emission (*German*) 9-45373
 reactor containment development for PWRs, BWRs and HWRs 9-26643
 reactor containment expts., Fourier transform anal. of transient condensation heat transfer coeff. 9-22410
 reactor loop, experimental, hazard and protection from tritium 9-36420
 reactor protection system, in-core power distribution synthesis from three-segment ex-core detectors 9-9865
 reactor radiation damage, neutron metrology for irradiation parameters 9-46717
 regional nuclear fuel cycle centres. IAEA study project 9-31119
 regulatory activities and their research and developmental support in the CSSR 9-26625
 reinforced concrete structs., missile impact loading, nuclear power plant appl. 9-31237
 reliability technology, role of ASTM in providing standards 9-22435
 remote inspection system, for nuclear power stations 9-45386
 risk analysis of the fuel cycle in the Netherlands 9-26624
 safeguard systems effectiveness, SNAP network analysis technique 9-26658
 safeguarding on-power-fuelled reactors—instrumentation and techniques 9-26657
 safeguards technology, present status (*Japanese*) 9-26783
 seismic amplification factors of reactor components 9-597
 seismic instrumentation for nuclear power plants in Germany, review 9-620
 seismic response of flexible cylindrical liquid storage tanks 9-31241
 seismic testing motions anal. with instantaneous response spectra 9-22498
 semi-elliptical fault fatigue propagation, three-dimensional anal. (*French*) 9-23283
 SGHWR fuel performance, safety and reliability 9-36333
 SGHWR safety design and evaluation 9-26636
 skyshine dose due to gamma-rays from nucl. power plant (*Japanese*) 9-29917
 software coding for reliable data communication in reactor safety system 9-13496
 solid state trip system 9-6753
 stack gas monitor, β scintillation detector+Ge(Li) detector system, environmental γ dose (*Japanese*) 9-3246
 steel, for pressure components, fracture charact., implications for reliability 9-20199
 steel, PWR pressure components, mechanical factors affecting reliability (*French*) 9-20198
 steel lining as containment sealing layer (*Russian*) 9-30962
 steel pressure vessel, reliability aspects 9-22430
 structural reliability, time-depend. nature modelling 9-18013
 structural wall test results, applicability to seismic design, review 9-592
 Super Phenix reactor vessel research and development (*French*) 9-30947
 surface decontamination efficiency, influence of carrier (*Czech*) 9-31222
 Swedish underground nuclear reactor containment studies, review 9-600
 technical safety control during normal reactor operation 9-26646
 thermal hydraulics, sensitivity theory development 9-17963
 thermal power reaction, 3-dimens. transient anal., finite difference and spacetime synthesis methods 9-17989
 thermal reactor station safety requirements UK experience 9-26622
 thin plates perforated by hard missiles, energy dissipation prediction 9-8361
 THTR 300 MW(e) prototype reactor, safety anal. under extreme accident conditions 9-31087
 THTR-300 PBR, nuclear material safeguards system 9-22427
 tornado missile hazard, synthesized windfield model 9-31239
 tornado missile transport analysis 9-12205

fission reactor safety continued

- transient analysis, appl. of statistical methods to sensitivity anal. of Problem 2 9-31058
 transient overpower accident, transient press. field of gas in MOX fuel porosity 9-36348
 transient temp. field in nuclear fuel rod, calc. by variational procedure 9-9772
 TREAT, fast neutron hodoscope perform. tests on 91-pin fuel bundle 9-41005
 Trino power plant, in-service inspection and operating experience, main coolant circuit (*Italian*) 9-17992
 Trino PWR pressure vessel in service inspection, planning and organisation (*Italian*) 9-17993
 turbulent convection in fluid layer with internal and external heating, reactor safety anal. 9-32514
 underwater repair, innovative technique 9-3226
 US holography for defect size meas. at inservice inspections of nuclear components 9-45372
 US reactor operating experience, qualitative assessment 9-26627
 US reactor safety principle evolution, accidents and safety systems 9-26613
 US test results, data evaluation problems 9-9770
 vapour phase heat transfer in post critical heat flux region 9-9668
 VVER, nuclear power station safety 9-26560
 VVER-440, nuclear fuel control, role of IAEA (*Hungarian*) 9-13435
 VVER-440 reactors, emergency operating conditions following main circulation pipe failure, computer aided anal. 9-9823
 welded pressure components, effect of material property changes on operating conditions 9-20197
 WWER reactor safety problems, LOCA prevention (*Russian*) 9-26629
 Zircaloy clad fuel rod burst behaviour in simulated PWR LOCA 9-36337
 Zircaloy cladding, effects of stress biaxiality on ballooning behaviour 9-30919
 zircaloy-4, oxidation in high temp. steam atm. effect on cladding ductility 9-26515
 Na leakage in reactor steam generators, solution kinetics of solid NaOH in Na 9-36365
³H concentration measurements in nuclear power plant atmosphere, instrumentation 9-26765
³H distribution between gas and liquid in isotope equilibrium in H₂O-H₂S and D₂O-D₂S systems 9-45376
 LiF-TLD, nuclear reactor mixed radiation field, ambient atm. effect 9-13537
 N₂O₄ gas cooled fast reactor power stations, nuclear and chemical safety (*Russian*) 9-26655
 Na coolant, effect of high reactivity with air and water on reactor design (*French*) 9-26526
 Na cooled fast reactors, safety aspects (*Russian*) 9-26648
 Na fires, origination and mechanism, form. and sedimentation of Na aerosols, review (*Czech*) 9-30956
 Na pool fuel vapour and aerosol transport in HCDA 9-13455
 Na test loop boiling, acoustic detection expts. 9-13487
 Na thermodynamic props. for reactor safety analysis 9-13478
 Pu, fume aerosols, aerodynamic and dissolution behaviour of laser-ignited droplets 9-13438
 T buildup in D₂O of CANDU reactors, due to ³He(n,p)³H reaction 9-22389
 UO₂ and UC drops, fragmentation on entering Na pool in LMFBR 9-3225
 UO₂ fuel, fragmentation gas thermodynamics 9-13458
 UO₂ heat-generating, molten, interaction with MgO brick 9-13468
 UO₂ liq., splashed on Na, no evidence of entrapment 9-41000
 UO₂ pellet storage facility, large dry, criticality eval. 9-26668
 UO₂-Na contact interface temp., effect of internal radiation 9-13477
 UO₂-Zr fuel performance evaluation in power ramp tests 9-26544
²³⁸U Doppler effect obs. in advanced fuels critical assemblies 9-9739

fission reactor theory and design

see also *fission reactors; fission research reactors; neutron transport theory*

- 1 GW(e) mixed fuel cycle LMFBR performance, effect of ²³³U in core 9-9868
 A-1 power reactor, Pu isotope form. calc., effect of reactor characts. 9-26489
 accelerator-based spallation breeder for fuel enrichment 9-13498
 accelerator-driven reactor fuel cycle 9-26678
 advanced fuels programme carbide benchmark critical assembly, nuclear data sensitivity 9-9707
 advanced nuclear energy systems, emerging concepts, conf., Graz, Austria (March 1978) 9-13381
 alternative containment designs, value/impact comparison, containment failure and safety aspects 9-13464
 annular core pulse reactor upgrade physics and core design calc. 9-13409
 assessments of nuclear systems and use of nuclear power, review 9-45334
 bilinear system Volterra-kernel estimation 9-26512
 BN-350 reactor, development, design and operating experience (*Russian*) 9-26511
 boiling mixing studies in water loops, BWR, PWR reactors 9-26502
 BOR-60 fast reactor, reactivity balance calc. statistical error 9-17966
 breeder reactor, with circulating liquid-salt fuel, fission product radioactivity reduction and residual heat release 9-26490
 burnup anal., depletion perturbation theory for coupled neutron-nuclide field 9-45339
 BWR, design, construction and organisation of Caorso nuclear power station, Italy (*Italian*) 9-26471
 BWR, design and operation, review of water chemistry, in feed water, coolant and steam systems 9-36311
 BWR, expt. reactor, design of control systems using Horowitz method 9-45338
 BWR, prediction model for shutdown margin reactivity 9-26476
 BWR, shutdown dose rate of primary cooling system, prediction by empirical formula 9-22408
 BWR, Swiss 942 MWe project, Dutch (NUCON) development (*Dutch*) 9-3191
 BWR control blade homogenization, influence on nodal coupling parameters 9-26563
 BWR island-design Pu recycle fuel assemblies, nuclear fuel performance meas. 9-30907
 BWR noise anal., identifiability of dynamics using autoregressive modelling 9-45340

fission reactor theory and design continued

- BWR physics methods compared with ²³²Th lattice benchmarks 9-9711
 BWR void reactivity feedback, statistical weight factor 9-9702
 BWR with graphite channels, safety of nuclear power stations 9-26561
 CANDU, optimum burnup distribution in a continuously fueled reactor 9-36305
 CANDU design evolution 9-13417
 CANDU power reactor, pressure tubes, design and development 9-36372
 centralised heat supply and central heating, reactor design and development 9-26730
 characteristic fuel element temps. calcs., statistical treatment of defects 9-45351
 Clinch River breeder reactor, ALARA nature of design effluents 9-22420
 Clinch River Breeder Reactor Plant containment concept 9-13401
 Clinch River Breeder Reactor Project ex-vessel transfer machine design and development 9-9787
 Clinch River Breeder Reactor Project fuel core design advances 9-9686
 CMEA reactor development, fuel cycle aspects (*Russian*) 9-26505
 component improved reliability, design consideration 9-22383
 component-support impact dynamics, elastic anal. by model expansion method 9-45343
 composite prismatic bars, doubly connected cross section, heat flow shape factors, anal. determ. 9-1068
 conference on nuclear power and its fuel cycle, Salzburg, Austria (May 1977) 9-26504
 converter reactors, fuel supply enhancement by use of non-fission neutrons 9-17960
 core bowing history computer program 9-9688
 core physics parameter meas. uncertainty 9-9801
 core power distribution calc., FLAMES nodal code accuracy 9-9703
 coupled-core reactor, optimal control by two level scheme based on decomposition principle (*Japanese*) 9-17961
 critical point reactor, response to inherent reactivity noise input 9-45336
 critical reactor calc., AGA two-sweep iterative methods 9-36298
 criticality calculations, random geometry model of fissile solns. containing borates Raschig rings 9-36310
 criticality safety broadgroup library validation using uranium systems 9-26564
 crossed progeny and other non-standard fuel cycles 9-26498
 data adjustment iteration procedure 9-9696
 DIMCO system for mechanical calculations on nuclear fuels (*Spanish*) 9-6727
 diversion cross-flow between two parallel channels communicating by a lateral slot 9-30901
 Dragon HTR project, review 9-45326
 earthquake response spectrum estimation from stimulated spectrum 9-686
 earthquakes, structural anal. of lifting-off 9-596
 EBR-II, neutronics design of safety research modification 9-30990
 effective neutron resonance cross sections, calc. in energy and space 9-17954
 eigenvalue spectrum of homogeneous multiplying systems for monoenergetic neutrons with anisotropic scattering 9-22353
 ENDF/B-IV benchmark analyses with full spectrum three-dimensional Monte Carlo models 9-9701
 energy autocorrel. of fission cross-section data in resonance region, probability table method 9-36284
 ESSOR heterogeneous reactor, calc. of reactivity, flux distrib. and power by CART loop 9-30891
 fast breeder reactors, fuel rod behaviour, influence of design, materials and operation (*Spanish*) 9-36314
 fast reactor, effective cross sections of fission products calc. (*Dutch*) 9-537
 fast reactor design data adjustments 9-9695
 fast reactor fuel cycle cost, sensitivity anal. 9-26501
 fast reactor fuel design and development 9-31133
 fast reactors, generalized treatment of heterogeneity effects for the shielding factor method 9-40990
 fast reactors, impact of ENDF standards 9-9734
 fast reactors, programme and state of work in the Soviet Union 9-643
 fast reactors employing dissociating N₂O₄, thermophysical anal. (*Russian*) 9-30909
 fatigue life prediction, defn. of safety factors 9-6732
 fatigue loading, growth of underclad flaws 9-22429
 FBR, 2-D power distrib. calc. by appl. of Askew coarse mesh method 9-22372
 FBR, experimental, math. model for control system design in FBR plants 9-17990
 FBR, fission product decay heat calc. by summation method 9-30863
 FBR, heterogeneous active zone, development trends (*Czech*) 9-36303
 FBR, programme and development status in France (*French*) 9-26509
 FBR, Th cycle, reactor physics parameters 9-26482
 FBR, Th fuelled, breeding ratio determ. 9-26483
 FBR, three-dimens. diffusion calcs., spatial mesh effects 9-13515
 FBR alternative fuelled core designs, physics parameters 9-9722
 FBR current status and development trends, review 9-22374
 few-group diffusion theory, one-group coarse mesh technique 9-26495
 FFTF dynamic modelling and sensitivity analysis 9-605
 fissile fuel dynamics of breeder/converter reactors 9-13385
 fission gas behaviour in fuel pins prior to transient testing 9-30921
 fission reaction rate standards and applications 9-9650
 flexible dual-containment approach design and licensing 9-13400
 flow-induced vibration anal. of nuclear reactor components 9-22380
 fluid coupled concentric cylindrical vessels, normal mode solution 9-37157
 Fort St. Vrain HTGR power station, review of design and operation 9-45353
 fuel assemblies in vertical flow channels, computer dynamic model 9-22379
 fuel cycle and nuclear power plant development in USSR, economic aspects 9-644
 fuel cycle back-end services, utility optimization model 9-30906
 fuel elements, control rods, transient thermal stress anal. 9-599
 fuel pin claddings, fission gas driven creep calcs. 9-26531
 fuel rod geometry changes, mech. interactions calcs. 9-40993
 fuel storage pool criticality calc., transport-consistent diffusion algorithm 9-9721
 fusion-fission hybrid reactor, laser driven, fuel breeding and power prod. 9-22473

fission reactor theory and design continued

fusion-fission hybrid reactor, mirror confinement, fuel design consideration 9-22472
fusion-fission hybrid reactor fuel cycle considerations 9-22474
fusion-fission hybrids, mag. mirror blankets and drivers 9-13517
fusion-fission reactors, performance parameters, design and fuel cycle anal. 9-17973
fusion/fission reactors, inertial confinement systems, review 9-13519
gas cooled reactor experience and programs in France, reviews 9-45332
gas cooled reactors, background and status in UK, review 9-45333
gas core reactor, high temp., wall stabilisation, possible use of graphite 9-3190
gas-cooled reactors, current development status, review 9-22375
gaseous core reactor neutronics, proliferation potential, and resource utilisation 9-9716
gaseous core reactor nonproliferation features 9-9740
GCFR, design and operation, review 9-45325
GCFR design studies, review 9-45330
GCFR radial blanket velocity and temp. distrib., buoyancy effect 9-9678
graphite, radiation damage and its relevance to reactor design 9-33016
heterogeneous Gas Core Reactor power plants 9-9671
heterogeneous LMFBR power distribution sensitivity reduction 9-9704
heterogeneous reactor, homogenization, finite difference eqns. of neutron distrib. 9-40992
heterogeneous reactor, neutron distrib. determ. by 1-D multiregion cylindrical cell 9-26488
heterogeneous reactor, neutron thermalisation effects on physical characts. 9-26487
HFR test reactor, HIP-TEDDI code for neutron flux calcs. 9-3223
homogenized group parameter computation 9-26493
Horowitz method of reactor control system design, BWR appl. 9-45338
HTBFR, constitutive equations of structural austenitic steels 9-6730
HTGR, perspectives, problems and programmes 9-26508
HTGR fuel elements, reactivity of multiplying systems determ., kinetic methods, pulsed neutron method 9-3220
HTR, failure processes, life prediction, elevated temp. codes 9-6745
HTR, fuel temp. coeff. of k_{eff} , determ. by null reactivity oscillator method 9-30890
HTR, inelastic structural anal. for component design 9-6734
HTR components, design implications of inelastic structural anal. 9-6729
Inconel, pressure vessel bottom, subcritical crack growth in ligament between instrumentation rods 9-22428
inelastic structural anal., thermomech. constitutive eqns. 9-6731
infinite plate with two holes, stress concentration reduction by interference fits 9-37158
inlet coolant temp. fluctuations transfer function, space-depend. global component 9-30887
integral and differential expt. interplay in uncertainty identification 9-9699
integrated nuclear power system, mathematical model (*Rumanian*) 9-41013
Japanese Evaluated Nuclear Data library, use of nuclear data (*Japanese*) 9-9982
large core hexagonal assembly, triangular-mesh neutron transport calc. 9-9720
laser-fission-fusion systems, coupled nuclear-thermohydrodynamic anal. 9-13520
LMFBR, 1200 MW(e), comparison of SAS3D LOF transient anal. for conventional and nonconventional core designs 9-31039
LMFBR, 300 MWe, $A=239$, 240, 241, burnup characts. 3-D numerical anal. 9-22371
LMFBR, anisotropic diffusion effect on criticality of plate lattice fast assembly 9-26463
LMFBR, appl. of BWR simulator to neutronics calc. tool 9-40987
LMFBR, core designs, loss of flow transient anal. for 1200 MWe reactor 9-22415
LMFBR, idealised equilibrium expansion of mixtures calc. for UO_2 vapour bubbles in Na 9-22390
LMFBR, LOF, molten fuel cladding relocation, multichannel model 9-26556
LMFBR, Na-H₂O steam generator, calc. local heat fluxes in circular channels 9-36312
LMFBR, red. of two-phase thermal cond. and heat transfer by entrained inert gases 9-30897
LMFBR, SNR-300, criticality prediction 9-40989
LMFBR 1200 MW(e) performance rel. to core height reduction 9-9684
LMFBR core compaction, nonuniform interassembly gap effects 9-9682
LMFBR core design for Na void effect minimisation 9-9683
LMFBR core orificing computer code 9-9681
LMFBR finite hexagonal bundles, laminar mixed-convection heat transfer 9-607
LMFBR fuel subassembly temp. noise prediction, Monte Carlo approach 9-13392
LMFBR fuelling requirements rel. to Pu isotopic composition, core design 9-9738
LMFBR primary piping system components, fracture mech. review 9-595
low-decontamination approach to proliferation-resistant fuel cycle 9-26679
LWR, design meas. to reduce radiation dose to reactor personnel 9-3199
LWR, press. vessel and piping design, plasticity-related damage prevention 9-6735
LWR, thermal neutron steady state spectra in pure and poisoned water 9-36306
LWR design modification for in-core Pu utilisation improvement 9-9709
LWR fuel design, Italian progress in manufacturing, testing and management 9-26539
LWR fuel enrichment by linear accelerator, accelerator-target design 9-13497
LWR Pu isotopics, Advanced Recycle Methodology Program calc. 9-9710
LWR safety considerations in Sweden, reactor design for power plants 9-26631
LWR version of URANUS integral code for fuel rod mechanical calculations (*Spanish*) 9-36315
LWR-HWR tandem fuel flow concept 9-26496
MARIA, Polish high flux test reactor, leakage rate meas. in reactor containment 9-18001
mixed-mesh method description of highly anisotropic scattering 9-26494
molten-salt reactor, efficient fuel utilization without Pu separation 9-26499
MSBR safety anal. using one point kinetics model 9-22400

fission reactor theory and design continued

multigroup calculations for TRIGA-type reactor analysis 9-30876
multigroup scattering matrices, processing of ENDF/B data 9-26464
multiplex systems, reliability, reliability with repair and availability 9-41012
multizone reactor neutron flux profile optimisation program (*Russian*) 9-13412
national energy and nuclear power system plans of the Federal Republic of Germany 9-26506
network computations using a transient two-phase velocity difference model 9-26477
neutron bursts in matter, time-depend. linear transport eqn. 9-26462
neutron density fluctuations in on-off controlled reactor, exact stochastic anal. 9-36308
neutron diffusion eqns., channel power meas. correlation with lattice consts. 9-13380
neutron diffusion eqns., param. adjustment with DELILAH correlation code 9-13413
neutron diffusion in reactor core, uniform infinite lattice eigenvalue as function of buckling 9-609
neutron dosimetry, standardized techniques for appl. beyond reactor core 9-9920
neutron drift, complex buckling modes in asymmetric cell lattices 9-30881
nuclear energy synergetics, characts. of integrated systems 9-13382
nuclear fuel management via fuel quality factor averaging 9-30943
nuclear plant mix with minimum natural fuel requirement, optimum theory 9-26469
nuclear power project management, book 9-30875
nuclear reactor dynamics, qualitative anal. of simplified model 9-26486
nuclear reactor kinetics and control, book 9-26461
nuclear symbiosis, development of FBR and thermal spectrum near breeder reactors, review 9-45335
one-group neutron transport equation and angular flux separability 9-17952
optimal iteration strategies, geometric interpretation 9-22358
optimisation of spatial flux distrib. and Xe fluctuations by differential dynamic programming 9-45358
PBHTR, design operation and applications, review 9-45328
PBHTR net-breeding reactor system 9-3197
Peach Bottom 1, HTGR nuclear power station, review of design and operation 9-45327
pebble-bed HTR thermal breeding 9-9715
performance calc. improvement by data adjustment 9-9698
perturbation computation with correlated sampling, nuclear reactor neutron transport 9-588
PHWR, struct. optimisation at burnup equilb. by nonlinear programming 9-6736
PHWR design, integration into power stations, small plant role in developing countries 9-31170
pipe blowdown, expts. and nonequilb. anal. 9-30960
pipework integrity assessment 9-22431
plant component design, dynamic analysis, nonlinear effects, research status and needs 9-593
plates and shells, elastic-plastic, cyclic loading anal. variational method 9-37198
point kinetics equation, integration with improved steady-state behaviour 9-22378
pool swell dynamics during depressurization 9-30900
power and temp. fluctuations for reactor with temp. feedback, exact statistical anal. 9-36309
power plant design for underground rock cavity location, safety aspects 9-13398
power reactor design and fuel cycles, COMECON members' collaboration 9-603
power reactor resonance determ. by rod-drop method, Fourier anal. 9-22407
power reactor underground siting feasibility, Californian programme 9-13399
power system and fuel channels stochastic identification and parameter estimation 9-3201
pressure vessels, pre-stressed concrete, historical review 9-601
pressure vessels, use of prestressed cast steel for HTGR (*German*) 9-3196
prestressed concrete reactor vessels, construction movements, finite element anal. 9-621
prestressed concrete safety containments, calc. and constructional problems (*Russian*) 9-30961
prestressed secondary containments, explosive characts. near ultimate load, review 9-30968
Prototype Large Breeder Reactor pool concept 9-9670
PURINAMA, PuO₂-fueled zero-energy fast reactor 9-40988
PWR, high-speed in-core fuel management system 9-30971
PWR, improved load follow strategy for return-to-power capability 9-41010
PWR, LOCA anal., turbulent flow in fuel rod bundle with partial flow blockages 9-30898
PWR, Th cycle, parametric anal. 9-26467
PWR, use of ²³⁵U enriched fuel 9-26513
PWR and BWR hot channel factors, nuclear, thermohydraulic and technological factors (*Spanish*) 9-36336
PWR core Doppler spatial weight factor 9-9713
PWR design, higher order nodal depletion program MEDIUM-2, exptl. verification 9-26492
PWR fuel dissolution, Idaho processing plant remote systems 9-45455
PWR fuel storage, criticality eval. of low-density moderation 9-26667
PWR manoeuvring strategy optimisation 9-629
PWR pin power peaking factor prediction 9-9714
PWR primary circuit constituent materials, design features verification (*French*) 9-17976
quasi-redundant protective systems, optimal design 9-17996
quasilinear reactor system subject to white Gaussian multiplicative noise, moment stability anal. 9-22373
quench front motion, heat transfer coeff., surface approx. using boundary layer anal. 9-45342
radiation transport calc., Monte Carlo approach for engineers 9-585
RBMK-1000 channel U-graphite reactor, fuel assembly and fuel element design 9-40991
reactivity calc., cross-section library inadequacy 9-9697
reactivity calcs., correlated sampling Monte Carlo methods 9-22368
reactor fuel assemblies, optimum location 9-17968
reactor neutron noise anal. techniques, unified theory 9-30886

fission reactor theory and design continued

- reactor parameter estimation using empirical criticality eqn. 9-17965
 reactor shielding computation methods and programs in Poland (*Russian*) 9-26767
 reactor space time kinetics, quasi-static synthesis method 9-26479
 reflected reactors, two-group theory of noise, appl. to vibr. absorbers 9-26468
 regulatory activities and their research and developmental support in the USSR 9-26625
 RELAP-4 code, self initialisation of momentum eqn. 9-36307
 reload core design optimisation 9-604
 rock cavity construction of a nuclear power plant—a case study 9-26485
 rod response coeffs., end effect depend. 9-30888
 safety and reliability criteria, especially pressure boundary components 9-18009
 seismic amplification factors of reactor components 9-597
 seismic instrumentation for nuclear power plants in Germany, review 9-620
 self-shielded cross-section generation in complex multiregion cells 9-9718
 semi-elliptical fault fatigue propagation, three-dimensional anal. (*French*) 9-23283
 SGHWR safety design and evaluation 9-26636
 shells, internally pressurised 2:1 ellipsoidal, elastic and elastic-plastic buckling 9-37206
 singularly perturbed fixed end pt., problem, asymptotic series soln. 9-22370
 slab reactor with finite reflectors, criticality 9-26475
 small PWR containment complex and coolant system 9-13402
 SNR fuel design, critical aspects from experimental evidence 9-30910
 sNR-300, strategy and state of the elevated temperature design 9-6733
 source-driven systems, second-order generalised perturbation theory 9-36304
 spectral fine-structure effects on material and Doppler reactivity worths 9-26473
 spectral shift control reactor reevaluation 9-26497
 stable adaptive schemes, parameter identification nonlinear point reactor 9-9765
 standard neutron fields, integral meas. 9-13363
 steel pressure vessel, reliability aspects 9-22430
 structural alloys, time-depend. fatigue behaviour 9-1909
 structural reliability of mech. components and subassemblies of nuclear power plants, conf. 9-594
 structural wall test results, applicability to seismic design, review 9-592
 subcritical reactivity determ., more direct method 9-9717
 Super Phenix core design and development, fuel assembly behaviour (*French*) 9-30889
 Swedish underground nuclear reactor containment studies, review 9-600
 temperature-dependent resonance integral evaluation by HAMMER code 9-9708
 TESHOM computer code, data format input data for lattice codes 9-22381
 thermal benchmark lattice expts., quantitative consistency testing 9-9700
 thermal hydraulics, sensitivity theory development 9-17963
 thermal power reaction, 3-dimens. transient anal., finite difference and spacetime synthesis methods 9-17989
 thermal power reactor, operations research 9-13396
 thermal-hydraulic numerical calculations for VVER reactor cores (*Russian*) 9-26481
 THTR-300 PBR, nuclear material safeguards system 9-22427
 Tokamak demonstration hybrid reactor, blanket neutronics analysis 9-22469
 Tokamak-driven hybrid breeder reactor, liquid metal coolant, MHD effects 9-17974
 transient analysis, appl. of statistical methods to sensitivity anal. of Problem 2 9-31058
 transport equations for contributions 9-22354
 two-dimensional reactor sensitivity analysis using discrete-ordinates transport theory 9-9706
 USA fission energy R&D redirection, weapon material utilization 9-26510
 void coefficient for tight water lattices, dependence of moderator type 9-26470
 VVER, fuel burnup determ. by exact methods 9-41014
 VVER, proposals for increasing power station efficiency 9-26491
 water cooled and moderated reactors in Soviet Union nuclear power generation 9-642
 Weale expt. calc. using modified ENDF/B-IV cross sections 9-17908
 (n, p) absolute cross section at excitation function maximum 9-45272
 LMFBR, U-Pu-Zr fuelled breeding potential assessment 9-9685
 LMRBF, ²³³U-Th fuelled pin diameter optimisation 9-9687
 Na coolant, effect of high reactivity with air and water on reactor design (*French*) 9-26526
 (Pu,U)O₂, <5 wt.% PuO₂, criticality data generated by SU-HAMMER 9-3198
²³⁹Pu, criticality of thin flat foils versus spherical shells, two-group diffusion anal. 9-26530
²⁴⁰Pu resonance capture in reactor cell codes, parametric description 9-13384
 Th-PuO₂ kernels, effect of fuel particle size on power excursions, Doppler feedback mechanism 9-30911
 U resource utilisation and antiproliferation reactor concept 9-9735
 U-graphite channel power reactors, development in USSR (*Russian*) 9-26507
 U-graphite channel reactor development in the USSR 9-602
 U-ZrH system, neutron spectrum in critical pile 9-45322
 (U-Th)C fueled reactor system, large plant, performance parameters 9-26500
 UO₂-water tightly-packed lattices, ENDF/B-IV data evaluation 9-9805
²³³UO₂-ThO₂ water-moderated lattice analysis with ENDF/B-IV data 9-9800
²³⁵U(n,f), thermal fission, fission product decay heat evaluation by least-squares method 9-30865
²³⁵U(n,f) fission cross section standard, propagation of uncertainties, critical benchmark meas. 9-13361
 Xe decay chain expansion significance 9-9712
¹³⁵Xe, control of space-time distrib. in reactors 9-36364

fission reactors

- see also fission reactor materials; fission reactor operation; fission reactor theory and design; fission research reactors; nuclear engineering; nuclear physics; nuclear power stations
 advanced converter reactors with proliferation-resistant single fuel cycle 9-41026
 advanced nuclear energy systems, emerging concepts, conf., Graz, Austria (March 1978) 9-13381
 aerospace appl., energy conversion Conf., San Diego, CA, USA (Aug 1978) 9-48038
 breeder nuclear power stations, introductory outline (*German*) 9-26731
 BWR, Swiss 942 MWe project, Dutch (NUCON) development (*Dutch*) 9-3191
 BWR power stations, operating record and reliability, reviews 9-22403
 CANDU, T build-up in D₂O due to ³He(n,p)³H reaction 9-22389
 CAS medium-size nuclear plants 9-31169
 components and vessels, underwater plasma arc and explosive cutting 9-9922
 conference, San Diego, Calif., USA (June 1978) 9-17972
 converter reactors, fuel supply enhancement by use of non-fission neutrons 9-17960
 decommissioning nuclear facilities, criteria, standards, policies 9-31166
 decommissioning of nuclear facilities 9-31165
 denatured Th cycle in symbiotic systems, potential role 9-26484
 fast pulse reactor, standardisation of neutron dosimetry 9-13543
 fast reactor fuel design and development 9-31133
 fast reactor role in limitation and control of Pu prod., waste disposal 9-9758
 fast reactors Na cooled, core component material irradiation induced void swelling and creep, technological consequences summary 9-36327
 FBR, programme and development status in France (*French*) 9-26509
 FBR, status and development in Japan 9-26737
 FBR, status and development in the Federal Republic of Germany 9-26738
 FBR, status and programme in UK, out-of-pile fuel cycle 9-26736
 FBR programme in USSR, present status (*Russian*) 9-26735
 FBR SNR 300, design information, risk factors (*German*) 9-26727
 fusion-fission hybrid reactor, laser driven, fuel breeding and power prod. 9-22473
 fusion-fission hybrid reactor, mirror confinement, fuel design consideration 9-22472
 fusion-fission hybrid reactor energy research program 9-22471
 fusion-fission reactors, performance parameters, design and fuel cycle anal. 9-17973
 gas cooled breeder reactors, development status and performance comparison 9-26741
 gas cooled fast reactors with dissociating coolant, 1200-1500 MW, problems and prospects (*Russian*) 9-26742
 gaseous core reactor neutronics, proliferation potential, and resource utilisation 9-9716
 gaseous core reactor power production with minimal transuranic wastes 9-9806
 GCFBR, research and development, current status (*Hungarian*) 9-6759
 heat supply, district heating, nuclear reactors, applicability (*Russian*) 9-31173
 heating plants, big cities, industrial complexes, nuclear reactor applicability (*Russian*) 9-31174
 HTGR, nonelec. appl., prod. of H₂ and synthetic hydrocarbons, review 9-45329
 HTR primary component materials, properties, advantages, and limitations 9-36329
 IRT-2M reactor with loop channels in active area, physical parameters (*Russian*) 9-31067
 light water hybrid breeding reactors, source driven, blanket design and perform. 9-13518
 LMFBR, fuel handling and storage system 9-45394
 LMFBR, Na breeder reactors, French and Soviet programme survey (*French*) 9-41029
 LMFBR, safety c.f. thermal reactors 9-26562
 LMFBR, spent fuel shipping system 9-45385
 LMFBR evaporator tubes, corrosion and heat transfer 9-1088
 LWFBR, neutron balance in chain reaction, delayed neutrons role, reactor safety (*German*) 9-26726
 LWHR, source driven, Li-free neutron sources, feasibility and comparisons 9-13383
 LWR, ³H, formation and elimination (*French*) 9-31164
 LWR, system inception and fuel cycle in France (*French*) 9-26689
 LWRs, installation in small developing countries 9-31167
 MR research reactor, fast neutron space-energy distrib. 9-40983
 MSR (Pu converters) and MSBR's in commercial nuclear power stations 9-26740
 neutron skyshine from nucl. facilities (*Japanese*) 9-18054
 nuclear power programme, Philippines, prospects, problems 9-31175
 Phenix LMFBR, radioactive effluent release, operating team irradi. results (*French*) 9-31163
 Phenix reactor, fuel behaviour and characts. (*French*) 9-31162
 PHWR design, integration into power stations, small plant role in developing countries 9-31170
 power conference, Lausanne, Switzerland (Oct. 1977) 9-36326
 PWR, German, U-tube steam generators, inspection findings 9-9849
 PWR, small, electricity and steam supply, technical and economic studies 9-31171
 PWR, Th cycle, parametric anal. 9-26467
 PWR, use of ²³³U enriched fuel 9-26513
 PWR and BWR systems and fuel cycle in USA 9-26687
 PWR power stations, operating record and reliability, reviews 9-22404
 Rapsodie fast reactor, closed fuel cycle (*French*) 9-31161
 reactor physics development by BSSR Nuclear Energy Institute (*Russian*) 9-36313
 seawater desalting, reactors coupled to multieffect distillation plants, feasibility 9-31172
 small and medium power reactors, problems, prospects 9-31168
 Super Phenix nuclear reactor containment vessel, stress anal. (*French*) 9-41023
 thermal breeding, status and prospects, preliminary report 9-26739
 Tokamak, physical properties 9-6765
 volatile fission product atmospheric release from nuclear reactors and fuel reprocessing plants 9-34461
 VVER, proposals for increasing power station efficiency 9-26491
 VVER type reactor physics, ZR-6 critical assembly (*Russian*) 9-31159
 VVR-M reaction channel slow neutron field, parameter meas. 9-31325

fission reactors continued

D-D catalytic fusion-fission breeder, synergetics 9-22460
D-D fusion-fission hybrid reactor, energy multiplication and fissile prod. 9-36409
N₂O₄ dissociating coolant reactors, power stations and radiation sterilization in Belorussia (*Russian*) 9-36398
Na-cooled fast reactors, material corrosion problems 9-36328
U-graphite channel power reactors, development in USSR (*Russian*) 9-26507

fission research reactors

see also *fission reactor core control and monitoring; fission reactor theory and design; nuclear reactor instrumentation*
annular core pulse reactor upgrade physics and core design calc. 9-13409
AUWARM, H- and T-permeation in HTR reactors (*German*) 9-3204
boiling mixing studies in water loops, BWR, PWR reactors 9-26502
Braunschweig research and measurement reactor, work report for 1977 (*German*) 9-6737
Brookhaven High Flux Beam Reactor capability enhancement 9-9694
Buffalo PULSTAR reactor refuelling 9-9793
BWR, steady state reactor plasma in CO₂+N₂+³He gas mixture 9-10279
CIRENE reactor control, two phase flow rods, BUANA and TICO codes 9-17994
Dragon HTR project, review 9-45326
dynamic measurements of a nuclear reactor using low-peak-factor excitation signals 9-36349
EBR II, ²³⁸U(n,f) fast neutron fission yield determ. 9-40970
EBR-II, neutronics design of safety research modification 9-30990
EBR-II active calorimeter design improvement 9-9967
EBR-II primary system piping evaluation for safety research modification 9-9785
EBR-II reactor shutdown system upgrading, safety features 9-9796
EBR-II steam generator tube bore side inspection probe and drive 9-9850
effluent monitoring programme design and organisation principles 9-13548
fast neutron facility in CP-5 reactor, neutron flux, energy spectrum, primary recoil distribution 9-41056
fast neutron pulse reactor, IBR-2, 4 MW 9-699
FBR, experimental, math. model for control system design in FBR plants 9-17990
FFTF core component meas. system 9-9728
FFTF dynamic modelling and sensitivity analysis 9-605
FFTF element measuring system 9-9729
FFTF-type eddy-current flowmeter performance in SLSF P-series test trains 9-9669
gas-cooled reactors, current development status, review 9-22375
HFR test reactor, HIP-TEDDI code for neutron flux calcs. 9-3223
HTGR, perspectives, problems and programmes 9-26508
intermediate-energy secondary spectrum system, determ. of neutron characteristics, Σ -ITN (*Rumanian*) 9-22355
KEMA Suspension Test Reactor neutron flux and Dodewaard BWR temp. noise 9-3193
MARIA, Polish high flux test reactor, leakage rate meas. in reactor containment 9-18001
materials testing reactors, low enriched fuel cycle 9-31095
neutron radiography using research reactors 9-11757
neutron scatt. techniques in applied research, medium-flux research reactors 9-13514
NISUS facility, sensitivity anal. for secondary intermediate energy standard neutron field 9-36451
noise analysis, Polish developments 9-3216
North Carolina State Univ., PULSTAR reactor utilisation 9-9856
NRX anal. support expts. performed in ZED-2 9-13416
nuclear medicine growth, contribution of research reactors 9-11998
Orpheus, new experimental reactor (*French*) 9-45399
Peach Bottom 1, HTGR nuclear power station, review of design and operation 9-45327
PURINAMA, PuO₂-fueled zero-energy fast reactor 9-40988
RBT-6 swimming pool research thermal reactor 9-18028
reactor loop, experimental, hazard and protection from tritium 9-36420
Sandia Laboratories nuclear weapon neutron environment simulation, hardening tests 9-22448
Sandia Pulsed Reactor III operational history 9-9790
THTR 300 MW(e) prototype reactor, safety anal. under extreme accident conditions 9-31087
TREAT, fast neutron hodoscope perform. tests on 91-pin fuel bundle 9-41005
TREAT fast-neutron hodoscope, time and mass resolution of fuel motion, data acquisition system 9-41003
TRIGA, instrumental neutron activation analysis pulsed irradiations 9-36450
University of Lowell Reactor utilisation 9-9857
USA National Bureau of Standards reactor utilisation 9-9693
Venezuelan research reactor reload fuel optimisation 9-9737
VIPER reactor, neutron leakage spectrum and dose meas. 9-3243
water resource research using Pennsylvania State Univ. reactor 9-12159
Weapons Neutron Research Facility initial target/moderator configuration 9-9933
zero-power plutonium reactor gamma-ray counting system, computer processing code for large numbers of spectra 9-9942
ZPPR, generalized treatment of heterogeneity effects for the shielding factor method 9-40990
ZPPR meas., criticality prediction of SNR 300 9-40989
ZPPR modification (1977), neutron diffusion calcs. 9-9662
ZPPR-5 Source Level Flux Monitor expt. analysis 9-9705
U₃O₈-Al cermet fuel for research reactors 9-9835

fissures see cracks

flame sprayed coatings

No entries

flame spraying

No entries

flameproofing

see also *fires*
cables, flame resistant, for nuclear power stations, develop. and qualification tests 9-687
International wire and cable symposium, Cherry Hill USA (Nov. 1978) 9-37018

flames

see also *chemically reactive flow; combustion; fires*
acetylene flame, Na and MgO concs. meas. by laser saturation spectroscopy 9-29425
alkaline earth flame chemistry, photometric meas. of H₂+O₂+N₂ flames with/without Ca, Sr, Ba additions 9-8439
atomic absorption spectroscopy, spectral interference by lithium salts in air-acetylene and Ar-H₂ flames (*Japanese*) 9-48018
atomic absorption spectroscopy, spectral interference by potassium salts in air-acetylene and air-Ar-H₂ flames (*Japanese*) 9-48019
atomiser chamber electrode-diffusion flame, atoms distrib. in absorpt. zone, convection currents role (*Russian*) 9-34420
collisional processes, coherent optical transient spectroscopy 9-39147
combustion bomb microwave cavity, electrically loaded with propagating flame front electron plasma, theory and expt. 9-20369
compressible ideal medium, flame front instability analysis (*Russian*) 9-27711
condensed fuel, combustion and extinction in stagnation pt. boundary layer 9-29356
diffusion flames, appl. of quasi-linearisation techniques 9-20368
diso-stabilised diffusion flames, vel. characts. 9-34309
education, plasma-laser beam self focusing using paint stripper flame 9-9066
flows induced by flames propagating over condensed fuels, two-component LDV meas. 9-23380
fuel droplet, burning anal., quasisteady model (*Japanese*) 9-32712
gas breakdown thresholds induced by ruby laser 9-1951
gas temperature measurement, spectral technique (*Chinese*) 9-35749
n-heptane, cool flame stabilised by turbulence (*French*) 9-1952
and hot gas flows, similarity criteria (*Italian*) 9-27714
jet, premixed, impinging on plane surface, turbulent heat transfer 9-4054
laminar diffusion flames, struct. and extinction by suppressive agents 9-32705
laminar flame propagation, asymptotic anal., review and extension 9-47926
laminar premixed gaseous, amplification of propagating acoustic signal 9-29357
laser Doppler anemometry of high-temp. industrial gas flow (*German*) 9-10618
methane-air flame, reactions, radical overshoot 9-34308
methanol-O₂ flame, combustion and ionisation 9-20357
plasma flow velocity measurement, Langmuir probe method 9-46475
plume behind bluff body with fuel injection, elec. cond. mechanism 9-39150
premixed turbulent flow, spectral interpretation of the propag. vel. (*French*) 9-4090
rate constants for A+X \rightleftharpoons A⁺+X⁻ and AX+M \rightleftharpoons A⁺+X⁻+M (A=metal, X=halogen, M=flame species) 9-34310
singing, struct. investig. by holographic interferometry (*Russian*) 9-29361
temperature and conc. meas. by rot. Raman scatt. 9-31530
thermochemical gas analyzer, porous flame barrier, reagents, reaction products, conc. diffusion (*Russian*) 9-29359
turbulent, acoustic noise (*Russian*) 9-32708
turbulent, temp. and conc. calcs. (*Russian*) 9-32707
turbulent diffusion, mass entrainment, momentum flux and temp. 9-32704
Ba+N₂O, chemiluminescent flame, BaO states population 9-39153
CuF, from gas phase reaction, photon yields, chemi- and photo-luminesc., excitation spectra 9-5157
H₂ laminar diffusion flame in air, Raman spectra diagnostics 9-47928
H₂-O₂-N₂:K, P, electron attachment, compound form. 9-11794
H₂O in flames, coherent anti-Stokes Raman spectrum 9-36652
N₂ rot. temps. determ. in diffusion flames using CARS 9-29358
Na, fluoresc. in flame, saturation curves with pulsed tunable dye laser 9-36579
Na, Rayleigh scatt. from vap. in flames with N₂ and Ar diluents 9-22627
Na, wing profiles in flames with N₂ and Ar diluent 9-22660
Na-seeded H₂-O₂-Ar, population inversion, two-photon laser excitation 9-34307
O₂-H₂-Ar, atm. press., Na(3P) lifetime obs. 9-39149
OH concentration in flame, local and instantaneous meas. by laser induced fluoresc. obs. (*French*) 9-15999
OH local concentration in flame, direct meas. from single laser pulse induced fluoresc. 9-39229

flare stars see stars

flares, solar see solar flares

flash lamps

dye laser, reliable thyatron switched flashlamp pumped 9-31930
laser, tunable organic-dye, detachable pumping lamp 9-36907
light-time characts. (*Russian*) 9-32012
macrophotography, simple flash equipment 9-17513
pulsed laser operation, flashlamp technology and design requirements 9-36912
quadraxial high repetition rate adapter for coaxial flashlamp pumping of laser dyes 9-45949
shell transparency changes and dynamic colour (*Russian*) 9-10370
Xe flashlamps with interf. coatings, laser pumping efficiency improvement 9-10316
Xe, thermally assisted flash annealing of ion-implanted Ge and Si 9-10881

flash photolysis see photolysis

flashover

air gap corona pulse delay obs. and HV insulation design 9-19117
polycarbonate plate, impulse surface flashover in vacuum, effect of normal elec. stress 9-4199
TiO₂-polycarbonate laminate, impulse surface flashover in vacuum, effect of normal elec. stress 9-4199

flaw detection see crack detection

flexoelectricity

nematic liquid crystal, parallel and cross-like domains due to DC and LF electric fields 9-46557
smectic liquid crystals, piezoeffects and ferroelectric phenomena 9-32883
smectic mesophases, viscoelastic properties and field instabilities 9-27904
LC-440, flexoelec. charact. of longitudinal domains 9-46570
MBBA, flexoelec. charact. of longitudinal domains 9-46570
PAA, flexoelec. charact. of longitudinal domains 9-46570

flexural strength *see bending strength*

flicker noise *see random noise*

flip-chip devices

see also thin film circuits

▲ No entries

flip-flops

digital phase shift for meter calibration 9-44898

floating zone method (crystal growth) *see zone melting*

floating zone refining *see zone refining*

flocculation

see also colloids; sedimentation

dissolved Fe, Mn, Al, Cu, Ni, Co and Cd flocculation during estuarine

mixing 9-29774

emulsion, oil-in-water, electrolyte flocculation of stabilised potassium

9-43638

floc settling velocity, rel. to permeability 9-43636

Graphon, colloidal dispersion in butanol, stability ratio 9-29413

heterosteric stabilization and selective flocculation 9-24836

kaolin, -flint mixtures, polyethylene oxide additive effect on plastic

strength after tempering 9-24568

pigment dispersion rheology, kinetic model, expt. results 9-7361

polymerisation, from emulsion, homogeneous nucleation 9-29354

polystyrene, colloidal dispersion in butanol, stability ratio 9-29413

flow

see also chemically reactive flow; compressible flow; Couette flow; external flows; flow instability; flow measurement; flow through porous media; Knudsen flow; laminar flow; magnetohydrodynamics; multiphase flow; non-Newtonian flow; plasma flow; Poiseuille flow; pulsatile flow; rotational flow; shear flow; stratified flow; supersonic flow; transonic flow

Bernoulli force, coffee cup demonstration, for teachers 9-35482

channel, variational methods, book contrib. 9-32456

channel array with interconnections, finite-difference scheme 9-4012

channel flow, analytical soln. 9-32672

channel flow, Navier-Stokes eqns. by semidirect method 9-7413

channel flow, wall heat transfer, thick wall case, difference method

9-37129

channel streamlines, second-order-smooth plane sign-alternating contours

9-32678

channel with 90° bends, controlled flow expts. 9-32677

condensation, flow of vap. over cylinder, two-phase boundary layer eqns.

9-46306

condensation on inner tube wall, laminar film condensation 9-46388

cylinder array, wall attached and with tip clearance, heat transfer and

press. drop 9-14394

cylinder in incompressible flow, finite element anal., wake development

and stability 9-14364

dispersion eqn., solns. 9-41649

ducts, axisymmetric potential flow 9-14480

Earth mantle, two-dimensional flow beneath rigid accreting, lithosphere

9-12102

education, irreversible processes, linear coeff. calc., kinetic and Onsager

reciprocity theorems, gas flow appl. 9-9053

entrance region flow in a vertical cooled pipe with variable viscosity

9-7409

finite element analysis, Ritz-Galerkin and least squares methods 9-1150

finite elements for numerical simulation, error estimates, Stokes problem

9-1151

flames and hot gas flows, similarity criteria (*Italian*) 9-27714

fluid computations using infinitesimal functionals, variational approach

9-14365

gas to vacuum flow through capillary, geom. of capillary 9-7411

gravity current head dynamics, mixing and Kelvin-Helmholtz billows

9-37368

groundwater flow pathways determ. from satellite altitudes, apparent

radiance data appl. 9-16522

heat transfer bibliography 9-32503

high Reynolds no. flows, finite element method, book contrib. 9-32442

incompressible flow, losses due to direction change, investigation 9-18896

incompressible flow influenced by gravitation, hydrodynamic soln.

9-41648

incompressible viscous flow, finite element-anal. by penalty function

formulation 9-41651

irrotational symmetric steady flow in channel, soln. by variational method

(*French*) 9-18954

isotropic compression, initially uniform medium, time reverse method

(*French*) 9-23295

isolated liquid volume motion 9-46280

linear equation solution, out-of-core assembly in FORTRAN IV subrou-

tines 9-30213

liquid, rate calc. (*Russian*) 9-32436

liquid slip inside channel exit 9-10612

mass continuity eqn., soln. obtained by change of variable 9-27613

micropolar fluids, initial boundary value problems 9-14373

nonstationary flows, slowly varying, calc. via method of characteristics

with fixed net (*German*) 9-5515

passive scalar, effective long-time diffusivity in Gaussian model fluid flow

9-32439

pipe flow, nonaxisymmetric wave 9-46390

potential flow, mixed hybrid finite element methods, book contrib.

9-32445

Reynolds eqn., one-dimensional, with slip boundary conds., perturbation

soln. 9-14372

rib-roughened surface, heat transfer and friction 9-46308

rivulets, flowing down vertical solid surface, contact angles, roughness

effect 9-27731

rod cluster, recirculating flow due to blockage, finite difference method for

temp. 9-3200

sinusoidal flow, theoretical study of stability (*French*) 9-27619

slender-body theory, at low-Reynolds number 9-3992

slow unsteady flow in axisymmetric tube of varying radius 9-7410

solar receiver, fluid flow in helical channel (*French*) 9-24910

spatial free-boundary flow, boundary-value pattern 9-46279

square plate in oblique airflow, local heat transfer 9-41684

steady viscous incompressible flow, two dimens., finite element anal.

9-23297

Stokes flow, analogy to incompressible nonviscous plasma flow (*Italian*)

9-19008

stopped flow kinetic studies, problems concerning mixers and detectors

9-8585

flow continued

stream function-stress function approach incompressible flow 9-1146

surface run off models, two dimens., kinematic wave approx. 9-4099

symmetric gas jet, flow computation (*Russian*) 9-37374

tube, symmetrically constricted, upstream separation 9-4083

turbine blades, subsonic gas flow integral eqn. method (*Russian*) 9-27662

viscogravitational flow in vertical channel, vel. meas. 9-32671

viscous flow part cylinder, singular perturbation of an Exterior Dirichlet

problem 9-12613

viscous free flowing media in tubes 9-14479

viscous gas, in cylindrical channel of finite length, nonlinear acoustic

effects 9-18958

viscous incompressible Stokes flow, primitive eqns. solns., variational

models 9-18857

flow birefringence

arterial bifurcations, glass models, pressure meas. 9-25021

measurement using circularly polarised laser beam 9-35813

poly-N-vinyl imidazole solution, light scatt., viscosity and dynamic birefr-

ingence, mol. wt. obs. (*Russian*) 9-33665

polymer melt, flow-induced orientation freezing-in by vitrification, appl. to

processing 9-23531

polymer solutions, rigid-chain, flow birefr., hydrodynamic and dynamic-

optical props. 9-24286

Raman-Krishnan theory, for simple liq. 9-8116

rigid chain polymer solns., flow birefringence rel. to mol. wt. and chain

length (*Russian*) 9-33664

flow control

blood pump regulation electropneumatic servo operation (*German*)

9-8579

gas stripping column, periodically cycled, feedback control, simulations

9-1231

non-Newtonian fluid in roll clearance 9-41718

vortex flowmeter for student laboratory use 9-7424

wall reattachment device, loading effects on switching (*Japanese*)

9-10548

flow instability

air flow over water surface instability 9-46290

Benard-Rayleigh convection, finite amplitude, nonlinear stability anal.

9-46311

Bickley's jet, nonparallel effects on stability 9-46356

Blasius boundary layer, non-parallel flow stability 9-41668

boundary layer perturbations, three freq. wave resonance (*Russian*)

9-32538

boundary layer stability of catalytically recombining gas 9-41768

boundary layer transition on a flat plate 9-41676

BWR channel stability, problem anal. 9-13387

BWR suppression pool, role of Taylor instability during vent cleaning

9-31046

capillary stability in circular containers with convex spheroidal bottom

9-32462

chaotic circular Couette flow, reemergent order 9-27651

chemically active liquid in horizontal porous bed, convective instability

9-41769

circular Couette flow, centrifugal instabilities in cylindrical annulus

9-18956

circular semi-infinite liquid jet, harmonically forced at nozzle, instability

and wave propagation 9-32618

cold fluid displacement by hot fluid in porous medium, stability 9-27691

compressible boundary layers, unsteady two-dimens. and axisymm.

9-27616

conducting fluid, finite amplitude overstable convection, stability (*German*)

9-41751

convection in Hele-Shaw cell, nonlinear 9-41685

convection in horizontal layer, crit. slowing near Rayleigh-Benard convec-

tive instability 9-18889

convection-rolls, two-dimens., stability, temp. depend. viscosity 9-32507

convective flow over horizontal plate, laminar, wave instability 9-32499

convective motion of liquid caused by internal heat sources (*Russian*)

9-14390

Couette cylindrical flow 9-46288

cylinder in incompressible flow, finite element anal., wake development

and stability 9-14364

density wave oscillation in boiling channels (*Japanese*) 9-14400

dissociating fluid layer, heated, effect of rot. on Benard convection

9-4020

dusty viscous liquid, laminar flow through tube 9-37399

Earth asthenosphere, frictionally heated shear flows stability 9-44164

elastico-viscous flow, due to oscillating plate 9-4043

elastoplastic flow, stability 9-14442

electroconvective instabilities overstable 9-27706

ferromagnetic fluid rotating about vertical axis, convective instability of

layer 9-27698

film, liq., flowing down inclined plane with heat transfer, interfacial shear,

stability 9-37290

fission reactor fuel-coolant interactions, role of Rayleigh-Taylor flow

instabilities 9-17983

flame front instability analysis in compressible ideal medium (*Russian*)

9-27711

fluid layer heated from below, thermal disturbance propag. 9-32464

free-114 boundary layer, stability, press. gradient and heating effects

9-18891

gas, rotating, convective instability in gravitational field 9-27642

gas bubbles in vibrating liq., localisation and translational motion (*Rus-*

sian) 9-14455

gas column response to destabilising boundary condition, nonlinear, self

excited acoustic oscillations 9-41492

Hartmann flow between nonconducting walls, commencement 9-18962

helical flow of gas, steady and inviscid, stability condition 9-32465

horizontal liquid layer, convective instabilities dynamics 9-4008

hot layer, hydromagnetic stability, effect of non-uniform elec. cond.

9-14485

hydromagnetic stability of compressible fluid 9-32689

hydromagnetic thermal instability of rotating fluid layer, Hall current

effects 9-27699

hydromagnetic thermal shear flow stability 9-32690

interface between immiscible liquids, convection induced by chem.

react.-hydrodynamic coupling (*French*) 9-41682

jet, liq., breakup, 3rd perturbation Cossert soln. 9-32615

Kelvin-Helmholtz instability, nonlinear wave packets, amplitude eqn.,

formulation and soln. 9-46289

flow instability continued

large wavelength convection rolls low Prandtl number fluids 9-27643
 liquid crystal, EHD instabilities, director relax. time depend. on wave number near WD pt. (*Japanese*) 9-32700
 liquid crystal shear flow instability, model eqns. 9-41664
 liquid metal electrode, polarographic max. current theory, electrochem. and hydrodynamic instability 9-24750
 liquid metal electrode, polarographic max. current theory, hydrodynamic instability 9-24749
 LMFBFR, once through boiling flow system, density wave instability 9-9666
 Lorentz model of convective instabilities, 1-D dynamics of particle in pot. well 9-4007
 magnetisable liquid, thin layer instability 9-41762
 MBBA, nematic, EHD instabilities, director-fluctuation autocorrelation and power spectrum 9-41944
 MBBA, nematic, EHD instabilities, director-fluctuation second moment 9-41943
 MBBA nematic crystal, EHD instability, damped oscill. of current and flow patterns 9-46562
 MHD convection with rot. spatial heat source, stability 9-4085
 MHD Couette flow stability in presence of mag. field 9-23373
 MHD helical flow, linear and nonlinear stability 9-37408
 MHD rotational stability sufficiency conditions 9-10616
 MHD stability of laminar boundary layer flow along flat plate with transverse mag. field 9-27709
 micropolar fluids, stability of laminar flows between parallel walls 9-1160
 microstretch fluid motion, stability 9-35566
 multi-layered liquid films, instability 9-1158
 nematic crystal, subjected to elliptical shear, instability 9-1393
 nematic liquid, oscillatory convective instability (*French*) 9-1279
 nematic liquid crystal, stability 9-32526
 non-Newtonian fluid, rot. liq. film, free surface instability 9-37294
 non-Newtonian Poiseuille flow in cooled channel, hydrodynamic stability 9-14441
 nonlinear instabilities, filtering in fluid dynamic eqns. 9-41667
 nonlinear stability of motion of viscous liquid between concentric rotating cylinders 9-14409
 nonlinear viscoelastic fluid, steady shearing flow instability 9-32461
 ocean internal short-period waves generation by shear flow instability 9-2273
 ocean large-scale density anomalies, non-linear evolution and instability (*Russian*) 9-16479
 ocean surf zone, hydrodynamic instability as mechanism for horizontal gyres form. 9-2244
 Orr-Sommerfeld problem, approx. to eigenvalue reln. 9-3995
 parallel flow stability, numerical calc. 9-32460
 parallel viscous compressible flows, linearised disturbances, asymptotic anal. 9-27618
 periodic helical flow in pipe, linear stability, Hermitian forms and eigenvalue bounds 9-37401
 pipe, unstable phase following turbulent flow past sudden enlargement (*French*) 9-1157
 pipe Poiseuille flow, hydrodynamic stability including viscous dissipation, temp. fluctuation (*French*) 9-32466
 plane channel with parallel walls, turbulent flow stability (*Russian*) 9-37295
 plane Couette flow hydrodynamic stability rel. to finite amplitude perturb. (*Russian*) 9-37291
 plane Poiseuille flow, stability numerical computation 9-10549
 polymer solution, dil., rotating Couette flow, elongational viscosity and stability 9-27669
 Rayleigh-Taylor instability, turbulent stage anal. 9-41669
 Rayleigh-Taylor instability of viscous fluids, initial value problem 9-1159
 reactors, chem., relaxation oscills. 9-39120
 Rossby wave flow, finite-amplitude stability 9-16579
 Rossby waves in parallel flow, nonlinear critical level evolution 9-27621
 rotating fluids, convective modes and convective stability 9-16818
 rotating liquid shell, Rayleigh-Taylor stability 9-14381
 secondary flows and stability study of rotating spherical layers at arbitrary Rossby numbers 9-18899
 self-similar spherical expansion, Rayleigh-Taylor instability, astrophysical appls. 9-8823
 separation of flow along line of regular surface (*French*) 9-41661
 shear flow, non-parallel, stability and mixing 9-10547
 shear layer, thermally stratified, turbulence structure and stability (*Japanese*) 9-41731
 shock waves, converging, stability calcs. by computer 9-41715
 simple fluid, energy stability method 9-27629
 sinusoidal flow, stability in circular tube (*French*) 9-23363
 slender body, axisymmetric wake, transition and instability 9-32524
 small body in nonuniform flow 9-18873
 smectic mesophases, viscoelastic properties and field instabilities 9-27904
 spherical symmetry stability in general relativity; virial theorem consequences 9-21593
 Stokes' problem for vertical infinite plate with variable temp. 9-23301
 superposed conducting fluids, hydrodynamic and hydromagnetic stability 9-18969
 superposed flow, interfacial instability 9-4057
 superposed fluid stability, finite element anal., book contrib. 9-32467
 surface tension driven instability of liq. film flow down heated incline 9-27620
 Taylor vortex flow, finite difference transient implicit method, stability 9-14404
 thermoacoustic pressure oscillations in heated channel 9-46319
 transonic unsteady flows calc. using integral eqn. method, aerodynamics 9-32554
 turbulent jets, wakes, and shear layers, marginal instability principle rel. to power laws 9-32458
 two layer flow stability (*Russian*) 9-14380
 two-dimensional shear layer, instability wave excitation by sound 9-32541
 uniqueness and drag for fluids of second grade in steady motion 9-32584
 unsteady boundary layer flow, past suddenly cooled vertical plate 9-32480
 unsteady compressible boundary layer equations, generalised soln. 9-32463
 unsteady laminar flow through porous media in presence of transverse mag. field 9-37394

flow instability continued

unsteady viscous flow near axisymmetric stagnation point on circular cylinder 9-23302
 viscoelastic capillary jets, stability 9-46352
 viscoelastic layer, flow down inclined plane, finite amplitude long wave stability 9-37365
 viscous capillary jet, oscills., investigation of axisymmetric perturbation 9-37370
 viscous flow between two revolving spheres, unstable motion (*Russian*) 9-32530
 viscous incompressible heat generating flow past porous plate with free stream oscillations, laminar free convection 9-37311
 viscous incompressible heat generating flow past porous plate with free stream oscillations, laminar free convection 9-37312
 viscous liquid in tube with arbitrary press. distrib., unsteady motion 9-14478
 vortex sheet, Helmholtz instability in uniform shear flow 9-37328
 vortex sheet 9-10567
 wall reattachment device, loading effects on switching (*Japanese*) 9-10548
 water, horizontal layer, convection onset with max. density effects, nucl. plant waste heat storage 9-46164
 water, non-Boussinesq convective struct. near 4°C 9-18886
 water in cavity heated from below, convective instability (*Russian*) 9-14391
 wave propagation, gravit. instability, rot. and streaming effects 9-37293
 wings, low aspect ratio, computation of nonlinear characs. 9-41690
 He, liq., time depend. effects above convection, Rayleigh-Benard expt. using local probe 9-7718
 Li thin films on inclined surface 9-22458
 N₂O₄, dissociating, nonsteady flow in steam-generating channel 9-37422

flow measurement

see also *anemometers; flow visualisation; flowmeters; laser velocimeters*
 acoustic characteristics of low through duct systems, transfer function technique 9-18650
 acoustic velocimetry, corrected ray theory 9-41774
 air, using hot-wire anemometer, calibration at low vels. 9-27724
 air flow meas. in tunnel using anemometers and pitot tubes 9-41779
 air vel. meas. using triple hot-wire probe 9-27718
 arterial bifurcations, glass models, pressure meas. 9-25021
 blood flow meas., instantaneous, X-ray imaging using cine/video densitometric data 9-34598
 blood flow values in iliac artery, angiocinedensitometry meas. in conscious humans 9-25022
 blood flow velocity meas. by hot-film anemometer (*Japanese*) 9-29678
 blood vessel bubble detection and flow evaluation 9-34612
 bubble dynamics, laser schlieren meas. 9-41773
 cerebral blood flow, confidence limits with positron emission 9-11994
 cerebral blood flow meas., lateral counting corrections 9-8536
 coal slurry, flow meas., activation method 9-48015
 conduction flowmeter with calculable and controlled calibration characteristics (*Russian*) 9-7428
 convection, natural, on inclined surface, transition, vortex system, meas. method 9-27632
 cross-correlation flow meas. error estimation and reduction 9-3194
 differential pressure transmitter, electronic, design and appls. 9-17435
 disc-stabilised diffusion flames, vel. characs. 9-34309
 dynamic flow characteristic determ. of electro-hydraulic servo-valve using laser velocimeter 9-32719
 elbow meters for flow monitoring, description 9-37426
 flame induced flows propagating over condensed fuels, two-component LDV meas. 9-23380
 gas binary mixtures, flowing, probe for conc. meas. 9-4098
 gases, cryogenic technique 9-4093
 heat bridge flowmeter description (*Russian*) 9-7429
 high temperature aggressive solutions, phase shifter with Hall effect transducer appl. 9-8459
 hot film probe, heat transfer to substrate (*French*) 9-23381
 hot wire anemometry of turbulent compressible gas flows 9-46408
 hot-wire probe measurements on flow field, effects of cooling law and probe adjustment 9-27721
 inclined surface, natural convection flow, transition, vortex system, meas. method 9-27632
 internal interfacial wave motions, IR optical sensor meas. 9-18981
 isothermal annular jets, vel. characs. 9-34309
 laboratories, comparison using transfer-standard flowmeters for calibration 9-23389
 laser anemointerferometer, for simultaneous velocity and density meas. 9-18976
 laser Doppler anemometry, practical considerations 9-27725
 laser shearing interferometer appl. to supersonic flow field meas. (*Chinese*) 9-32715
 liquid metals, flow rate measurement for metals with poor contact resistance 9-41778
 liquid Na, thermocouple transfer function and flow velocity meas. by temp. noise 9-13394
 liquid-borne solids monitoring, optical instrument general principles 9-37424
 LMFBFR coolant flow monitoring by balanced outlet temp. signals 9-13393
 methane jet, turbulent conc. field meas. by Raman spectrum, data interpretation 9-32609
 metrological provisions, development of programme 9-14503
 non-isothermal flow, turbulence measurement, laser Doppler velocimetry appl. 9-41776
 ocean currents, data collection via drifting 9-5668
 oil films, thickness meas. by neutron imaging, and scattering, exam. of flow props. 9-15815
 renal diagnosis by blood circulation angiocinedensitometry (*German*) 9-2127
 Reynolds stress tensor, turbulent flow in rectangular channel, use of laser anemometry (*Italian*) 9-4094
 saline containing dissolved O₂, velocity magnitude transducer 9-21733
 shock tube, flow parameter meas. (*Chinese*) 9-37336
 solid particles into hot high pressure gas flow, dispensing and meas. system 9-37430
 solid-liquid pipe flow, cross correlation method anal. 9-32638
 steady-state flow boiling curve, meas. using temp. controllers 9-32720
 thin fluid layers under centrifugal forces, wave flows, obs. 9-23335
 transonic axial compressor rotor, anal. by laser velocimetry 9-4009

flow measurement continued

- true volume steam content in thin channels at high pressures 9-13585
 turbulence meas. in stirred vessels, scaling rules 9-23303
 turbulent flow, hot wire meas., conduction error in probe 9-7423
 turbulent flow, meas. in vicinity of cation-selective membrane using scatt. laser radiation Doppler shift 9-46301
 turbulent flow fields, multidimensional, analysis 9-27720
 turbulent shear flow using hot-wire probe, effects of orientation 9-27722
 two phase flow continuity measurement by radioisotope method, error 9-32723
 US blood flow imaging model eqns. and implications 9-48308
 US flowmeter (French) 9-1274
 US flowmeter performance anal. 9-14500
 variable press. drop method, flowmeter designs comparative anal. (Russian) 9-7427
 velocity correlation functions, direct measurement using Erdmann-Gellert correlation technique 9-27728
 viscous fluids in pipeline, optimum flowrate meas. zone 9-7425
 vortices, merging, in wind tunnel, laser velocimeter surveys 9-32718
 water channel with wall cut-out, laser Doppler anemometer flow meas. 9-46403
 wire-wrapped 61-rod bundle edge subchannel flow distrib. 9-9676
¹⁶N tag for water transient flow meas. 9-14504
 Na, liquid, anal. of temp. fluctuations for local flow velocity determ. (Spanish) 9-46405

flow resistance see viscosity**flow through porous media**

- acoustic absorption in flexible porous materials 9-32115
 aerosol, penetration through high efficiency filters 9-27690
 Blasius type boundary layer subject to blowing or suction, transition behaviour 9-18869
 blob mechanics visualisation in flow through porous media 9-4076
 botany, transpiration from plant leaf, simulation expts. 9-48279
 boundary layer extraction through a system of slots of finite width (Russian) 9-27692
 boundary layer with blowing, numerical exponential box scheme 9-1240
 building with porous walls for air ventilation, heat transmission 9-4016
 catalysts, heterogeneous, gas phase diffusion and reaction calcs., viscous flow importance 9-47970
 channel, axisymmetric, with axial press. gradient injection, turbulent boundary layer characts. 9-37304
 chemical gas-liquid reactions in packed trickle bed, extended crossflow model implications 9-46399
 chemically active liquid in horizontal porous bed, convective instability 9-41769
 cocurrent two-phase downflow through packed beds, multiple hydrodynamic states 9-18942
 cold fluid displacement by hot fluid in porous medium, stability 9-27691
 compressible flow past profile set between permeable walls 9-46335
 conducting fluid, finite amplitude overstable convection, stability (German) 9-41751
 conducting fluid film drainage over permeable wall in transverse mag. field 9-41761
 conducting liquid flow on moving porous plate with Hall effect 9-18964
 conical flow of non-Newtonian elastic power law fluid with injection/suction, similarity solns. 9-14439
 consolidation in compressible mixtures 9-46271
 convection, effect of temp. depend. viscosity and thermal expansion 9-32662
 convection, free, in saturated porous medium boundary layer with lateral mass flux 9-27689
 convection, infinite media with compact heat source 9-32659
 convection, past hot porous circ. cylinders, of 2nd-order liq. 9-14476
 convection fluid dynamics in a model of a fault zone in the Earth's crust 9-34778
 convective heat transfer in porous layers by integral methods 9-7408
 convective motion in a porous medium near equilibrium instability threshold 9-14398
 cylinder, flow past at small Reynolds no. 9-7407
 cylinder, perforated, circ., finite-aspect-ratio, drag coeff. 9-23360
 cylinder, permeable, in viscous fluid, friction coeff. 9-46385
 deformable media, nonequib. thermodynamic theory 9-27688
 diffusional extraction, effect of entrapped gas and resaturation 9-37392
 dusty-gas equation modification to predict mass transfer in porous media 9-46377
 elasticoviscous flow along plane wall with periodic suction 9-10594
 elliptic porous slider, fluid dynamics 9-18952
 equations of motion of fluid in porous medium with stagnation zones 9-18951
 ferrofluid, helical flow with heat cond. between coaxial porous tubes 9-23371
 fingero-imbibition phenomena with varying phase density, two parameter singular perturb. soln. 9-29789
 finite element anal. of free boundary problems, book contrib. 9-32665
 finite element methods, book contrib. 9-32446
 flow through thin porous layer (Russian) 9-14469
 fluid saturated porous elastic solid, tensorial eqns. of motion 9-40366
 fluid-saturated porous layer with heat source, thermal convection onset 9-13406
 free air flows with perforated walls, permeability laws study (French) 9-10607
 free and forced convection flow in rot. channel bounded by permeable bed 9-23366
 freezing of saturated porous media, effect of seepage flow 9-1241
 gas injection through loose layered material, heat transfer, free convection effects (Russian) 9-18953
 gas screen region behind permeable plate, heat transfer and friction laws 9-1250
 glass, free molecule flow and interdiffusion 9-32658
 ground water, stochastic analysis of one- and three-dimens. subsurface flows 9-5520
 groundwater flow in deformable porous media, algorithm 9-2323
 heat exchange on porous surface, optimal control 9-32661
 heat transfer, adiabatic wall temp., downstream of gas injection, mainstream accel. effect 9-1251
 hydraulic conductivity of unsaturated porous media 9-5526
 hydrothermal convection, theoretical study rel. to Cyprus ophiolitic sulphide ore deposits origin 9-29761
 imbibition in 2-phase flow through porous medium with capillary pressure 9-20884

flow through porous media continued

- incompressible Newtonian fluid, flow past wall with small particle injection (French) 9-46384
 incompressible viscous fluid, constitutive equations 9-32660
 isotropic porous media flow, longitudinal dispersion 9-14470
 laminar boundary layer, optimal control by wall suction or blowing 9-1242
 laminar boundary layer flow with suction (blowing) and pressure gradient, finite element anal. 9-18866
 laminar flow in channel with mass transfer across porous walls 9-41759
 laminar MHD pipe flow with heat transfer 9-14482
 laminar steady free surface flow past a permeable bed, buoyancy effects (German) 9-41665
 laser, elec. discharge type, flow generated by an array of eccentric porous tubes 9-965
 longitudinal dispersion in saturated porous media 9-4080
 macromolecular dilute aqueous solns., flow in various geometries 9-4175
 mass-diffusion element, anal. of separative power 9-41039
 membranes, linear laminated media, permeation, sorpt. 9-1966
 methane-hydrogen mixture, flow through glass bead bed, axial dispersion coefficients 9-46378
 MHD flow near a time-varying accelerated porous plate 9-23372
 MHD free and forced convective flow between porous plates with Hall effect 9-41763
 midocean ridge hydrothermal systems, hot water egress thermal constraints 9-39700
 multicellular free convection flow, in spherical porous layer (French) 9-46375
 natural convection in porous layer with permeable boundary (Russian) 9-18941
 natural convection in porous media and geothermal systems, review 9-1194
 non-Darcy flow with phase change in internally heated cylindrical porous cylinder 9-37393
 nonstationary filtration, source-type solns. 9-10608
 nonstationary flow between rotating coaxial porous discs, porosity effects 9-32657
 nuclear reactor mixed-oxide fuel, two-component gas transport within interconnected porosity 9-617
 paramagnetic fluid flow through an annulus with porous walls 9-41748
 pipe outflow, turbulent, with wall suction, dynamic and thermal fields (French) 9-4082
 plane flow of fluids in piece-wise homogeneous porous media 9-18945
 plate, permeable, turbulent boundary layer with injection, heat transfer 9-1247
 polymer solution flow through porous media (French) 9-46376
 polyox dilute aqueous solns., flow resistance mechanisms in porous media 9-41747
 porous elastic fluid filled spherical shell, radial vibr. 9-18771
 porous oxide pellet, spherical, reduction by gas flow (French) 9-27713
 porous thermoelastic matrix, slow fluid flow theory 9-7406
 porous wall evaporation cooling system, liquid component temperature state (Russian) 9-32664
 powders, surface area measurement using Knudsen diffusional flow of gas 9-40536
 reflection, of obliquely incident waves, at permeable quaywall with reservoir (Japanese) 9-32546
 resin flow between roller and absorbent compressible paper 9-41749
 rigid shell, oscillatory flow through perforated surface, sound generation 9-18950
 soil, heat and mass transfer with phase change 9-1093
 soil, nonsaturated, water infiltration, positive head effect (French) 9-2296
 solid soluble phase extraction from mixture of polydisperse porous particles 9-14475
 solute transport in a saturated-unsaturated porous medium 9-23362
 sphere approaching permeable wall, hydrodynamic force 9-46383
 spherical permeable shell motion at axis of rotating viscous incompressible fluid 9-18944
 stationary flow between water reservoirs separated by non-homogeneous dam, free boundary problem 9-10606
 steady flow in porous region between two rot. spheres 9-46382
 sublimation, heat, mass transfer from parallel capillaries 9-37395
 suction effects on shock wave-boundary layer interaction, numerical Navier-Stokes soln. 9-1243
 suction or blowing flows through openings in the wall of a boundary layer (French) 9-18947
 superfluid turbulence, penetration through porous filters 9-46855
 suspension, conc., of aggregable particles, viscosity calc. 9-7362
 sweat cooled porous hollow cylinder, heat transfer from hot fluid 9-18943
 thermochemical gas analyzer, porous flame barrier, reagents, reaction products, conc. diffusion (Russian) 9-29359
 thermosmosis, liq. in capillary pore media 9-41750
 turbulent boundary layer on permeable plate 9-1169
 turbulent boundary layer with wall suction, thermal and dynamic fields analogy (French) 9-1249
 turbulent compressible boundary layer on permeable rough surface with heat transfer 9-1176
 turbulent flow into homogeneous porous media on inclined bedrock 9-10609
 two-dimensional laminar flow between porous walls 9-14477
 two-phase, finite element simulation 9-41752
 two-phase interface and free surface equations in groundwater flow 9-48527
 unsaturated porous media, one dimens. flow, two parameter singular perturbation soln. 9-23361
 unsteady free convection flow past a vertical porous plate with variable suction and transverse magnetic field 9-32691
 unsteady laminar flow through porous media in presence of transverse mag. field 9-37394
 variational irreversible thermodynamics of heat and mass transfer in porous solids 9-4081
 vertical channel flow, heat convection, fluid injection problem, Newton-Raphson method solns. 9-10556
 viscoelastic fluid fluctuating flow past infinite porous wall in slip flow regime 9-18917
 viscoelastic liquid steady flow about porous rotating disc 9-32586
 viscous incompressible heat generating flow past porous plate with free stream oscillations, laminar free convection 9-37312
 viscous incompressible heat generating flow past porous plate with free stream oscillations, laminar free convection 9-37311

flow through porous media continued

- viscous-inviscid flow interaction method, using blowing and suction flows 9-1154
- wall, perforated, relative effects of external and internal convection (*French*) 9-1248
- water flow through rock specimen, average pore vel. meas. 9-5473
- water infiltration into frozen soils, numerical modelling 9-39772
- water saturated porous box with conducting walls, convection onset anal. 9-18949
- water transport through unsaturated soil, Buckingham-Darcy flux law, statistical mechanical theory 9-16541
- water transport through unsaturated soil, conservation laws derived from statistical mechanical methods 9-16540
- MHD flow and heat transfer, porous disc eccentric rotations at infinity 9-18965

flow visualisation

- blob mechanics visualisation in flow through porous media 9-4076
- bubble formation during gas injection into liq. through orifice, interfacial area, press. (*German*) 9-18937
- bubbles, fluid flow in Newtonian and non-Newtonian fluids (*French*) 9-46374
- channel, with varying cross section, shock wave proag. 9-23339
- cylinder, circ., inclined, laminar 3-dimens. free convection, stability (*French*) 9-18884
- cylinder, perforated, circ., finite-aspect-ratio, drag coeff. 9-23360
- disc-stabilised diffusion flames, vel. characts. 9-34309
- film cooling, use of cholesteric liquid crystals 9-186
- floating zone melting, microgravity simulation of Marangoni convection 9-28911
- jet, 3-dimens., at wall, two-point statistical props. 9-1223
- jet, cross stream injection boundary layer, flow and temp. field 9-1225
- jets and wakes, coflowing, coherent struct., strobing laser beam visualisation 9-32610
- liquid film, falling, 3-dimens. wave characts., laser beam refraction obs. 9-27654
- liquid/vapour flows in steam generating equipment, instrumentation 9-46404
- low density gas flows, multipass hologram interferometry 9-32724
- nozzle, heat transfer of transonic air flow 9-1230
- stroboscopic, flow structure in immediate vicinity of wall 9-1215
- thermal energy storage material cylinders, heat transfer during melting 9-3894
- turbomachine combustor, analysis and modelling of flow (*French*) 9-46401
- turbulent core of boundary layer 9-1168
- turbulent free convection in fresh and salt water, characts., visualisation 9-18888
- turbulent shear flow, coherent structure, stereoscopic camera obs. 9-32485
- vortex-excited vibration mechanism of cylindrical struct., photographic evidence 9-46406
- water, convective heat transfer, free, with density inversion, in confined rectangular vessel (*German*) 9-18671
- Na vapour, reson. refr. and dispersion, appl. to flow visualisation 9-41790

flowmeters

- see also *anemometers; flow measurement; laser velocimeters*
- conduction flowmeter with calculable and controlled calibration characteristics (*Russian*) 9-7428
- discharge coefficients for 360 degree bend flowmeters 9-27717
- elbow meters for flow monitoring, description 9-37426
- electromagnetic, effect of electrode processes on transmission coefficient of transducer 9-7426
- electronic, for determining low gas pressures 9-37427
- EM type, optimal mag. system design (*Russian*) 9-1275
- FFTF-type eddy-current flowmeter performance in SLSF P-series test trains 9-9669
- heat bridge flowmeter description (*Russian*) 9-7429
- induction flowmeter, large cross-section pipe, calc. method 9-7422
- LMFBR, steam generator LOCA signalling by EM flowmeter (*Czech*) 9-6751
- magnetic flowmeter construction and reliability 9-23386
- multipole field EM velocimeters 9-18977
- radioisotope steady gas flowmeter design 9-37271
- solid-state water current meter for wave direction sensing 9-21070
- supersonic flowmeter using laser beam and Fabry-Perot interferometer 9-7420
- transfer-standard, calibration in water test rigs for comparison of laboratories 9-23389
- turbine flowmeter, flow straightening effect on accuracy 9-32716
- US, for flow meas. of fluids in pipe (*French*) 9-1274
- US, performance anal. 9-14500
- US blood flow velocimeter, MTI filter, with inherent A/D 9-16263
- US Doppler blood flowmeter modulation (*Japanese*) 9-2115
- US Doppler flowmeter employing continuous wave modulation (*Japanese*) 9-37429
- variable press. drop method, accuracy and design analysis (*Russian*) 9-7427
- vortex flowmeter for student laboratory use 9-7424

fluctuations

- see also *Brownian motion; critical fluctuations; current fluctuations; noise; random processes*
- amorphous ferromagnets, dispersion rels. and spin-wave spectroscopy, spatial fluctuations of magnetisation modulus (*Russian*) 9-7983
- anisotropic dielectric crystal, EM fluctuations 9-19857
- atmosphere electric field over oceans, short-period fluctuations 9-39816
- atmosphere total O₂ content, natural fluctuations 9-29819
- black hole formation by collapsing cloud of quantal particles 9-2552
- bubble formation during gas injection into liq. through orifice, interfacial area, press. (*German*) 9-18937
- calcium alginate gels, Raleigh scatt., spectral broadening, density fluctuations 9-1776
- chemical instabilities, fluctuations in multiple steady state systems 9-11813
- collective plasma density fluctuations, far IR scatt. apparatus obs. 9-32818
- critical scattering theory, book 9-25913
- density fluctuations in classical and quantum liquids, general theory 9-35628
- dielectrics, fluctuation theorem 9-47381

fluctuations continued

- disordered and amorphous mag. materials, position entropy solids, exchange and anisotropy noise 9-11295
- disordered solids, light scatt. from configurational fluctuations 9-11428
- displacive ferroelectrics, model, fluctuation effects 9-33063
- dynamic theory of fluctuations, Liouville operator and eqn. anal. (*Russian*) 9-6051
- dynamics of fluctuations in systems far from thermal equilibrium 9-40472
- early universe, adiabatic density perturbations evolution 9-25769
- Earth crust resistivity near Palmdale, California, fluctuations after rainy period 9-16373
- EM fluctuations in dielec. slab resonator 9-3672
- extragalactic radio sources low-freq. variability, ripple radiation effect 9-21450
- ferroelectric transitions, diffuse, existence of fluctuations 9-33628
- field fluctuations of two-photon coherent states 9-13937
- field intensity moments, in randomly inhomogeneous medium, region of fluctuation saturation (*Russian*) 9-3630
- field intensity relaxation, in medium with quasi-static fluctuations (*Russian*) 9-2715
- flow, in pipe, struct. similarity in radial correlations and spectra of longitudinal vel. fluctuations 9-32482
- flow, round heated jet, heat and momentum transport, intermittency, entrainment 9-32608
- flow, turbulent, in pipe, vel. components during ejections and sweeps (*French*) 9-1166
- flow in open channel, turbulent intensity modelling 9-1172
- fluids, corrections to linear hydrodynamics eqns. low-freq. sound dispersion (*Russian*) 9-3990
- gas-laser beam intensity fluctuations, spatial distrib. 9-18458
- gravitational interactions in Brownian motion theory of quantum mechanics 9-12699
- H-space fluctuations, Boltzmann eqn., master eqn. for drift motion 9-146
- incompressible homogeneous decaying turbulence, press. and vel. fluctuations calcs. 9-32475
- instabilities and fluctuations in systems far from thermodynamic equilibrium 9-21671
- jet, 3-dimens., at wall, two-point statistical props. 9-1223
- kinetic fluctuations of Brownian motion 9-25984
- Landau-Ginsburg model, droplets free energy, Jost function 9-40469
- Landau-Ginzberg ferromagnet, static and dynamic correl. functions near magnetization curve 9-15318
- laser beam propagation in atmosphere, detection effects on statistics of intensity fluctuations 9-16672
- lens, intensity fluctuations in turbulent atmosphere, with (without) central screening 9-7080
- liquid crystal, ferroelec., helicoidal, smectic-C, dynamics 9-1396
- liquid with spectral resolution of 10¹⁴, registration of central peak (*Russian*) 9-4812
- LMFBR subassembly local boiling detection by outlet temp. fluctuation analysis 9-13390
- Lorenz model, transient behaviour in periodic regions 9-17346
- macromolecules, interacting, spherical, light scatt., conc. fluctuations, transport eqn. 9-1775
- macroscopic open systems, hard mode stationary states generated by fluctuations 9-12721
- macroscopic system, unstable state decay, deterministic description 9-17347
- MBBA, nematic liq. crystals, AC excited, dynamic light scatt., orient. fluctuations 9-1769
- metal cluster, electronic spectrum fluctuations, appl. to Ni and Ti 9-19501
- methane jet, turbulent conc. field meas. by Raman spectrum, data interpretation 9-32609
- molecular dynamics studies of the role of diffusion in chemical models with absorbing boundary states 9-8424
- molecules, nonrigid, orientational correlation times, tensor correlations 9-4220
- multiplicative stochastic processes in statistical physics 9-25980
- multistable system, dissipative steady state, stability 9-9187
- nonequilibrium fluctuations, by Kubo and Callen-Welton formulae (*Russian*) 9-17351
- nonequilibrium statistical mechanics, scaling for space-time coarse graining 9-40521
- nonlinear rate processes with multiple stationary states, stochastic theory, metastable state relax. time 9-2725
- nonlinear relaxation and fluctuation 9-30373
- nonlinear transport and dynamics of fluctuations 9-44884
- nonlinear wave in turbulent medium, with random inhomogeneities (*Russian*) 9-27134
- nonstationarity near cylinder in air cross-flow (*Russian*) 9-7382
- nuclear density fluctuations, scatt. theory 9-517
- ocean, vel. fluctuations in barotropic motion over continental shelf, bottom friction effect 9-48509
- one-dimensional chains, diffusion of labelled particles, density fluctuations 9-4426
- optical bistable systems, fluctuations when driven by coherent external light field 9-18387
- optical cavity, one-dimens., with output coupling, thermal radiation, fluctuation-dissipation theorem 9-978
- pair configuration space diffusion eqn., thermal fluctuations, kinetic theory 9-17362
- photon counting and fluctuation of molecular movement 9-29686
- plasma, density and current fluctuations, mode-coupling theory 9-23398
- plasma, magnetised and nonuniform 9-41831
- propane-air mixture, turbulent combustion zone, initial temp. fluctuations influence on reaction evolution (*French*) 9-15998
- quantum fluctuations and particle struct. in field theory model 9-30659
- quenched time-depend. Ginzberg-Landau model 9-40470
- radiation field, mean specific emission intensity, fluctuation effects (*Italian*) 9-18346
- radioactive concrete calibration sources for radiometric field instruments, gamma-ray output fluctuations 9-5633
- Raleigh model, nonlinear fluctuations 9-7433
- ray paths in a fluctuating environment 9-9129
- relaxation rate between widely spaced levels, due to gas (liq.) fluctuations, temp. depend. 9-30366
- smoke-particle aggregates, long-range correlations 9-46369
- solid-liquid pipe flow, cross correlation method anal. 9-32638

fluctuations continued

- spectral props. of physical processes of Markov-correlated events, quantum systems, carrier trapping fluctuations 9-21665
 spin glasses, fluctuation theory, mag. susceptibility and sp. ht. 9-24176
 strong VLF waves in ionosphere, pulse amplitude vars. 9-48613
 superfluorescence, oscill., quantum statistics 9-917
 thermal fluctuations, driven nonlinear resistive system 9-25981
 thermodynamics at nonequilibrium, steady states 9-6068
 turbulence, Kolmogoroff's theory, high Reynold's no. model, laser beam atmospheric propag. 9-7368
 turbulent advection, scalar spectrum model 9-32474
 turbulent shear flow with streamline curvature, algebraic stress-heat flux model 9-27625
 turbulent wake; fluctuations in boundary 9-27646
 VHF signals, ionospheric radio fluctuation obs. from geostationary satellite 9-21091
 wave intensity fluctuations, use of physical concept in multiple scatter problems 9-21561
 wave propagation in one-dimensional medium with space-time inhomogeneities, spectral-correlation characts. evolution (*Russian*) 9-2634
 winds in lower stratosphere over Jicamarca, fluctuations from full day radar meas. 9-23308
 Ar gas, thermally excited density fluctuations, neutron scatt. 9-23392
 CO₂ film, adsorbed on KBr, density fluctuations 9-42391
 CS₂ in CCl₄, orientational fluctuations, depolarised Rayleigh relax. time obs., temp. and conc. depends. 9-4809
 He gas, temp. fluctuations 9-19414
 He I liquid, temp. fluctuations 9-19414
 He-Ne laser with anisotropic cavity, fluctuations of field polaris. 9-27242
 He superfluid, temp. fluctuations 9-19414
 KTa_{1-x}Nb_xO₃, paraelectric phase, defect induced fluctuations, Raman meas. 9-15423
 O₂(Σ) airflow, fluctuations appl. to gravity waves study 9-29918
 W (100) surface, fluctuation, thermal impurity depinning and commensurate-incommensurate transition of CDWs 9-42611

fluctuations in superconductors

- used only for thermal (thermodynamic) fluctuations around the order parameter near the critical point*
 dirty, type II superconductors, fluctuation induced elec. cond. 9-38251
 ferromagnetic superconductor, critical behaviour, coexistence near supercond.-ferromag. multicritical point 9-47197
 Josephson junctions, collective excitations in superconductors below T_c, tunnel current fluctuations 9-33403
 nonequilibrium superconductivity, oscill. of order parameter caused by quasiparticle injection 9-42697
 order parameter fluctuations, pair tunnelling, review 9-1642
 relaxation of effective nuclear moment of Van Vleck ions, effect of superconducting fluctuations 9-7936
 technical superconductors, preparation velocity of normal-conducting zone 9-24096
 Al strips, supercond., order-parameter relaxation meas. 9-47207
 Al, supercond., order-parameter relax. time calc. 9-4618
 ErRh₂B₄, supercond. transition temp., upper critical field, local spin fluctuations 9-38250
 Ho_{1.2}Mo₅S₈, supercond. transition temp., upper critical field, local spin fluctuations 9-38250
 In film, current-induced resistive state, fluctuations in flux nucleation process 9-38252
 In-Gd film, dil., fluctuation induced cond. above supercond. transition temp. 9-47196
 La₇₈Au₂₂, amorphous supercond., T_c and fluctuation cond. under high press. 9-7935
 La_{1-x}Gd_xMo₆Se₈, supercond. transition temp., upper critical field, local spin fluctuations 9-38250
 Nb, fluctuation contrib. to sound attenuation near H_{c2} 9-33397
 Nb, superconducting, deformed, oscillation in current-voltage characts. near H_{c2} 9-28491
 Pb film, near supercond. transition temp., Hall effect 9-42698
 Sn, diagm. moment meas., dislocation supercond. above crit. temp. (*Russian*) 9-4619
 Sn_{1.20}-_{1.40}Eu_{0.65}S₈, supercond. transition temp., upper critical field, local spin fluctuations 9-38250
 V, fluctuation contrib. to sound attenuation near H_{c2} 9-33397
 V-Ti superconducting film, electron spin effects 9-28488

fluctuations of cross sections *see statistical theory of nuclear reactions and scattering***fluidics** *see fluidics***fluid composition control** *see chemical variables control***fluid composition measurement** *see chemical variables measurement***fluid dynamics**

- see also aerodynamics; biological fluid dynamics; drag reduction; electrodynamics; flow; hydrodynamics; Navier-Stokes equations; rarefied fluid dynamics; relativistic fluid dynamics; surface waves (fluid); turbulence; wakes*
 asymptotic results for model eqn. for low Reynolds no. flow 9-14371
 backflow of quasiparticles, dynamics of classical systems 9-27614
 Boltzmann eqn., nonlinear, soln. of Cauchy problem 9-40497
 classical fluids, linear irreversible thermodynamics, derivation 9-2740
 conference, Olsztyn-Kortowo, Poland (Sept. 1977) 9-46277
 Cosserat eqn., couple stress-tensor, associated with friction 9-7366
 FEBIE—a combined finite element-boundary integral equation method 9-2633
 finite element method 9-9119
 finite element methods, nonconventional, book contrib. 9-30257
 finite elements in fluids, book 9-32441
 fluid dynamics, macroscopic relativistic approach to numerical simulation 9-9122
 fluid flow, finite difference methods 9-9117
 fluid motion in open basin, free boundary problem (*Italian*) 9-18868
 fluid-solid dynamic interactions and wave forces, numerical treatment 9-3944
 forced convection in annuli, experimental study (*Italian*) 9-37322
 Galerkin method, fluid flow appl. 9-9118
 gas motion, nonstationary, invariant solns. of eqns. 9-41652
 hybrid finite element methods 9-9120
 incompressible flow fields, finite element dual variational anal. 9-40375
 inertial motion of continuum, shock waves form. 9-18861
 initial boundary-value problems for partial differential equations 9-30256
 interfaces, pure, thermodynamics and dynamics rel. to Spacelab 9-28910

fluid dynamics continued

- linear hyperbolic initial boundary value problems, hydraulic system appl. (*German*) 9-9115
 liquids in vessels, unidirectional vibration displacement (*Russian*) 9-32726
 marker and cell technique 9-9121
 micropolar fluid theory, regularization theorem 9-9114
 model eqn. of Lagerstrom 9-12612
 nonuniform fluid kinetics, statistical approach 9-10541
 numerical methods comparison 9-9123
 numerical simulation of fluid motion, conf., Melbourne, Australia (1976) 9-9116
 pipeline hydrodynamical resistance reduction by dynamical effects (*Ukrainian*) 9-32670
 potential flow, surface source and vorticity panel method 9-46278
 Reynolds equation, asymptotic soln. 9-14369
 sethlets, generalised singular points 9-46
 shell, acrohydroelastic opening of shell in nonstationary flow (*Ukrainian*) 9-32258
 solar wind, models 9-25428
 stationary motion of finite mass of fluid 9-23331
 statistical concepts, for teaching 9-35501
 truncation error estimation due to upstream differencing, consistency check 9-23294
 tube bank efficiency in cross-flow, graphoanalytic method (*Russian*) 9-7365
 variable property flow, in curvilinear orthogonal coords., numerical calc. 9-44746
 Von Karman eqns., generic bifurcation theory, symmetry props. 9-44748
 weighted residual classification of approximate methods 9-10540

fluid flow *see flow***fluid instability** *see flow instability***fluid mechanics**

- see also capillarity; cavitation; compressibility of gases; compressibility of liquids; fluid dynamics; hydrostatics; Mach number*
 applied mathematics, conf., Delft, Netherlands, Jan. 1978 9-2617
 coherent structures in fluids, appl. to plasma physics, review 9-10621
 compressible micropolar fluids, decay of kinetic and thermal energy 9-12611
 coupled Burgers equation, numerical solution for turbulent fluid motion 9-40378
 Dirichlet problem for semilinear eqn. $\Delta^k u = f$ on a disc, approx. techniques 9-40377
 Dirichlet problem for semilinear eqn. $\Delta^k u = f$ on a disc, series soln. 9-40376
 dissipative dynamical systems of macroscopic phys., common formal struct. of kinetic theory, fluid mechs., nonequilibrium thermodynamics 9-140
 finite element methods, book contrib. 9-32446
 long wave-short wave resonance equations, complete soln. for fluid mechanics and plasmas 9-37334
 microstretch fluid motion, stability 9-35566
 multiphases, design theory 9-37284
 optimal blowing problem using low Reynolds number theory 9-32440
 space environment, fluid behaviour, review 9-46410
 wave and force measurement system 9-41780

fluid theory, dense *see liquid theory***fluid valves** *see valves***fluidic devices**

- wall reattachment device, loading effects on switching (*Japanese*) 9-10548

fluidics

- mixing nozzle reattachment of two-dimensional turbulent jet 9-23347

fluidised beds

- adsorbent fixed bed, temp. profiles 9-23359
 axial dispersion, in liq. fluidised systems, correlating parameters 9-46381
 axial heat transport and solid phase displacement 9-14473
 bubbles in fluidised bed, interphase mass transfer 9-7405
 coal gasification, low-BTU gas production, ash agglomeration process appl. 9-48065
 coal gasification system, Westinghouse, low-Btu fuel gas production 9-48058
 combustion, energy conversion, Conf., San Diego, CA, USA (Aug 1978) 9-48038
 combustion, future energy concepts, Conf. London, England (Jan.-Feb. 1979) 9-43709
 electrowinning, using fluidised bed cathodes, const. current density operation 9-24456
 electrowinning, using fluidised bed cathodes 9-24455
 gas stream distrib. near plane jet in granular layer 9-14471
 gas-solid suspension flow through packed beds, convective heat transfer 9-4075
 granular bed fluidised by gas stream, stability 9-18946
 heat exchanger, scale control and corrosion tests, geothermal power plant appl. 9-48090
 heat transfer between a dispersed system and a vertical heating or cooling surface 9-1069
 heat transfer bibliography, Japanese works 9-23317
 heat transfer in fixed glass hallottini-packed beds, at low/intermediate Reynolds nos. 9-1244
 heat transfer intensification, surface-to-bed, at controlled gas distrib. 9-1246
 heat treatment of tool steels 9-20087
 HTGR fuel reprocessing pilot plant development 9-45397
 kinetic eqns. soln. (*Russian*) 9-10610
 liquid fluidisation, mass transfer models (*French*) 9-37390
 liquid radial spread in random beds 9-4078
 liquid-solid evaporator, wall to liq. heat transfer, distillation plant 9-1245
 liquid-solid fluidised beds, particle segregation, transition regions 9-46379
 liquid-solid semifluidised, prediction of pressure drop 9-41746
 packed bed, mass transfer coeff. at low Peclet no. 9-4077
 packed bed, optimal control of heat and mass transfer (*Ukrainian*) 9-32655
 packed bed, particle to fluid mass transfer, dispersion coeffs. 9-18940
 packed column, liquid distrib. and redistrib., expt. 9-18939
 packed column, liquid distrib. and redistrib., theory 9-18938
 polydisperse particles in spouted bed, particle cycle times, size depend. 9-46365
 reactor, steady states multiplicity 9-4086
 reactors, mathematical modelling (*German*) 9-41767

fluidised beds continued

sectionalised equipment for solution granulation 9-14472
 shallow fluidised bed heat transfer investigation 9-7404
 slug in fluidised bed, mass transfer, wall effect 9-4079
 solids circulation in column with spouting bed (*Ukrainian*) 9-32656
 solids wettability effect on liq. fluidisation 9-32654
 spouted bed, fountain region height and struct. 9-46380
 temperature profiles in fluid bed boilers 9-32663
 two-phase model, moment method 9-37391
 vertical pneumatic transport by retarded compact layer, energy efficiency 9-14474
 C-graphite materials, fluidised bed, carburising of metals, diffusion saturation 9-20276

fluidised powders *see powders***fluidity** *see viscosity***fluids**

see also bubbles; classical theories of fluid structure; disperse systems; fluid mechanics; fluidised beds; gases; gravity waves; liquids; non-Newtonian fluids; quantum fluids; quantum theories of fluid structure
 No entries

fluorescence

see also atomic fluorescence; fluorescent lamps; fluorescent screens; molecular fluorescence; nonradiative transitions; X-ray fluorescence analysis

alkaline aqueous soln., fluorescence detection limit 9-30575
 anomatic hydrocarbon high density excitation effects on fluoresc. 9-1782
 anthracene:tetracene, crysts., triplet kinetics model (*German*) 9-4518
 anthracene, fluoresc. from (001) surface and sub-surface excitons 9-33763
 anthracene, liq. chromatography, sublimation, zone refining, exciton fluoresc., mobility meas., melt grown crystal 9-38736
 anthracene, reflectivity and fluoresc. of (001) surfaces, sub-surface exciton states 9-15508
 anthracene, single cryst., X-ray radiation damage, delayed fluoresc. meas. (*Japanese*) 9-37736
 anthracene-TCNB charge transfer cryst., phosphoresc. and delayed fluoresc. detected mag. reson. 9-33565
 apomyoglobin-arylaminonaphthalenesulfonate system, fluorescent behaviour 9-39359
 benzene, cryst., vibronic spectra using 2-photon fluoresc. excitation 9-47493
 bilirubin, soln. luminesc. 9-31572
 charge transfer complex high density excitation effects on fluoresc. 9-1782
 charge-transfer crystals, long lived emission 9-33752
 chloraella, delayed fluoresc., ns laser pulse excited, fast phase kinetic anal. 9-24951
 chlorophyll, a and b, lowest singlet-singlet transition, solvent effects 9-24952
 chlorophyll a in photosynthetic material, luminesc. 9-34498
 chlorotetracycline self-fluorescence probe in transport by bacillus megaterium 9-24971
 coumarin 6-diethylamine, soln. fluoresc. induced by laser, vibr. relax. 9-26984
 decay time meas., photomultiplier wavelength depend. errors, correction method 9-30558
 dimethylsulphoxide, $\text{Eu}^{3+} \rightarrow \text{Pr}^{3+}$ and $\text{Eu}^{3+} \rightarrow \text{Er}^{3+}$ non-radiative energy transfer 9-47510
 disordered system, pair decay model of time depend. spectral transfer 9-43015
 disordered system, spectral and spatial diffusion, Monte Carlo calc. 9-4848
 disordered systems, optical excitation spectral transfer, generalised models 9-43027
 dye medium, short laser pulse superposition, numerical anal. 9-31891
 dye solutions, mixed, fluoresc. conc. quenching, sensilisation 9-24347
 dyes in rigid matrices, solvent reorientation relax. effect on luminesc. 9-43009
 EBBA, nematic, ordering parameter temp. depend. 9-23517
 epoxy resins, strain anal. by fluoresc. meas. (*French*) 9-47846
 erbium ethylsulphate, cryst. laser-excited fluoresc. intensity 9-33751
 fluorene:dibenzofuran, mixed cryst., dipole-forbidden guest-host energy transfer 9-38585
 frozen solution spectra, inhomogeneous broadening and phonon effects 9-33725
 germanate glass: Bi^{3+} , time-resolved spectra, radiative and nonradiative processes 9-47501
 germanate glass: Bi^{3+} , Eu^{3+} , time resolved spectra for Bi-Eu energy transfer 9-33748
 germanate glass: Nd^{3+} , spectral behaviour under narrow-line excitation 9-33747
 glass: Eu^{3+} , spectroscopic props. of excited states of ions, laser induced fluorescence line narrowing meas. 9-38641
 glass: Nd^{3+} , ED-2 glass, spectral behaviour under narrow-line excitation 9-33747
 glass: Nd^{3+} , line narrowed fluorescence spectra and site dependent transition probabilities 9-38640
 glass-plumbite-treated cotton, form. of coating at interface 9-15058
 greening bean leaf low-temp. fluorescence induction obs. 9-39354
 hydrocarbon carcinogenesis, fluoresc. meas. in cells 9-39343
 impurity atoms in solids, photon antibunching in reson. fluorescence 9-43025
 internal field reson. struct., implications for optical absorpt. and scatt. by microscopic particles 9-10259
 ions in solids, time resolved fluoresc. line narrowing 9-38611
 laser spectroscopy, resonance fluoresc. in strong field 9-35846
 MBBA, nematic, ordering parameter temp. depend. 9-23517
 molecular crystal, sensitised fluoresc., energy transfer rate 9-38586
 molecular crystals, diffusion mediated exciton processes, mag. field depend. of fission and fusion 9-37998
 molecular solids, Raman, fluoresc. and nonlinear props. 9-33702
 molecules embedded in small particles, Raman and fluoresc. scatt., coherent results 9-41338
 molecules embedded in small particles, Raman and fluoresc. scatt., incoherent results 9-41337
 naphthalene:anthracene, two-photon picosec. excitation, sensitised fluoresc. kinetics 9-47516
 naphthalene:azulene, reson. fluoresc., Raman spectra, single vibronic level relax. 9-38588
 naphthalene, cryst., singlet exciton interactions fluoresc. decay 9-47027

fluorescence continued

naphthalene, triplet exciton annihilation at high triplet densities 9-37996
 naphthalene β -chloronaphthalene, optically induced detraping of triplet excitons 9-28828
 naphthalene- d_8 :naphthalene, betamethylnaphthalene, $^{13}\text{C}_{20}$ naphthalene exciton percolation kinetics, exciton coherency 9-33750
 nematic liq. cryst. with luminesc. impurity, luminesc. and absorpt., order parameter determ. 9-4240
 ODMR, spin-lattice relax. and triplet-triplet. absorpt. effects 9-19807
 [2,2]paracyclophane, delayed luminesc. in cryst. and rigid glass solns. 9-15510
 perylene, exciton fission in excimer forming cryst., fluoresc. 9-15511
 phenanthrene:anthracene, cryst., triplet-triplet annihilation, shallow traps effect, 77-293K 9-11446
 pheophytin reduction obs. in higher plant photosystem II 9-43817
 phosphate glass: Nd^{3+} , spectral behaviour under narrow-line excitation 9-33747
 picosecond pulse techniques in spectroscopy, fluoresc. and other research areas 9-17504
 pigment reversible changes due to illumination of leaves 9-43818
 poly-1-vinylnaphthalene solution, time-resolved fluoresc. spectroscopy, excimer form. and dissoc. 9-38637
 poly-2,6-dimethylphenyleneoxide, fluoresc. correction in light scatt. meas. 9-1771
 poly-N-vinylcarbazole:2,4,7-trinitrofluorenone, fluoresc. kinetics, stroboscopic meas. 9-11443
 polyphenyls, fluoresc. and sensitization props. 9-38599
 polystyrene solution, time-resolved fluoresc. spectroscopy, excimer form. and dissoc. 9-38637
 proteins, inductive resonance energy transfer, struct. and conform. changes 9-27120
 pulsed laser spectroscopy, review 9-26140
 pyrene, excimer form. process, ps laser fluoresc. obs. 9-11448
 rare earth oxysulphides, $\text{R}_2\text{O}_3\text{S}:(\text{Eu}^{3+})(\text{Pr}^{3+})$, branching ratios for fluoresc. 9-33807
 resonance fluorescence, detailed balance, Lyapunov stability and entropy 9-13941
 resonance fluorescence, Doppler-free obs., fluorescence-line-narrowing method and improvement 9-13840
 resonance fluorescence, optical bistability and cooperative effects 9-3668
 ruby, piezo-spectroscopy of exchange coupled Cr^{3+} pairs 9-33783
 ruby, spin dependency of optical feeding into $\text{E}(\text{E})$ metastable doublet 9-28812
 semiconductors, recombination processes, review 9-38088
 sodium uranyl acetate, fluoresc., circ. dichroism 9-38598
 solar EUV spectrum, H_2 fluoresc. from H Lyman α excitation 9-16908
 solid, photoacoustic measurement of absolute quantum efficiencies 9-19924
 solid and liquid samples, composition determ. using Neva spectrofluorometer 9-30576
 spectrometer system for investigating light polaris. dynamics in nanosecond band 9-2834
 synchrotron radiation with single photon counting or phase shift techniques, for fluoresc. lifetime meas. 9-13841
 tellurate perovskites, $\text{M}_2\text{Y}^{2+}\text{TeO}_6$, $\text{M} = \text{Ba}, \text{Sr}, \text{Ca}, \text{Cd}$, $\text{Y} = \text{Ba}, \text{Sr}, \text{Ca}, \text{Cd}, \text{Zn}, \text{Mg}$, luminesc. on activation by Eu^{3+} , Tb^{3+} , Dy^{3+} , Er^{3+} 9-4838
 tellurite glass: Nd^{3+} , spectral behaviour under narrow-line excitation 9-33747
 tetracene:pentacene, pressure-induced phase transition, mag. field effect on guest fluoresc. 9-33083
 two-photon absorption in liquids, optical system 9-17500
 tyrosine fluorescence at 345 nm in proteins lacking tryptophan 9-39360
 ultratrache inorganic ion determination by laser excited fluoresc. 9-34372
 ureilite meteorites, fluorescent accessory phases in carbonaceous matrix 9-40143
 video fluorometer, computer-controlled, multichannel, features 9-20495
 water pollutants, airborne monitoring by fluorescence spectroscopy 9-2397
 $\beta\text{-Al}_2\text{O}_3\text{-Na}_2\text{O}:\text{Cr}$, absorpt. and emission spectra, mag. susceptibility 9-15495
 $3\text{Al}_2\text{S}_3\text{-La}_2\text{S}_3:\text{Ho}^{3+}$, radiative and multiphonon relax. 9-33794
 $\text{BaBr}_2:\text{Sm}^{2+}$, spectra, ^5D states, Lauer-Fong formula and SCC model 9-15513
 $\text{BaCl}_2:\text{Sm}^{2+}$, spectra, ^5D states, Lauer-Fong formula and SCC model 9-15513
 $\text{BaF}_2:\text{Er}^{3+}$, fluoresc., importance of defect clustering 9-33827
 $\text{Ba}^{*} + \text{Ba}^{*}$, radiative collisional fluoresc. at sum freq. 9-18261
 $\text{CaO-Li}_2\text{O-B}_2\text{O}_3:\text{Dy}^{3+}$ glass, optical excitation energy transfer from $\text{Dy}^{3+} \rightarrow \text{Nd}^{3+}$ 9-15515
 $\text{CaS}:\text{Ce}$, Na, photon sidebands in emission and excitation spectra, pseudolocalised vibrs. 9-28800
 $\text{CsBr}:\text{Th}$, absorpt., excitation, fluorescence spectra 9-43032
 $\text{Cs}_2\text{NaEuCl}_6$, mag. dipole transitions $^3\text{D}_3 \rightarrow ^7\text{F}_4$, interpretation 9-42505
 $\text{Cs}_2\text{UO}_2\text{Cl}_4$, fluoresc. decay rate of pure and impure cryst. 9-47487
 $\text{Cs}_2\text{UO}_2\text{Cl}_4$, low-lying excited electronic levels, fluoresc. decay meas. 9-47491
 ErP_2O_4 , single cryst., radiative and non-radiative transitions 9-19920
 GaAs , polariton fluoresc., spatial and spectral features 9-33760
 $3\text{Ga}_2\text{S}_3\text{-La}_2\text{S}_3:\text{Ho}^{3+}$, radiative and multiphonon relax. 9-33794
 GdBr_3 , frozen aq. soln., fluoresc. and absorpt. spectra 9-43022
 GdCl_3 , frozen aq. soln., fluoresc. and absorpt. spectra 9-43022
 $\text{Gd}(\text{ClO}_4)_3$, frozen aq. soln., fluoresc. and absorpt. spectra 9-43022
 HgI_2 , cooperative fluoresc. by excitonic reson. pumping 9-33732
 $\text{KBr}:\text{Ga}^{+}$, luminescence decay times, fluorescence kinetics, 1.6-300K 9-33825
 $\text{KCl}:\text{Sm}^{2+}$, spectra, ^5D states, Lauer-Fong formula and SCC model 9-15513
 $\text{K}_2\text{UO}_2\text{Cl}_4$, fluoresc. decay rate of pure and impure cryst. 9-47487
 $\text{LaBr}_3:\text{U}^{3+}$, luminesc., fluoresc. lifetimes 9-33768
 $\text{LaF}_3:\text{Dy}^{3+}$, laser excited fluoresc., lifetimes meas. 9-24353
 $\text{LaF}_3:\text{Ho}^{3+}$, single crystals, multiphonon relax., fluoresc. obs. 9-47495
 $\text{LiAl}_2\text{O}_3:\text{Cr}^{3+}$, fluoresc. and excitation spectra, zero phonon lines 9-33785
 $\text{LiGa}_2\text{O}_4:\text{Cr}^{3+}$, fluoresc. and excitation spectra, zero phonon lines 9-33785
 $\text{Li}_2\text{O-B}_2\text{O}_3:\text{Eu}^{3+}$ glass, laser induced fluoresc. line narrowing, struct. 9-38613
 $\text{MnF}_2:\text{Zn}$, shift and broadening of optical transitions 9-38579
 $\text{NH}_4\text{Br}:\text{Ti}$, absorption, excitation and fluorescence spectra 9-33824
 Na-He model pot. calcs., fluoresc. line profile 9-36723

fluorescence continued

- Nd:glass laser, mode-locked, ultrashort pulse duration meas., two-photon fluoresc. 9-27302
 Nd³⁺:glass, laser induced fluoresc. line narrowing, site depend. 9-33819
 NdP₂O₁₄, fluoresc. decay times meas. 9-8187
 Nd₂Y_{1-x}P₂O₁₄, fluoresc. energy transfer and radiationless relax. 9-38625
 P₂O₅-K₂O-CdO-Na₂O glass:Nd³⁺, highly doped, spectroscopic props. and CW laser action (*French*) 9-41385
 PbI₂, cooperative fluoresc. by excitonic reson. pumping 9-33732
 Rb₂UO₂Cl₄, fluoresc. decay rate of pure and impure cryst. 9-47487
 SrF₂:Sm²⁺, spectra, ³D states, Lauer-Fong formula and SCC model 9-15513
 Tb, phonon spectrum, obs. of one phonon transitions by nucl. reson. fluoresc. 9-38416
 TeO₂-Li₂O glass:Nd³⁺, highly doped, spectroscopic props. and CW laser action (*French*) 9-41385
 YAG:Ce³⁺, excited-state absorpt. meas., tunable laser model system 9-42994
 Y₃(Al_{1-x}Ga_x)₅O₁₂:Nd, fluoresc. energy transfer and radiationless relax. 9-38625
 Y₂O₃:Eu, fluoresc., cathodoluminesc. and thermal quenching 9-47488
 YVO₄, pure and Bi³⁺ doped, absorpt. and emission props., excitons 9-38592
 YVO₄:Eu, fluoresc., cathodoluminesc. and thermal quenching 9-47488
 Y₂WO₆, new structural type, unit cell, space group, fluorescence spectra 9-1420
 Y₂WO₆:Eu³⁺, luminesc., rel. to crystallographic data 9-33793
 ZnO-TeO₂ glass, Ho³⁺ or Er³⁺ doped, visible green emission 9-15523

fluorescence of atoms *see atomic fluorescence***fluorescence of molecules** *see molecular fluorescence***fluorescent lamps**

- phosphors with aluminate host lattices, behaviour 9-11453

fluorescent screens*see also electroluminescence*

- phosphorescent detectors and X-ray convertors, Symposium, Riga, USSR (Oct. 1966) 9-6243
 X-ray intensification, new approach to line spread function meas. 9-20665
 X-ray phosphors and screens based on compounds activated with rare-earth elements 9-8169
 X-ray screens consisting of scintillating crystal fibers, for nondestructive testing 9-6244
 CsI based powdered phosphors and screens possible appl. in X-ray radiography and fluorography 9-6245
 CsI:TI powdered phosphor screen for X-ray image intensifier 9-6246
 CsI:TI single crystal gamma-optical converting screens, factors influencing relative afterglow intensity 9-8173
 ZnS:Cu,Co, phosphor luminesc. screen, spectral characts. determ. of IR pulsed lasers 9-10341

fluorimetry *see spectrochemical analysis***fluorine***see also nuclei with*

- atom, ground state static polarisability and hyperpolarisability, numerical SCF method 9-36567
 atom source using thermal decomposition of KrF₂ in duralumin reaction vessel 9-24724
 determination in steel making slag, by 14 MeV neutron activation anal. (*Japanese*) 9-20484
 determination of fluorine in food samples, by ¹⁹F(p,p')γ 9-5218
 gas, eqn. of state, second virial coeffs., intermol. pot. at low temp. 9-46416
 hot spring water content (*Japanese*) 9-8648
 laser, discharge pumped, 1578 Å emission 9-31877
 molecular laser, high power, electron beam excited 9-932
 molecule, charge distrib. anal. rel. to Berlin's binding and antibonding regions 9-6875
 molecule, ground state, determination and use of molecular α values in MSXα calcs., MTXα_R meth. 9-10032
 molecule, ground state, multiconfig. function, perturbation theory calcs. 9-13644
 solubility and diffusivity in solid Cu, electrochem. meas. 9-46808
¹⁸F ion diffusion in dental enamel at pH 7, obs. 9-29553
 F (²P_{1/2}) + H₂, quenching, classical path calcs. 9-22800
 F I, absorpt. spectrum, 730-620 Å 9-26923
 F IV, m-representation approach to atomic structure 9-45645
 F isoelectronic series, transitions between 1s²2s²p⁵-1s²2s²2p⁴3d and 1s²2s²2p⁵-1s²2s²2p⁴3s configs. 9-26925
 F⁻, electron impact detachment cross sections, test of classical scaling theory 9-31693
 F⁻ ion influence on Si anodic oxidation and Si-SiO₂ interface 9-15842
 F⁺, lifetimes and fluoresc. yields calcs. 9-45668
 F⁻(H₂O)_n, complex struct., coord. numbers 9-7049
 F+H₂, electronic-rot. energy transfer, for F(²P) 9-36740
 F+H₂, in pulsed HF chem. laser, kinetic modelling, rot. nonequilib. 9-36888
 F+H₂, in pulsed HF chem. laser evolution, irreversible thermodynamic anal. 9-31887
 F+H₂, reaction quantum dynamics, reson. model, transition state props. 9-11781
 F+H₂+hν, reactive scatt. and inelastic collision in laser field, semiclassical calc. 9-47948
 F+HN₃, production of NF*(a¹Δ and b¹Σ⁺) 9-11770
 F+He+Ar, VUV spark emission spectra 9-3457
 F+Xe, differential scatt. cross sections, crossed beam study, interaction pot. 9-3517
 F⁻+H₂F, proton transfer reaction, polarisation model 9-39131
 F⁻+HF, proton transfer reaction, polarisation model 9-39131
 F⁸⁺+He, X-ray prod. cross sections resulting from electron capture and electron excitation of F⁸⁺ ions 9-3557
 F⁷⁺+Al, X-ray prod. and electron transfer cross-section 9-45790
 F⁷⁺+Ne, MO X-ray prod. obs. 9-45663
 F₂-Ar mixtures, electron attachment rate to F₂, elec. cond. meas. 9-7019
 F₂+Cu, photon yields, chemi- and photo-luminesc. 9-5157
¹⁸F, production from ¹⁸Ne, carrier free H¹⁸F acid 9-29626
¹⁸F, radioactivity meas. using Cherenkov liquid scintillator counter 9-26817
¹⁸F-F₃COF.¹⁸F radiopharmaceutical synthesis procedure 9-29619
¹⁹F, fission 2p-1s X-ray transitions 9-18319
¹⁹F+⁶⁰Nd(⁶Hd)(⁷Au), target La X-ray prod., projectile charge state depend. 9-47549

fluorine continued

- ¹⁹F+Z, Z=22 to 57, 2 to 28 MeV, prod. of target atom K-shell X-rays 9-18285
 Kr⁺+F⁻ and Kr₂⁺+F⁻, ionic recomb. rates in buffer rare gases 9-8425
 N₂-F₂ mixture, fast Blumlein discharge excited, intense 3371 Å laser emission 9-41365
 Ne-Xe-F₂(NF₃), excited states quenching 9-18406
 Ni:F, ion-implanted, mag. hyperfine field, anomalous temp. depend., PAC meas. 9-4754
 Pb+F₂, chemiluminesc. spectrum of PbF 9-24742
 Si-SiO₂ interface, ¹⁹F implantation effects on charge density 9-10865
 Si+F⁺, q=3-9, Si K-shell ionis., electron transfer cross sections, solid targets 9-10192
 SiO₂:F-ion implanted, mobile-ion drift compensation 9-19664

fluorine compounds

- fluorides, chem. formulae, advances in preparative chem. 9-47915
 fluorides, polyatomic with He and Ar, VUV spark emission spectra 9-3457
 Ba₂M₁M₂Cr₃ (M₁=Fe, Co, Ni, Zn; M₂=V, Cr, Fe), solid state synthesis and cryst. chem. study (*French*) 9-41988
 F-bearing gases, K X-ray yields induced by proton bombardment 9-45736
 FCN, and isotopic forms, force field calc., freqs., rot. consts. 9-22691
 FCN, laser-microwave two-photon spectroscopy, appl. of tunable source 9-30579
 FH, quadratic vibr. force const., from X-ray scatt. factors 9-45864
 FH+Be→BeF+H, collinear, pot. energy surface study 9-11782
 FNO, excited states, SCF scheme 9-6885
 FNO₂, UV photoabsorption spectrum 9-10123
 F₂SO, A'-force consts., 4th-order secular eqn., L-matrix approx. vs. HLFS methods 9-36556

flux (magnetic) *see magnetic flux***flux (neutron)** *see neutron flux***flux creep***see also flux pinning*

- flux jump in magnetic field, at slow sweep rate, calc. and obs. 9-4632
 hard superconductor influence of thermally activated flux creep on AC response 9-33416
 superconducting surface sheath, Brownian motion 9-19708
 NbZr, thermally activated flux creep, effect on AC response 9-33416

flux crystal growth *see crystal growth from solution***flux flow***see also flux pinning*

- irreversible, flux flow in transverse mag. field 9-7949
 Josephson junction, vortex motion induced by phonon injection 9-4622
 layers, mixed state struct. rel. to Josephson effects 9-4628
 superconducting surface sheath, Brownian motion 9-19708
 superconductor flux-flow noise theory 9-24115
 type-I superconductor, current induced resistive state, noise in flux tube nucleation 9-24109
 Nb foil, cross correlation measurements on moving vortex arrays 9-24117
 Nb foil, time behaviour of local flux flow noise 9-24116
 Nb microbridges, heating and flux flow, I-V curves and microwave mixing 9-28474
 Pb film, current-induced flux motion, studied at 100 ns time resolution 9-47208
 Pb-2n, work hardening in mixed state (*Russian*) 9-42707
 Pb-Cd, oriented lamellar superconductor-normal composite, supercond. 9-1650
 Pb-Cd eutectic composite, mag. flux entry in proximity effect regime 9-33418
 Pb-PbO₂-Pb, long Josephson tunnel junction, current steps induced by vortex motion 9-47199
 V foil, time behaviour of local flux flow noise 9-24116

flux-line lattice

- current density distrib. in cylindrical sample 9-38270
 fluxoids, equilibrium misalignment with applied magnetic field, due to anisotropy effects, direct obs. 9-24112
 imperfect vortex lattice, small angle neutron scatt. 9-42710
 Josephson junction, current-carrying, in strong mag. field (*Russian*) 9-33411
 periodic pinning structures, supercond. vortices 9-38269
 pinning, deformation of flux line lattice in type II superconductor 9-47213
 X-ray and neutron small-angle scattering, review 9-10752
 Nb, bicrystal, paraelastic interaction between grain boundary dislocations and flux line lattice 9-24114
 Nb pure single crystal, low-κ type II superconductors, determ. of low field critical parameters 9-11278
 Nb pure single crystals, anisotropy in flux-line lattice symmetry of low-κ type II superconductor, neutron diffr. study 9-11279
 Nb, supercond. fluxoid line lattice neutron scatt. study 9-42712
 Nb, type II superconductor, equilibrium misalignment, fluxoids and appl. mag. field, anisotropy interaction 9-24112

flux line motion *see flux flow***flux pinning***see also flux creep; flux flow*

- Clarke solder-blob junctions, hysteresis studies 9-28478
 deformation of flux line lattice in type II superconductor 9-47213
 fluxoid-void interaction in type-II superconductors 9-7950
 fluxon dynamics, perturbation anal. 9-11280
 hard superconductor influence of thermally activated flux creep on AC response 9-33416
 imperfect vortex lattice, small angle neutron scatt. 9-42710
 magnetisation, critical state model in nonideal type II supercond. 9-47212
 nonideal type II superconductor, pin distrib. rel. to V-I characts. (*Japanese*) 9-33421
 periodic pinning structures, supercond. vortices 9-38269
 technical superconductor radiation damage obs. 9-33422
 type II superconductor influence of structure defects on resistive and Hall effects (*Russian*) 9-33419
 type II superconductors, magnetic hysteresis and flux profiles, review 9-1651
 Al superconducting film, edge pinning in perpendicular mag. fields 9-4633

flux pinning continued

Cu₁Mo_{0.5}S₈, inhomogeneous superconductor, scaling laws for pinning forces 9-47214
Nb, bicrystal, flux pinning by grain boundaries 9-24114
Nb, type II superconductor, Faraday effect, flux density gradient determ. 9-24113
Nb-Ta, supercond., transport current distrib., neutron small angle scatt. study 9-42711
Nb-Zr, deformed strip, pinning force, widely varied j_c , temp. and mag. field variations (*Russian*) 9-7948
Nb₃Al multifilamentary cable fabrication and props. 9-33438
Nb₃Ge, critical data, under hydrostatic pressure to 15 kbar 9-47217
Nb₃(Ge, X), X=Si, Ga, CVD tapes, supercond. props. at high mag. fields 9-38279
Nb₃Ge CVD tapes, supercond. props. at high mag. fields 9-38279
Nb₃Ge film, prepared by cosputtering, supercond. props. 9-4634
Nb₃Ge films, correl. between crit. current density and microstruct. 9-38277
Nb₃Ge, inhomogeneous superconductor, scaling laws for pinning forces 9-47214
Nb₃Ge, supercond. film, prep. by chem. transport reaction, critical props. 9-47635
Nb₃Ge_{1-x}Ga_x(Sn_x) CVD films, supercond. props., 4.2 to 19K 9-42713
Nb₃Ge_{1-x}M_x (M=Ga,Sn), pseudo-binary, scaling laws for supercond. crit. currents 9-24118
NbN, critical data, under hydrostatic pressure to 15 kbar 9-47217
NbN diffusion wires, crit. currents and supercond. crit. field under high press. 9-38287
Nb₃Sn composites, crit. currents and microstruct. 9-38280
Nb₃Sn, critical data, under hydrostatic pressure to 15 kbar 9-47217
Nb₃Sn multifilamentary composite superconductor, effect of heat treatment on supercond. props. 9-33376
Nb₃Sn, supercond., effect of trapped mag. flux on AC losses 9-33420
Nb₃Sn, supercond., production of high current carrying strip (*Russian*) 9-33435
Nb₃Sn, superconducting, formed from Cu-Sn alloy, props. 9-42709
Nb₃Sn superconducting multifilamentary wire, stress effects 9-33431
Nb₃(SnGa), wire, neutron effect on T_c, I_c and flux pinning 9-38216
NbZr, thermally activated flux creep, effect on AC response 9-33416
Pb-Cd, oriented lamellar superconductor-normal composite, supercond. 9-1650
PbMo_{0.5}S₈, inhomogeneous superconductor, scaling laws for pinning forces 9-47214

flux vortex flow see flux flow

flux vortex lattice see flux-line lattice

fluxmeters

see also magnetic field measurement; magnetic flux

No entries

fluxoid array see flux-line lattice

foams

see also bubbles

liquid-saturated open cell foam in circular tube acoustic wave propag. 9-41470
LMFBR postulated core meltdown, onset of foam flow regime in volume heated boiling pool 9-31015
metal, solidification in space environment, fluid flow effects 9-47674
polymeric foams, cell cracking 9-11701
polyurethane, insulation for cylindrical cryogenic container, estimation of steady state heat link 9-35750
polyurethane, rigid, thermal expansion behaviour, mech. differential dilatometer method (*German*) 9-37859
polyurethane foam, rigid, gaseous thermal decomposition products, IR anal. (*German*) 9-29348
polyurethane foam, SiO₂ particulate filled, mechanical props. 9-11666
polyurethane foam plate, response to acoustic noise impulse (*French*) 9-1033
shock wave dispersion 9-46359
thermal radio emission from foam structures 9-29497
urethane foams for noise abatement, physical and acoustical props. 9-18592

focused collision sequences see sputtering

focusing

see also self-focusing

acoustic focusing systems, nonlinear effects 9-32126
atomic beam, focused with laser beam, Na beam and dipole forces 9-7066
automatic focusing system, Visitronic, description for photo- and film cameras (*German*) 9-6200
beam propagation in focusing media with random-axis misalignments: Second- and higher-order moments 9-17236
camera automatic focusing mechanism principles and designs 9-30595
CERN Proton Synchrotron focus control, pole face winding design and field correction 9-31299
charged particle beam focusing, using aberrational quadrupole lens system 9-26180
cold neutron beam polarising supercond. hexapole magnet 9-31300
continuous zoom forward-looking IR optical system design and implementation 9-23046
defocus spread and illumination aperture effect, in brightfield electron microscopy 9-231
distorted image convolution deblurring by Fourier-Bessel transform holograms (*Russian*) 9-2897
dynamic-focusing mirror system, umbrella-type 9-36971
dynamically focused array imaging systems, induced Doppler distortions 9-46117
electro-optical image sensors, performance evaluation of focal planes for aerial reconnaissance 9-31833
electron beam, relativistic, focusing limitations in low-press. gas 9-41322
electron beam focusing theory, nonlinear differential eqns. (*Chinese*) 9-31783
electron beams, point focusing through different vacuum lines 9-45499
electron microscope image interpretation, instrumental, environmental conditions (*Polish*) 9-30623
energy distribution of converging spherical wave for small Fresnel nos. 9-3626
Fabry-Perot focusing properties in multiple-beam holography system 9-13927
Fabry-Perot type interferometers focusing and beam shifting props. 9-6168
Gaussian beam propagation, Fresnel-Kirchhoff integral anal. 9-45984

focusing continued

Gaussian laser beam focus, intensity distrib. determ. 9-14002
grating acoustic scanner for material defects 9-47878
heptafluoriodopropane light amplifier, wave-front distortion due to photolysis-gas dynamic effects 9-18412
image contrast theory of electronic focus 9-13914
ion beam focusing from quadrupole mass filter using electrostatic lens 9-229
ion optics, sector mag. analyser, fringing fields and focusing 9-41328
kidney stone contactless destruction by US shock waves 9-48300
laser beam focusing, wave front convolution effect (*Russian*) 9-45990
laser beam optimal focusing conditions for freq. doubling 9-14036
laser beam with retractable focus, ionis. path form. in gases 9-18992
laser focusing objectives, flare image danger reduction 9-22997
lens, intensity fluctuations in turbulent atmosphere, with (without) central screening 9-7080
light beam streaking by electro-optically induced travelling lens 9-46045
linear accelerator, hollow-beam, with phase focusing, limiting current 9-18065
magnetic focus generation for NMR biological meas. (*Japanese*) 9-12041
magnetoplasma, coaxial Gaussian EM beams cross focusing, plasma wave generation 9-32779
matching focons, optical props. 9-27168
mirror, off-axis parabolic, for laser fusion expt., fabrication process 9-23103
moving objective lens and Fraunhofer condition for predeflection 9-41316
multimode focusing fibre with random bends, optical power loss 9-7214
multiply reflected Gaussian beams in circular cross section 9-18343
multistage cylindrical analyzer for simultaneous detection of several beams with different energies 9-22891
optical fibre index profiles, focusing method, nondestructive meas. 9-27375
optical memory beam positioning and focusing system combination (*Russian*) 9-7194
optical parametric oscillator, singly resonant, optimal focusing of pump radiation 9-7176
optimum focusing, for direct higher harmonics generation (*German*) 9-10349
photographic wide-angle lens, Flektogon F/2/8-20 mm 9-35869
plasma, Gaussian ripple on uniform EM beam, growth in magnetoplasma 9-19041
plastic rods, light focusing, prep. by two step copolymerisation of diallyl phthalate with methyl methacrylate (*Japanese*) 9-37064
proton beam, using unipotential plasma lens 9-41326
proton dynamics in linear accelerator with variable phase focusing, space charge effect, simulation 9-13561
Proton-Electron Tandem Ring Accelerator magnet field meas. 9-31271
PVF₂ film composite resonator for concave focusing US transducer 9-46155
reflector geometry for acoustic microscopy and NDT 9-47874
refractive index determ., focusing method 9-27374
relativistic electron beams, mag. focusing, equilib. surface ripples 9-3618
Seemann-Bohlin focusing method, using modified Chirana cylindrical cameras (*Czech*) 9-26192
seismic body waves, focusing at epicentre antipode 9-16399
SEM, automatic focusing and stigmating system 9-12893
SHIVA laser optical component manufacture and testing 9-22980
shock wave focusing at an arete 9-37352
spherical X-ray wave, diffraction focusing effect (*Russian*) 9-23500
superconducting quadrupole magnet design for ion beam fusion linac 9-36433
telescope, AZT-24, design formulas for construction elements 9-35133
tenuous particle scattering of focused laser beams 9-36836
tokamak, beam focusing, by aperture displacement, in two-stage acceleration system 9-46496
US generator, general purpose broad-band, for biological object handling 9-43881
As₂S₃ focusing diffraction grating with const. spacing 9-23096
Ge, autofocusing of X-rays and γ -rays 9-12916
H⁻ beam, intense, from Penning surface-plasma source, ion-optical charact. 9-13892
H⁺ beam, 0.5 TW pulses, production with spherically focusing mag. insulated diode 9-31288
ICL, mol. beam focusing in rot. states 9-18317

focusing, particle see focusing; particle optics

fog

advection fogs at sea, droplet spectra formation, numerical model 9-34916
atmosphere boundary layer, IR radiation rel. to dynamics and fog development 9-39815
brightening of disperse media, role of laser fluctuations 9-41405
dangerous weather phenomena prediction, research prospects 9-34932
diffusion coefficients deduced from closing times of helicopter-produced clearings in fog 9-39810
hole boring with pulsed high-energy lasers 9-16662
holography through fog, new version 9-912
ice crystals, holographic meas. of shapes, sizes and concs. 9-25364
laser beam attenuation at mountain altitudes by fog and clouds (*Russian*) 9-48566
laser blue-green pulsed propagation through fog 9-39846
marine advection fog, water distrib. rel. to droplet size, salt particle nuclei 9-5570
measurement on motorways 9-16608
visibility temporal vars. beside motorway, England 9-39852
warm fog and steam clouds, emission spectra variations, evidence for clusters in vapour phase 9-39849
CO₂ laser radiation influence on liquid drop cloud medium, dissipation 9-39858

foils

metal foils, Z=6 to 79, energy loss of light 300 keV ions, using magnetic analyser 9-4350
metal ultrathin foils, laser monitored electrothinner (*German*) 9-34219
multilayer heterostructures, prep. and ion etching of thin foils for electron microscopy 9-12779
preparation apparatus, for X-ray diffr. study of lattice defects 9-37585
strain gauges, small high-elongation foil, as fatigue damage indicators 9-32417
target, thickness measurement using ¹⁴C β -ray thickness gauge 9-26030
Ag, proton energy straggling determ., at 0.35, 1, and 1.75 MeV, γ -emission reactions 9-4354

foils continued

- Al, activated, determination of fast neutron contamination in X-ray beams 9-6724
- Au, proton energy straggling determ., at 0.35, 1, and 1.75 MeV, γ -emission reactions 9-4354
- Au, stopping cross sections of protons, 350 to 650 keV, backscatt. technique 9-4352
- C, energy loss of Ne ions (40-120 keV), and Ar ions (40-240 keV), as function of emergence ang. 9-4357
- C, passage of ^{14}N and ^{20}Ne ions, energy-angle distrib. 9-10889
- C stripper foils for heavy ions, preparation method 9-22516
- Cd, monocrystalline, anisotropy of size effect 9-38048
- Cu_2O foils, electron microscope exam., Cu precipitates and CuO form. 9-1462
- Nb, oxidised, electron irradiation damage, AES study 9-28015
- ^{119}Sn , thin foil, 19.6 keV conversion e^- energy, ang. contrib., Monte Carlo calc. 9-11360
- W, adsorption and condensation of Fe, meas. by thermal desorption in time-of-flight mass spectra 9-15023
- Zr, convergent beam thickness determ. 9-4215

Fokker-Planck equation

- Brownian motion, quantum mech. treatment 9-9186
- Brownian motion in periodic potential, correlation functions, Fokker-Planck eqn. method 9-165
- charged particles transport in fluctuating mag. fields, interplanetary appl. 9-27752
- classical damped motion, role played by trajectory in Fokker-Planck solns. (French) 9-30347
- continuous-time linear system, varying environment, state estimation methods 9-12581
- coupled random walk process, spatial structure, regression to steady states 9-25986
- dechanneling theory, axial and planar conditions, anal. methods for dechannelled fraction calc. 9-4359
- diffusion, formal soln. using operator approach 9-35647
- diffusive motion in periodic potentials, low friction nonlinear mobility 9-35645
- electron oscillations in fully ionized plasma 9-41814
- energy deposition of fast ions in plasma, Green's function calc. methods 9-14559
- first order phase transition in laser with saturable absorber 9-18394
- fluid structure, orientational correl. time 9-23512
- generalised equation, derivation for non-Markovian system with time reversal asymmetry 9-30369
- heavy ion collisions, ang. momentum dissipation of fragments 9-36260
- hydrodynamic equations derivation by multiple time scale method 9-44861
- interacting particle diffusion in periodic pots., two particle model, random motion 9-46828
- Lorentz Fokker-Planck, kinetic theory 9-46413
- multiplicative stochastic processes in statistical physics 9-25980
- neutron density fluctuations in on-off controlled reactor, exact stochastic anal. 9-36308
- nonlinear Fokker-Planck eqns., master eqns. 9-40503
- nonlinear rate processes with multiple stationary states, stochastic theory, metastable state relax. time 9-2725
- nonlinear stochastic model, statistical mechanics 9-2724
- nonvolatile liquid, boiling, nucleation eqn. in phase space 9-27495
- one-dimensional diffusion, soluble model potentials 9-35649
- one-mass vibroshock system, forced random oscils., treatment by Markov process methods 9-14335
- optical bistability, Fokker-Planck eqn. from master eqn. 9-13935
- optical parametric processes, generalised eqn. 9-3663
- optical parametric processes, photocounting statistics 9-3664
- path-integral methods in nonequilibrium thermodynamics and statistics 9-26018
- plasma, ion beam-induced currents, kinetic theory 9-32746
- plasma, magnetised, unstable, turbulent, stochastic photon diffusion 9-48662
- plasma, multicomponent, runaway electron motion in momentum space 9-37449
- plasma in const. elec. field, electron distrib. function 9-4106
- polymer solution dynamics, generalised Fokker-Planck eqn. appl. 9-1386
- power and temp. fluctuations for reactor with temp. feedback, exact statistical anal. 9-36309
- projection operator construction, nonequilibrium states, Fokker-Planck eqn. 9-21670
- resonant medium with small degree of ionisation, radiation transfer mechanism, description by Fokker-Planck eqn. (Russian) 9-37453
- semiconductor, hot electrons, photoexcited in quantizing mag. field, energy distrib. calcs. 9-42586
- structural vibrations under random excitation, energy anal. 9-27568
- Wick's theorem, relation between canonical and Fokker-Planck dynamics 9-17329
- Wick's theorem and Fokker-Planck dynamics 9-40504
- ^{120}Sn and ^{132}Xe , deeply inelastic, relative motion mass transport and dynamics 9-13320
- ^{238}U and ^{238}U , deeply inelastic, relative motion mass transport and dynamics 9-13320

food processing industry

- freeze-drying of food models, heat and mass transfer 9-1098
- isotopic meas. of liquids, density, based on gamma radiation absorption 9-44903
- noise control, conflict with sanitation requirements 9-18593
- spectrophotometer, high-energy, 0.25-2.4 μm , for rapid food constituent anal. 9-17508
- sugar mills, noise reduction of cane locomotives, shredders, and steam systems 9-18586
- yeast survival rate obs., millimetre-waves influence (Russian) 9-2100

forbidden gap see energy gap**Forbush decreases see cosmic ray variations****force**

- see also atomic forces; coercive force; Coriolis force; force measurement; molecular force constants; nuclear forces
- education, simplified relativistic force transformation equation 9-25791

force constants see lattice dynamics; molecular force constants**force measurement**

- see also dynamometers
- 250 kN ONERA force standard machine, precision improvements 9-35728

force measurement continued

- acceleration compensation of force transducers and weighing systems (German) 9-35733
- cable tension meas. using transverse vibration technique 9-37269
- conference, Braunschweig, W.Germany (Sept. 1978) 9-35725
- deadweight standard machines, 100 kN, investigation of parasitic effects 9-35731
- dynamic errors in spring-mass-damping system (German) 9-12794
- dynamometers, multicomponent, practical experimental designs for calibration 9-35729
- dynamometers, time ageing determination using bonded resistance foil strain gauges 9-35726
- dynamometric transducers based on granular conducting material contact resistances 9-35706
- force sensor, inductively coupled, high bandwidth 9-6118
- forearm crutch with built-in load indicator, walking retraining after fractures (German) 9-8563
- hip dynamic contact force distribution meas. 9-39624
- horse's hoof movement/load relationship camera and multicomponent force meas. panel (German) 9-16352
- interaction energy, procedure for precision meas. of condensed bodies under various physicochem. conditions 9-21736
- limb muscle dynamic force meas. by surface EMG 9-34689
- load cell transducers, shear force, mathematical modelling and design 9-35722
- load cells, automatically controlled, method for digitizing measured values (German) 9-35721
- load transducers, sensitivity to temp. gradients and transient environments 9-35716
- loading machines, comparison with German PTB force scale (German) 9-35734
- magnetoelastic load cell and performance of force transducers (German) 9-35714
- magnetostrictive force transducer 9-2757
- mass standards for calibration of force standard machines (German) 9-35735
- mica surfaces in aq. poly(ethylene oxide) soln., forces meas. 9-23833
- motor vehicle in impact test, force meas. (German) 9-34271
- pathological gait assessment, foot force meas. device 9-20701
- photoelastic substrate technique for dynamic measurements of forces exerted by moving organisms 9-39621
- piezoresistive strain gauge transducers for millinewton force meas. with millisecond response time 9-12793
- shock absorbers, telescopic, dynamical force measurement (German) 9-35732
- silastic strain gauge as in vivo muscle force transducer 9-29680
- standard machines of national institutes for metrology, technical specifications 9-26022
- standards and force measuring apparatus, Hungarian (German) 9-35730
- standards for compression force measurement, 0.5 to 30 MN 9-35727
- strain gauge, load cells, characterisation of creep response 9-35718
- strain gauge load cells, small dead weight machines with compensator and computerized data processing 9-37266
- strain gauge load cells, stabilisation and compensation of temp. dependent errors (German) 9-35717
- strain gauge load cells, testing for suitability in electromechanical weighing machines (German) 9-35682
- tension of threads using instrum. based on inductive transducers 9-17414
- transducers, force, calibration using theoretical calcs. 9-35719
- transducers, force, designs and appls. 9-35720
- wave and force measurement system 9-41780
- wind-tunnel balance, 6-component, using load cell techniques (German) 9-37268

force meters see force measurement**forecasting, technological see technological forecasting****forecasting theory**

- autoregressive-moving average models for Wolf sunspot data, new models 9-12442

forging

- metals, cold forging, upset tests anal., stress-strain law determ. appl. (French) 9-20064
- powder forging, review 9-43166
- steel, Cr modified, heat resist. rel. to thermomech. treatment 9-20084
- upset forgings, grain flow structure 9-38872
- Al alloy, cast, forging and heat treatment effects on diamond planishing treatment 9-43237
- U/(Zr-Cu-Mo alloy) welded joints, mech. characts. determ. 20 to 750°C 9-29113
- U/Ti welded joints, mech. characts. determ. 20 to 750°C 9-29113
- Zn-Al, high strength superplastic alloy, exam. of precise forging method 9-4929

form factors

- (1+1) dimensional field theoretic models with soliton behaviour, exact S-matrices and form factors 9-26240
- (1/N) expanded nonrenormalisable interactions, nonlocality investigation 9-30652
- an asymptotic connection between processes of deep inelastic scattering and inclusive annihilation 9-22105
- axial vector matrix elements, chiral limit, renormalisation effects 9-17190
- baryonic state even wave harmonic oscillator theory, structure functions versus form factor 9-393
- Bjorken asymptotic behavior of deep inelastic scattering form factors and the general principles of field theory 9-21958
- deuteron, six-quark state and EM struct., two nucleon bound state model (Russian) 9-13031
- deuteron electromagnetic form factors, D-wave admixture in the dispersion approach (Russian) 9-30737
- electron+nucleus scattering, three body correlations, influence on charge form factor of closed shell nuclei 9-6571
- EM form factor and Zweig rule, anal. props. (Russian) 9-9374
- EM form factors in Bjorken limit and their Fourier transforms on light cone 9-26246
- hadronic structure functions and form factors in low-order QCD with Migdal regularization 9-30720
- Hardy spaces, role in form factor bounds 9-30735
- heavy ion inelastic scattering, form factors 9-26458
- heavy-ion transfer reactions, DWBA form factors 9-13322
- inclusive, new scale variable (Russian) 9-36079
- isoscalar E1/broad resonances (T=0) 9-13250
- large |t| proton-proton scattering and quark-quark scattering 9-13161

form factors continued

- matrix equations for two-fermion systems with magnetic interactions 9-21904
- N-body scatt. theory, form factor approach 9-79
- nucleon-nucleon potential, nuclear form factor behaviour at high transferred momenta 9-9485
- odd-A deformed nuclei, EM and electron scatt. form factors, selection rules 9-9458
- pion form factor, ω and ϕ effects G-parity violation 9-35963
- pion form factor and its asymptotic behaviour 9-30734
- pion form factors from $e^+e^- \rightarrow \pi^+\pi^-$ at 400 MeV (Russian) 9-3034
- pion-quark scattering model for lepton pair production from $q\bar{q}$ annihilation 9-13056
- proton charge form factors, K_{\min} approx. in ^{16}O , and ^{40}Ca 9-9456
- proton electroproduction struct. function, elastic form factor, scaling function, causal representation 9-13138
- proton form factor extrapolation using Padé type approximants 9-6341
- QCD, 2-dimens., confinement effects on analyticity meson inelastic form factor, scatt. amplitude 9-333
- quark bag model, large transverse momentum processes of hadrons, EM form factors (Russian) 9-26308
- soliton conservation laws, construction of form factors and correl. functions (German) 9-9274
- spectral function zeros for EM form factors 9-13125
- three nucleon, finite range microscopic form factors, zero range DWBA calcs. 9-6525
- three particle system, dispersion relations, one channel N/D method, form factors (Russian) 9-40689
- vertex function expansion parameter, two-dimens. approx. QED (Russian) 9-6301
- weak neutral couplings to hadrons in neutrino inclusive, semi-inclusive and elastic reactions 9-36064
- d, charge form factor falloff at large q^2 in dispersion approach (Russian) 9-3027
- D^+-D^0 mass difference, form factors, SU(4) coupling, vector meson dominance model 9-391
- dN relativistic scattering, elastic and inelastic form factors 9-30752
- ed elastic scatt., d form factors and struct. functions, charge and struct. radius (Russian) 9-40841
- ed inelastic scatt., electrodisintegration at high energy and momentum transfer, exchange currents 9-6342
- ep deep inelastic scatt., EM form factors asymptotic behaviour, Fourier transform singularities 9-40789
- $\gamma \rightarrow \pi\omega$, transition and π form factors, $p(1200)$ resonance (Russian) 9-22098
- K form factor and charge radii, isovector part using dispersion relations 9-22096
- $K^\pm \rightarrow \pi^0 \ell^\pm \nu(\bar{\nu})$, decay form factors in relativistic symmetry SO(4,2)@SU(3)@SU(3) 9-36068
- n, electric form factor determ. in $^2\text{H}(e,e'p)n$ 9-3138
- $p+e \rightarrow \pi+N$, form factor determ. (Russian) 9-9382
- π , and Bloom-Gilman falloff 9-9352
- π , EM form factor and P-wave isovector $\pi\pi$ phase-shift data consistency 9-3025
- π decays and π electromag. form factor, σ -model with quarks 9-22100
- $\pi \rightarrow e\gamma$, vector form factor, quark masses and isospin breaking 9-13111
- π form factors, Omnes-Muskhelishvili eqns. with inelastic unitarity 9-9371
- π phenomenological form factor, EM mass difference, appl. to pionic ats. (Korean) 9-9372
- π^+ , electroproduction at threshold, weak form factor 9-22107
- π N coupling, induced pseudoscalar nucleon form factor (Russian) 9-9375
- π NN, Veneziano-type, test by fitting to $np \rightarrow pn$ and $\bar{p}p \rightarrow \bar{n}n$ $d\sigma/dt$ data 9-17725
- π NN form factors for one off-shell nucleon, dispersion relation calc. 9-9373
- $\pi^-p \rightarrow e^+e^-n$, induced pseudoscalar nucleon form factor, current algebra framework 9-22131
- ^{27}Al , inelastic electron scatt., charge distrib., Coriolis band mixing calc., C2 form factors 9-529
- $^{11}\text{B}(e,e')$ 120-250 MeV, excited state form factors, shell and diagram model anal. (Russian) 9-40852
- ^{12}B average polarisation, form factors and partial capture rate from $^{12}\text{C}(\mu,\nu)$, polarised π^- 9-22263
- ^{12}C , charge transition density, sum rules, oscillation form factors (Russian) 9-22186
- $^{12}\text{C}+^{13}\text{C}$, identical core neutron transfer, coupled channel anal., form factors 9-13319
- $^{12}\text{C}(e,e')$, E2 transitions, convection currents and spin magnetisation 9-13244
- $^{48}\text{Ca}(^{18}\text{O},^{16}\text{O})$ 50 MeV, cross sections, DWBA multipole expansion calcs., form factors 9-13325
- $^{140}\text{Ce}(e,e')$, giant dipole resonance, E1 form factor and breathing mode existence 9-3125
- $^3\text{He}(\gamma,\pi^+)^2\text{H}$, threshold π prod., and axial vector form factor 9-574
- $^3\text{He}(\pi^-\gamma)^2\text{H}$, Panofsky ratio and axial vector form factor 9-574
- $^3\text{He}(\pi^-\pi^0)^2\text{H}$, Panofsky ratio and axial vector form factor 9-574
- $\text{Li}(H,\nu)^3\text{H}$, muon capture in dition channel by elementary particle model 9-40907
- $^{24}\text{Mg}(e,e)$, $4_1^+4.12$ MeV and $2_2^+4.24$ MeV level resolution, E2 and E4 form factor meas. 9-17811
- $^{150}\text{Nd}(e,e')$, possible $K^*=0^-$ octupole band, e scatt. form factors 9-9447
- $^{58}\text{Ni}(e,e')$ 5.125 MeV $J^\pi=6^+$ state excitation, isoscalar character 9-22227
- ^{28}Si , transition densities, form factors and transient radii 9-6481
- $^{28}\text{Si}(\mu^-\gamma\nu)$, $\gamma-\nu$ ang. correlation, pseudoscalar and tensor form factors, particle-hole model 9-13256
- $\text{Ti}(p,d)$, $A=46,48,50$, DWBA calcs., rms radius, form factors, spectroscopic factors 9-541
- $^{90}\text{Zr}(^{16}\text{O},^{14}\text{C})$, 80 MeV, coupled channel Born approx. anal., form factors, sequential amplitudes 9-9608

form factors, atomic see atomic structure**formal logic**

- permutation matrices using graphical methods of spin algebras, Serber coupling 9-6833

formation, heat of see heat of formation**forming processes**

- see also casting; electroforming
- metal sheets, theories of necking and limit strain calc. 9-29115

forming processes continued

- shell, fracture behaviour, forming severity and metal flow in deep drawing 9-38975
- steel, Si-Mn, 27SG, heat treated sheets, underwater explosive forming (Polish) 9-34052
- ^{238}Pu fuel form facility at Savannah River Plant 9-9846
- Foucault currents** see eddy currents
- fountain effect** see liquid helium-4; superfluidity
- Fourier analysis**
- see also Fourier transforms; harmonic analysis; waveform analysis
- adsorption, selective, correlation of intensity features with at.-surface pot. Fourier components 9-15013
- anharmonic temperature factors, site symmetrised Fourier invariant treatment 9-33040
- automated technique for stellar light curve analysis 9-17020
- biomechanical data, mathematical function fitting 9-48278
- blood pressure waves, physiological interpretation of spectra, heart rate, respiration waves 9-29540
- boson system, 1-D, with δ -function interactions, time-depend. Hartree approx. 9-9184
- computerised tomography principles, X-ray, axial, medical diagnosis appl. (Spanish) 9-20698
- cosmic ray intensity diurnal variation, Fourier series method 9-29953
- crystallography, determinantal inequalities, invariant joint probability distrib., heuristic derivation 9-32927
- diffraction of plane EM wave by grating at interface 9-27139
- discrete Fourier transform filter in spectrum analyser 9-1032
- eclipsing binary stars, Fourier anal. of light curves, geometric elements soln. 9-25634
- eclipsing variable stars, Fourier anal. of light curves, photometric perturb. for partial eclipses 9-25635
- eclipsing variable stars, Fourier anal. of light curves 9-25632
- eclipsing variable stars, Fourier anal. of light curves 9-25633
- eclipsing variable stars, Fourier anal. of light curves 9-30088
- eclipsing variable stars, light curves Fourier analysis, appls. to eccentric orbits 9-25630
- eclipsing variable stars Fourier anal., $B_{n,m}^a$ integrals explicit expression 9-35298
- eclipsing variables, Fourier analysis of light curves 9-8945
- eclipsing variables, Fourier analysis of light curves 9-8946
- elastic radiation from spherical wave sources, seismic model 9-8612
- elementary neutron slowing down equation, infinite series soln. 9-17951
- FORTAN program for Fourier analysis with splines 9-12582
- Fourier series, recursive evaluation, for teachers 9-35477
- frequency analysis of low-amplitude δ Scuti stars 9-35276
- frequency analysis of low-amplitude δ Scuti stars 9-35275
- geophysical anomaly source models, statistical parameters rel. to pot. fields obtained by superposition (German) 9-34783
- horizontal ground acceleration, Fourier amplitude spectra estimation 9-16389
- lamellar structures, deconvolution method for evaluating small angle X-ray scattering 9-10756
- laser, high-intensity, multimode, dynamics theory 9-41363
- light curve analysis for eclipsing binary stars 9-21349
- light curves, Fourier analysis for partial phases of eclipsing variable stars 9-21350
- membrane profiles, asymmetric, struct. determ., iterative Fourier method 9-43810
- metrolological reliability, indication errors and Hilbert space (Rumanian) 9-40523
- modal analysis techniques applied to acoustic problems, review 9-18651
- ocean waves, comparison between synthetic aperture radar imageries and surface truth 9-5497
- Ornstein-Zernike eqn. with Yukawa closure for a mixture of spherical molecules 9-27893
- polyoxymethylene, electron density calc. in cylindrical coordinates, Fourier method 9-13852
- power reactor resonance determ. by rod-drop method, Fourier anal. 9-22407
- pulse-excited systems for nondestructive materials testing, using eddy current method (Czech) 9-39071
- reactor containment expts., Fourier transform anal. of transient condensation heat transfer coeff. 9-22410
- regular growth, entire and meromorphic functions, Fourier series method (Russian) 9-12565
- SAW chirp filters based Fourier transformation processors 9-7270
- scintillation camera collimators, point spread function study 9-35910
- seismic waveforms extrapolation 9-34978
- seismology, rapid convolution and correl. (Russian) 9-39959
- speech signals, time-domain algorithms for harmonic bandwidth compression 9-46125
- 4U 1700-37 (HD 153919), uncertainty of 97 min. periodicity 9-40295
- ultrasonic transducers, study of nonlinear parametric radiation using Fourier anal. (French) 9-41485
- vector groups, multiplier representation, translation-invariant traces, Fourier anal. 9-6023
- LiH , cryst., Compton profile, position space anal. 9-47536
- Fourier series** see series (mathematics)
- Fourier transform optics**
- see also Fourier transform spectroscopy
- acoustic hologram correction for nonuniform relative motion 9-46119
- acoustic image scanning, optical processing, photon integration technique (French) 9-32147
- acoustoelectric SAW image scanner applications 9-45912
- aerial photograph statistical spatial filtering 9-13908
- astronomical telescope, diffraction figure calc. by Fourier transform. (French) 9-48672
- axial patterns diffracted from optical pupils, Fourier analysis of Fabry-Perot spectrograms 9-27188
- biological cells in flow system, paraxial anal. of light scatt. 9-11907
- chromatic Fourier hologram as matched filter, for spatially coherent white light correlator 9-3642
- computer-generated double-phase holograms, Fourier transform subcells and phase coding 9-27200
- cross-correlation matrix processing 9-13910
- distorted image convolution deblurring by Fourier-Bessel transform holograms (Russian) 9-22897
- electron diffraction patterns, and optical transforms of atomic aggregates, symmetry aspects using computer simulation 9-7525
- equalizing and coherence measure correlators 9-13911

Fourier transform optics continued

- fibre sizing using Fraunhofer diffraction 9-171
- Fraunhofer diffraction patterns from apertures illuminated with nonparallel light, for teaching 9-35465
- handwriting, linear prediction of optical parameters (*French*) 9-3640
- hologram generation, synthetic, variable magnification imaging system 9-3655
- holographic Fourier transform lenses for matched-filter optical processor 9-45913
- holographic pattern recognition of the Korean alphabet using matched spatial filters (*Korean*) 9-22920
- image multiplication using duplex spatial sampling filtering 9-7090
- Kirchhoff integral, Fourier optics as approximation (*German*) 9-18357
- Kirchhoff integral approximation (*German*) 9-27186
- Kirchhoff integral approximation (*German*) 9-31814
- laser speckle photography, double-exposure, magnification change effect 9-40607
- lens, Fourier transform, design and structural characts. (*Chinese*) 9-45911
- lens film system resolution computation from numerical MTF data 9-44960
- linear systems, Fourier transforms and optics, book 9-41350
- Lohmann hologram, detour phase error 9-41351
- metal vapour pulsed lasers, quantum amplifiers, image distortion 9-18433
- multilayer synthesis program, Fourier transform model 9-7196
- one-dimensional Fourier hologram line data recording scheme (*Russian*) 9-22912
- optical transform masks, manufacture, model drawing programs 9-40334
- phase plate consisting of bleached holographic lens, for noise-free coherent imaging systems 9-31817
- phase retrieval from intensity meas., uniqueness question 9-13915
- real-time recognition of microscopic phase objects 9-7085
- signal detection, optical vs digital Fourier transform computers 9-27181
- spatial filtering of Fourier transform of half-tone picture using photographic replica 9-27184
- threaded article parameter measurement by spatial spectra analysis 9-30409
- tuning fork for clock, vibr. anal. using speckle method 9-21737
- visual perception, spatial Fourier transform model 9-11940
- white light speckle method of experimental strain analysis 9-37255
- Cs₂AsO₄ Fourier transform plane superposition multiplier, for optical processing 9-7084
- Nd:glass laser, with metallic grating in cavity, Fourier spectrum and periodic mode fields distrib. (*Russian*) 9-31915

Fourier transform spectroscopy

- atmospheric pollutant detection, spectral interference correlation method 9-8727
- atmospheric pollution, SO₂ detect., interferential spectrum correl. (*French*) 9-21059
- atmospheric submillimetric-wave interferometric spectrometry 9-34979
- background spectral radiance and contrast in the 1.5 to 13 micrometer region 9-8694
- delay compensation, sampling error reduction 9-30566
- dichlorodifluoromethane, study of ν_6 fundamental 9-31526
- diffuse reflectance, FT IR spectrometric meas. 9-35858
- dispersive Fourier transform spectroscopy, phase spectra determ., role of origin of computation 9-30567
- dispersive measurement of opaque solid at 6K 9-2841
- dispersive refl. Fourier interferometer, sample holders for use at 4.2K and 300K 9-30587
- electron spectroscopy, deconvolution methods, review 9-26188
- energy dispersive X-ray spectra, anal., computer techniques 9-43690
- ESR spectra, simulation by FFT 9-19763
- far IR absorbent solid dispersive reflection meas., using Fourier spectrometer and cryostat 9-30580
- far IR atmospheric emission and absorption spectrum calc. program 9-35020
- far IR Fourier spectrometer automation (*Russian*) 9-6192
- far IR Fourier transform spectrometry improvements 9-30582
- far IR transparent solid dispersive transmission meas., using Fourier spectrometer 9-30581
- fluoromethane, gas, optical rotary saturation 9-27338
- haloalkyl peroxy radical+NO₂, haloalkyl peroxyhydrate form., FT IR obs. 9-34283
- ion cyclotron resonance spectroscopy 9-2877
- IR, for space appl., thermal behaviour (*German*) 9-35091
- IR diffuse reflectance spectrometry, spectrochemical anal. appl. 9-34387
- IR molecular investigations using UFS-01 high-resolution Fourier spectrometer 9-35862
- IR spectra, interference fringe elimination, computer method 9-12872
- IR spectrometer, radiation source stability (*Russian*) 9-26150
- IR spectrometers, spectral compensation, instrument line shape and resolution effects 9-40631
- IR system, km pathlength, for trace pollutants detect. and meas. 9-5624
- Lau effect, diff. expt. with incoherent illum., appl. to Talbot interferometer, Fourier spectrometer 9-41333
- line deconvolution by Fourier analysis 9-12861
- liquid chromatography, high performance, direct-coupling to FT-NMR 9-34412
- lyo-mesophases, induced chem. shift, NMR obs. 9-33548
- lysozyme, spin echo and spin lock ¹³C Fourier transform NMR 9-43824
- methane, $\nu_1 + \nu_4$ vibration-rotation spectrum, spectroscopic constants (*French*) 9-13709
- methyl alcohol submillimetric high-resolution Fourier transform spectra 9-31509
- methyl chloride submillimetric high-resolution Fourier transform spectra 9-31509
- methyl cyanide submillimetric high-resolution Fourier transform spectra 9-31509
- Michelson interferometer, tilt-compensated, for Fourier transform spectroscopy 9-9239
- Michelson interferometer misalignment nonlinear phase errors 9-30535
- molecule, large, ¹H spin-spin coupling consts., accurate meas. method 9-31555
- NMR, resolution enhancement using double exponential function 9-35804
- NMR, S/N ratio optimisation, influence of receiver circuit and digital processing (*Czech*) 9-17461
- NMR chemical shift between two sites in rapid exchange limit, Fourier transform method 9-24743

Fourier transform spectroscopy continued

- NMR spectrometer, TESLA BS 497 adaption (*Czech*) 9-6157
 - NMR spectroscopy, high-field, of biological systems 9-39457
 - O-B stars, Fourier transform spectroscopy in 4800-10200 Å range 9-16993
 - photoacoustic rapid-scan Fourier spectroscopy and methyl alcohol interferograms 9-30585
 - polyethylene, linear, glass transition temp. upper limit, ¹³C Fourier transform NMR 9-14918
 - pulsed Fourier transform NMR spectroscopy resolution enhancement, multiple pulse technique 9-40595
 - purple membrane, polarized IR spectroscopic struct. study 9-43809
 - spectral smoothing under white and background-noise-limited expts. 9-35861
 - Twyman-Green spectrometer alignment, for high temp. reflectivity meas. 9-17498
 - water optical constant submillimetric wave meas. 9-33656
 - CO submillimetric high-resolution Fourier transform spectra 9-31509
 - ¹³C Fourier transform NMR, method for tailored detection of signals 9-40597
 - CuGaS₂, lattice vibr. modes, Fourier transform spectroscopy 9-33701
 - Ga+H₃PO₄, interaction in aq. soln., ⁷¹Ga and ³¹P NMR obs. 9-22729
 - H₂O gas submillimetric high-resolution Fourier transform spectra 9-31509
 - H₂O vapour, refr. index calc. and dispersive Fourier transform spectroscopy 9-32736
 - H₂¹⁶O, H₂¹⁸O, determ. of line intensities from Fourier absorpt. spectra (*French*) 9-18186
 - ¹H spin systems, NMR, two-dimensional Fourier transform. of spin echoes 9-3463
 - KTaO₃, dielec. response temp. depend. meas., dispersive Fourier transform spectroscopy 9-15449
 - LiTaO₃ high-temp. ferroelec. transition, soft mode IR reflectivity spectroscopy 9-33692
 - MnII-ATP system, exchange mechanism, FT NMR and EPR obs. 9-22733
 - N₂O submillimetric high-resolution Fourier transform spectra 9-31509
 - ¹⁵N-¹H NMR, coupling consts., double reson., difference proton Fourier transform spectroscopy 9-3467
 - Nd:glass, Fourier-transform photoacoustic spectroscopy 9-9246
 - Pb_{1-x}Ge_xTe epitaxial layers, phase transition obs. by far IR reflectivity spectroscopy 9-33691
 - Si complex reflectivity determ., absolute method 9-30584
 - YO, A²Π-X²Σ⁺ and B²Σ⁺-X²Σ⁺ systems, Fourier transform spectroscopy anal. 9-22718
- Fourier transforms**
see also fast Fourier transforms; Fourier analysis; Fourier transform optics
- analytic signal model, physical justification 9-909
 - APS, extended fine struct. anal., use of Fourier transforms 9-43066
 - audio recording and playback system, hypothetical cct. and characts. 9-3879
 - boomeron equation, asymptotic behaviour (in t) of solutions 9-9082
 - canonical Fourier transform of quantum-mechanical pair 9-44781
 - Cauchy problem, linear eqns. with const. coeffs., absolute instability, 3-dims. 9-12622
 - cloud motion estimation, Fourier phase difference technique 9-21046
 - data compression, spline approximation of input signal 9-35533
 - data sampled in unequally spaced segments, astron. appl. 9-35140
 - diffuse wave scatt. by short range order, improved mean spherical approx. 9-9127
 - discrete Fourier transforms, fundamental concepts and use 9-47
 - edge dislocation, displacement field, in elastic strip, Fourier transform technique 9-46658
 - elastic consts. and internal friction meas. in small specimens 9-14357
 - elliptical galaxies, ang. size determ., 2-D Fourier transform technique 9-35373
 - EM form factors in Bjorken limit and their Fourier transforms on light cone 9-26246
 - EM wave Gaussian beam at normal incidence on dielectric sandwich slab, reflection and transmission 9-7062
 - EXAFS measurements, appl. to local struct. anal. (*Japanese*) 9-38691
 - fluid, Wigner representation, Fourier transform., replacement by series (*French*) 9-9181
 - gravity anomalies of two idealised bodies, theoretical transforms 9-5441
 - integral eqn. soln. for 3-D wave propagation in cracked elastic solid 9-46251
 - Lame eqns., fundamental soln. to displacement and strains 9-35559
 - LEED, Fourier transform deconvolution procedure, multiple scatt. effects 9-32862
 - LEED data anal., Fourier transform-deconvolution procedure, multiple scatt. effects 9-41914
 - LEED data analysis, Fourier transform-deconvolution procedures, multiple scatt. effects 9-41913
 - Lorentz group functionals, Fourier expansion in light cones 9-21604
 - metal, surface relax. from LEED, Fourier transform-convolution method 9-4459
 - minicomputerized automatic radiocardiogram analysis (*Japanese*) 9-29614
 - Navier's eqn. soln. in cylindrical coords. 9-44744
 - nonlinear oscillators, Brownian motion, projection operator method, double well potential oscillator appl. 9-2723
 - nuclear relaxation, low temp. stimulated by paramagnetic impurity 9-33563
 - numerical evaluation method 9-17194
 - numerical Fourier and Bessel transforms in logarithmic variables 9-9089
 - ocean directional wave spectrum, new meas. method, description 9-16706
 - optical image processing, two-dimensional high-speed acoustic Fourier transform 9-36844
 - polymers, long-range Coulombic interaction, Fourier transform technique calcs. 9-31748
 - potential fields due to vertical circular cylinder and dike, Fourier transforms anal. 9-34972
 - pseudocontinuum theory, correspondence between representations 9-35553
 - radiotelescope, surface meas. with two feeds 9-12403
 - real-time Fourier transform, via acousto-optics 9-46112
 - signal detection, optical vs digital Fourier transform computers 9-27181
 - spherical Fourier transform, summation formula (*French*) 9-9078

Fourier transforms continued

spinless particle scatt., plane waves on the impact parameter group (*Russian*) 9-2668
 stress intensity factor for a flat elliptical crack in an elastic solid under uniform tension 9-27525
 tetrahedrally coordinated semiconductors, electronic struct. and Fourier transformed Compton profiles 9-38689
 upper atmosphere neutral gas expansion differential eqns. soln. 9-12325
 visual perception; colour aftereffects, spatial frequency contingent range 9-2071
 X-ray diffraction line broadening, of crystals, containing small angle boundaries, Warren-Averbach anal. 9-37578
 X-ray small-angle scattering, rel. to elec. resist. 9-19125
 ep deep inelastic scatt., EM form factors asymptotic behaviour, Fourier transform singularities 9-40789
 GaAs n^+2n^+ epitaxial multilayers, carrier conc. from Fourier transform anal. of magnetoresist. signal 9-38205

fractionation see distillation

fracture

see also brittle fracture; crack-edge stress field analysis; cracks; creep fracture; ductile-brittle transition; ductile fracture; embrittlement; fatigue; fracture toughness; stress corrosion cracking
 alkali halide crystals, excitation mechanism of complex active centre formation at fracture 9-33033
 biaxial load effects, review 9-43433
 biological specimen prep. freeze-fracturing with a new specimen table 9-5425
 biological specimens, cryosectioning for X-ray microanal. 9-39626
 biological specimens, new freeze-etch unit 9-5423
 bisphenol-A-diglycidyl ether epoxies, struct., fracture and mech. response, cure and crystallisation conditions effects 9-15779
 blood cells, red, human, frozen section prep. for electron probe anal., fracturing or cutting 9-39625
 α/β brass, bicrystal, dynamic obs. of fracture phenomena 9-5040
 α -brass, bicrystal, grain boundary fracture at intermediate temp. (*Japanese*) 9-15774
 brass, circular plate perforation and deformation by square section punch 9-34100
 ceramic compact, morphological investigations significance 9-33988
 ceramics, fracture mech. appl. 9-43426
 combined loads effects, maximum energy release rate criterion 9-32384
 combined mode cracks, energy fracture criteria, complex variable method 9-27596
 composite beam, multilayered, anisotropic, exam. of shear stress distrib. under transverse loading 9-18731
 composite elastic media, crack retardation at boundary (*Russian*) 9-23275
 crack fracture parameter estimation by long wavelength scatt. 9-24709
 damage model, crack growth and instability 9-41614
 damage parameter in continual fracture mechanics review (*Polish*) 9-32382
 differential geometry of fracture 9-27581
 diffusion controlled stress rupture in polycrystalline materials 9-14878
 diffusion controlled stress rupture in polycrystalline materials 9-14879
 diffusive cavitation of grain interfaces, non-equilib. models 9-46668
 disc specimens, photoelastic study of fracture process under superimposed static and dynamic loading (*German*) 9-34267
 edge problem of fracture mechanics, plasticity theory inadequacy 9-3978
 elastic fracture mechanics problem, two-dimensional, Green's function method 9-23272
 elastic-plastic solids, crack tip deformation and fracture 9-27591
 elastoplastic bodies fracture, estimation of load required to start a crack (*Russian*) 9-14346
 elastoplastic solid, fracture and yield conditions 9-14344
 elongation, dynamic, of material, stress/strain curve up to scabbing, meas. method 9-7348
 energy release rate expression, Leibnitz's rule appl. J-integrals 9-18831
 epoxy system, rubber-modified and unmodified, sub- T_g annealing expts. 9-11643
 explosive fracture, time criteria, kinetic theory appl. 9-14347
 fibre reinforced composites, fracture mechanics, review 9-27597
 filament-wound pipe, microscopy of failure mechanisms 9-24604
 fission reactor pipework integrity assessment 9-22431
 fission reactor pressure vessel, failure risk due to manufacturing defect 9-22432
 fracture mechanism in various temperature and stress intervals (*Russian*) 9-24600
 glass ceramic, fracture stress rel. to flaw and fracture mirror sizes 9-11689
 glass fibre reinforced composite, failure anal. by fault tree technique 9-29193
 glass fibre reinforced polyester, filament wound pipe, winding angle effect on failure 9-43379
 glass-metal seal, finite element anal. of stresses, photoelastic meas. 9-29197
 glassy organic polymers, total fracture surface energy, theory 9-43406
 granite, exam. of fracture mech. under dynamic loading 9-29218
 granite, hydraulically induced fractures for geothermal energy extraction 9-34424
 graphite, isotropic, nonlinear stress/strain relationship effect on band strength 9-20119
 graphite reinforced epoxy laminates, cracked, deformation and failure in biaxial stress fields 9-47763
 graphite reinforced epoxy laminates, imminent fracture detection using acoustic emission 9-20302
 grinding, fracture and deform. mech., SEM obs. (*Japanese*) 9-15620
 Homalite, specimen geometry effect on crack propag. and arrest 9-34148
 initiation, crack opening displacement and crack tip plastic strain energy 9-18819
 laminates, failure mechanics, damage development 9-43427
 LWR pressure vessel, unstable fracture (*Japanese*) 9-9767
 maximum stress criterion on the equal strain energy density line (*Chinese*) 9-32371
 mechanics, conf., Washington, USA (Sept.78) 9-43422
 mechanics, techniques, review 9-41635
 metal, BCC, intracrystalline fracture (*Russian*) 9-5031
 metal arc welds, chevron-cracking, initiation and propagation 9-38981
 metallurgically bonded plates, structural integrity determ. by high energy impulse 9-39111

fracture continued

mild steel, circular plate perforation and deformation by square section punch 9-34100
 nuclear reactor materials, crack propag., fracture, and ductile-brittle transition (*Spanish*) 9-36316
 numerical solutions of three dimensional dynamic crack problems and simulation of dynamic fracture phenomena by a 'non-standard' finite difference method 9-41613
 nylon 6 fibres, chain rupture during tensile deform. 9-15740
 oil shale, dynamic fracture strength, expt. determ. method 9-48584
 olive, fracture surface energy 9-16462
 one-dimensional crystal subjected to deform., static and dynamic equilib. 9-28037
 paper sheets and single fibres, SEM investigation 9-34149
 photoelastic determination of stress intensity factors (*Chinese*) 9-32395
 plasticity and fracture mechanics, finite element anal., review 9-41612
 PMMA bar, notched and perforated, fracture produced by longitudinal impact 9-43388
 polycrystalline stress states, fracture statistics 9-41625
 polycarbonate of bisphenol bar, notched and perforated, fracture produced by longitudinal impact 9-43388
 polymer, time depend. fracture, mol. motions effect 9-15780
 polypropylene, fracture exam. using microscopic obs. (*German, English*) 9-20186
 polystyrene, coarse shear bands and fracture, SEM study, craze fracture surfaces 9-29191
 pressure vessel components reliability, conf. Vienna, Austria, 1977 9-17986
 pressure vessels, warm prestressing effects, fracture mechanics during severe thermal shock 9-22411
 PVC, rigid, viscoelastic props. rel. to thermal, mech. history 9-5016
 PVC, rubber-modified, stress whitening and yield mechanism 9-8324
 PWR pressure vessel failure probability from pressure transients, OCTAVIA computer code 9-18011
 Pyrex, stress intensity factors of surface cracks and fracture stress, acoustic meas. 9-47845
 Pyrex glass, near-surface H embrittlement, effect on deform. and fracture props. 9-29180
 Pyroceram, enhanced failure by combined pulse and CW laser 9-29182
 quantitative fractography review 9-39072
 rock, laminar, stress distrib. during sliding failure 9-2225
 rock volume changes during fracture and frictional sliding 9-16450
 rocks, dilatancy and fracture induced vel. changes rel. to frictional sliding 9-16458
 rocks, electrical resistivity changes during frictional sliding and fracture 9-16457
 rocks, hydrofracturing stress measuring method and recent field results 9-29885
 rubber, cutting resistance measurement in absence of friction 9-5035
 seismic vel. changes during fracture and frictional sliding 9-16408
 shell, fracture behaviour, forming severity and metal flow in deep drawing 9-38975
 Sih fracture criterion formal extension, elastic stress field near crack (*German*) 9-1139
 single phase system, microfracture from thermal expansion anisotropy 9-19314
 skew crack propagation, induced dynamic stresses, numerical soln. 9-1137
 statistical treatment, maintenance procedures 9-43538
 steel, austenitic, K17N13M3T, activation characts. of rupture, 630-730°C, Sb and Nb microalloying effects (*Russian*) 9-5033
 steel, austenitic stainless, DIN 1.4970, influence of He on high temp. mech. props. 9-7636
 steel, austenitic stainless, grain boundary segregation studies, intergranular fracturing technique for stress corrosion cracking investigation 9-39057
 steel, carburised, microstruct. and fracture 9-24658
 steel, elastic plastic material, critical stress intensity factor determ., fracture mech. method (*German*) 9-11694
 steel, fission reactor pressure vessel, reliability 9-22430
 steel, high strength, low alloy, critical stress for delamination fracture 9-1907
 steel, intergranular failure, role of grain boundary composition 9-20155
 steel, low alloy 30KhGSA, sheet, regression anal. of critical stages of fracture process 9-15786
 steel, low C, type 08Yu, influence of nonmetallic inclusions on microfailures, during strain (*Russian*) 9-34128
 steel, Ni-Cr-Mo, type 4340, equivalence of K_{Ic} and J_{Ic} fracture toughness meas. for range of yield stress 9-38934
 steel, Ni-Cr-Mo and Ni-Cr, impact strength, effect of modified ausforming (*Japanese*) 9-11692
 steel, stainless wire reinforced Al-Zn-Mg system, resistance to crack propagation 9-43409
 steel, structural, S137-2, large plastic deform., fracture behaviour, COD concept validity (*German*) 9-47764
 steel, W, high C, amorphous, rapidly quenched from melt, mech. and thermal props. 9-38874
 steel, white layers forming at high rates of friction, struct. props. (*Russian*) 9-15800
 steel, wooden fracture pattern obs. (*Chinese*) 9-43376
 steel 15Kh1M1F, microstruct. changes rel. to creep and fracture (*Russian*) 9-24572
 stress intensity factor criterion for combined loading (*Chinese*) 9-32372
 stress intensity factors for internal multiple cracks in thick-walled cylinders stressed by internal pressure using load relief factors 9-46261
 superconducting magnet epoxy fracture after low-temp. irradiation 9-34147
 sustained load, ambient temperature 9-43424
 viscoelastic solid, crack growth law using energy and COD fracture criteria 9-32378
 Zircaloy clad fuel rod burst behaviour in simulated PWR LOCA 9-36337
 Al alloy, 2618 A, crack closure effect (*French*) 9-20172
 Al, circular plate perforation and deformation by square section punch 9-34100
 Al, fracture mechanism, plastic strain role 9-38977
 Al sheet alloy D16AT, regression anal. of critical stages of fracture process 9-15786
 Al-Al₃Fe, fibre reinforced eutectic, deformation behaviour by rolling, TEM and SEM study 9-29129
 Al₂O₃, spray dried agglomerates, compaction response, fracture, deform. 9-43172

fracture continued

- B fibre reinforced Al alloy, influence of band strength on failure (*Russian*) 9-43387
- Be, grain size effect on mech. props. (*Russian*) 9-47749
- C fibre reinforced plastic, stress analysis of butt strap joint 9-43300
- Ci-Bi (0.0115 wt.%), fracture paths, TEM study 9-27998
- Cu, circular plate perforation and deformation by square section punch 9-34100
- Cu-Zn-Al, polycrystn., β -phase, fatigue life, intergranular cracking 9-38974
- α -Cu-Zn(Al), solid soln., intermediate temp. embrittlement (*Japanese*) 9-20158
- α -Cu-Zn(Al) fracture behaviour, effect of deform. temp. and alloying content (*Japanese*) 9-20159
- Fe, cast ferritic, spheroidal, graphite nodule size and distrib. effect of fracture (*French*) 9-20176
- Fe, fracture mechanism in various temperature and stress intervals (*Russian*) 9-24600
- Fe, sintered, fracture behaviour, microscopic obs. 9-47771
- Fe-Cr-Mo(Ni)(Mo-Ni), AES using peak-to-peak value (*Japanese*) 9-20485
- Fe-Cu-Ti, improvement of irradiation-enhanced Cu embrittlement by Ti addition 9-43393
- Fe-P, P equilb. grain boundary segregation 9-38835
- Fe-Ti alloys, kinetic trapping model for H₂-induced grain boundary cracking 9-29164
- MnZn ferrite, spray dried agglomerates, compaction response, fracture, deform. 9-43172
- Mo, dislocation structure, temp. depend., at crack tip, of fractured single cryst. 9-29210
- Mo, microcrack formation, structural singularities, TEM obs. (*Russian*) 9-1905
- Mo-Nb-TiN, dispersion hardened with strong interface, fracture mechanism 9-5058
- Na₂O-CaO, enhanced failure by combined pulse and CW laser 9-29182
- Na₂O-CaO-SiO₂, dynamic hardness testing, pendulum attenuation, yield stress obs. 9-24699
- Nb, dislocation-free single crystal, deformed at 180K, X-ray topographic obs. 9-24587
- Nb₃Sn composite wires, supercond., degradation mech. under tensile strain at 4.2K 9-38284
- Ni-Cr-Co-Mo-Ti-Al, powders, HCl surface treatment to prevent TiC precipitation, fracture props. 9-8397
- SiC, hot pressed, bending strength (*German*) 9-24571
- SiC, spray dried agglomerates, compaction response, fracture, deform. 9-43172
- Si₃N₄, pyrolytic, amorphous and crystalline, chemical vapour deposited fracture surfaces rel. to struct. features 9-5038
- Si₃N₄, reaction bonded, fracture mech. paracraters, microstmet. amd temp. effect 9-24598
- Si₃N₄ with Y₂O₃ and Al₂O₃ additions, hot pressed, exam. of mech. props., grain boundary crystallization 9-20009
- Ti-V-Si (30, 1 at%), quenched and aged, hardness, tensile behaviour and phase transform. 9-11646
- Y₂O₃, grain size depend. of fracture energy, SEM study 9-34130
- Zr-Al (4.6 wt.%), microstruct. effect on mech. props. 9-20080
- ZrC, fracture by laser beams, macrocrack propag. 9-15789
- ZrO₂, spray dried agglomerates, compaction response, fracture, deform. 9-43172
- ZrO₂, stabilised, coating for turbine components, degradation due to internal stresses 9-24671

fracture strength see *fracture toughness*

fracture strength testing see *fracture toughness testing*

fracture toughness

see also *notch brittleness; notch ductility; notch strength*

- acrylic plastic, stretched, fracture toughness 9-15778
- alloys, fracture toughness rel. to microstruct. characts., alloy design 9-43423
- aramid fibre reinforced acrylic bone cement, tensile strength and fracture toughness, SEM study 9-29667
- boride coatings, high temp. resist. and struct. 9-39008
- cellulose fibres, from jute, crystallinity percentage, estimation by X-ray methods 9-7553
- cemented carbides, hardmetal, bending strength and fracture toughness 9-20181
- ceramics, mechanical behaviour, book 9-38983
- composite materials, fibre-reinforced, impact responses perpendicular to fibres (*Japanese*) 9-43377
- constructional materials, use of J-integral method for assessing fracture toughness (*Russian*) 9-24602
- cylindrical specimen with external crack reaching surface of annular stress concentrator, tension and bending 9-14349
- double cantilever beam, fracture behaviour, quasistatic energy anal. 9-18817
- ductile fracture, computer model based on plastic strain, fracture toughness prediction, comparison with steel data 9-32383
- ductile materials, tearing, fracture strength determ. 9-43385
- Duralumin, effect of alloy purity and ageing on fracture mechanism, and resultant toughness 9-5049
- elasto-plastic fracture mechanics, critical assessment 9-38943
- epoxy, thermomech. props., rel. to hardener type and conc. 9-1913
- epoxy-polyglycol elastomers, fracture strength under compression 9-38929
- evaluation method, review (*Japanese*) 9-8342
- fatigue fracture toughness use in fracture toughness determ. 9-46747
- femora, bovine, critical crack length, plastic zone size 9-43948
- fibre reinforced cement, mech. and rheological props. (*German*) 9-20129
- fission reactor welded pressure components, effect of material property changes on operating conditions 9-20197
- glass fibre reinforced epoxy-aniline, laminate, work required to rupture along interfaces 9-43413
- glass fibre reinforced plastic, centrifuged laminate, fracture characts. determ. (*German*) 9-38967
- glass fibre reinforced plastic laminate, mixture law of tensile and fracture strength and variation (*Japanese*) 9-43337
- graphite-epoxy laminates, AS/3501-5, compressive fracture strength 9-43396
- graphites, reactor, strength and deformation under conditions of cyclic variation in load and temp. 9-43355
- Incoloy 800, and 800H, proposed specification changes 9-43298
- Incoloy 800, mech. props. above 600°C 9-43370
- Incoloy 800 and 802, influence of carburisation on mech. props. 9-20254
- Inconel 600 and 601, influence of carburisation on mech. props. 9-20254
- intergranular fracture energy, effects of segregated impurities 9-38928
- Kevlar fibres, effect of crystallinity and orientation on mech. props. (*Japanese*) 9-38952
- Kevlar fibre, mech. props. in aq. H₂SO₄ soln. (*Japanese*) 9-47753
- metal, overload effect on fatigue crack growth, fracture toughness prediction (*Polish*) 9-34134
- metallic material, fatigue cracking, cyclic fracture toughness determ., critical state (*Russian*) 9-29173
- metals, fracture toughness charact. in fatigue 9-15790
- nuclear piping, impact loading (*Japanese*) 9-43373
- optical fibre moisture effect on fracture strength 9-37019
- PMMA, crack velocity meas. using US fractography 9-15772
- PMMA, effects of notch shapes on Charpy impact values, tensile props. fracture surfaces (*Japanese*) 9-38951
- polyethylene, filled, linear, struct., strength 9-29149
- polyethylene, high-density, submicroscopic cracks form. and residual strength, hydrostatic press. influence 9-20185
- polymer, fracture kinetics, book 9-29222
- polypropylene, fracture toughness eval. with surface crack specimens 9-15777
- polypropylene/peanut-hull flour composite, strength 9-8365
- polystyrene, fracture toughness eval. with surface crack specimens 9-15777
- polystyrene, rubber-modified, fracture mechanics anal. of effect of rubber content, craze formation 9-29190
- PVC, slightly plasticised, fracture toughness tests, impact tests 9-5037
- reinforced axisymmetric shells stratified by shear, bearing capacity 9-3979
- round bars, endurance limit under combined tension and torsion 9-32387
- steel, austenite decomposition, controlled rolling rel. to substruct., props. 9-29014
- steel, austenitic, 30KhGSA, heat treatment, preliminary, cold deform., elec. heating rel. to mech. props. 9-24554
- steel, austenitic, ASTM A533B and A542, H₂ embrittlement behavior of unirrad. steels for nuclear reactor press. vessels 9-8340
- steel, austenitic, fracture toughness meas. by Charpy impact testing, welding, heat treatment, neutron irradi. effects 9-5062
- steel, austenitic, low-C, transform. kinetics rel. to temp., deform., struct., mech. props. 9-24519
- steel, austenitic, overheated, ESR, low alloy, fatigue crack growth rate 9-34141
- steel, austenitic stainless in liq. Na, mechanical props., review 9-20150
- steel, C, composite layered specimen influence of contact strengthening by intermediate layer, on fracture toughness (*Russian*) 9-15768
- steel, C, fracture criterion determination, using 3-point bending 9-29216
- steel, C, heterogeneous structure, fracture characts. 9-38961
- steel, C, structural strength, increase by high temp. mech. treatment with austenite isothermal decomp. 9-24555
- steel, C, weldable, ferrite-pearlite, Widmanstätten structs., resist. to fracture 9-29203
- steel, C-Mn-V and Cr-Mo-V, power station component, fracture toughness and fatigue characts. 9-20192
- steel, C-Mo-P, intergranular fracture and grain boundary segregation, P, H, Mo effects (*Japanese*) 9-15775
- steel, carburised, fracture resistance 9-24612
- steel, Cr (12wt.%), mech. props. carbide phase struct. 9-15702
- steel, Cr-Ni, hydrogen effect on strength, ductile and fracture characts. 9-38960
- steel, fission reactor pressure component, fracture charact., implications for reliability 9-20199
- steel, fracture toughness charact. in fatigue 9-15790
- steel, fracture toughness determination, from crack propagation measurements (*German*) 9-43421
- steel, fracture toughness eval. by equivalent energy method (*Slovak*) 9-43402
- steel, high speed, M2, fracture behaviour and fracture toughness 9-24609
- steel, high-speed, cast, mech. props. at high temps. 9-20135
- steel, low alloy, tempered martensite embrittlement mechanisms 9-8351
- steel, low C, microalloyed, heat treatment, mech. props. 9-24551
- steel, low C, notched specimens, brittle fracture stress, effect of ferrite grain size, notch acuity and notch length 9-20187
- steel, low-alloy, fracture resist. assessment from stable crack length (*Russian*) 9-15765
- steel, low-alloy samples with fatigue crack, work of crack propag. and fracture toughness 9-38959
- steel, low-C, Cr, ferritic, optimal heat treatment development 9-38869
- steel, low-C, with Nb-B addition, transform. characts. and mech. props. (*French*) 9-43253
- steel, low-C and low-alloy types, Nb effect on cold resist. 9-38954
- steel, maraging, inert gas atomised, hot isostatic pressing temp. effect 9-24460
- steel, medium and low-alloy with ferritic pearlitic struct., fracture toughness rel. to pearlite conc. 9-15787
- steel, mild, grain size depend. of cleavage fracture toughness 9-8359
- steel, Mn (1.10 to 1.55 wt.%), reactor vessel material, assessment of weld heat affected zone mech. props. 9-29217
- steel, Mn-Cr-V, crack propag. resist. at hardness indentation, and fracture toughness (*German*) 9-29220
- steel, Mo-Nb microalloyed sheet, fracture toughness evaluation (*Slovak*) 9-38948
- steel, Ni (9 wt.%), effect of repeated tempering on notch strength (*Japanese*) 9-43280
- steel, Ni-Cr-Mo, type 4340, equivalence of K_{IC} and J_{IC} fracture toughness meas. for range of yield stress 9-38934
- steel, precipitation hardening, strength and struct. (*German*) 9-47701
- steel, prestrained pressure vessel, dynamic toughness characts., expt. correlations 9-15783
- steel, SAE 4340, depend. of fracture roughness on crack velocity 9-47772
- steel, sintered, mech. props., effect of small cold reduction 9-39048
- steel, stainless, fracture toughness improvement by applying Pb-Sn-Cd coating to crack tip 9-43416
- steel, stainless and low alloy, PWR primary circuit constituent materials, design features verification (*French*) 9-17976
- steel, structural, effect of rare earth metals on cold temper brittleness 9-29202

fracture toughness continued

- steel, structural 15Kh2NMFA, use of linear and nonlinear fracture mech. for crack propagation resist. determ. 9-5056
- steel, tempered or quenched, exam. of fracture toughness tests, for C shaped specimens 9-29215
- steel, tool, abrasive wear rate rel. to fracture toughness and microstructure (*German*) 9-29232
- steel, V-Nb microalloyed sheet, fracture toughness evaluation (*Slovak*) 9-38948
- steel A533A, review of data in reln. to fracture toughness at upper shelf temp. 9-15797
- steel pressure vessel, nuclear, fracture toughness at elevated temps. 9-20193
- steels, die, mech. props. high temp. thermomech. treatment 9-20086
- steels, tool, cold hydrostatic extrusion rel. to struct., props. 9-20068
- stress intensity factors for circumferential crack from notch in round tensile bar 9-41618
- β -III Ti alloy, powder compacted by hot swaging, tensile and toughness prop. 9-38764
- tooth, artificial-denture base joint, adhesion, fracture mech. 9-16350
- weld defects, toughness, crack growth anal. 9-43429
- Al alloy, low-cycle fatigue strength, isothermal hardening effect 9-38863
- Al alloy 01205, mech. props. at cryogenic temps. 9-29206
- Al alloys, microstruct. effects on strength, fracture toughness, fatigue cracks 9-43434
- Al/Cu laminates, vapour deposited, strength enhancement 9-24576
- Al/Mg soldered samples, UTS and fracture surface comp., 20 to 500°C 9-38941
- Al-Cu, effect of alloy purity and ageing on fracture mechanism, and resultant toughness 9-5049
- Al₂O₃, vitreous-bonded, mech. behaviour under various stress-time schedules 9-38968
- Al₂O₃/Al soldered samples, UTS and fracture surface comp., 20 to 500°C 9-38941
- β -Al₂O₃-Na₂O, hot pressing and phys. props. 9-4940
- Al₂O₃-ZrO₂ composite, fracture toughness increase by microcracking in energy dissipative zone near crack tip 9-20156
- C fibre reinforced C, appl. as refractories, toughness props. 9-38782
- C fibre reinforced plastics with mixed fibres, exam. of fracture toughness and shear strength 9-20151
- CaF₂, whiskers and crystals, flux growth and charact. by morphology and fracture strength 9-19987
- Fe alloys, cast, fracture toughness prediction 9-5045
- Fe, Armco, fracture toughness characts. under cyclic loading 9-11703
- Fe, cast, grey, abrasive wear rate rel. to fracture toughness and microstructure (*German*) 9-29232
- Fe-Ni-Mo(13.3wt%), welded alloy, fracture and strength for cryogenic service 9-38930
- Mg-Zn-Zr rare earth alloy, mech. props., effect of microshrinkage during solidification 9-43234
- MgO-ZrO₂, dispersion hardened, fracture strength and texture, rel. to temp. (*German*) 9-43378
- Ni wire reinforced epoxy resin, crack propagation 9-29188
- Ni-Al₂O₃ cermet, fabrication and mech. characts. 9-38781
- SiC, low blow Charpy impact 9-34122
- Si₃N₄, pyrolytically-deposited, engng. significance 9-38746
- Si₃N₄ reaction bonded, pore size and distrib. effect on strength 9-29165
- Si₃N₄ reaction-bonded, biaxial fracture strength 9-38969
- strengthened by lattice transformations, mech. props. study (*Japanese*) 9-43332
- Ti alloy VT3-1, fracture toughness improvement by applying Pb-Sn-Cd coating to crack tip 9-43416
- Ti-Al-V (6, 4 wt.%), textured, anisotropy of fracture toughness over various specimen orientations 9-8353
- V-Nb-Ti-N alloy, dispersion hardened, fracture characts. 9-15794
- VC, exam. of brittle fracture props., using Hertzian indentation 9-11686
- W-ZrC(-Re) eutectic alloy, Re effect on breaking stress, lattice parameters, electron struct. (*Russian*) 9-1845
- WC-TiC-Ta-C cemented carbides, at 600 to 1000°C (*Japanese*) 9-43374
- Zr-Nb, (2.5 wt.%), cold-worked pressure tubing for CANDU reactors, slit burst testing 9-26532
- ZrO₂, tetragonal polycryst., sintering and props. 9-29008

fracture toughness testing

- see also notch testing
- automation of method of forming and measuring circular crack depth in cylinders 9-43531
- deformation strength props., simultaneous meas. of several samples, polymer films appl. 9-15896
- dynamic impact test method, new (*German*) 9-11740
- dynamic method using compact tension tests 9-34218
- fracture ductility determ. from fracture diagram, method 9-43511
- graphite materials, mech. characts. under stress using acoustic emission analysis (*German*) 9-15881
- Homalite, stress intensity factor measurement, dynamic fracture toughness determination from isopachics of a running crack [holographic interferometry] 9-34257
- metallurgically bonded plates, structural integrity determ. by high energy impulse 9-39111
- metals, test method applicability and interpretation 9-15950
- optical fibre fracture stress and mirror size obs. 9-37020
- rocks, under downhole stress conditions, expt. technique for meas. fracture toughness 9-43543
- sandstone, fracture toughness and acoustic emission characts. (*Japanese*) 9-34810
- steel, ferritic, Charpy impact testing criteria 9-47855
- steels, brittle transition temp. determ. from impact ductility tests, comparative evaluation 9-15888
- stress intensity factor measurement, dynamic fracture toughness determination from isopachics of a running crack [holographic interferometry] 9-34257
- Al-epoxy adhesive joints, cohesive-interfacial mixed-mode fracture 9-39110
- C materials, mech. characts. under stress using acoustic emission analysis (*German*) 9-15881

francium

- see also nuclei with
emission spectra measurements (*French*) 9-26918
- ²¹²Fr, low energy ions systematic range meas. in Ar and N₂ gases 9-1472

francium compounds

No entries

Franck-Condon factors

- benzene, ¹A_{1g}-¹B_{2u} absorption band, Franck-Condon factors calc. 9-36701
- diatomic hydrides of first and second row elements, PNO-CI and CEPA calc. 9-768
- diatomic molecule, reson. Raman scatt. amplitudes estimate based on Airy approx. for Franck-Condon amplitude 9-36649
- discrete-continuum electronic states coupling, appl. to He+Ar 9-10193
- energy transfer, unified model, arbitrary Franck-Condon offset and temp. 9-1781
- Franck-Condon overlap, coherent state representation 9-10153
- intermediately coupled localised electron-phonon system, transient reson. Raman scatt. Franck-Condon-like excitation 9-8141
- molecular $\pi\pi^*$ and $\pi\pi^*$ states, rel. positions, single-triplet conversion probability, low temp. 9-816
- naphthalene, vibronic fluorescence spectrum, intensity distribution 9-3477
- AlO, rot. quantum number effect 9-31613
- BH, rot. quantum number effect 9-31613
- BO, rot. quantum number effect 9-31613
- C₂, rot. quantum number effect 9-31613
- C₂, Swan bands, variation of electronic transition moment with internuclear separation 9-826
- CO, ejected electron spectroscopy of autoionising states using electron-electron coincidence technique 9-3587
- CO, Franck-Condon factors appl. rel. depend. 9-10154
- CO, rot. quantum number effect 9-31613
- CaH, rot. quantum number effect 9-31613
- CaS, A¹ Σ^+ -X¹ Σ^+ , Franck-Condon factors and r-centroids 9-36700
- GaO, B-X band system, electronic spectrum, struct. and anal. 9-45732
- H, Lyman α -line wings, Stark effect 9-22648
- H₂, photoelectron ang. distrib., 304 Å line, vibr. state depend. 9-45764
- H₂NC (A¹A'-X¹ Σ^+), fluoresc. spectrum, using ArF laser excitation 9-36675
- H(D)CN(C¹A')-H(D)+CN(B² Σ^+), photofragment excitation spectra measurement 9-45777
- LaO, spectral intensity of B² Σ -X² Σ bands, Rydberg-Klein-Rees pot. 9-31611
- N₂, rot. quantum number effect 9-31613
- N₂⁺, rot. quantum number effect 9-31613
- O₂, rot. quantum number effect 9-31613
- SiH, A state new predissociations, improved dissoc. energy value from rot. level lifetimes 9-3496
- SnO, D¹ Π -X¹ Σ transition 9-41179
- SnO, D¹ Π -X¹ σ transition Franck-Condon factors and r-centroids, calc. using RKB pot. 9-41197
- TiS, C² Σ -X² Σ , Franck-Condon factors and r-centroids 9-36700
- Frank-Read sources**
- dislocation pile-up formation, by Frank-Read source, emission of sound 9-37705
- Fraunhofer lines** see solar spectra
- free-electron approximation**
- cyanine dyes, substituted symmetric, optical nonlinearities, free-electron like model 9-41407
- metallic thin film, conductivity, Kubo formalism 9-7909
- metals, free electron approx. and symm. Hermitian pseudopot. (*Russian*) 9-28263
- photoemission, angle-resolved, from bulk bands of solids 9-4895
- Ag (111), angle-resolved photoemission, free-electron final state model 9-4896
- n-Si:Ar(P), single cryst., positron annihilation parameters, energy-band struct. on surface in free-electron approx. 9-15555
- free electron lasers**
- basic mechanisms, stimulated Raman and Compton backscattering 9-7106
- characteristics and limitations of mag. bremsstrahlung, Compton and Cherenkov lasers (*Chinese*) 9-31851
- Cherenkov and Smith-Purcell effect based, and TW amplifiers, operation regimes 9-919
- Cherenkov-Smith-Purcell, collective and single electron interactions, book contrib. 9-27234
- classical multimode theory of the free electron laser 9-27228
- coherent radiation novel sources, book 9-27231
- gain, exact classical electron dynamic approach 9-41362
- gain, small-signal, space charge effect 9-920
- laser fusion appl. 9-31919
- nonlinear free, gain, saturation, recoil and velocity spread, book contrib. 9-27148
- one-body analysis, book contrib. 9-27233
- output increase using dielectric effects 9-27229
- pulse radiator, miniature, based on semicond. quantum generators with electronic excitation 9-3707
- stimulated backscattering from relativistic unmagnetized electron beams, book contrib. 9-27334
- stimulated Cherenkov radiation, relativistic electron beams in dielec. resonators, book contrib. 9-27150
- stimulated Raman backscattering regime, megawatt sub m.m. range 9-7107
- stimulated undulator radiation from relativistic electrons, physical processes 9-45921
- travelling microwave radiation stimulated, theory 9-18392
- travelling wave amplifier analysis, book contrib. 9-27232
- free energy**
- adsorbed layers, clustering, bulk vapour pressure behaviour 9-4473
- alcohol-aliphatic hydrocarbon mixture, critical soln. temp. 9-37844
- amorphous systems, mag. pros. effect of random anisotropy 9-4686
- anilines, substituted, in benzene, dielectric-relax. and mutual viscosity, obs., molar free energy 9-38449
- anisotropic antiferromagnet, phase transition, with external mag. field 9-11316
- antiferroelectric transition, phenomenological theory Kittel's free energy for sublattice polarisation 9-4771
- antiferromagnet, second-order phase transition, weakening of effect of fluctuation in order parameter near crit. point 9-15316
- carbonyl frequency correlation of aromatic derivatives with nonaromatic analogues 9-22709
- charge-density waves, lock-in transition, effect of thermal fluctuations on harmonics 9-19338
- charged hard sphere system, restricted primitive model 9-27890

free energy continued

- charged particles in continuous dielectric medium, free energy; hard core pot. effects 9-37600
 chemical equilibrium teaching, computer method using minimisation of free energy 9-30168
 chloroform+acetone, isotropic light scattering, excess Gibbs function 9-8150
 cholesteric liquid crystal, large-scale continuous theory (*Russian*) 9-46568
 cholesterylpelargonate, cholesteric-smectic A transition, metal-supercond. analogue 9-23712
 commensurability in one dimension at nonzero T 9-35655
 continuous quantum systems, variational principle for pressure, entropy, free energy, convexity consequences 9-40453
 Coulomb gas, classical, two-dimens., screening props. from sine-Gordon eqn. 9-4524
 critical point of infinite type, exact sol. in one dimens. 9-9199
 disordered spin systems, nonrandom free energy in macroscopic limit 9-40477
 electrolytes, due to Coulombian and hard core pots. 9-23748
 electronic system with two-fold degenerate band, free energy change due to electron-phonon coupling 9-42500
 equilibrium and nonequilibrium thermodynamics organised and unorganised systems, philosophy 9-40344
 ethylene oxide-d₆, -d₄, centrifugal distortion const., thermodynamic functions 9-41149
 ethylene sulphide, centrifugal distortion const., thermodynamic functions 9-41149
 fermion 1-D systems, free energy independence 9-40448
 ferromagnetic single crystal with cubic symmetry, mag. and magnetoelectric props. 9-15332
 first-order transition induced by cubic anisotropy 9-4688
 fluid, dense, with square-well+hard core pot., equilib. props., quantum corrections 9-27891
 fluid interfacial stress and struct., gradient theories 9-19428
 Griffiths singularity, and upper bounds on cluster distrib. functions 9-7958
 hard sphere fluid, thermodynamic props., quantum corrections 9-4219
 Heisenberg n-component classical model, low temp. renormalisation group and symm. breaking perturbation, closed form expression for correlation function and free energy 9-15315
 Inconel 617, mass spectrometric study, high temp. reactor system appl. 9-43663
 intermediate state, superconducting-spot and normal-spot models 9-11275
 ion (H₂O)_n+H₂O=ion(H₂O)_{n+1}, standard free energies of reaction 9-34348
 Ising chains, random bond, thermodynamics and correl. functions 9-15270
 Ising double chain, compressible, mag. susceptibility and thermodynamic props. 9-15320
 Ising model, disordered, thermodynamic pot., ferro- and antiferromagnetic bonds, mag. moment and entropy (*Russian*) 9-19714
 Ising model with nearest and next-nearest neighbour interactions, non-universality 9-44870
 Ising spin glass free energy for m→∞ m-component spins 9-11320
 Ising spin systems with random bonds, thermodynamic props. at low temp. 9-28532
 itinerant ferromagnet, thermodynamics 9-4645
 Landau crit. point, mean-field theory, scaling theory and crit. exponents to second order in ε² 9-4395
 Landau-Ginsburg model, droplets free energy, Jost function 9-40469
 liquid crystal, ferroelec., helicoidal, smectic-C, dynamics 9-1396
 liquid phases, non-uniqueness in phase, chem. react. equilib. computations 9-43612
 liquid-gas critical point in 3.3 dimensions 9-7684
 liquid-gas system near critical point, sound attenuation and dispersion, renormalisation group calcs. 9-42149
 liquid-vapour equilibrium, systems with components of very different volatility, total press. static method meas. 9-14922
 metal, crystal melt interfacial free energy calc. from exptl. radial distrib. function data 9-10926
 metal, thermodynamic props. of grain and phase boundaries, review (*German*) 9-34012
 metal, vacancies and change of surface free energy at melting point 9-42219
 metastability, spinodal fixed point, renormalisation group anal. 9-40509
 Migdal-Kadanoff renormalisation scheme, surprising effectiveness 9-35652
 mixture, derivation and extension of UNIQUAC eqn. 9-14933
 molar free energy functions at high temp., semi-empirical eqn. 9-47956
 multicomponent systems, use of polynomial representation of excess free energy, in phase diagram calc. 9-10914
 1- and 2-naphthol, ideal gas thermodynamic props., vibr. fundamentals, rot. isomerism 9-24813
 nematic liquid crystal, pure splay, geometric approach to problem of stable configurations 9-27914
 Nimonic PE 13, mass spectrometric study, high temp. reactor system appl. 9-43663
 nonequilibrium superconductivity, oscill. of order parameter caused by quasiparticle injection 9-42697
 nuclear free energy, variational description 9-45199
 octafluorocyclobutane+n-butane mixtures, 233K, surface tension meas., excess Gibbs function 9-19371
 one-dimensional classical spin chain with random interactions, exact calcs. 9-4687
 one-dimensional diatomic chain, order-disorder transition, simple model 9-4394
 polarisable hard sphere fluid, thermodynamic props. 9-42277
 polyethylene, orthorhombic and triclinic lattices, eqns. of state 9-28069
 polymer crystal and melt, stat. thermodynamics using Midha-Nanda cryst. state theory 9-41979
 polystyrene, glassy, thermally activated deform. 9-20126
 position-space renormalization approach 9-30404
 quartz, stressed, Dauphine twinning growth, thermodynamic theory 9-23619
 random ordered phase, effective field approx. 9-1676
 semiconductor p-n junction, conversion of chem. energy into elec. power thermodynamic props. 9-11219
 solid solution, ordering, characterisation by long range order parameters (*Russian*) 9-1489
 spin glass free energy, phase transition dynamical instability 9-33493
 spin-S XY-model, susceptibility series expansions 9-28540

free energy continued

- spin-systems, double-time Green functions method, thermodynamics 9-15313
 spinels, entropy of cation transitions 9-11812
 stability of critical behaviour, critical-exponent renormalization and first-order transitions 9-44895
 steel, hydrogenation in HCl, influence of conc. depend. of anilines additives on time to fracture, principle of linearity of free energy (*Russian*) 9-15854
 stress corrosion weakening, subcritical crack velocity, free energy considerations 9-8374
 ternary system isothermal Gibbs-Duhem eqn., direct numerical soln. 9-1511
 transition metal carbides, thermochemistry 9-43617
 triangular lattice, two-dimens., vacancy pair free energy 9-14799
 triangular well fluid, Helmholtz free energy, Barker-Henderson perturbation theory 9-4218
 triangular-potential fluid, Zwanzig's perturbation theory, appl. to thermodynamic props. 9-41920
 triplet superconductivity, incomplete Meissner effect 9-15255
 uncorrelated-pairs approximation for the free energy of a crystal 9-42200
 Ag halide grains, surface free energy, effect of adenine adsorption (*German*) 9-39175
 Al-Zn-Hg alloy, cathodic protection characts., surface free energy, lattice struct. 9-29281
 Cu-Al (In), eutectic systems, phase boundary Gibbs free energy (*German*) 9-29016
 Fe, α and γ phases, electronic free energy, HF calc. 9-11611
 α-Fe-Be(P)(Mo)(W)-Co, effect of Co on solubility anomaly due to mag. transition, free energy and phase diagrams (*Japanese*) 9-42257
 α-Fe-Be(Ti)(Mo)(P)(Sb), effect of mag. transition on solubility of alloying elements, phase diagrams and free energy curves (*Japanese*) 9-42256
 Fe-Cr-O-C, stability diagrams, characteristics and calc. 9-10917
 Fe-Cu, generation of self-consistent Gibbs energy functions 9-11565
 Fe-Ge, liquid alloy, thermodynamic mixing function determ. by mass spectrometric meas. 9-29025
 Fe-O, exam. of thermodynamic data, using a computer aided strategy 9-11592
 Fe₃O₄, electron energy band theory, thermodynamic functions (*Korean*) 9-7785
 FeV₂O₈, free energies of form., 1400-1750K, electrochem. method determ. 9-43613
 GaN film, heteroepitaxial deposition, growth kinetics and catalytic effects 9-4487
 GdCrO₃, magnetisation, appl. of molecular field theory 9-4637
 GdF₃, standard enthalpies of formation 9-24810
 HF oligomers, Gibbs free energies, gas. equilib., ab initio calc. 9-20456
 HSO, thermochem. props. 9-5173
³He, superfluid, frequency sums for free energy 9-33148
³He, superfluid A-phase, rotational textures 9-11002
³He, superfluid A-phase, topological struct., nucleation and screening effect 9-1537
 Ho, thermophysical properties at high temps., exam. (*Russian*) 9-28105
 K₂SeO₄, unpolariised-noncommensurate-polarised phase transition, phenomenological theory, based on free energy function 9-15422
 Lu, thermophysical properties at high temps., exam. (*Russian*) 9-28105
 Mg-Cd, thermodynamic props., order-disorder transitions based on Helmholtz free energy 9-37853
 Mn(CO)₅Cl(Br)(I), thermodynamic props. tabulation 9-24808
 NH₄X, (X=Cl, Br, I), tricritical points, free energy, phenomenological expansion 9-7695
 Na-Ga liquid alloy, thermodynamic props. 9-37854
 PbSiO₃ and Pb₂SiO₄, vitreous, free energy of form. at elevated temps. 9-43195
 Ru complex, (2,2'-bipyridyl)ruthenium²⁺, excited-state redox processes, electron transfer theory 9-39126
 Sn₃Ge_{1-x}Te, ferroelec. semicond. structural phase transition, X-ray study 9-37836
 SnO₂, electrochemical determination of free energy of formation 9-11797
 Ta₂D_{3+x}, phase relations in terms of long-range order 9-38808
 Te(CO)₂Cl(Br)(I), thermodynamic props. tabulation 9-24808
 Th-Os(Ir) system, phase diagram and thermodynamic props. (*German*) 9-47958
 Ti, surface and grain boundary free energy, zero-creep determ. 9-4313
 Ti-Al-V (6.4 wt.%), surface and grain boundary free energy, zero-creep determ. 9-4313
 TiCl₃, layer compound, theoretical study of phase transition, energy bonds calc. 9-10945
 W-Re, neutron irradi. effects on phase stability free energy changes 9-11566
 Xe adsorbed monolayers, thermodynamic props. and lattice const., quasi-harmonic theory 9-42380
 Y, thermophysical properties at high temps., exam. (*Russian*) 9-28105
 YFeO₃, dissociation press. and Gibbs energy of form. 9-11816
 YbF₃, standard enthalpies of formation 9-24810
 Zn-Al, near eutectoid alloy, deformation kinetics analysis 9-29161
 Zn(g)+H₂O(g)=ZnO(s)+H₂(g), standard Gibbs free energy of reaction 9-11815
 Zr-Nb, phase transformation sequences, prediction using free energy composition diagrams 9-4951

free field rooms see anechoic chambers

free radical reactions

- cationic polymerisation promotion by free radicals 9-34301
 compartmentalised free radical polymerisation reactions 9-24748
 cycloalkane radical ion charge transfer reaction 9-45774
 diazonium, amplifying material, kinetic and sensitometric props. (*German*) 9-43607
 haloalkyl peroxy radical+NO₂, haloalkyl peroxyhydrate form., FT IR obs. 9-34283
 imidazoline nitroxide radical, H-bonding with H donors, NMR, DNP and spin lattice meas. 9-15971
 jasmine and intermediate compound synthesis (*Japanese*) 9-8436
 methyl radical+ethylene(acetylene)(propene)(allene), reaction pot. surfaces, MINDO/3 calcs. 9-22601
 photoinduced recombination of atoms and radicals 9-5170
 photoreceptor membrane viscosity and component dynamics, recombination kinetics method 9-39366
 polymers, multiphoton photodestruction, free radical formation 9-39177
 radical+radical reactions, reaction path calc. using perturbation expansion (*German*) 9-34300

free radical reactions continued

- unsaturated fatty acids, free radical oxidation, mag. field effects 9-15992
 CN+NO, reaction rate constants 9-1935
 Cl+methane-methane-d₂, free radical chain reaction, D isotope photochem. enrichment 9-36790
 ClO+NO, reaction in stratosphere 9-34889
 H+CH₄-H₂+CH₃, transition state, UHF method in INDO approx, 9-43578
 HCO, prod. by formaldehyde photolysis, vibr. relax., chem. kinetics and spectra 9-11808
 HO₂+ClO-HOCl+O₂, reaction rate consts. 9-5140
 NH₂+HO₂, rate const., in NH₃+O₂ flash photolysis 9-47943
 O in methane-air flame, reactions, radical overshoot 9-34308
 OH+O₃-HO₂+O₂, reaction rate const., 238-357K 9-47902
¹⁸OH+CO₂(CO), evidence for at. exchange 9-47910
 SO₂+H₂O+O₂(N₂)(Ar), condensation nuclei form., ion polarity and age depend. 9-39220

free radicals

- see also free radical reactions; paramagnetic resonance of free radicals
 acetaldehyde photolysis, HCO product microwave spectra 9-5163
 acetaldehyde radical cation, fragmentation, MO calc. 9-18109
 acetyl radical, absorpt. spectrum obtained by flash photolysis and kinetic spectroscopy 9-13731
 allyl radical, ionisation potential, ab initio valence bond calcs. 9-31407
 p-aminophenol, oxidation in aq. soln., chem. equilib. of free radicals, review 9-43573
 anthracene, α -induced radical production beyond Bragg peak 9-24773
 anthranyl radicals, ESR, temp. depend. phenyl twist angles 9-18210
 benzene radical anion, ab initio MO calcs., struct. 9-18113
 benzyl, ¹B₂-²B₂, electronic excitation, natural orbital occupation numbers calcs. 9-45638
 benzyl radical, IR absorpt. spectra, matrix isolated at 77K 9-22706
 benzyne, struct. and IR spectrum, MNDO calc. 9-31403
 biradical, triplet state, S-T₀ CIDNP, biradical scavenging rate const. from mag. field depend. CIDNP 9-3461
 biradical magnetic field dependent ¹³C and ¹H CIDNP, hyperfine coupling 9-3460
 1-bromoadamantane, orientationally disordered, γ -irrad. free radical defects, positron probe obs. 9-23647
 n-butoxy radicals, intramol. isomerisation, following n-butyl nitrite pyrolysis 9-20355
 chlorophyll radical cations, NMR, hyperfine coupling 9-8482
 chlorotrifluoroethylene radical anions, EPR spectra and struct. 9-31558
 cholesteric products, gamma irradiation, effect of presence of organic solvents 9-24777
 cyanoacetylene, photoelectron spectra, electronic states of radical cations 9-22756
 dicyanoacetylene radical cation, $\tilde{A}^2\Sigma_g^+ \rightarrow \tilde{X}^2\Pi_u$ emission band system 9-22721
 dihalodiacetylene radical cations, $A^2\Pi_u-X^2\Pi_u$ system, emission spectra and state lifetime 9-10121
 dihalogenated benzene derivatives, 77K, gamma radiolysis radical pair formation, EPR 9-29334
 α -diketone radical anions, spin-lattice relax. in soln. 9-22735
 dimethyl-diacetylene, radical cation, fluoresc. spectra, matrix isolated 9-47572
 dimethylseleniumchloride, formed by X-irrad. of Ph₃SeCl cryst., ESR study 9-39167
 ethynyl radical, emission spectra and pot. energy surface, ab initio MRD CI calc. 9-41099
 fluorobenzene radical anion, ab initio MO calcs., struct. 9-18113
 fluorobenzene radical cations, in gas phase, laser-induced fluoresc. 9-27022
 fluorobromomethanes, matrix photoionisation and radiolysis, IR spectra of free radicals 9-24765
 formyl radical, form., vibr. relax., spectrosc. 9-36746
 geminate species, recomb. in presence of a scavenger, probability calcs. 9-31644
 haloacetylenes, photoelectron spectra, electronic states of radical cations 9-22756
 methyl radical + ethylene(acetylene)(propene)(allene), reaction pot. surfaces, MINDO/3 calcs. 9-22601
 methylene diiodide, in 3-methyl pentane, γ -radiolysis 9-24776
 molecular crystal., triplet exciton annihilation and triplet exciton quenching by free radicals, analytical form of mag. field depend. of rate consts. 9-15094
 Norrish type II reaction photogenerated biradical lifetimes, solvent effects 9-11804
 organic radicals, HFS coupling const. calcs., RHF+CI method in INDO approx. 9-770
 oxiphenol, radical transform. in aqueous solns., chem. equilib. (Russian) 9-39138
 4-phenyl-3-thiosemicarbazide, single cryst., X-irrad., EPR, ENDOR, radical identification 9-31560
 9-phenylanthranyl radical, ESR, temp. depend. phenyl twist angle 9-18210
 polymer particle change with time in emulsion polymerisation 9-47923
 polymerisation, from emulsion, homogeneous nucleation 9-29354
 radical cation EPR spectra, ion-pair effects 9-13742
 spin-dependent magnetooptical rotation for free radicals and for singlet-triplet transitions 9-10129
 stilbene radical anion, form. in tetraphenylcyclobutane pulse radiolysis 9-16019
 TCNO salts, spin density distrib., estimation from EPR fine struct. and cryst. data 9-11347
 TGS, X-irrad., glycine radicals, geom. struct. by ENDOR and INDO calc. 9-24230
 transient radicals, EPR time profiles, CIDEP, electron spin-echo method 9-6953
 trichloronitromethane, visible and near UV spectra, 295K, photoabsorpt. cross-section 9-22720
 trichloronitrosomethane, visible and near UV spectra, 295K, photoabsorpt. cross-section 9-22720
 1,3,5-trifluorobenzene radical cation, laser induced fluoresc. spectra, vibronic anal. Jahn-Teller distortion 9-3470
 trifluoronitrosomethane, visible and near UV spectra, 295K, photoabsorpt. cross-section 9-22720
 triphenylamine cation radical, condensed and vapour phase geometry, photoelectron spectra 9-31597

free radicals continued

- 1-vinyl-o-carborane, orientationally disordered, γ -irrad. free radical defects, positron probe obs. 9-23647
 BO₂, intermolecular fluoresc. spectra using stabilised dye laser 9-27020
 C-⁺NH₃ radical, exchangeable H⁺ hyperfine coupling, ENDOR obs. 9-36669
 C₂, band system transition moment ab initio SCF and CI calcs. 9-13770
 C₂, luminesc. assignments in excimer laser photolysis of CBr₄ and CF₂Br₂ 9-39184
 C₃, (¹ Π_u) radical excited state radiative lifetimes and the collisional deactivation 9-27018
 CF₂, luminesc. assignments in excimer laser photolysis of CBr₄ and CF₂Br₂ 9-39184
 CH₃, far IR laser mag. reson. spectrum 9-3466
 CH⁺, excitation energies and transition moments in a second order polarization propagator approach 9-10051
 CH₂ and CH₂⁺, valence states, ab initio calcs. 9-6859
 CH₂(a'¹A₁-X²B₁) energy separation 9-8443
 CN photodissociation laser, IR stimulated emission due to BrCN photolysis 9-31888
 CSiH, matrix Hartree-Fock calcs. 9-5874
 ClO+H₂-HOCl+O₂, reaction rate consts. 9-5140
 ClONO₂, photolysis products, very-low press. meas. 9-29376
 DO₂, IR spectra, config. of ²A' and ²A'' states 9-36636
 HF*+NH*, microscopic vibrotational-electronic energy transfer, IR chemiluminesc. obs. 9-31662
 HNO(A²), state-selected fluoresc. lifetimes, collisional quenching rates 9-36674
 HO₂, IR spectra, 1.43-1.51 μ m emission bands 9-36635
 HO₂+ClO-HOCl+O₂, reaction rate consts. 9-5140
 HSO, thermochem. props. 9-5173
 ND radical, metastable b'² Σ^+ state, tunable laser fluoresc. obs. 9-22744
 ND(b'² Σ^+), quenching rate consts. (German) 9-41189
 NF*+HF*, microscopic vibrotational-electronic energy transfer, IR chemiluminesc. obs. 9-31662
 NH, 3 Π states, MC wavefunctions, rot.-vibr. anal. 9-13652
 NH, c Π state anomalous populations following NH₃ photodissoc. 9-10133
 NH₂, radical, laser mag. reson. spectra in 9 μ m region, ν_2 band 9-45724
 NH₂⁺, mol. geom., diffuse functions in SCF calcs. 9-10226
 NH(b'² Σ^+), quenching rate consts. (German) 9-41189
 NO, fluoresc. spectra, 3s(²A₂⁺) Rydberg state, vibr. relax. 9-13759
 NS radical chemiluminescence produced by active N+S(S₂Cl₂), kinetics study 9-39151
 OD, spectra, A-X system Einstein coeffs. 9-36703
 OH, A² Σ^+ /₂ state, g-factor meas. by quantum beat obs. 9-18176
 OH, continuum opacity oscillator strength rel. to solar atmosphere model 9-40162
 OH, microwave spectral line breadth in NH₃, H₂O, NO₂, SO₂, O₂, H₂, He, N₂, chloromethane 9-45806
 OH, mol. beam electric reson., hyperfine A-doubling transitions 9-36628
 OH, radiative lifetimes of A² Σ state and A-X Einstein coeffs. 9-36703
 OH, radical $\nu=1^2\Pi_{3/2}$ state, microwave spectrum 9-26972
 OH, spontaneous vibr.-rot. Raman scatt. from X² Π state 9-36646
 OH⁻ adsorbed on defect site of TiO₂ surface, electronic struct. 9-47150
 OH+He, O₂, N₂, H₂, NO₂, H₂O, NH₃, SO₂, chloromethane, rot. inelastic collision, microwave spectra 9-45806
 OH(A² Σ^+), form. from H₂O+Kr(³P₁), internal energy distrib. 9-10183
 OH(C² Σ^+), prod. by water radiolysis, time-resolved emission, quenching rate consts. 9-10138
 PH(PH₂), excited state dynamics, laser photolysis of PH₃ 9-16023
 (SCN), γ reson. Raman spectrum, vibr. freqs. 9-18189
 SiCl, blue absorpt. in Ar matrix 9-5149
 SiCH₃, matrix Hartree-Fock calcs. 9-5874
 SiCl₄⁺, ESR of radical in adamantane matrix, γ -irrad. of SiCl₄ in adamantane matrix 9-27011

freezing

- see also refrigeration
 adhesive hard sphere fluids, clustering phenomena, theory of freezing 9-7533
 biological membrane, egg yolk, freezing injuries, membrane destabilisation (French) 9-48221
 biological specimen prep. freeze-fracturing with a new specimen table 9-5425
 biological specimens, new freeze-etch unit 9-5423
 bone, marrow and leucocyte preservative freezing apparatus 9-39617
 cell freeze conservation control unit (German) 9-5410
 decane: pyrene (coronene), quasiline spectra, multiplet struct., freezing conditions and solvent effects 9-1786
 fast reactor ceramic fuel-steel system, freezing of flowing liquid in melting tube, simulation expt. 9-30981
 freeze-drying of food models, heat and mass transfer 9-1098
 geological conductors, water-bearing, effect of freezing on elec. props. (German) 9-5472
 heat balance integral method, refinement 9-14229
 hexane:pyrene (coronene), quasiline spectra, multiplet struct., freezing conditions and solvent effects 9-1786
 ice, bacteria as biogenic sources of freezing nuclei 9-20948
 ice growth in laminar flow through a channel with two parallel flat walls 9-3908
 ice-maker heat pumps, two plate-type, Remcor and 'no-penalty' harvest schemes comparison 9-48165
 ice-water interface, dynamic light scatt. during freezing 9-33074
 LMFBFR accident anal., noncondensable void fraction effect on freezing of flowing fluids 9-31013
 LMFBFR transient over power accident, plateout and thermal loading of ejected fuel 9-30982
 octane: pyrene(coronene), quasiline spectra, multiplet struct., freezing conditions and solvent effects 9-1786
 saturated porous media, effect of seepage flow on freezing 9-1241
 soil, freezing processes, finite element simulation 9-16527
 Stefan-like problems, soln. improvements 9-23181

Frenkel defects

- metal, HCP, long-range interstitial migration rel. to c/a ratio 9-28125
 metals, thermal instabilities due to recomb. of radiation-induced Frenkel pairs 9-23597
 superionic conductors, cooperative phenomena within generalized lattice gas models 9-46827
 Ag, ion-irradiation studies of damage function 9-37746

Frenkel defects continued

- AgBr, electron simulation, luminescence and hidden image formation (*Russian*) 9-47515
- AgBr, Frenkel defects, interstitials, neutron scatt. study 9-42059
- AgBr thin film interstitials, Frenkel and space-charge contributions 9-18494
- AgCl, electron simulation, luminescence and hidden image formation (*Russian*) 9-47515
- AgCl, Frenkel defects, interstitials, neutron scatt. study 9-42059
- β -AgI, ionic cond. and Frenkel pair form., dielec. loss meas. 9-33112
- Au, electron irradiated, low temp., Frenkel defects, diffuse X-ray scatt. study (*German*) 9-23601
- Bi, electron irradi., displacement threshold energy (*French*) 9-23649
- Cr, atomic displacements in electron irradi. cryst. 9-46705
- Cu, electron irradiated, formation of Frenkel pairs 9-23598
- Cu, Frenkel defects, diffuse X-ray scatt. obs. (*German*) 9-23600
- Cu, ion-irradiation studies of damage function 9-37746
- HgTe, self diffusion of Hg and defect struct. 9-23775
- $\text{Na}_3\text{Al}_2\text{Si}_2\text{O}_{12}\text{Cl}_2$, radiolytic radiation damage, Frenkel pair formation on Cl sublattice 9-7628
- Ne:Xe(Ar), electronic relax. cascades in Wannier and Frenkel type exciton states 9-33759
- p-Si, electron irradi., influence of acceptor impurity conc. and irradi. temp. on defect formation 9-19281
- UO_{2+x} , model of response of fission gas bubbles to dynamic behaviour of point defects 9-37735
- W, Frenkel pair creation and stage I recovery of electron irradi. cryst. near threshold 9-1463
- ZnO single crystals with stoichiometry deviations, intrinsic defects, thermodynamic analysis 9-42485

frequency changers *see frequency converters***frequency control**

- see also automatic frequency control*
- clocks, non-autonomous (secondary) (*Czech*) 9-40540
- clocks and watches, crystal controlled, accuracy setting and control (*Czech*) 9-40541
- crystal ovens using temp. gradient-free change of state for quartz cryst. standard (*Polish*) 9-30481
- solid-state oscillator with superconducting sapphire resonator, freq. stabilisation 9-12823

frequency converters

- see also frequency dividers; frequency multipliers; mixers (circuits); optical frequency conversion*
- for amateur radiotelescope 9-21189
- amplitude-digital converter IC, for meas. of polarisation of short light pulses 9-17465
- cardiac sound frequency shifting stethoscope 9-29647
- radiotelescope receiver, Croce del Nord, new front-end receiver with 30 to 408 MHz amplifier-converter (*Italian*) 9-2478
- AlAs-GaAs three-layer heterostruct. spectrum converter, in Nd:YAG laser pumping system 9-27272

frequency dividers

- multifunctional programming unit for self-contained oceanographic instruments 9-2391

frequency division multiplexing

- EEG analogue multiplexer for FM tape recording 9-34691
- integrated optical mixer in waveguide based on phase diff. gratings, for multichannel optical communication lines 9-18554
- optical demultiplexer, using coupling between nonidentical waveguides 9-10380
- wavelength multiplexing for information transmission 9-22906

frequency-domain analysis

- see also frequency-domain synthesis*
- 200 to 500 MHz A-scan defect characterisation 9-47873
- evoked frequency stabilisation in cat brain electrical activity 9-34533
- multicomponent noise signal decomposition 9-3210
- remote sensing of stratified media, pulse-spectrum technique, permittivity determ. 9-8722
- speech signals, time-domain algorithms for harmonic bandwidth compression 9-46125
- US transducer evaluation in exptl. and theoretical domains 9-46153

frequency-domain synthesis

- see also frequency-domain analysis*
- disc impedance meas. and US transducer CAD program 9-46157
- He speech unscrambling by nonlinear power spectrum conversion 9-46134

frequency doublers *see frequency multipliers***frequency measurement**

- see also atomic clocks*
- analogue cct. for fast-response measurement, used for foetal heart rate 9-21708
- analyzer for room quality meas. for HiFi (*German*) 9-46140
- comparator based on delay line, generator spectral line width measurement appl. 9-6144
- counter selection, principles 9-12775
- crystal ovens using temp. gradient-free change of state for quartz cryst. standard (*Polish*) 9-30481
- far IR, Josephson device high-harmonic mixing props. for freq. meas. 9-26120
- gas lasers, frequency stabilised by saturated absorpt., synthesis and measurement of optical frequencies, review (*French*) 9-31966
- LF meas. technique 9-21717
- LORAN-C type standard freq. signal, time and freq. calibration standard comparison (*Rumanian*) 9-40542
- optical, by an heterodyne technique (*French*) 9-40602
- optical frequency measurement and synthesis, near IR and visible ranges 9-35808
- radiointerferometric frequency and coordinate meas. accuracy, tropospheric fluctuation constraints 9-8848
- SQUID RF measurement system, future of superconducting instruments in metrology 9-26020
- standards, time, freq. and physical measurement, unified standard 9-26038
- standards using divergent beams, stability limits 9-26037
- techniques, book 9-176
- vibration freq. meter, for vibr. etching of rolled wire technical parameters meas. 9-14356
- VLF, cct. for heart beat rate monitoring in animals, range 0.01 to 10 Hz (*German*) 9-34709

frequency measurement continued

- VNG-derived frequency reference, adapting for astronomy 9-35139
- Cs standard frequency line, for receiver-controlled references 9-6099
- H oscillator with flexible walls, wall induced freq. shift meas. 9-2749

frequency meters

- constant-display frequency meter 9-21718
- LF meter with instantaneous response 9-40539

frequency modulation

- see also pulse frequency modulation*
- analogue multiplexer for FM tape recording 9-34691
- liquid level-to-frequency converter 9-6080
- multiterminal ECG processing system experiences 9-39573
- optical video disc, acoustooptic travelling wave transcription signal recording 9-36986
- radio signal diffraction in homogeneous dispersive medium, space time geometric theory 9-4149

frequency multipliers

- superconducting weak links for freq. multiplication 9-11273

frequency regulation *see frequency control***frequency response**

- acoustic noise sources, time delay bias errors in estimating frequency response and coherence functions 9-18614
- dynamic measurements of a nuclear reactor using low-peak-factor excitation signals 9-36349
- EM fields created by currents in confined conductors, freq. and transient responses 9-29702
- energy losses in magnetically soft materials, determ. (*Russian*) 9-8014
- internally lossless transducer conjugate matching, power transfer and backing impedance 9-46158
- optical fibre, graded index, baseband freq. response meas. 9-41439
- piezoceramic transducer for laser freq. stabilisation (*Russian*) 9-10315
- plasma, automatic control investigation 9-10649
- seismic recording channel, phase-freq. response and input cct. parameters matching (*Russian*) 9-39920
- seismic wide-band recorders specification 9-39908
- GaAs LED absorption effect on freq. characteristic 9-8189

frequency stability

- see also frequency control; laser frequency stability*
- Josephson junction, frequency-agile, biasing for precise freq., analogue computer study 9-28455
- phase and frequency instabilities in precision frequency sources, characterisation and mathematical models 9-2750
- quartz resonators, freq. instability rel. to time scales (*Italian*) 9-17400
- resonator ageing mechanisms 9-46161
- solid-state oscillator with superconducting sapphire resonator, freq. stabilisation 9-12823
- standards using divergent beams, stability limits 9-26037
- superconducting resonators, high stability oscillators, appl. to fundamental physics, metrology, freq. stability 9-26034
- Cs beam freq. standard research at PTB, beam optics, Majorana transitions 9-21709
- H_2 maser; time-dependent freq. shifts obs. 9-21713
- LiNbO_3 400 MHz saw filters 9-23158

frequency synthesizers

- see also frequency converters*
- octave synthesizer, teaching appl. 9-44680

frequency synthesizers *see frequency synthesizers***frequency triplers** *see frequency multipliers***friction**

- see also internal friction; lubrication*
- acrylic gel, US observation of critical behaviour (*French*) 9-29414
- alloy, friction and wear, effect of oxides 9-20203
- alloys, ion implantation in tribology and corrosion science, overview 9-14830
- atmosphere, cumulus friction and moisture budget in tropical wave-CISK 9-16580
- Babbitt grade Bk-2Sh, improvement in antifriction layer props. by impulse discharge (*Russian*) 9-1917
- boundary friction effects on elastic wave propag. 9-46242
- brass, repeated friction contact, form. of thick hardened surface layer 9-39056
- bronze, P type, experimental analysis of junction growth with a junction model 9-47783
- bubble of gas rising in fluid filled tube, wall effects (*French*) 9-7399
- ceramic artificial hip joint, wear and friction tests (*German*) 9-8568
- channel, axisymmetric, with axial press. gradient injection, turbulent boundary layer characts. 9-37304
- coatings for wear and lubrication 9-19494
- contact fatigue life, traction and microgeometry effects 9-20205
- contact friction problems, associated and non-associated sliding rules 9-14351
- contact friction stress problems, soln. using superposition principle 9-32394
- convection, forced, turbulent, in square cavity, shear effect 9-1180
- cylinder, permeable, in viscous fluid, friction coeff. 9-46385
- cylinders, aerodynamic noise vs. drag relationships 9-32550
- dislocation behaviour during fatigue, friction stress and back stress from hysteresis loop anal. 9-42076
- dry-friction periodic relay system analysis (*Russian*) 9-10455
- Earth asthenosphere, frictionally heated shear flows stability 9-44164
- earthquake mechanics based on nonuniform friction 9-20766
- elastic contact problems with friction, nodal parameter soln. (*French*) 9-10475
- emulsion, relative drop-drop and drop-wall motions, slow 9-32641
- failure, temp. gradient model 9-42142
- flow, fully-developed, in non-circ. passages, prediction method 9-1254
- flow, of anisotropic spatially inhomogeneous viscosity fluid, variational principle 9-37367
- flow, rough-wall incompressible boundary layer, calc. model 9-1165
- flow, steady, in porous region between rot. spheres 9-46382
- flow, swirled, in pipe, friction law and form parameters 9-37329
- flow between porous walls, 2-dimens; laminar 9-14477
- flow in pipe, swirled, integral calc. method 9-37402
- flow over 9-46308
- friction, lubrication and wear, review of papers published 1974 to 1976 9-15806
- galactic disc, dynamical friction theory 9-35367
- galaxies, colliding, dynamical friction effects 9-44600
- gas-liquid mixture, flow struct. and distrib. effects in pipe 9-27682

friction continued

- glacier, sliding friction on plane strewn with hemispherical obstacles (*French*) 9-8640
- glacier friction law, shadowing function of Gaussian probability curve (*French*) 9-8641
- graphite fibre reinforced, Cu-Sn exam. of high speed tribological props. in friction expts. against steel 9-15809
- heat and mass transfer and friction under complex thermogasdynamic conditions 9-1209
- hysteretic, in small velocity approx., linear viscoelasticity eqns. 9-37252
- inequality conditions, consequences in crack and friction contact problems 9-37242
- interface flaw extension with friction, basic mathematical anal. 9-18810
- junction growth mechanism during friction (*Japanese*) 9-32391
- linear models of frequency-independent internal friction (*Russian*) 9-18834
- lubricated elastomers in contact with regularly spaced sliders, frictional dynamics 9-20213
- lubrication film temp. and traction, rel. to solidification and glass transition temp. 9-28041
- metal, friction heating during cutting 9-39055
- metal surface, spectroanalytical investig. of friction processes and subst. transfer products (*Russian*) 9-34418
- metal-polymer contacts, methods of decreasing wear 9-20209
- metals, abrasive wear testing under conditions of rolling friction 9-15894
- molecule, moving in compressible viscous fluid, hydrodynamic drag 9-27732
- nozzle of rocket, compressible turbulent boundary layers, heat transfer and skin-friction 9-14451
- ocean, bottom friction effect on barotropic motion over continental shelf 9-48509
- parallel plate porous slider, magnetohydrodynamic, optimum profile 9-47781
- permeable plate gas screen region, heat transfer and friction laws 9-1250
- planet-satellite systems of solar system, tidal friction secular effects 9-8860
- polyacrylamide solution, tube flow, friction and convective heat transfer, rheological changes effect 9-1220
- polyethylene, branched, frictional props., normal force/shear for relationship 9-47785
- polymer, friction coefficient calc. for contact surfaces with nonspherical asperities 9-20200
- polymer films, stick-slip motion and surface deformation 9-37253
- polymer solutions, turbulent, mass transfer rate, frictional force (*French*) 9-37357
- PVC, rheology, viscoelasticity 9-3982
- rigid cylinder rolling on a rigid perfectly plastic half space 9-41629
- road vehicle stopping distance, weight transfer effect, for teaching 9-25800
- rock friction and earthquake prediction, conf. (Stanford, 28-30 April 1977) 9-16448
- rock friction effect of confining pressure, temp. and pore pressure 9-16455
- rock volume changes during fracture and frictional sliding 9-16450
- rocks, dilatancy and fracture induced vel. changes rel. to frictional sliding 9-16458
- rocks, electrical resistivity changes during frictional sliding and fracture 9-16457
- rocks, frictional sliding, asperity-surface interaction and surface damage 9-16456
- rocks, frictional sliding, displacement rate effects in Tennessee sandstone 9-16461
- rocks, rupture and particle velocity during frictional sliding 9-20820
- rocks, slip propag. along frictional surfaces 9-25236
- rocks, time-depend. friction and stick-slip mechanics 9-16459
- rocks 9-16451
- rolling discs, coeff. of friction 9-14360
- rubber, cutting resistance measurement in absence of friction 9-5035
- rubber, Schallamach waves, rel. to friction of elastomers 9-29225
- ruled three layer shell, large coefficient of friction between layers, stress-strained state calc. 9-14354
- sandpaper, standardised, for Taber abaser, influence of relative humidity on abrasive quality (*Japanese*) 9-8369
- sealing materials, friction and wear tests (*German*) 9-38987
- seismic vel. changes during fracture and frictional sliding 9-16408
- semifinite elastic solid, frictional shear effect on dynamic stresses 9-10537
- SH-waves refl. and refr. in presence of slip and friction 9-46243
- shock-wave boundary-layer interaction, wall shear stress meas. 9-1212
- slender cones, in hypersonic flow drag meas. using mag. suspension and balance 9-4039
- spherical bearings with stone pillow blocks, friction and wear (*French*) 9-18832
- steel, C, struct. changes in centres of galling 9-38985
- steel, fatigue, impact loading, friction, wear in surface active media (*Russian*) 9-29268
- steel, mild, experimental analysis of junction growth with a junction model 9-47783
- steel, roller-bearing, high-temp. wear resistant coating treatment (*German*) 9-24629
- steel, wear resist., effect of rolling friction strengthening, oil abrasive environment (*Russian*) 9-15799
- steel, white layers forming at high rates of friction, struct. props. (*Russian*) 9-15800
- steels, C, friction in liq. Sn, Rebinder effect (*Russian*) 9-29269
- steels, contact resist. in working media in static, dynamic loading, testing unit 9-15900
- structures with convex strain energy density, friction problem, variational approach 9-27601
- surface contacts, tribological props. 9-19469
- suspension, Brownian rotational-translational particles, at finite conc., dynamics and hydrodynamics 9-7401
- testing in various media, device 9-29319
- tidal propagation in shallow rivers, frictional forces rel. to diffusive model 9-2303
- transonic flow, two- and three-dimens., perturbation soln. method 9-1208
- Triboloy 700, hard surfacing in Na, friction, wear and corrosion 9-24628
- troposphere circulation in equatorial latits., role of horizontal friction 9-29821
- tube flow, drag reducing additives and sudden enlargement of diam. 9-37397

friction continued

- turbulent compressible boundary layer on permeable rough surface with heat transfer 9-1176
- viscoelastic liquid steady flow about porous rotating disc 9-32586
- water bodies, contained, surface friction vel. rel. to wind-induced drift 9-48512
- Al, experimental analysis of junction growth with a junction model 9-47783
- Al FCC single crystal, crystal rotation accompanying scratch deform. (*Japanese*) 9-15733
- Al, surface subjected to friction, wear, exoelectron emission, rel. to O₂, H₂O, gaseous adsorpt. 9-1816
- Cr₃C₂, Cr₂₃C₆, plasma sprayed coatings for gas-cooled reactor appl. 9-24676
- Cu, FCC single crystal, crystal rotation accompanying scratch deform. (*Japanese*) 9-15733
- Cu surface subjected to friction, wear, exoelectron emission, rel. to O₂, H₂O, gaseous adsorpt. 9-1816
- Cu-C bushings, powder metallurgically prepared, exam. of friction and wear charact. 9-15813
- Cu-ferrous alloy, hard inclusion composite exam. of wear resistance props. 9-34153
- Cu-graphite brushes, friction and wear under severe sliding conditions against steel 9-38991
- Fe, cast, wear resist., effect of rolling friction strengthening, oil abrasive environment (*Russian*) 9-15799
- Fe, friction in liq. Sn, Rebinder effect (*Russian*) 9-29269
- Fe, surface subjected to friction, wear, exoelectron emission, rel. to O₂, H₂O, gaseous adsorpt. 9-1816
- Fe-based sintered friction material, wear rate, depend. of phase struct. 9-15801
- Fe-MoS₂, exam. of props., using differential thermal analysis, and metallography (*Russian*) 9-15653
- Fe-P(S) sintered materials, antifriction props. 9-24626
- HfC-HfBr₂, preparation and high temp. antifriction props. 9-1918
- In film, friction and fear in ultrahigh vacuum, effects of speed, film thickness and substrate surface roughness 9-20202
- Ni, surface subjected to friction, wear, exoelectron emission, rel. to O₂, H₂O, gaseous adsorpt. 9-1816
- Ni-SiC(WC), dispersion hardened coating, chemically deposited using electroless baths, exam. of protection props. 9-34208
- Pb film, friction and fear in ultrahigh vacuum, effects of speed, film thickness and substrate surface roughness 9-20202
- Pb-Sb, improvement in antifriction layer props. by impulse discharge, impulse discharge treatment (*Russian*) 9-1917
- Sn, sputtered film, exam. of frictional props. 9-15814
- TaC-TaB₂, exam. of high temp. friction and wear, and deformation behaviour 9-34152
- Ti alloy VT1-0, wear resistant coated, metallic and intermetallic, electrospar applied (*Russian*) 9-1916
- TiC coatings, RF sputtered, on 440-C steel, adherence, friction, and wear props. 9-47823
- TiC-TiB₂, preparation and high temp. antifriction props. 9-1918
- WC cutting tools, TiN, TiC coated, frictional characts. 9-20218
- WS₂-NbS₂ system, compds, elec., antifriction props. 9-38066
- ZrC-ZrB₂, preparation and high temp. antifriction props. 9-1918

friction, internal see internal friction**frictional electricity see triboelectricity****fuel**

- see also coal; fission reactor fuel; pulverised fuels*
- condensed, combustion and extinction in stagnation pt. boundary layer 9-29356
- droplets, mathematical models of transient heat flow 9-18673
- fossil, combustion in atm., effect of CO₂ on climate 9-2359
- furnace combustion chamber and radiative transfer, fuel substitution effects, review 9-3903
- gas research with a view to energy savings in France (*French*) 9-39272
- liquid, coal derived, direct appl. to power generation 9-48056
- oil recovery from Utah tar sand deposit, by in situ combustion 9-48046
- oil-shale, resource, Colorado's Green River Formation, vertical modified in-situ processes 9-48049
- oils, shale, from five different sources, comparison w.r.t. boiling-point composition, elemental content and physical properties 9-48050
- quiescent fuel mists, ignition and flame quenching 9-8437
- worldwide energy prospects, synthesis of studies published in 1976 and 1977 (*French*) 9-29443

fuel batteries see fuel cells**fuel cells**

- molten carbonate fuel cell gas seal, corrosion protection using LiAlO₂ coating on stainless steel 9-39293
- semiconductor p-n junction, conversion of chem. energy into elec. power thermodynamic props. 9-11219
- H-O, with self-control of external humidity exchange, operation analysis 9-34429
- H₂PO₄, heat transfer 9-48121
- H₂PO₄, technology advances w.r.t. cost reduction 9-48122
- LaAlO₃ perovskite electrolytes for high-temp. fuel cells 9-29467

fugacity

- see also kinetic theory of gases*
- adsorbed monolayer, effective two particle potential 9-11012
- vapour-liquid equilib., component fugacity coeffs. 9-23716
- CO₂, fugacity at high temps. and press. from exptl. decarbonation reactions 9-16439

full wave rectification see rectification**function approximation**

- see also Chebyshev approximation; interpolation*
- capacitive sensor characts. linearisation, in vicinity of working point (*Slovak*) 9-40547
- Coulomb excitation functions, numerical calc. of limiting props. 9-9604
- flow density function, compressible, subsonic (*Hungarian*) 9-14421
- microhardness of Fe electrodeposited coatings, H₂ design appl. 9-39069
- one-dimensional oscillator, matrix elements of position coord., upper and lower bounds 9-35578
- scattering amplitude, punctual Pade approx. as regularisation procedure for partial wave expansions 9-17639
- Volterra nonlinear integral eqns., soln. using two-point rational approximants 9-40351
- weighted residual classification of approximate methods 9-10540

function evaluation

image correlation of geometric distortion; optimal window functions 9-45907

function generators

see also pulse generators; signal generators; time bases
tape and chart recorder timing waveform generator 9-17415

functional analysis

see also harmonic analysis
arbitrary scalar functions, divergence relns. and multipole expansions 9-6434
asymptotic functions, general assumptions and definitions 9-40350
bifurcation into invariant tori at points of reson., use of Poincare maps 9-44707
branching continued fractions for double power series (Russian) 9-12567
canonical ensemble partition function, hidden connections and functional integral representation 9-30361
classical impact theory, Carnot functional (Russian) 9-25856
endomorphism bifurcation, universal metric props. 9-25827
equivalent linearization, existence and uniqueness of solns. 9-9080
form convex functions and the WYDL and other inequalities 9-30200
inverse problems of reconstructing functions with discontinuous derivatives 9-2600
Jost function treated by the F-matrix phase integral method 9-25884
Kampe de Fériet function expansion in terms of generalised prolate spheroidal wave function 9-17259
Lauricella function, analytic continuations 9-17645
material with internal variables, condition equivalent to existence of non-equilibrium entropy and temp. 9-44890
Mayer function, delta-function expansion, virial coeffs. appls. 9-4221
multiplication of distrib. by non-standard anal. 9-30292
non-gradient algorithm of functionals minimization (Russian) 9-12566
nonlinear monotonic functions with selectable intervals, constitutive eqns. appl. 9-46230
self-adjoint operator, eigenvalue bounds, variational approach (German) 9-25886
spherical harmonic gradient formula, generalisation 9-17271
stochastic fields, functional integral methods 9-25973
vacuum polarisation function 9-21578
Voigt function and its derivatives, complex probability function 9-45675

functional equations

elastic eqns. of uniform systems, general integral solns., appl. (Russian) 9-14272
fluid computations using infinitesimal functionals, variational approach 9-14365
microhardness of Fe electrodeposited coatings, H_{a} design appl. 9-39069
partial inversion of operator for summator functional equation with kernel of the form of periodic Mathieu functions 9-21562
plasma in uniform mag. field, complementary variational principles on elec. conductivities 9-46430
two or three electrons, interacting with localised mag. moment, wave function determ., Sommerfeld's method, soln. of linear functional eqn. (French) 9-12636

functionals see functional equations**functions**

see also Bessel functions; Boolean functions; Green's function methods; random functions; recursive functions; transfer functions; vertex functions; Walsh functions
expansion theorem for $(r^*)^{m-1} \exp(-\alpha r^*)$ for $m=-1$ case 9-12569
geophysics, analytic continuation of function for Earth surface (Russian) 9-35008
normalized distrib. functions, comparative behaviour (German) 9-25826
radiative transfer H-function, expression using Laplace transform and Wiener-Hopf technique 9-35111
Rosin statistical function, appl. to meteorite chondrules mass distrib. 9-35201
shadowing function of Gaussian probability curve rel. to glacier friction law (French) 9-8641
Weibull statistical function, appl. to meteorite chondrules mass distrib. 9-35201

fundamental constants see constants**fundamental law tests**

general relativity, potential blue shift, Cs beam clock meas. 9-12704

fundamental particles see elementary particles**fundamental physics concepts** see physics fundamentals**fundamentals of physics** see physics fundamentals**furnaces**

see also electric furnaces; refractories

combustion chamber and radiative transfer, fuel substitution effects, review 9-3903
combustion modelling, for large gas-fired furnaces 9-32710
glass tank furnace, physical models, selection criteria for liquids to simulate melted glass 9-8263
graphite furnace, HGA-2200, operating parameters 9-34384
graphite furnace atomic absorption spectrometry, electrothermal atomisation 9-24852
heat transfer and pollution (French) 9-16001
metal sample preparation facility, multipurpose 9-180
multiple hearth, biomass gasification process, Garrett Energy Research 9-48040
Oxford spectroscopic furnace, temp. meas. by photoelectric pyrometer for Fe I oscillator strengths 9-36584
solar furnace, materials melting process dynamics rel. to automatic control 9-39317
temperature meas. using two-colour pyrometer 9-6129
thermostat system, automatic, for high temps. 9-6112
X-ray diffractometer, temp. calibration using eutectic transitions of alloys (Japanese) 9-6128

Furry theorem see quantum electrodynamics**fusion** see melting**fusion, nuclear** see nuclear fusion**fusion reactor ignition**

see also fusion reactor materials; plasma heating; plasma production
alpha particle heating of fast-solenoid fusion reactor plasma, self-consistent anal. 9-31187
compressible fast liner, adiabatic plasma heating and fusion energy production 9-31182
concentric hyperdetonation shock wave 9-7464
control, laser appls. (Spanish) 9-26748

fusion reactor ignition continued

cumulated shock waves, coming to free surface, optimal conditions 9-45414
energetic neutral beams, development to MW power level of controlled thermonuclear research 9-45508
explosive implosion of variable density shell, neutron generation in a plane system 9-18035
explosive implosion of variable density shell into conical region, neutron output determ. 9-22454
Ignition Test Reactor remote maintenance system requirements 9-9885
inertial confinement fusion, appl. of advanced lasers, review 9-18435
inertial confinement fusion by high-energy heavy ions 9-18047
ion beams, intense, space charge field 9-41325
ion beams, space charge neutralisation 9-45507
ion cyclotron instability induced by perpendicular beam injection into a plasma 9-14565
laser alignment accuracy on target, Hartmann test, direct meas. 9-2300
laser applications (French) 9-41037
laser energy absorpt. in practical target illumination schemes 9-23434
laser facility, Shiva Nova, diagnostics of high-yield thermonuclear events 9-41034
laser fusion, CO₂ eight-beam Helios laser, evaluation of diamond-turned Cu mirrors 9-23044
laser fusion, energy transport, implosion, pellet design study by GEKKO II glass laser (Japanese) 9-14585
laser fusion, free electron lasers appl. 9-31919
laser fusion, Nd:YAG laser, actively modelocked and Q-switched 9-45980
laser fusion, self-adjusting laser-target system 9-14024
laser fusion, target support fibre, heated by return current 9-45416
laser fusion DT target, conical, for implosion studies with CO₂ laser 9-41849
laser fusion experiment, off-axis parabolic mirror fabrication 9-23103
laser fusion expt., damage history of Argus 4 TW Nd system 9-18463
laser fusion programme diagnostics, plasma physics on micron and picosecond scale 9-23452
laser fusion research, advanced components and systems for beam lines 9-18466
laser fusion research, glass laser feasibility 9-13979
laser fusion target chamber, stimulated Raman scatt. 9-9873
laser fusion targets, interferometric meas. of microsphere wall thickness variations 9-17470
laser implosion, of structured pellet, model 9-10684
laser plasma compression, computer simulation of implosion struct. (Japanese) 9-14587
laser target compaction, turbulent mixing effects (Russian) 9-31191
laser-driven isotropic hollow-shell implosion, ignition problem 9-31183
laser-driven stable implosion scheme 9-4161
layered shell explosive implosion into D-plasma region of compression 9-22455
liner implosion, energy focusing method 9-31185
LWHR, source driven, Li-free neutron sources, feasibility and comparisons 9-13383
Mach wave parameters in cumulation cone 9-18034
MIGMA, colliding beam fusion power source, review 9-18031
negative ion source and beam development at BNL 9-45411
neutral beam injectors for the mag. fusion energy program, development and appl. 9-45404
neutral beam line improvements from gas flow reduction 9-22511
neutral beams for fusion research, review 9-45406
particle beam fusion, laser beam with retractable focus, ionis. path form. in gases 9-18992
pellet fusion reactors, heavy ion accelerators and storage rings 9-678
plasma focus, recent developments to increase neutron yield 9-14567
plasma implosions, mag. field generation due to Nernst refrigeration 9-27811
plasma production by CO₂ laser (Japanese) 9-14586
plasma science, conference, Monterey, CA, USA (May 1978) 9-37442
plating discrete microparticles for laser-fusion targets 9-15841
polyethylene pellets, heating using CO₂ laser 9-1331
profiled shock wave disintegration at cumulation point 9-7463
pulse-power particle beam sources as fusion drivers, review 9-18066
Rayleigh-Taylor instability generation of mag. fields, effects on laser fusion 9-19025
relativistic electron beam, energy deposition in high temp. targets 9-4157
SHIVA, 30 TW Nd glass laser system for inertial confinement fusion 9-22978
SHIVA laser optical component manufacture and testing 9-22980
targets for laser and electron beam fusion, design space 9-18037
Tokamak, ignition demonstration reactor development 9-18045
Tokamak heating by plasma column mixing, electrotech. method 9-32789
Tokamak power reactor, electron-cyclotron-reson.-heated, characts. 9-31188
Tokamak superconducting toroidal field coil concept 9-31200
TTT, current penetration and resistivity, probe diagnostics 9-32821
Z-pinch plasma, focused ion beam microinstability, pellet fusion appl. 9-32785
D plasma, explosion fusion, optimisation of Ar admixture 9-41031
D-B-p, microexplosion ignition schemes 9-18030
D plasma, density optimisation in conical system for explosion fusion 9-41032
D-Ar mixture, effect of Ar admixture on plasma temp. 9-37446
D-T concentric plasma compression, optimum output of fusion neutrons 9-41030
D-T gaseous core fusion, crit. parameters, dense medium profiled explosion 9-45413
D-T plasma, density optimisation in conical system for explosion fusion 9-41032
D+T-He⁴+n+17.6 MeV, possibility of using U⁺ accelerated ions (Norwegian) 9-30871
DD, microexplosion ignition schemes 9-18030
DT glass microballoon, Ne seeded, compression by CO₂ laser 9-22466
DT linear mag. fusion reactor, thermal cond. and alpha-particle restraints 9-9870
DT plasma in biconical system, neutron generation by shell implosion 9-37524
DT-Pu plasma, neutron induced fission, fission fragment slowing down 9-26749
DT-Pu plasma, neutron induced fission, enhancement of neutron prod. and fusion rate 9-26750

fusion reactor ignition continued

- H isotopes, transition radiation from neutral beams, beam foil ionization 9-18299
 H^+ beam production and 0.5 TW pulse driven implosion 9-31288
 H_2 plasma, neutral H atoms, penetration, kinetic theory 9-32782
 HF laser possible use as laser-fusion drivers 9-22979
 $H(1s) + O^{8+} (He^{2+}) (H^+)$, charge transfer, 0.025-200 keV/amu 9-22823
 H laser possible use as laser-fusion drivers 9-22979
 XeF^+-UF_6 , nuclear pumped excimer fusion lasers, kinetic model 9-18410

fusion reactor materials

- see also *fission reactor materials*; *radioactive waste*
 advanced nuclear energy systems, emerging concepts, conf., Graz, Austria (March 1978) 9-13381
 blankets for fusion augmented steam turbine 9-22475
 ceramics utilization in nuclear industry, current status and future trends, review 9-45349
 CTR, engineering and technology considerations (*Spanish*) 9-36399
 divertor target material choice 9-665
 DT self-propelling pellets for fusion-reactor refueling 9-677
 first wall design, safety study of primary coolants 9-9871
 first wall materials, H trapping charact. 9-45407
 fuel, fusion-triggered fusion pellets design, review 9-13519
 fuel pellets, coupled nuclear-thermohydrodynamic anal. of laser-fission-fusion systems 9-13520
 fusion-fission hybrid reactor, mirror confinement, fuel design consideration 9-22472
 fusion-fission hybrid reactor fuel cycle considerations 9-22474
 fusion-fission hybrids, mag. mirror blankets and drivers 9-13517
 gaseous impurity origin, meas. by mass spectroscopy in JFT-2 Tokamak 9-1339
 graphite, cloth erosion by 20 keV H^+ and He^+ ions 9-46725
 graphite, irradiated with MeV He ions, exptl. study of effects 9-4341
 graphite, radiational size stability, effect of technological factors 9-26527
 graphite, tritium effects, first wall controlled thermonuclear reactor conditions, simulation 9-647
 graphite, unipolar arc damage in hot, dense D plasma 9-3235
 graphite, wall and limiter material for Tokamaks, induced desorption diffusion and gas production by 100 eV electrons and ions 9-675
 gross blanket breeding ratio determ., neutronic cell calc. by Monte Carlo methods 9-18033
 impurity effects in Tokamak expts., numerical modeling 9-659
 impurity flux in scrape off layer of Tokamaks TFR 400 and 600 9-652
 in-situ analysis of ion irradiation and implantation effects 9-45408
 Inconel 600, surface composition depend. on H atom influx, AES 9-5192
 Inconel 617, mass spectrometric study, high temp. reactor system appl. 9-43663
 Inconel 675, wall and limiter material for Tokamaks, induced desorption diffusion and gas production by 100 eV electrons and ions 9-675
 Inconel 718, heat capacity 313 to 1053K 9-10964
 inertial confinement fusion pellet centre burnup of fission reactor actinide waste 9-31181
 laser driven fusion reactors, assessment of engineering problems 9-36413
 laser fusion, energy transport, implosion, pellet design study by GEKKO II glass laser (*Japanese*) 9-14585
 liquid metal two phase flow, gaseous phase redistrib. in strong mag. field 9-37410
 macrotor, metal influx 9-650
 metal impurities, DITE Tokamak plasma, N-ion backscatt. anal. 9-4182
 metal impurity origin in DIVA, ion sputtering, evaporation and arcing 9-656
 metals, point defect and microstruct. behaviour during irradi., appl. to fusion reactors 9-23638
 MIGMA, colliding beam fusion power source, review 9-18031
 neutron and heavy ion damage correlation, predicted temp. shift on swelling with radiation dose rate change 9-7630
 neutron multipliers for fusion blankets, comparative anal. 9-18049
 neutron production D, laser fusion, neutron production from conical target 9-22467
 NOEL (no external leak) blanket concept 9-18048
 nuclear energy synergistics, charact. of integrated systems 9-13382
 PLT, vacuum vessel wall surface conditions, long term changes 9-653
 radiation damage simulation using triple ion beams 9-45410
 radioactivity minimization by elemental substitution and isotopic tailoring 9-22463
 rotating target neutron sources, appl. to high energy neutron induced effects on fusion reactor materials 9-45493
 scrape-off layer of poloidal limiter, transport code calcs. rel. to plasma parameters 9-669
 seawater distillation, heavy water concentration, numerical model calc. 9-26514
 secondary ion emission due to H ion bombardment 9-8216
 SOLASE, tritium pathways and handling problems in a laser fusion reactor 9-36411
 sputtering erosion in inertial confinement fusion reactors 9-22462
 stainless steel, effect of pulsed radiation on swelling 9-31190
 steel, austenitic stainless, first wall material, radiation damage by simultaneous accelerator microscope irradi. 9-45402
 steel, austenitic stainless, H trapping studies in fusion first wall materials 9-45407
 steel, stainless, absorption of O ions 9-1547
 steel, stainless, D depth distrib. determ. using $D^3He(p)^4He$ 9-4326
 steel, stainless, He induced blistering, during simultaneous sputtering 9-1808
 steel, stainless, irradiation-induced creep anal., proton simulation of first wall environment 9-24707
 steel, stainless, spatial distribution of limiter material and impurities on the first wall of TFR 400 9-651
 steel, stainless, surface treatment of plane and hollow components in glow discharges 9-1923
 steel, stainless, Tokamak first wall, angular effects in sputtering by H ions 9-46458
 steel, stainless, unipolar arc damage in hot, dense D plasma 9-3235
 steel, stainless, vacuum transfer technique for Tokamak in situ surface anal. 9-2778
 steel, stainless, wall and limiter material for Tokamaks, induced desorption diffusion and gas production by 100 eV electrons and ions 9-675
 superconducting magnets, magnetic confinement of plasmas in fusion reactors 9-23441
 surface impurities during start up and early operation of ISX-A, surface anal. with sample transfer 9-654

fusion reactor materials continued

- thermal shock resistance of limiter and first wall materials for fusion reactor 9-3239
 Tokamak, DITE, time resolved metal impurity conc. using RBS anal. 9-1329
 Tokamak blanket, Li-cooled, parametric anal. of design parameters 9-22464
 Tokamak fusion-fission breeder, blanket fuel selection 9-22468
 Tokamak ISX-A, impurity expts. 9-1328
 Tokamak-driven hybrid breeder reactor, liquid metal coolant, MHD effects 9-17974
 wall released impurity transport in limiter scrape off layer of Tokamak 9-670
 water cooled and moderated reactors in Soviet Union nuclear power generation 9-642
 Al alloy 6061 9-675
 Al, struct. metal, effective damage levels in neutron radiation environment 9-36236
 Al-Si, effect of irradi. on the nucleation of incoherent precipitates 9-8303
 Al_2O_3 , limiter and liner, results in Tokamak Petula 9-655
 B and B-rich borides, protective coatings, in situ prep. for controlled nuclear fusion devices 9-3238
 BN, low-Z material, outgassing expts. 9-209
 ^{11}B -p advanced fuel development and confinement 9-13516
 Be, surface morphology, effect on low energy H ion erosion yield 9-42121
 BeO, low-Z material, outgassing expts. 9-209
 CrB, crystallographic relationship with αMoB , UBC, ThBC 9-42025
 Cr_3C_2 , $Cr_{23}C_6$, plasma sprayed coatings for gas-cooled reactor appl. 9-24676
 Cu, inertial confinement fusion reactor, surface damage and thermal effects from transient thermonuclear radiation 9-648
 D- 3He , advanced fuel development and confinement 9-13516
 D-D advanced fuel development and confinement 9-13516
 D-D fusion reactor blankets and shields, effect of neutron source ratio on nuclear charact. 9-41033
 D-T, laser pellet, structured, implosion model 9-10684
 D-T fusion sources, light water hybrid breeding reactors, source driven 9-13518
 DD fusion reactor blanket, thermal blanket and blanket shield designs, comparative study 9-22457
 DT pellets, auto-irradiation effects, thermal and electric stresses 9-41036
 Fe alloy containers for liquid Li, corrosion resistance properties 9-47815
 Fe struct. metal, effective damage levels in neutron radiation of environment 9-36236
 Fe-Ni-Cr, compatibility with Li_2O pellets, mass spectrometric study of Li_2FeO_4 evaporation 9-8385
 Fe-Ni-Cr (20, 15 wt.%), dual-ion irradi. effects on microstruct. and mech. props. 9-45403
 Li, liquid, solubility of Li_2O , determ. by fast neutron activation 9-42252
 Li requirements for fusion power plants, survey 9-45401
 Li thin films on inclined surface, flow stability 9-22458
 Li-LiH(D/T), decomposition in $(\alpha + \beta)$ field 9-15652
 Li+d, 40 MeV, target system neutron spectra 9-9595
 Li_2O , sintered pellets, reaction with 316 stainless steel, Incoloy 800, Hastelloy X-R, Inconel 600 and pure Ni 9-39137
 Li_2O , heat capacity 306 to 1073K 9-10965
 Li_2O pellets, neutron irradi., microstruct. and Vickers microhardness meas. 9-8339
 Li_2O , single crystals, growth by floating zone method 9-43139
 Li_2O solid state breeding blanket for controlled thermonuclear reactors (*Japanese*) 9-9869
 Li_2O , gaseous, mass-spectrometric study of thermochemistry 9-10940
 Mo, dual beam ion bombardment 9-7634
 Mo, in-situ coating, vacuum deposition on Hastelloy-X substrate 9-3237
 Mo, sintered, thermally induced surface composition variations 9-5078
 Mo surface, low energy ion scattering of absorbed layers 9-1807
 Mo, unipolar arc damage in hot, dense D plasma 9-3235
 αMoB , crystallographic relationship with CrB, UBC, ThBC 9-42025
 Na, incipient boiling in the presence of a mag. field 9-37411
 Nb, resistivity studies of interstitial He mobility 9-14800
 Nb simulation of 14 MeV neutrons by higher energy protons 9-1469
 Nb, surface carburisation with propane 9-8382
 Nb, unipolar arc damage in hot, dense D plasma 9-3235
 Nb_3Sn , irradiated, critical current density 9-38293
 Nb_3Sn , low temp. neutron irradi. expts., $E_n = 14$ MeV 9-33424
 Ni, irradiated with Cu and Ni ions, depth depend. damage profile 9-14857
 Ni surface, adsorbed CO and H_2 layers, laser induced desorption expt. 9-1548
 Ni, unipolar arc damage in hot, dense D plasma 9-3235
 Ni-base binary alloys, solute segregation and precip. under heavy-ion bombard. 9-11623
 Ni-Cr-Co-W (47.5, 25, 12, 8.75 wt.%), vaporization of IN-643, high-temp. mass spectrometry 9-7685
 Si_3N_4 , low-Z material, outgassing expts. 9-209
 Ta, unipolar arc damage in hot, dense D plasma 9-3235
 Ti fusion reactor structural alloys, dual-ion irradi. effects 9-45403
 Ti-Al-V (6.4 wt.%), heavy ion irradi. effect on microstructure 9-10884
 TiB $_2$, first wall material, activation energies and populations of H traps 9-45409
 TiB $_2$, ion microanalysis and implantation applied to fusion surface research 9-45405
 V-Cr (15 wt.%), dual-ion irradi. effects on microstruct. and mech. props. 9-45403
 V-Cr (wt.%), 3.5 MeV $^{51}V^{++}$ irradi. induced void swelling and solute segregation 9-7637
 W, unipolar arc damage in hot, dense D plasma 9-3235

fusion reactors

- see also *fusion reactor ignition*; *fusion reactor materials*; *plasma heating*
 2XIIIB plasma, evidence for neutral-beam-injected O impurities 9-37547
 34MW 120MJ pulsed DC supply for Divertor & Injection Tokamak Expt. 9-31214
 θ -pinch plasma with antiparallel trapped mag. field axial behaviour 9-41857
 advanced fuel development and confinement 9-13516
 advanced nuclear energy systems, emerging concepts, conf., Graz, Austria (March 1978) 9-13381
 Argonne/GA TNS Tokamak reactor supercond. ohmic heating coil design 9-31197

fusion reactors continued

- bundle divertor design 9-664
- coil insulation and winding techniques 9-31210
- commercial Tokamak fusion power reactor remote systems requirements 9-13525
- conference, San Diego, Calif., USA (June 1978) 9-17972
- conference on nuclear engineering remote systems technology, San Francisco, USA (Nov.-Dec. 1977) 9-45438
- controlled nuclear fusion, progress and problems review 9-36415
- controlled nuclear fusion development, confinement and laser ignition 9-31176
- controlled thermonuclear fusion, contemporary state of research 9-680
- cryogenic pumps (*Russian*) 9-36417
- cryogenic refrigerators for fusion research 9-679
- cryopumps, neutron irradiation effects on pumping characts. 9-44915
- CTR, engineering and technology considerations (*Spanish*) 9-36399
- D-³He-fueled bumpy torus reactors, design study 9-18044
- D-D fusion reactor blankets, nuclear characteristics 9-45415
- data adjustment experience and trends 9-9881
- DITE Tokamak, arcing investigation 9-658
- DITE Tokamak, divertor expts. 9-663
- DIVA, divertor expt. for impurity control 9-662
- DIVA, X-ray emission from Au impurities in H₂ plasma 9-32820
- electric power generation by light nuclei fusion of charged particles 9-18032
- electron and ion rings, strong, truncated exponential-rigid-rotor model, fusion confinement 9-41860
- electron emission, secondary, effect on energy transport to limiter of Tokamak 9-3236
- ELMO Bumpy Taurus, trapped-particle instabilities 9-31184
- ELMO bumpy torus, macroscopic MHD stability and beta limit 9-31186
- ELMO Bumpy Torus Reactor toroidal magnet system design 9-31196
- energy option, recent developments 9-36416
- energy research, superconducting magnet (*Japanese*) 9-18039
- engineering developments review 9-3240
- EPR-1, status of HF and iodine lasers as laser-fusion drivers 9-22979
- first wall design, reduction of effective sputtering yield by honeycomb structures 9-23440
- first wall design, safety study of primary coolants 9-9871
- first wall of He cooled blanket, design of segment struct. and coolant ducts 9-13528
- force-cooled superconductor design for large fusion magnets 9-31216
- fusion as a future power source, plasma confinement and technological problems 9-26752
- fusion plasma, MHD behaviour computation (*Japanese*) 9-31178
- fusion-fission hybrid reactor, laser driven, fuel breeding and power prod. 9-22473
- fusion-fission hybrid reactor, mirror confinement, fuel design consideration 9-22472
- fusion-fission hybrid reactor energy research program 9-22471
- fusion-fission hybrid reactor fuel cycle considerations 9-22474
- fusion-fission hybrids, mag. mirror blankets and drivers 9-13517
- fusion-fission reactors, performance parameters, design and fuel cycle anal. 9-17973
- fusion/fission reactors, inertial confinement systems, review 9-13519
- gross blanket breeding ratio determ., neutronic cell calc. by Monte Carlo methods 9-18033
- heavy-ion beam inertial-confinement fusion, commercial power generation 9-6762
- hybrid, economics and performance 9-9872
- hybrid reactor, laser fusion driven for actinide waste disposal 9-22421
- hybrid reactor based on laser-induced thermonuclear fusion 9-9874
- ignition test reactor, remote maintenance system requirements 9-45420
- Ignition Test Reactor remote maintenance system requirements 9-9885
- Inertial Confinement and Tokamak systems survey (*German*) 9-41038
- inertial confinement from reactors, remote system needs 9-45421
- inertial confinement fusion, appl. of advanced lasers 9-18435
- inertial confinement fusion generating remote systems, laser driver sources 9-9886
- inertial confinement fusion reactor, surface damage and thermal effects from transient thermonuclear radiation 9-648
- ion cyclotron EM wave instability, oblique, due to monoenergetic fusion alphas 9-37491
- ISX-A Tokamak, H pellet fuelling expts. 9-22465
- JAERI large Tokamak, fast acting movable rail limiters, R and D programme (*Japanese*) 9-13524
- JAERI large Tokamak JT-60, vacuum vessel R and D programme (*Japanese*) 9-13523
- JET project, design proposals report 9-3241
- JET project, scientific and technical developments 1976 9-3242
- JET Tokamak inner poloidal field coil design 9-31209
- JET Tokamak toroidal field coil design 9-31205
- JET Tokamak toroidal field coil manufacture 9-31206
- laser driven fusion reactors, assessment of engineering problems 9-36413
- laser fusion process heat systems, reliability and maintainability anal. 9-18042
- laser fusion reactor design, pellet X-ray spectra calc. 9-36410
- laser fusion with conical target, neutron production 9-22467
- laser technique using H-B reaction, research in Australia 9-3234
- laser-fission-fusion systems, coupled nuclear-thermohydrodynamic anal. 9-13520
- LMFBR DNB oscillatory temp. and thermal stress anal. by finite element method 9-6767
- LWHR, source driven, Li-free neutron sources, feasibility and comparisons 9-13383
- magnet technology, conference, Bratislava (1977) 9-30499
- magnets, W.European development 9-31194
- maintenance considerations 9-45417
- MHD gas turbine energy conversion for mirror fusion reactors 9-41885
- MIGMA, colliding beam fusion power source, review 9-18031
- MIGMA IV, stability study of plasma density buildup 9-13522
- mirror fusion test facility, supercond. coils for plasma confinement field 9-36402
- mirror fusion test facility, supercond. magnet prod. system 9-36408
- Mirror Fusion Test Facility supercond. coil development 9-31202
- mirror fusion-fission reactor, safety 9-22461
- mirror fusion test facility, supercond. Yin-Yang coil fabrication 9-36403
- multi-baseball magnetic trap system, plasma confinement 9-23443
- near-future Tokamak power reactor remote servicing considerations 9-9887

fusion reactors continued

- neutral beam injector for tandem mirror fusion reactor, delivering 1.2 MeV D atoms 9-22509
- neutron irradiation damage in fusion reactors (*Japanese*) 9-31180
- neutron multipliers for fusion blankets, comparative anal. 9-18049
- neutron source, high intensity, high energy for fusion reactor developments (*Japanese*) 9-31179
- neutronics, higher-order variational functional derivation 9-9880
- NOEL (no external leak) blanket concept 9-18048
- nuclear energy synergetics, characts. of integrated systems 9-13382
- nuclear power, role of fusion in future, European point of view 9-26751
- NUWMAK, toroidal field magnet system 9-36406
- open system, AC direct energy convertor 9-4197
- plasma boiler moving in ambient plasma, fusion reaction rate enhancement 9-18038
- plasma confinement, quasisteady, scaling laws rel. to fusion reactor operation 9-27812
- plasma flow driven by fusion-generated alpha particles 9-14592
- plasma neutron diagnostic techniques with good spatial and energy resolution 9-46478
- and plasma physics magnets, USA development 9-31193
- plasma science, conference, Monterey, CA, USA (May 1978) 9-37442
- plasma vortex struct. compression 9-9888
- poloidal field coil design and development of JT-60 Tokamak 9-31204
- protium beam injection into protium-deuterium plasmas, fusion neutron production 9-23430
- rotationally stabilised liquid-liner fusion system, finite liner compressibility effects 9-18036
- safety and environment contamination factors (*German*) 9-13527
- screw pinch, force free current induction by boundary displacements 9-32796
- special engineering problems 9-6766
- spherical multipole electromagnet development 9-31208
- sputtering erosion in inertial confinement fusion reactors 9-22462
- status report on fusion, April 1977 IFRC report 9-6760
- steam turbine, fusion augmented, high efficiency, power cycles 9-22475
- stellarators, controlled thermonuclear fusion expts. at Kharkov Inst., Ukrainian SSR (*Russian*) 9-13526
- superconducting fusion magnets for mirror systems 9-36401
- superconducting magnet systems, USSR designs 9-31192
- superconducting magnets, high field test facility, and initial performance 9-30447
- superconducting magnets, recovery, laboratory obs. and computer calc. 9-30494
- superconducting ohmic-heating coils for Tokamak fusion reactors, simulation expts. 9-36404
- superconducting quadrupole magnet design for ion beam fusion linac 9-36433
- superconducting Tokamak toroidal magnet system development, cluster test facility 9-30495
- T-10 Tokamak, plasma thermal-loss process and behaviour of impurities 9-27805
- tandem mirror end plugs, ICRF fuelling 9-19070
- TFTR vacuum vessel, T permeation and wall loading 9-45412
- thermionic topping cycles appl., preliminary assessment 9-48161
- thermonuclear Alfvén instability stabilisation in high press. tokamak, mag. surface distortion (*Russian*) 9-27758
- thermonuclear fusion and the Tokamak, review (*Italian*) 9-31177
- thermonuclear plasma surrounded by cold blanket, density profiles, thermo-elec. forces effect 9-31189
- theta pinch, field reversed, ion beam injection, fusion appl. 9-22476
- Tokamak, alpha transport and blistering of first wall 9-19069
- Tokamak, comparative anal. with hybrid reactors 9-18043
- Tokamak, ignition demonstration reactor development 9-18045
- Tokamak, influence of ergodic magnetic limiter on impurity content 9-661
- Tokamak, JFT-2, plasma parameter improvement by Ti gettering 9-671
- Tokamak, Macrotron, metallic impurity suppression by electron injection 9-32781
- Tokamak, plasma diffusion in divertor scrape-off layer 9-667
- Tokamak, plasma diffusion in divertor scrape-off layer 9-668
- Tokamak, radiofrequency divertor 9-666
- Tokamak, space-depend. thermal stability of reacting plasma 9-19068
- Tokamak, superthermal alpha transport and wall bombardment 9-649
- Tokamak, TFR-600, surface conditioning and mass spectroscopy 9-672
- Tokamak advanced fuel power plant, capital cost anal. 9-18046
- Tokamak blanket, Li-cooled, parametric anal. of design parameters 9-22464
- Tokamak demonstration hybrid reactor, blanket neutronics analysis 9-22469
- Tokamak demonstration hybrid reactor, fissile fuel breeding and blanket power prod. 9-22470
- Tokamak discharge, anomalous drift-wave transport anal. 9-32745
- Tokamak experimental power reactor, remote maintenance considerations 9-45418
- Tokamak Experimental Power Reactor remote maintenance considerations 9-9883
- Tokamak fusion reactor, electron emission effect at divertor target 9-660
- Tokamak fusion reactor maintainability considerations 9-9882
- Tokamak fusion reactor prefabricated toroidal supercond. field magnet system 9-31211
- Tokamak fusion reactor supercond. toroidal coil bending moment computation 9-41867
- Tokamak Fusion Test Reactor diagnostic penetrations, neutron streaming calc. 9-9877
- Tokamak Fusion Test Reactor neutron collimator design 9-9876
- Tokamak Fusion Test Reactor remote handling and maintenance 9-9884
- Tokamak fusion test reactor remote maintenance 9-45419
- Tokamak IT-60, first wall design and related expts. 9-673
- Tokamak machine with iron oct., flux mapping and current distrib. 9-41866
- Tokamak neutral beam injectors, HV power supplies 9-22456
- Tokamak next generation reactors, remote servicing considerations 9-45422
- Tokamak power reactor supercond. coil design, experimental 9-31198
- Tokamak power reactor supercond. poloidal magnet system design, experimental 9-31207
- Tokamak power reactor toroidal field coil design and manufacture 9-31201
- Tokamak power reactors, remote system requirements 9-45423

fusion reactors continued

- Tokamak reactor, supercond. toroidal field magnets, large coil program 9-36400
- Tokamak reactor, two-component, efficiency, fast ion quasilinear relax. 9-37509
- Tokamak reactor design, influence of physics parameters 9-36414
- Tokamak reactor shielding requirements, penetration size effects 9-9875
- Tokamak reactors, radiation shielding of major penetrations, theory 9-36412
- Tokamak reactors, supercond. toroidal magnets, mag. and thermal loading 9-36407
- Tokamak reactors, supercond. toroidal magnets, max. mag. fields, mech. stress calcs. 9-36405
- Tokamak structural and mechanical design guidelines 9-6764
- Tokamak toroidal field coil shielding calc. 9-31212
- Tokamak toroidal magnet supercond. cluster test design 9-31199
- Tokamak wall, model of unipolar arc 9-657
- toroidal coil system, D-section 9-6761
- toroidal field coil design and development for JT-60 Tokamak 9-31203
- toroidal magnet coil design and testing 9-31195
- trends 9-6763
- ¹¹B-p, microexplosion ignition schemes 9-18030
- ¹¹B(p,3α), 35.4-1500 keV, resonance cross sections, astrophysical S-factor, fusion fuel 9-36213
- D-D catalytic fusion-fission breeder, synergetics 9-22460
- D-D fusion reactor blankets and shields, effect of neutron source ratio on nuclear characts. 9-41033
- D-D fusion-fission hybrid reactor, energy multiplication and fissile prod. 9-36409
- D-T plasma, reaction rate with suprathermal ions, ⁶Li seeded 9-676
- DD fusion reactor blanket, thermal blanket and blanket shield designs, comparative study 9-22457
- DD, microexplosion ignition schemes 9-18030
- H flux to walls, ang. and time resolved meas. techniques 9-674
- H₂ production by fusion reactor-high temperature electrolysis system 9-18041
- ³H breeding ratio maximisation by geometric programming 9-9879
- ⁶Li+⁶Li reactions, effect on reaction rates for ⁶Li(p,α)³He cycle reactors 9-22459
- Nb-Ti 10 kA conductor development for Tokamak toroidal coil 9-31217
- Nb₃Sn multifilament conductor critical current rel. to mech. strain 9-31215
- Nb₃Sn multifilamentary conductor production and testing 9-32809
- Nb₃Sn multifilamentary conductor for fusion research 9-35797
- NbTi cabled and soldered superconducts, with low losses, for fusion research magnets, development 9-35796
- ⁹⁰Si transmutation in fusion reactors 9-26559
- ⁴U, A=235, 238, fission and activation by fusion plasma neutrons 9-13521

g-factor

- see also gyromagnetic ratio; Zeeman effect
- benzophenone, high resolution ODMR and optically detected ENDOR 9-19811
- 1,2-bis(p-tolylsulphonyloxymethyl)-1-buten-3-ynyl, ESR of X-irrad. cryst., 77K 9-11806
- cross conjugate nuclei, correl. between g-factors of cross-conjugate pairs of states 9-460
- trans-crotonaldehyde, rot. Zeeman effect, microwave spectra, mol. parameters 9-3491
- diatomic ^Δ states, corrections to effective orbital g-factor 9-7036
- f_{7/2} shell nuclei, shell model study in pure f_{7/2}ⁿ config. 9-36162
- fluorite type crystal; Tm²⁺(Yb³⁺), axial g-values of 4f¹³ ions with trigonal symmetry (Korean) 9-24135
- 3-hydroxyxanthine, monocrystals, UV-induced nitroxide radical and pair species 9-24775
- ions with S=3/2 and S=5/2, effective g values from EPR 9-42825
- metals, non-S-state impurities, coupled ESR 9-47326
- nucleotide sugar-phosphate region, γ-irradiated, deoxycytidine 5'-phosphate alkoxy radical EPR 9-5249
- palladium porphyrin, triplet state, optically detected EPR and Zeeman meas. 9-19809
- pure metal, derivation and validity of Elliott relation 9-19780
- pyrocarbon:B, g-factor anisotropy (Russian) 9-47001
- ruby, ENDOR of Cr³⁺ ions, elec. field effect (Russian) 9-8071
- ruby, Zeeman effect of R-absorpt. lines 9-47416
- superconductors with paramag. impurities, NMR theory in singlet state 9-28445
- transition metal-rare earth alloys, amorphous, mag. props., mean field anal. 9-4701
- triatomic molecules, microwave spectra, mol. parameters 9-31513
- ¹⁰³Ag high spin states and bands, g-factor and isomeric state from ¹⁰³Rh(α, 2γ) 9-36125
- As₂S₃, amorphous, optical detection of ESR 9-38408
- Ba₂Cu(OH)₆, EPR, g-values 9-19770
- BaF₂:Ce³⁺, EPR of low-symmetry sites 9-47332
- CaF₂:PrF₃, EPR of cubic Pr³⁺ 9-28607
- Cd II (4d¹⁰5s²5p²), high order mode-crossing signals, g-factors 9-796
- CdBr₂:Ag⁺, strong Jahn-Teller coupling, EPR 9-28605
- CdCl₂:Ag⁺, strong Jahn-Teller coupling, EPR 9-28605
- Ce, F states, radiative lifetime and g-factor determ. 9-41138
- CoRu₂, type II supercond., ESR of Nd³⁺ meas. 9-28444
- Co complex, cobalt pyridine chloride, EPR, effective g-values 9-42825
- CrBr₃(Cl₃), two-dimensional mag. insulator, cryst. field splitting, spectroscopic g-factors 9-47059
- ¹²⁹Cs 11/2⁻ isomer, g-factor and lifetime in CsI cubic environment from ¹²⁷I(α, 2n) 9-6394
- CuF₂·2H₂O powder, EPR and Cotton-Mouton Voigt effect in Q-band (French) 9-8045
- CuF₂·2H₂O, X-band ESR powder spectrum and related magneto-microwave effects 9-24214
- D₂⁺(HD⁺), g-factors and related mag. props., calc. theory 9-41124
- Er(OH)₃, g-values and hyperfine interaction parameters, calc. for Er³⁺ 9-15123
- EuCl₃ solns., ⁷F₆-⁵D₁ and ⁷F₁-⁵D₀ transitions, MCD 9-31566
- ⁴Eu, A=145, 147, 149, mag. moments of 11/2⁻ states 9-40846
- GaSe, optical detection of triplet exciton reson. 9-33567
- GdAl₂-GdCo₂ system, EPR and mag. props. 9-33478
- GdFe₂ films, electron beam deposited, amorphous and cryst., mag. and struct. props. 9-4710
- ⁴Gd, A=146, 147, g-factors of yrast states 9-17800

g-factor continued

- H₂⁺(HD⁺), g-factors and related mag. props., calc. theory 9-41124
- (K,Na) (AlSi₃O₈), feldspar, N²⁻ ESR spectrum parameters (Ukrainian) 9-38366
- KCl:Ag, Br, EPR spectra of Ag⁰(Br₁) paramag. centres (French) 9-11346
- K₂Cr₂F₇, monocrystal, cryst. field and mag. props., EPR and optical absorpt. spectra 9-19773
- KH₂AsO₄:Cr³⁺, ferroelec. phase transition, EPR intensity and linewidth meas. 9-4721
- KUO₃, EPR and mag. susceptibility, temp. depend. 9-33451
- LaRu₂, type II supercond., ESR of Nd³⁺ meas. 9-28444
- Li₃AsO₄:CrO₄³⁻, EPR, 4.2K, cryst. field parameters 9-28586
- Li₃PO₄:CrO₄³⁻, EPR, 4.2K, cryst. field parameters 9-28586
- LiVO₃, EPR and mag. susceptibility, temp. depend. 9-33451
- Li₃VO₄:CrO₄³⁻, EPR, 4.2K, cryst. field parameters 9-28586
- MnSi, itinerant ferromag. spin dynamics field depend. 9-38315
- ⁹²Mo, mag. moments of 8⁺ and 11⁻ states anomalous orbital magnetism 9-6391
- ⁹⁹Mo first excited state g factor from ⁹⁶Zr(α,n) and ⁹⁸Mo(d,p) 9-17801
- NH₄H₂AsO₄:Cr³⁺, antiferroelec. phase transition, EPR intensity and linewidth meas. 9-4721
- NaCrX₂, X=S, Se, EPR meas., g-factors, effective mag. moments, and dipolar shifts 9-8043
- ⁴Nd(³S, ³S₁), 56 MeV, A=144,146,148, first excited 2⁺ state mag. moment meas. 9-17798
- O₂, Zeeman effect, g_s values 9-3492
- OH, A=2⁺ 1/2 state, g-factor meas. by quantum beat obs. 9-18176
- O(³S₂) metastable state g_f factor, TOF at beam mag. reson. obs., rel. to He(³S) 9-3593
- Pb, phase smearing and mag. interaction, de Haas van Alphen effect 9-37961
- p-PbTe, Fermi surface parameters depend. on carrier density, Shubnikov-de Haas oscils. 9-42435
- Pd, g tensor of d holes near X point in Brillouin zone 9-23890
- RbVO₃, EPR and mag. susceptibility, temp. depend. 9-33451
- SO, Zeeman effect, g_s values 9-3492
- ^ΔSc(α,γ), 8-9 MeV, A=32, 34, 2⁺ state transient field g-factor meas. 9-6151
- ¹¹⁵Sb g-factor of 19/2⁻ and 11/2⁻ isomers from ¹¹⁵In(α,n) 9-40845
- ¹¹⁵Sb, g-factor of 19/2⁻ isomeric state, time differential perturbed ang. distrib. method 9-22192
- Se₂, Lande factor meas. by Zeeman quantum beats (French) 9-45761
- ⁸⁰Se₂, B ³2_u state, Lande factor meas., mol. perturbations 9-45756
- Si amorphous film, saturation meas. on ESR signals 9-33535
- Si(B:P), recombination spectra of bound multiexciton complexes, Zeeman splitting (Russian) 9-38526
- Si:P, neutron transmutation doped, EPR obs. of annealing behaviour 9-1453
- SiO₂, g-tensor and ²⁹Si hyperfine tensors of E₁'-centre for model of O⁻ vacancy 9-19777
- Sr₂Cu(OH)₆, EPR, g-values 9-19770
- SrF₂:Ce³⁺, EPR of low-symmetry sites 9-47332
- ¹⁸¹Ta, 136 keV level, g-factor meas. 9-6387
- ¹⁸¹Ta NMR, obs. of Knight shifts in W and Ta 9-11369
- Tb II, Zeeman patterns, g-factors 9-22651
- Tb(OH)₃:Er³⁺, g-values and hyperfine interaction parameters, calc. for Er³⁺ 9-15123
- ThRu₂, type II supercond., ESR of Nd³⁺ meas. 9-28444
- ⁴Tl, A=203, 205, excited state g-factor from Tl(⁴⁰Ca, ⁴⁰Ca⁺) 9-22191
- ⁴Tl, Ca₂(Fe)₂(FeGe)₂O₁₂ film, exchange const., ferromag. reson. meas. 9-8023
- Y(OH)₃:Er³⁺, g-values and hyperfine interaction parameters, calc. for Er³⁺ 9-15123

gadolinium

- see also nuclei with
- dipole field anisotropy, at interstitial sites, lattice-deformation effects 9-33584
- electron irradiated, defect annealing, recovery spectra 9-23648
- ferromagnetic, isotopically enriched single crystals short-range order 9-4653
- ferromagnetic, temp. depend. of hyperfine field at interstitial positive muon 9-15300
- liquid, trivalent, electrical resist. 9-42514
- magnetic short range order, 80 to 425K 9-42784
- optical properties, 0.5-3.1 eV (Russian) 9-11432
- rare earth trinitrate hexahydrate:Gd³⁺, EPR, spectral parameters 9-4720
- specific heat, mag. contrib. 9-28538
- thermal diffusivity, conductivity and elec. cond. 110 to 2100K 9-42516
- thermoelectric power anisotropy at high temp. 9-23952
- CaF₂:Gd, triply ionised, lowest energy 4f-5d transition 9-24345
- CaWO₄:Gd, site occupation 9-28608
- CdCr₂S₄:Gd, ferromag. reson. and electrical cond. 9-28626
- 3CdSO₄·8H₂O:Gd³⁺, EPR, spin Hamiltonian 9-42833
- EuO:Gd, mag. props. and instability phenomena 9-1666
- Gd³⁺ impurities in metals, value of interconfigurational energy for S-state ion 9-19563
- Gd³⁺, impurity ion in frozen aq. solns., effect on Fe³⁺ spin-spin relax., Mossbauer obs. 9-33573
- Gd³⁺ in host lattices, energy transfer from sensitizer to activator 9-38628
- ¹⁵⁷Gd quadrupole electric moment determ. 9-31723
- ¹⁵⁷Gd, splitting factor determ. by computer fit in Gd II spectrum 9-31723
- Nd₃Mg₃(NO₃)₁₂·24H₂O:Gd³⁺, EPR spectra, spin Hamiltonian anal. 9-33527
- Nd₂Zn₃(NO₃)₁₂·24H₂O, EPR of Mn²⁺, Gd³⁺ doped single crystal 9-24212
- Pb₃(PO₄)₂:Gd³⁺, EPR near ferroelastic transition point 9-15350
- Pb₃Mg₃(NO₃)₁₂·24H₂O:Gd³⁺, EPR X-band, fine struct., low field lines 9-15351
- RbCaF₃:Gd³⁺, uniaxially stressed, transcrit. behaviour, EPR obs. 9-33086
- Si:Gd, magnetic props. and interaction of impurities 9-11286
- Sm₂Zn₃(NO₃)₁₂·24H₂O:Gd³⁺, EPR X-band, fine struct., low field lines 9-15351
- SrF₂:Gd, cryst. field parameters calc. and model of tetragonal Gd³⁺ centres 9-28328
- SrF₂:Gd, dipolar complex exam. 9-38435
- ZnO:Gd, phosphor, photoluminesc. and electroluminesc. spectra 9-11457

gadolinium alloys

- Cd-Co(Mo), amorphous films, thermal stability of mag. props. (*Japanese*) 9-47307
- Co-Gd-B, rules of comp. form. in related systems 9-34010
- CoGd, H₂ and N₂ contaminated amorphous films, mag. props. 9-1690
- Fe-Gd films, crystallisation, electron microscope obs. 9-15034
- FeGd, H₂ and N₂ contaminated amorphous films, mag. props. 9-1690
- Gd-Cd, dil., elec. field gradient, at ¹¹¹Cd impurities, temp. depend. 9-28642
- Gd-Co, amorphous, RF sputtered, prep. and props. 9-1693
- Gd-Co alloy, mag. anisotropy origin 9-38319
- Gd-Co amorphous films, mag. anisotropy, static and ferromag. reson. expts. 9-33477
- Gd-Co amorphous thin film, mag. and optical props., conc. depend 9-19748
- Gd-Co film, amorphous, ferrimagnet, mag. anisotropy, effect of ion bombard. during prep. 9-1692
- Gd-Co film, amorphous ferrimagnet, anisotropic short range order effects on mag. props. 9-1691
- Gd-Co film, temp. depend. of mag. aftereffect (*Russian*) 9-8021
- Gd-Co(Au) amorphous film, domain wall dynamics near compensation point 9-1696
- Gd-Co(Au) film, ferrimag. amorphous, coated with Permalloy films, mag. props. 9-1695
- Gd-Fe, amorphous film, Kerr readout characts. 9-15439
- Gd-Fe, amorphous sputtered film, magnetostriction 9-47320
- Gd-Fe amorphous films with CeO₂ coatings, Kerr magneto-optical effect enhancement 9-19866
- Gd-La, magneto-optic reson. (*Russian*) 9-47426
- Gd-Ni-Al, (Gd<33.3 at.%), isothermal section, 800°C, X-ray and microscop. anal. (*Russian*) 9-27950
- Gd-Ta, dil., mag. hyperfine field and elec. field gradient at ¹⁸¹Ta impurities, TDPAC meas. 9-47361
- Gd-Yb(Ir), dil., ferromag., mag. hyperfine fields of ¹⁷⁰Yb and ¹⁹³Ir, Mossbauer effect meas. 9-24242
- GdAl₂-GdCo₂ system, EPR and mag. props. 9-33478
- Gd₂Au, mag. props., 4.2-300K 9-7972
- GdCo₂, lattice parameter determ. 9-14737
- Gd(CO,Ni_{1-x})₂, mag. interactions, effects on moments (*Rumanian*) 9-15296
- GdCo₂, magnetovolume effects in itinerant electron ferromagnets 9-8038
- GdCo₂, effect of absorbed H₂ on mag. behaviour 9-33483
- GdCo₂, mag. interactions, effects on moments (*Rumanian*) 9-15296
- Gd₂Co, amorphous ferromag. obtained by splat cooling, local and bulk mag. props. 9-1685
- Gd₂CoAl₁₁, NMR and mag. susceptibility 9-15367
- Gd(Co_{1-x}Fe_x)₂, mag. props., composition and temp. depend. 9-15289
- Gd₂Co₃Ga, crystal struct., X-ray determ. (*Russian*) 9-27951
- Gd(Co₂Ni_{1-x})₂, EPR exam. 9-28600
- Gd(Co₂Ni_{1-x})₂, mag. props., composition and temp. depend. 9-15289
- Gd₂Cu₆Al₁₁, NMR and mag. susceptibility 9-15367
- GdCu₂Si₂/Mo, point contact spectroscopy of magnons 9-38312
- Gd₂(FeCo)₁₇, mag. anisotropy fields by singular pt. detection 9-24156
- GdFe, amorphous films, thermal stability of mag. props. (*Japanese*) 9-47307
- GdFe₂, amorphous, small angle neutron scatt. study of mag. order and mag. microstruct. 9-15283
- GdFe₂ films, electron beam deposited, amorphous and cryst., mag. and struct. props. 9-4710
- (Gd,Y_{1-x})Co₂, mag. interactions, effects on moments (*Rumanian*) 9-15296
- Gd₂Y_{1-x}Ir_x, ESR meas., bottleneck and relax. rates 9-38369
- In-Gd film, dil., fluctuation induced cond. above supercond. transition temp. 9-47196
- (La,Gd)Al₃, very dil., resist. 9-23958
- La-Gd-Au, amorphous spin glasses, mag.-cluster description 9-42776
- Pd-Gd (1 at.%), lattice distortion around impurities determ. by polarised neutron method 9-1372
- Y-Gd, mag. susceptibility, 4.2 to 300K, Neel temps. 9-19735

gadolinium compounds

see also gadolinium alloys

- CdF₂:GdF₃ films, electroluminesc. meas. (*French*) 9-11471
- Er_{1-x}Gd_xRh₄B₄, supercond. and mag. transitions at press. up to 19 kbar 9-38236
- GdAlO₃, ¹⁵⁵Gd excited states, determ. of nuclear parameters using Mossbauer effect 9-28646
- GdAl₃(BO₃)₄, thermal stability, X-ray struct. anal., refractive indices 9-4297
- GdB₆, thermophys. props., 700 to 1200K 9-37850
- GdB₃:Eu³⁺(Tb³⁺) and GdB₃:Bi³⁺,Eu³⁺, vacuum UV excitation spectra and quantum efficiencies 9-28811
- GdBr₃, frozen aq. soln., fluoresc. and absorpt. spectra 9-43022
- GdCl₃, frozen aq. soln., fluoresc. and absorpt. spectra 9-43022
- Gd(ClO₄)₃, frozen aq. soln., fluoresc. and absorpt. spectra 9-43022
- GdCrO₃, magnetisation, appl. of molecular field theory 9-4637
- GdF₃, chemically reacted film on ferroelectric-ferroelastic Gd₂(MoO₄)₃, characterisation 9-15057
- GdF₃, mol. force, compliance and Coriolis consts. 9-31726
- GdF₃, standard enthalpies of formation 9-24810
- GdFe garnet, thermomagnetic recording on magnetised single cryst. plate 9-47285
- GdFe₂B₂, compounds with CeAl₃Ga₂ structure type (*Ukrainian*) 9-32970
- Gd₂Ga₂O₁₂, cryst. growth by Czochralski technique, dissociation products calcs. 9-47615
- Gd₂Ga₂O₁₂, elec. cond. meas. 9-23961
- Gd₂Ga₂O₁₂ single crystal polishing characteristics, comparison chemical, mechanical methods, magnetic bubble device appl. (*Japanese*) 9-5067
- Gd₂Ga₂O₁₂, synthetic, cryst. growth, review (*German*) 9-33926
- Gd₂Ga₂O₁₂:Er³⁺, laser active media, nonradiative losses due to ⁴I_{11/2}-⁴I_{13/2} transition 9-31911
- GdI₂, empirical formula for lattice const. calc. 9-27968
- GdI₂ single crystal plates for magnetooptical information storage 9-7997
- β-Gd₂(MoO₄)₃, antiferromag., polarised ferroelec., ferroelastic, magnetothermodynamics 9-7996
- Gd₂(MoO₄)₃, effect of ferroelec. ordering on refractive index 9-33653
- Gd₂(MoO₄)₃, ferroelec., anomalous damping of phonons, Raman spectra, stress and temp. effects 9-38503
- Gd₂(MoO₄)₃, ferroelec. temp. depend. of spontaneous biref. and electrooptic response 9-33662
- gadolinium compounds continued
- Gd₂(MoO₄)₃, optical activity, gyration tensor determ. near Curie point 9-33660
- Gd₂(MoO₄)₃:Nd³⁺, optical spectrum, free ion wavefunctions, radiative transition probabilities 9-24339
- Gd₂Mo₂S₈, low temp. magnetisation meas., and supercond. props. 9-8018
- GdN-RN systems, (R=La,Ce,Nd), mutual solubilities (*German*) 9-19374
- Gd₂Ni₂As₇, crystal struct., X-ray diff. obs. 9-1411
- Gd₂O₃, 'monoxide' film reidentified as sesquioxide formed by oxidation by hydride 9-19474
- Gd₂O₃, C-phase, specific heat, 1.4 to 18K, antiferromag. ordering 9-38351
- Gd₂O₃:Eu²⁺, luminesc., rel. to crystallographic data 9-33793
- Gd₂O₃ film, struct., electron microscope and diff. obs. 9-11028
- Gd(OH)₃, mol., XPS, satellite phenomena 9-27035
- Gd₂O₃:Eu²⁺, luminesc., excitation spectra, cooperative phonon sidebands 9-33771
- Gd₂O₃SO₄, antiferromag., specific heat, 0.6 to 30K 9-33487
- Gd₂O₃SO₄, antiferromag., mag. props. 1.6 to 40K 9-33464
- Gd₂S₃, antiferromag. to ferromag. and semiconductor to metal transitions (*Russian*) 9-33485
- Gd₂(SO₄)₃.8H₂O, pressed powder and single crystal, low temp. thermal cond., mag. field depend. 9-23789
- Gd₂Sc₂Al₂O₁₂:Er³⁺, laser active media, nonradiative losses due to ⁴I_{11/2}-⁴I_{13/2} transition 9-31911
- Gd_{0.85}Sr_{0.15}(Ca_{0.15}CrO₃ self formed Gd coating, vaporisation protection 9-5069
- Gd₂Ti₂O₇, ferroelec., temp. depend. of SHG intensity 9-24267
- GdV_{1-x}M_xO₃ (where M=Cr or Fe), solid solns., elec. and mag. props 9-23967
- GdVO₄, ¹⁵⁵Gd excited states, determ. of nuclear parameters using Mossbauer effect 9-28646
- GdVO₄, electron energy loss spectra, primary excitation processes in cathodoluminescence 9-11490
- GdVO₄, hyperfine field and exchange interactions, Mossbauer meas. 9-47370
- GdVO₃, phase transitions and Jahn-Teller distortions 9-28548
- Gd₂(WO₄)₃, molar mag. susceptibility, DC elec. cond., thermopower meas. 9-15172
- La_{1-x}Gd_xMo₆Se₈, supercond. transition temp., upper critical field, local spin fluctuations 9-38250
- LiGd(MoO₄)₂, defect struct. and phase transitions 9-28697
- NdGa₂(BO₃)₃, crystal structure by X-ray spectral microanalysis 9-46621
- SmS-GdS system, crit. effects and phase equilibria 9-7692
- Y_{1-x}Gd_xBiFe₃Ga₁₂O₁₂ garnet films, bistable bubble domain 9-15331
- Y_{1-x}Gd_xBiFe₃Ga₁₂O₁₂ film, bistable bubble domains, static, dynamic and optical props. 9-28574
- Y₂₃Gd₆Fe₄₇Al₁₀₄O₁₂ garnet, effect of Gd on magnetite exsolution in a garnet matrix 9-11624
- Y_{3-x}Gd_xFe₅O₁₂, effect of electron bombardment on mag. and elec. props. 9-42103
- (YGdYbBi)₃(FeAlO₄)₂ films, substrate orientation influence on max. vel. of domain boundaries 9-15330
- ZrO₂-Gd₂O₃, solid solution with fluorite and pyrochlore structure; exam. of elec. conductivity (*German*) 9-23766
- gain (amplification) see amplification
- gain measurement
- automated gain measurement system for high-energy chemical lasers 9-36914
- solid state laser, refraction effects and gain meas. 9-31905
- galactic cosmic rays
- acceleration mechanism and transport, model 9-35077
- anisotropy, implications for cosmic ray origin and local anisotropy 9-44313
- diffusion, mean and local coeffs., connection 9-21110
- diffusion and turbulent galactic mag. field 9-48627
- discrete sources, statistical theory of prop. 9-44312
- electron spectrum below 1000 MeV 9-5718
- electrons, discrete galactic sources 9-35078
- gamma rays, discrete source component 9-35436
- gamma rays, medium energy, from galactic centre region, obs. 9-9030
- gamma-ray astronomy and cosmic ray origin 9-29951
- gamma-ray bursts, intensity distrib., galactic origin (*Russian*) 9-16772
- gamma-rays, galactic disc bremsstrahlung emissivity and local interstellar electron spectrum 9-25417
- interstellar electron spectrum in local interstellar medium, determ. from bremsstrahlung gamma radiation 9-25417
- interstellar molecular clouds, cosmic ray penetration 9-8979
- neutrinos, emission by binary pulsars 9-2550
- origin, homogeneous galactic model and halo model 9-44314
- Parker instability with curved magnetic field lines 9-5889
- positrons, annihilation and gamma radiation spectrum 9-44309
- radiation doses meas. by Molniya 1 satellite 9-8774
- semiannual variation, solar mag. cycle depend., origin 9-16777
- supernova remnants, cosmic rays escape and adiabatic energy losses 9-16771
- transient variation origin, rel. to flares with type IV radioemission 9-40043
- galactic radio waves see radiofrequency cosmic radiation
- galaxies
- see also BL Lacertae-type objects; clusters of galaxies; H I regions; H II regions; intergalactic matter; nebulae; The Galaxy
- A non 0945-30f X-ray detect. and intermediate luminosity X-ray galaxies contrib. to background 9-2578
- absolute luminosities of galaxies containing giant H II regions 9-8973
- absorption features radial gradients rel. to metallicity 9-40254
- active galaxies, black holes possible existence in nuclei 9-48842
- active nuclei, brightness var. rel. to supermassive stars (*Russian*) 9-25764
- active nuclei, dense clouds form. and confinement 9-30117
- active nuclei, energy source, supermassive black holes 9-40213
- active nuclei, envelope parameters and mass 9-35392
- active nuclei, line transfer calcs. 9-48902
- active nuclei, Penrose pair prod. in massive extreme Kerr black holes 9-21322
- active nuclei, strong gravity effect on light curve 9-16812
- active nuclei, X-rays from inverse Compton refl. 9-48920
- active southern objects, JHKL obs. 9-40270
- ages, determ. from N/O ratio 9-25728

galaxies continued

AM-2, possible Local Group low-mass dwarf galaxy, description 9-25651
 angular momentum transport and gas distrib. secular change near corot. reson. by bar 9-48933
 anonymous galaxy in Cygnus 9-5846
 anticorrelation rel. to dark intergalactic matter in galactic haloes 9-2567
 Arakelian 120, Seyfert 1 galaxy, optical variability 9-40259
 associations with quasars, statistical analysis 9-9024
 bar, lens and ring components, morphological survey, secular evolution in struct. 9-30119
 basic properties, rel. to anthropic principle of cosmology and physical world struct. 9-48973
 bright objects, integrated magnitude and colours in UVB system, catalogue 9-12509
 bright southern galaxies, photoelectric photometry 9-21436
 3C 105 optical counterpart, identification and source struct. 9-35413
 3C 120, galaxy and nucleus, UVB photoelectric obs. 9-44601
 3C 120, IR variability, 2 μ m obs. 9-30118
 3C 31, linear polarization obs. of radio galaxy at 1.4 and 2.7 GHz 9-48925
 3C 31, radio emission obs. at 2.7, 4.8, and 10.7 GHz 9-35375
 3C 31, radio jet brightness and shape rel. to beam, and slingshot models 9-25741
 3C 31 (NGC 383), dynamical interpretation of radio jet, galaxy interactions 9-9020
 3C 371, polarisation at 2.2 μ m, nonthermal emission 9-2566
 4C radiosources clustering, statistical analysis 9-5761
 Carafe galaxy, peculiar ringed Seyfert, spectroscopic and photographic obs. 9-35387
 cd galaxies in poor clusters, photometry, spectra and redshifts 9-48907
 cd galaxies in poor clusters, radial vel. meas. 9-8994
 Centaurus A, giant quasisperiodic mm wavelength bursts in nucleus 9-48928
 central surface brightnesses, extrapolated, upper limits 9-25705
 chemical evolution of two-component galaxies, numerical calcs. 9-25715
 cluster galaxies, morphological characts. and correl. with cluster parameters 9-17109
 cluster galaxies, number densities and radial cumulative distribts. 9-40278
 cluster galaxies evolution, nearby clusters galaxy content 9-17108
 clustering models, discrimination of statistical measures 9-35404
 collapse times from N-body simulations of clustering 9-44620
 colliding galaxies, dynamical friction effects 9-44600
 compact extragalactic source model, stellar collisions near Kerr black hole 9-12490
 compact objects in 27 compact groups, morphology (*Russian*) 9-9008
 compact radio sources in bright galaxies, very long baseline interferometry 9-48943
 compact structure in double radio sources 9-17113
 compact Zwicky galaxy assoc. with giant radio source 4C 73.08, multi-req. obs. 9-25745
 correlation functions for galaxy counts, interstellar medium effects (*Russian*) 9-25740
 cosmological distance determination, new method, appl. to weighing of Universe 9-9003
 counter-rotating relativistic disks 9-16822
 counts and galactic reddening determ. 9-5875
 3CR, radio galaxies, spectrophotometry spectral energy distrib. 9-21413
 Cygnus A, models for central compact radiosource 9-17073
 David Dunlap Observatory (DDO) galaxy distrib. 9-12520
 density waves, maintenance and phase shifts between stellar and gaseous arms 9-44618
 diameter luminosity relation, Hubble constant determ. (*French*) 9-30128
 disc galaxy, axisymmetric disturbances growth rates 9-21410
 discrete spiral modes, spiral waves and local dispersion relationship 9-17080
 distance from photometric props. of type II supernovae 9-44511
 distance indicators, tertiary, appl. to extragalactic distance scale 9-25708
 distance scale, spiral galaxies distances from tertiary indicators 9-30120
 distance scale using H II region fluxes and parent galaxy diameters 9-44576
 distance scale using H II region isophotal diameters 9-44575
 double gaseous discs model, local gravit. instability criteria (*Chinese*) 9-17099
 double radio sources, struct. and evolution, plasma and twin exhaust models (*Chinese*) 9-40284
 Draco dwarf galaxy, metal abundance determ. from red giant obs. 9-17078
 dwarf galaxies, discovery of three new members of Local Group 9-5907
 dwarf galaxies, nearby, 6 cm continuum emission limits from compact components 9-30126
 dwarf galaxies NGC 5128 group 9-25738
 dwarf irregular galaxies near Local Group and M81 group, photographic obs. 9-35363
 E galaxies in Abell clusters, UR surface photometry 9-12525
 E/SO radio galaxies, ionized gas obs. 9-17105
 early type disks, H I distrib. and vel. structure, 21 cm line obs. 9-35357
 early-type, energy distribts. from OAO UV photometry of severn objects 9-35360
 early-type, in Virgo cluster, H I survey 9-30123
 early-type galaxies, photometric determ. of twists in three objects 9-25703
 elliptical, ang. size determ., 2-D Fourier transform technique 9-35373
 elliptical, apparent flattening rel. to absolute magnitude 9-9004
 elliptical, formation model, stellar population explosions 9-35388
 elliptical and S0 field and cluster galaxies, photometry, colour distribts. 9-17071
 ellipticals, intrinsic shape (*Russian*) 9-40272
 ellipticalities of galaxies in Abell 193 and 2255 clusters (*Russian*) 9-8986
 emission-line, galaxies and active radio-emitting nuclei, red and IR spectral obs. (*French*) 9-48815
 emission-line, UVB obs., light vars. 9-30134
 ESO/Uppsala survey of ESO (B) Atlas of southern sky, sixth list containing 3162 objects 9-8850
 expanding universe, galaxy correls. time evolution, gravit. instability, model 9-17145
 extinction in IR-emitting nuclei 9-44599
 faint galaxies apparent distrib. 9-21444
 faint galaxies near quasi-stellar objects with low-redshift absorpt. systems, search 9-17121
 faint objects in two fields near SGP 9-25739
 Fairall 9=ESO 113-IG45, companion galaxy to Seyfert 9-44616

galaxies continued

Fairall 9 and Fairall 51, spectrophotometry, Seyfert 1 class galaxies 9-17076
 Fairall-9 (ESO 113-IG 45), extreme Seyfert galaxy, IR and visible photometry 9-25720
 far UV spectrophotometry using Faint Object Telescope 9-25481
 Faraday rotation in galaxies and quasar absorption lines (*Russian*) 9-40273
 field galaxies and nearest groups, distances from secondary indicators 9-8987
 field galaxies space distrib., redshifts and photometry of complete sample 9-21418
 flat disc galaxies, retrograde stars effect on global bar-forming mode 9-21411
 formation, dynamical development and struct. of six collapsing models 9-25710
 formation adiabatic theory, H recomb. kinetics in presence of primordial black holes (*Russian*) 9-17152
 formation and evolution, review 9-17100
 formation and gravit. clustering, efficiency 9-48903
 formation as gravitational field stochastic fluctuations 9-44837
 Fornax A, obs. of central region of double radiosource at 4.9 GHz 9-5912
 G 307.1+1.2, G 309.7+1.7, low-latit. radio galaxies, optical and radio obs. 9-12535
 gas motion in rotating disc-shaped galaxies 9-21424
 gas replenishment rates, stripping of spirals to form S0 galaxies 9-40253
 gaseous sphere, gravitational contraction vel., virial based soln. 9-48665
 global gravitational instability of disc galaxies 9-48931
 global gravitational instability of gaseous discs 9-48932
 gravitating ellipsoid with halo, rotationally symmetric oscils. 9-5905
 gravitational encounters in rich clusters of galaxies 9-17110
 gravitational instability in collisionless stellar disc, quasilinear saturation (*Russian*) 9-16824
 gravothermal catastrophe of finite amplitude 9-2476
 halos of spiral galaxies: photometry and mass-to-light ratios 9-5892
 HB13, radio galaxy with jets, 151 MHz obs. 9-48926
 head-tail radio galaxies, VLA obs. 9-48945
 head-tail radio galaxies in clusters, radial vels. 9-9014
 high-luminosity spirals, rotation curves for Sa-Sc types 9-17092
 Hubble diagram for E and S0 galaxies in the local region 9-35359
 Hubble sequence, ang. momenta and time scales of galaxies early evolution 9-8997
 Hubble sequence, influence of galactic winds 9-8989
 hydrodynamics of collisionless spherical stellar systems in a steady state 9-5865
 IC 342, detection of extragalactic ammonia 9-48886
 IC 4329 A, X-ray obs. of extreme type I Seyfert 9-12515
 IC 5201, supernova discovery report 9-44514
 inner Lindblad resonance nonlinear theory, response density 9-35366
 instabilities, variational principles for complex eigenvalues 9-21527
 intervening galaxy hypothesis rel. to absorption spectra of QSOs and BL Lacertae objects 9-5894
 intervening galaxy in front of BL Lacertae object PKS 0735+178, multiple absorpt. components obs. 9-25707
 IR luminosity/H I vel. width relation and distance scale 9-44596
 irregular objects, star-forming activity 9-9001
 large-scale structure in universe, formation and development 9-12526
 lenticular, photographic obs., morphology and H I content (*French*) 9-2570
 Lick galaxy counts, correl. with QSOs from extragalactic objects catalogues statistical anal. 9-25700
 light neutral leptons, dynamical role in cosmology 9-35407
 LMC, electronographic photometry and colour-magnitude diagram of cluster (Hodge 11) 9-40230
 LMC, H I+molecular/H II shells from 1 to 2000 pc dia. obs. 9-25678
 LMC, interstellar 4428 Å feature 9-35335
 LMC, interstellar extinction meas., UV sky-survey telescope obs. 9-35384
 LMC, IUE obs. and 2200 Å feature detection towards reddened supergiants 9-16959
 LMC, N 59 nebular complex filter photography 9-17052
 LMC, probable nova discovery and spectrum 9-8931
 LMC, red stars survey in 30 Doradus region, list of 298 stars 9-48794
 LMC, Wolf-Rayet stars discovery in 30 Doradus nebula 9-16980
 LMC OB and supergiant stars, deep objective prism survey catalogue 9-40090
 LMC X-1, X-2 and X-3, positions from HEAO 1 modulation collimator 9-5923
 Local Group, initial mass function rel. to massive star formation 9-30053
 luminosity classifications, systematic and accidental errors 9-12510
 M100 (NGC 4321), discovery of possible type II supernova before max. 9-48835
 M101, H I distrib. and motions in giant spiral 9-44613
 M101, Mars model from gas kinematics 9-35371
 M31, formaldehyde detect. 9-48929
 M31, globular cluster distribts. 9-12513
 M31, inertial frames of reference determ. from rot. vels. 9-21433
 M31, near-IR energy distribts. 9-12512
 M31, novae identified as Population II stars 9-30074
 M31, rocket far UV imagery 9-5897
 M31, UVB photometry of star clusters (*Russian*) 9-17034
 M31, vel. dispersions and dynamical model of nuclear bulge 9-35370
 M31 (Andromeda galaxy), planetary nebulae astrometric catalogue 9-40087
 M31 central bulge, energy distrib. from OAO UV photometry 9-35360
 M31 spiral arm pattern, M32 gravit. effects 9-21408
 M32, photoelectric scanning of elliptical (*Italian*) 9-21435
 M32, spectrophotometry and filter photometry of planetary nebula, (M32-1) 9-25664
 M33, identification of star clusters, list of 58 candidates 9-9002
 M33, M101, vel. dispersion meas. in giant H II regions 9-44606
 M33, spectral obs. of supernova remnants 9-35354
 M33, supergiants distrib. rel. to spiral struct. and star form. 9-21437
 M33 central region, optical supernova remnant candidates 9-21402
 M51, spiral, mag. fields config. from Faraday rot. data 9-48934
 M51 system, photometric study 9-30125
 M81, M51, spiral galaxies, phase shifts between gaseous arm and stellar arm (*Chinese*) 9-17098
 M82, bright ridge detected in 2.2 μ emission 9-40269
 M82, irregular, aperture synthesis obs. of H I emission 9-17077

galaxies continued

- M82, Ne II 12.8 micron emission obs. and galactic dynamics 9-17082
 M82, UVB colours and surface brightness distrib. 9-9006
 M82 nucleus, λ 6 cm formaldehyde absorpt. detect. 9-17088
 M82 nucleus, Brackett-line obs. 9-25704
 M83, UBVR surface photometry 9-44598
 M87, model for optical knots in jet 9-30127
 M87 and Virgo cluster, X-ray emission, Ariel V SSI obs. 9-12528
 M87 halo, Fe XVII-XXIV X-ray line complex obs. 9-21425
 M87/Virgo cluster X-ray source spectrum, 1.1 keV Fe line emission discovery 9-25758
 M89, elliptical galaxy, associated optical jet discovery 9-25731
 M 87, radio continuum halo at 2.7, 4.8 and 10.7 GHz 9-48915
 Maclaurin spheroids discs in halos, second-harmonic oscils. 9-8993
 Magellanic Cloud clusters, spectral types of red supergiants 9-40190
 Magellanic Clouds, IR photometry of late-type supergiant stars 9-35254
 Magellanic Clouds, masses determ. for globular clusters 9-5867
 Magellanic Stream, origin and dynamics 9-44594
 magnetised accretion disc model, for quasars and active galactic nuclei 9-35425
 Markarian 205, weak radio emission 9-48912
 Markarian 231, Seyfert I galaxy, optical variability 9-40259
 Markarian 295, 296, 297, spectroscopic and 21 cm line investigations 9-44608
 Markarian 296, clumpy irregular galaxy, spectroscopic and 21 cm line investigations 9-44608
 Markarian 359, peculiar emission line spectrum 9-17075
 Markarian 421, optical and radio obs., identification with 2A 1102+384 X-ray source 9-5899
 Markarian 421 (B2 1101+38=2A 1102+384), soft X-ray flux discovery 9-25721
 Markarian 501, BL Lacertae object, identification with 4U 1651+39, by HEAO 1 modulation collimator 9-5918
 Markarian 541, massive X-ray halo evidence 9-35369
 Markarian 668 (OO 208), radio spectrum 9-12531
 Markarian galaxies 508 to 700, optical positions 9-21417
 mass distrib. models, regularization method (*Russian*) 9-12507
 masses and angular momenta, anal. and rel. to morphological types (*Chinese*) 9-17097
 masses and spiral formation 9-12522
 MCG 8-11-11, X-ray Seyfert galaxy, recent optical activity in nucleus 9-25701
 mergers, rel. to slowly rotating elliptical galaxies origin 9-48919
 models, numerical orbit computation algorithms comparison 9-12497
 Morphological Catalogue, galaxy distrib. homogeneity (*Russian*) 9-8849
 N-galaxies as new class of X-ray sources 9-2572
 N-type, optical spectra 9-40258
 nearby galaxy in Orion, H I 21 cm obs. 9-30131
 neutrinos, high energy, emission from point sources and detect. techniques 9-2484
 new type of galaxy with prolate structure 9-21427
 NGC 1084, NGC 7331, spiral galaxies, surface photometry and mass distrib. 9-40265
 NGC 1167, S0 galaxy, extended core radio source 14.8 GHz mapping 9-25727
 NGC 1265, VLA obs. at 4886 MHz 9-21428
 NGC 1275, double nucleus, radio and emission line obs. (*Russian*) 9-21439
 NGC 1275, IR variability, 2 μ m obs. 9-30118
 NGC 1275, Seyfert galaxy, nucleus, relation between gas and radio source structs. (*Russian*) 9-48936
 NGC 1275, X-ray emission rel. to Perseus cluster soft X-ray struct. 9-9009
 NGC 157, spiral galaxy, surface photometry and mass distrib. 9-40264
 NGC 1809 rel. to PKS 0502-696, no connection 9-30129
 NGC 2110, X-ray/radiogalaxy, elliptical morphology questioned 9-21426
 NGC 2377, H I absorption within radiogalaxy 9-5910
 NGC 253, detection of extragalactic ammonia 9-48886
 NGC 2623, interacting galaxy, H I absorpt. and emission obs. 9-17087
 NGC 2685, geometry of flattened system 9-12511
 NGC 2685, polarization of peculiar galaxy (*Russian*) 9-35390
 NGC 2685, possible explosion in peculiar galaxy (*Russian*) 9-30135
 NGC 2715, 5033, 5055, rot. curves and orientation parameters 9-12517
 NGC 2997, late-type galaxy, rot. and mass 9-21409
 NGC 315, giant radio galaxy, jet structure and polarization 9-35379
 NGC 326 (B2 0055+26), radio galaxy with precessing beam model 9-17118
 NGC 3556, edge-on galaxy, multi-freq. radio continuum study 9-44607
 NGC 3718, peculiar early-type galaxy, H I survey, interaction with NGC 3729 9-35383
 NGC 3780, probable supernova 9-5848
 NGC 3913, B magnitude and spectrophotometry of supernova 9-44513
 NGC 3913, supernova discovery report 9-44512
 NGC 3913, type I supernova and likely max. magnitude (1979 March) 9-48834
 NGC 4038/39, interacting galaxy pair, H I kinematics and distrib. 9-35365
 NGC 4151, OSO 8 X-ray obs. of flare in Seyfert galaxy 9-17093
 NGC 4151, Seyfert, optical and X-ray variability correl. (*Russian*) 9-21440
 NGC 4258, gas flow in disk, two-dimens. model 9-48913
 NGC 4319, weak radio emission 9-48912
 NGC 4321, spectrograms of supernova (1979 April) 9-48836
 NGC 4378, anaemic S_a galaxy, extended rot. curve 9-8990
 NGC 4449, irregular, optical obs. of possible SNR with broad emission lines 9-17057
 NGC 4449, irregular, radio emission detect. from possible SNR 9-17056
 NGC 4647, supernova classification and time since maximum 9-25620
 NGC 4647, supernova discovery 9-25619
 NGC 4944, obs. of supernova 1973f 9-21318
 NGC 4945, strong H₂O maser emission detected 9-40271
 NGC 5102, lenticular galaxy, dust and young stars obs. 9-44609
 NGC 5128, inner structure of optical jet 9-12516
 NGC 5128, NE halo, compact emission regions and BSOs 9-17095
 NGC 5128, southern radio galaxy, OAO UV photometry, energy distrib. 9-40255
 NGC 5128 (Centaurus A), dark lane, extended 10 μ emission 9-21429
 NGC 5128 (Centaurus A), gamma-ray line emission 9-44641
 NGC 520, tidal interaction in peculiar galaxy 9-48916
 NGC 5383, barred spiral galaxy, optical surface photometry 9-9000
 NGC 5383, gas flow in barred spiral 9-17091

galaxies continued

- NGC 612 (PKS 0131-36), radio galaxy with disc, struct. 9-2568
 NGC 6221 and NGC 7213, optical spectrophotometry of X-ray galaxies 9-35377
 NGC 6251, radio jet brightness and shape rel. to beam and slingshot models 9-25741
 NGC 6745, peculiar ring-like galaxy, struct. (*Russian*) 9-25732
 NGC 7217, spiral, extended rot. curve, mass distrib. 9-21414
 NGC 7385, optical-radio knot obs. in elliptical galaxy 9-35362
 NGC 7723, dynamics of barred spiral 9-5893
 NGC 891, HI 21 cm. obs. of edge-on Sb galaxy 9-48914
 NGC 931, interacting Seyfert galaxy, struct. and spectra 9-25716
 non-linear high-frequency waves in relativistic cosmology 9-48968
 normal galaxies, contrib. to diffuse X-ray background 9-17141
 North Galactic Pole region, galaxy distrib. in 36 square degree field 9-40261
 nuclei, dense stellar systems fates 9-25652
 nuclei, massive black holes existence 9-25713
 particle acceleration in collisionless shocks, regulated injection and high efficiency 9-44311
 peculiar hot-spots nuclei 9-30130
 prestellar gas, element separation by gravitational diffusion 9-21386
 protogalaxies, rot. and star form. rate 9-35374
 protogalaxy-hadrons dipole magnetic fields (*Russian*) 9-8985
 QSO-galaxy and QSO-QSO pairs, discrepant red shift assoc. statistical anal. 9-8999
 quasars, continuous and emission-line spectra and relationship with Seyfert galaxies 9-2571
 radio emission, rel. to galactic dynamo numerical models 9-40262
 radio galaxies, anisotropic explosion of rotating, self-gravitating uniform spheroids 9-8822
 radio galaxies, energy source, supermassive black holes 9-40213
 radio galaxies, new complete sample, struct., redshifts 9-17096
 radio galaxies in Abell 1367 cluster, Westerbork obs. rel. to interaction with intracluster medium 9-2574
 radio galaxies nuclei, gamma-ray source model 9-25747
 radio galaxies with dust lanes 9-44604
 radio luminosity and source size rel. to cluster membership 9-25729
 radio observations of lunar occultations of bright galaxies, spectra and struct. 9-9005
 radio sources, compact, ripple radiation rel. to low-freq. variability 9-21450
 radio sources, compact, strong mag. dipole model 9-17115
 radio sources, jets brightness and shape rel. to beam and slingshot models 9-25741
 radio sources from B2 catalogue, optical identifications and 5 GHz flux meas. 9-40283
 radioastronomical obs. of galactic struct. (*Spanish*) 9-40275
 radiogalaxies, polarized brightness distrib. at 2695 and 8085 MHz 9-35410
 radiogalaxy luminosity function and past population evolution 9-44597
 radioresources, spectroscopic identification of three southern PKS sources 9-25744
 red shifts of galaxies in Abell 2255 cluster 9-40276
 redshifts, discrepant, in quasar-galaxy associations and galaxy groups, examples 9-25722
 redshifts for supernova parent galaxies 9-44612
 rich cluster at 00^h47^m, -29°46', galaxies static props. using COSMOS meas. 9-40279
 ring galaxies, H I survey 9-5901
 rotating stellar bar, gas response 9-48930
 rotation, tidal torque theory, numerical simulations 9-25730
 Sculptor dwarf spheroidal galaxy, abundance vars. on giant branch rel. to ω Centauri anomaly 9-5904
 self-similar relativistic disks in rotation 9-16823
 Seyfert, energy source and time variation accreting massive black holes 9-40214
 Seyfert, IR emission by dust grains near variable primary sources 9-44358
 Seyfert, type 1, nuclei props., UV emission, colour index (*French*) 9-48923
 Seyfert, UVB obs., light vars. 9-30134
 Seyfert I, Fe II permitted emission, excitation mechanism 9-21412
 Seyfert I galaxies, forbidden line emission suppression 9-35358
 Seyfert I galaxies, permitted Fe II emission, obs. 9-35361
 Seyfert galaxies, continuous and emission-line spectra and relationship with quasars 9-2571
 Seyfert galaxies, exploratory obs. of gas near nuclei 9-48906
 Seyfert galaxies, gas cloud containment by particle flux 9-8820
 Seyfert galaxies, H I survey 9-8988
 Seyfert galaxies, IR emission obs. 9-17083
 Seyfert galaxies, rate coeff. for He I 2³S-2³P transition electron impact excitation 9-48664
 Seyfert nuclei, absolute spectrophotometry 9-12508
 Seyfert type I spectra, permitted Fe II lines 9-44602
 Seyfert type I, optical counterpart of 3C 111, position 9-48948
 Seyferts and radiogalaxies, Penrose pair production as power source 9-44352
 shock waves generated in intergalactic medium at large redshifts 9-21442
 small galaxies, accurate 21 cm H I spectra 9-35382
 SMC, atlas of variable stars, clusters, emission regions and supergiant stars, book 9-44619
 SMC, deep X-ray survey 9-25702
 SMC, faint planetary nebulae identification 9-17081
 SMC, identification of globular cluster Kron 3 with X-ray source (4U 0.026-73) 9-5919
 SMC, lack of absorption of 1 keV diffuse X-rays 9-35381
 SMC, obs. of new faint outlying open clusters, (AM-3) 9-25651
 SMC, UVB photometry of open, intermediate and globular clusters 9-17033
 SMC, very early O-type star discovery 9-5820
 SMC probable members and foreground stars, additional tests 9-40091
 SMC Shapley wing, UV obs. from S2/68 sky-survey telescope 9-25717
 SMC stars, Herschel catalogue rel. to CPD 9-44337
 southern, strong emission line spectra, characts. 9-21432
 southern galaxies, UVB photometry of 262 objects 9-35364
 southern late-type and irregular galaxies, survey, morphology, luminosity 9-21420
 space distribution of distant galaxies, evolution effects 9-40260
 spatial distrib. in southern galactic hemisphere 9-12518

galaxies continued

- spherical systems of gravitating bodies with ellipsoidal vel. distrib. (*Russian*) 9-40274
- spiral model for active nuclei 9-17090
- spiral, in Virgo cluster, H I deficiency (*Russian*) 9-21438
- spiral, light absorpt. by interstellar dust 9-35393
- spiral, radial vels. from H I 21 cm line obs. 9-21419
- spiral arms form. by central explosions 9-8996
- spiral density waves, tidal disturbances of material arms and star clusters (*German*) 9-17086
- spiral density waves individual stellar orbits, response 9-44570
- spiral galaxy, density wave theory 9-48939
- spiral structure, density wave theory, review (*German*) 9-17103
- spiral structure, variability in numerical models 9-25725
- spiral structures, origin 9-25714
- stable heavy neutrinos, dynamical interactions and astrophys. effects 9-5743
- star complexes rel. to gas complexes (*Russian*) 9-35391
- statistical mechanics of gravitating systems 9-35311
- statistical virial theorem appl. 9-5926
- stellar bar, dynamics, computer model 9-30093
- stellar dynamics, global particular solution to initial value problem 9-35314
- structuring mechanism 9-48924
- super massive star in dense stellar system, evolution 9-12465
- supernova in anonymous galaxy, discovery report 9-2549
- supernova in anonymous galaxy in Cygnus, photometric and spectrophotometric obs. 9-5847
- surface brightness distributions in elliptical galaxies 9-40268
- thin disc galaxies, stellar hydrodynamics 9-25706
- tidal hypothesis for ang. momentum origin 9-48927
- tidal interaction in clusters 9-35395
- twisted accretion discs, time-dependent eqns. 9-12395
- two-component galaxies chemical evolution, analytical approach 9-25711
- two-component galaxy, polytropic model 9-25712
- Ursa Minor dwarf spheroidal galaxy, abundance vars. on giant branch rel. to ω Centauri anomaly 9-5904
- variable compact object discovery in Perseus, bright blue N-galaxy, photometry and spectrum 9-12524
- variable radio emission, nature of cm radiation quasisteady component 9-21456
- VV 8, rotation mass and surface brightness obs. (*Russian*) 9-48937
- weak radio galaxies, relationship between radio power and enhanced emission regions separation 9-25726
- III Zw 2, IR variability, 2 μ m obs. 9-30118
- III Zw 2, quasar, spectrophotometry of assoc. galaxies and nebulosity, redshifts 9-21460
- III Zw 2, X-ray emitting Seyfert galaxy, VLB1 obs. 9-5903
- II Zw 40, dwarf galaxy, radio obs. 9-8992
- VII Zw 466, ring galaxy, UBVRI photometry 9-8991
- II Zw 70, optical and radio obs., evidence for star form. 9-16935
- Zwicky compact galaxies, spectroscopic survey 9-17074
- 3C 348, 3C 111, multiple radio galaxies, intermediate latit. H I absorpt. obs. 9-12503
- H I 21 cm line widths correl. with absolute magnitude and type 9-5900
- H I deficient spiral galaxies in Abell 1367 and coma cluster 9-17072
- H II regions as distance indicators, obs., struct. considerations 9-40231
- O I 7990 Å and 11287 Å branching ratios, astron. appl. 9-41134

gallium

- see also nuclei with*
- acoustic wave drag, acousto-elec-mag. effects (*Russian*) 9-19638
- chemisorption on Si (111) surface, Ga-induced surface states 9-19644
- crystal growth, rate equations for dislocation-free and dislocation-assisted growth 9-4262
- field ion microscopy using mag-sector atom probe, ionisation characs. 9-43106
- film, vapour deposited on polymer, ageing, adhesion, elec. cond., electrochem. pot. (*Russian*) 9-33362
- ion source, possible applications of a high brightness Ga source to ion microprobes 9-2896
- J_{1/2} transition from LS, revised assignments for d⁹s²p², d⁹s²p³ 9-45630
- liquid, supercooled, dynamics 9-27902
- liquid, surface tension, low-temp. H₂ plasma influence, elec. double layer form. 9-33160
- liquid-Ag interface, γ -phase interlayer growth, two-dimens. electron diff. 9-19487
- metal and alloy high-temp. couplants for acoustic transducers 9-14195
- spreading kinetics on thin Ag films, influence of melt-support interaction (*Russian*) 9-37903
- Al_{1-x}Ga_xAs:N, photoluminesc. and optical absorpt. spectra of N impurity bound-excitons 9-47496
- CdCr₂S₄Ga, resist. and magnetoresist. meas., effect of donor impurities 9-19608
- CdCr₂Si₄Ga, negative magnetoresist. effects near Curie temp. 9-11152
- Ga/Al ratio vars. under Reykjanes Ridge and Iceland 9-8617
- Ga-Al and Ge-Si fractionation in Hawaiian volcanic rocks 9-12112
- Ga-insulator compound, obtained by impact compression method, superconducting properties (*Russian*) 9-7919
- Ga+H₃PO₄, interaction in aq. soln., ⁷¹Ga and ³¹P NMR obs. 9-22729
- Ga+H⁺, 4 MeV beam-foil X-ray production cross-section 9-7003
- GaAs:O(Cr), relax. semicond., Demer effects meas. 9-28372
- GaAs-In₂O₃ heterojunction solar cells, photovoltaic and rectifying props. 9-1618
- ³¹Ga, L-shell X-ray prod. by H(Hc) ion bombardment 9-47548
- ⁶⁷Ga, comparison of Anger tomographic scanner with 15 in scintillation camera for medical imaging 9-34658
- Ge:Ga, amorphous, doping effects on Fermi level, electrical meas. 9-42546
- p-Ge:Ga, heavily doped, elec. resist., 40 mK to 300K 9-38071
- Ge:Ga surface, antireflection coated, laser pulse damage resistance obs. 9-14020
- Ge_{1-x}Si_x:Ga:As, interimpurity radiative recombination, composition depend. 9-11465
- KBr:Ga⁺, luminescence decay times, fluorescence kinetics, 1.6-300K 9-33825
- KBr:Ga⁺, mag. circular dichroism meas. 9-42988
- KCl:Ga, X-irradiated, EPR spectra 9-28613
- KI:Ga⁺, mag. circular dichroism meas. 9-42988
- NaCl:Ga, X-irradiated, EPR spectra 9-28613
- PbTe:Ga, location, behaviour of Ga, electrophysical props. meas. 9-38016

gallium continued

- Si:Ga, heavily damaged, channelling investigation of diffusion behaviour 9-37877
 - Si:Ga, LPE on Si, technique and characterisation 9-38751
 - Si:Ga, possibility of use in fabrication of fast response photodetectors 9-15184
 - Si:Se:Ga, diffusion of Se, solubility and ionization levels, Hall effect and photocond. meas. 9-42486
 - Si:Ga, ground state of impurities 9-28313
 - YIG:Ga, diamagnetically substituted, annealing effects on cation distrib. 9-1455
 - ZnSe:Ga, defect struct., Hall effect and resist. meas. 9-1428
 - ZnSe:Ga, P, optically detected mag. reson. of P_{Se}-centre 9-33566
 - n-ZnSiP₂:Ga, elec. cond. and Hall meas., 77 to 1000K, scatt. mechanisms 9-11153
- ## gallium alloys
- see also gallium compounds*
 - alloy high-temp. couplants 9-14195
 - refractory metal dichalcogenides and Ga alloys, mixing powders using US treatment 9-24454
 - Ag-Ga, Ga spreading kinetics, influence of melt-support interaction (*Russian*) 9-37903
 - Ag-Ga (20 at.%), cooling rate depend. of thermal arrest, transform. temp. 9-29053
 - Al-Ga, ab initio calcs. of partial enthalpy and result for enthalpy of mixing 9-43197
 - Al-Ga, dil., deviation from Matthiessen's rule, 4-OPW approx. calc. 9-19574
 - Al-Ga, dil., electronic transport coeffs. for point defect scatt., 4-OPW calc. 9-42531
 - Al-Ga, enthalpy of mixing, 'const. vol. alloy' formulation 9-28111
 - Al-Ga dil. alloys, Hall coeff., residual resist., and relax. times 9-11107
 - Al-Ga(In)(Sn), interpretation of metallic phase diagrams, entropy of mixing 9-42274
 - Au-Ga, UPS exam. of valence bands 9-19511
 - Au-Ga dil. alloys, electronic struct. 9-37974
 - Au-Ga-In solid soln., elastic strain energy depend. of supercond. T_c 9-38229
 - AuGa, and AuGa₃, supercond. transition temp. and crit. field 9-38232
 - Au₂(MnGa)₂, Heusler alloy, magnetic order and coupling 9-38303
 - (Au_{1-x}Pd_x)Ga₃, supercond. transition temp. and crit. field 9-38232
 - Co-Ga, phase diagrams and cryst. struct., DTA, X-ray diffr. and microprobe anal. (*French*) 9-47660
 - Co-Ga alloys, transition metal partially substituted, elec. resist. anomalies 9-38044
 - Co-Ga-Mn, small-angle mag. neutron scatt., states of mag. order study rel. to Mn and Fe substitution 9-11292
 - CoGa, defect struct. model 9-46648
 - Co₂Ge, vacancy conc. in B2 phase exhibiting triple defects 9-42058
 - Cu_{1-x}Ga_x, liquid alloys, elec. resistivity 9-47073
 - Cu₂Ga, interpretation of diffuse contours in electron diff. (*French*) 9-19377
 - Ga-In liq. alloy, repetitive pulses electron emission 9-24416
 - Ga-Pb, liquid alloy, thermodynamic activity determ. using Knudsen method (*German*) 9-34008
 - Ga-transition metal, phase diagrams and cryst. struct. (*French*) 9-47659
 - Gd₂Co₂Ga, crystal struct., X-ray determ. (*Russian*) 9-27951
 - Ge-Ga film, polycryst., struct. props. determ. 9-4494
 - InGa-GaSe interface, microplasma electrolum. at 300K 9-11469
 - La_{1-x}Ga_x foils, amorphous, splat cooled, calorimetric and resistive meas. 9-33417
 - Mg-Ga, metastable cryst. and glassy phases, X-ray struct. anal. and electron microscopy (*German*) 9-46601
 - Mg-Ga (6 wt.%), precipitation, lattice const., ageing effects (*Chinese*) 9-43279
 - Mn-Ga (24.1 wt.%), reversible memory of form, X-ray diffr. expts. (*Russian*) 9-5006
 - Mn₂Ga, formation of DO₂₂ superstruct. and para-antiferromag. transition 9-19737
 - Na-Ga liquid alloy, thermodynamic props. 9-37854
 - Nb-Ga, superconductor, phase diagram determ. using various methods up to temp. of 2200°C 9-8414
 - Nb-Ga-Y system, X-ray and microprobe anal., isothermal section and supercond. transition temp. (*Ukrainian*) 9-38793
 - Nb₂Ga, critical data, under hydrostatic pressure to 15 kbar 9-47217
 - Nb₃Ga, electronic struct. calcs. 9-47005
 - Nb₃Ga Josephson junctions, excess current anal. 9-28465
 - Nb₃Ga, thermodynamic and expt. study of CVD 9-24441
 - Nb₃(Ge, Ga) CVD tapes, supercond. props. at high mag. fields 9-38279
 - Nb₃Ge_{1-x}Ga_x, applicability of scaling law for supercond. crit. currents 9-24118
 - Nb₃Ge_{1-x}Ga_x CVD films, supercond. transition temp. depend. on lattice parameter 9-38219
 - Nb₃Ge_{1-x}Ga_x CVD films, supercond. props., 4.2 to 19K 9-42713
 - Nb₃(SnGa), wire, neutron effect on T_c, I_c and flux pinning 9-38216
 - Nd-Ga alloy, phase diagram, DTA, X-ray and metallographic obs. 9-24494
 - Nd₂Co₂Ga, crystal struct., X-ray determ. (*Russian*) 9-27951
 - Ni-Ga, phase diagrams and cryst. struct., DTA, X-ray diffr. and microprobe anal. (*French*) 9-47660
 - NiGa, defect struct. model 9-46648
 - NiGa, vacancy conc. in B2 phase exhibiting triple defects 9-42058
 - Ni₃Ga, temp. depend. of mech. props. (*Russian*) 9-38895
 - Ni₃Ga, with Li₂ struct., dissociated struct. of superlattice dislocations 9-37706
 - Pb-Ga amorphous films, supercond. transition temp. and residual elec. resist. (*Russian*) 9-19680
 - Pd-Cu-Ga, cold work and annealing-induced hardening, X-ray diffr. anal. and metallographic exam. (*Russian*) 9-38844
 - Pd₃Ga₄, ordered BCC phases at high temp. 9-32948
 - Pr₂Co₂Ga, crystal struct., X-ray determ. (*Russian*) 9-27951
 - ScGa and Sc₂Ga₃, exam. of X-ray K spectra of pure Sc, Ga in alloys (*Russian*) 9-15562
 - Sm₂Co₂Ga, crystal struct., X-ray determ. (*Russian*) 9-27951
 - Tb₂Co₂Ga, crystal struct., X-ray determ. (*Russian*) 9-27951
 - Ti-Co-Ga, Th₆Mn₂₃ type struct., mag. susceptibility (*Russian*) 9-42736
 - Ti-Fe-Ga, Th₆Mn₂₃ type struct., mag. susceptibility (*Russian*) 9-42736
 - Ti-Ni-Ga, Th₆Mn₂₃ type struct., mag. susceptibility (*Russian*) 9-42736
 - TiGa, TiGa₂, Ti₂Ga₃, X-ray K- and L-bands, electronic struct. (*Russian*) 9-1797

gallium alloys continued

- Tm-Ga, exam. of phase diagram, using differential thermal and X-ray phase anal. (*Russian*) 9-11555
 UGa₂, cryst. struct., mag. and magnetoelectric props. (*Russian*) 9-38364
 V₂Ga, phonon density of states, temp. depend. 9-42183
 V₂Ga, composite-processed, with improved current carrying capacities in high mag. fields 9-38272
 V₂Ga, electronic struct. calcs. 9-47005
 V₂Ga multifilamentary supercond. wire, fabrication and props., crit. review 9-38271
 V₃Ga, nuclear magnetic relaxation, near T_c (*Russian*) 9-42852
 V₃Ga, supercond., μ^+ probe study (*Russian*) 9-7946
 V₃Ga superconducting tape, diffusion-processed, cryst. textures, X-ray pole figures 9-11266
 Y₂Co₃Ga, crystal struct., X-ray determ. (*Russian*) 9-27951
 Zr-Co-Ga, mag. susceptibility in phases of structural type Th₆Mn₂₃ (*Russian*) 9-24130
 Zr-Cu-Ga, mag. susceptibility in phases of structural type Th₆Mn₂₃ (*Russian*) 9-24130

gallium arsenide

- adsorption of Cs on (110) surface, work function meas., adsorption site model 9-23839
 adsorption of O₂, adsorption states and Ga depletion, UPS, AES, and thermal desorption meas. 9-46952
 amorphous, EXAFS, evidence for inequivalent environments of Ga and As 9-15558
 amorphous, switching obs. 9-11190
 amorphous film, composition, study by nondispersive X-ray anal. (*French*) 9-8457
 amorphous film, effective medium theory and freq. depend. of conductivity 9-24090
 annealing, growth of noncrystalline Si₃N₄ layers by CVD for encapsulation 9-19994
 anodic oxide, electrical props. 9-38170
 anodic oxides, MOS struct. leakage currents 9-38169
 autoeptaxial film growth, surface struct. and stoichiometry during molecular beam epitaxy, RHEED anal. 9-4921
 autoeptaxial layer, local impurity inhomogeneities (*Russian*) 9-23854
 blazed gratings in (110) oriented GaAs, preferential chemical etching 9-37067
 boat-grown, deep levels (*Japanese*) 9-47043
 bridges of Nb and Sn on GaAs substrates, variable thickness, props. 9-28464
 Brillouin scattering from surface ripples 9-15472
 bulk purification by chemical vapour transport 9-24437
 [CC] In_xGa_{1-x}As-GaSb_{1-x}As, superlattice, optical absorption 9-19887
 chemisorption and oxidation states of (110) surfaces 9-24049
 crystal pulling, liquid encapsulated compounding and Czochralski growth of semi-insulating GaAs 9-43136
 cubic semiconductor, Zeeman split acceptor levels, calc. method 9-28322
 CVD on W coated graphite, characterisation, and Schottky barrier solar cell characts. 9-28930
 CVD using Ga-As-H-Cl system, theoretical anal. of equilib. adsorption layers 9-23858
 deep centres, many-electron effects 9-15117
 deep level, strongly anisotropic field ionisation 9-28317
 diffusion-type stripe-gemmetry injection laser using V-groove, structure, fabrication process and props. 9-27277
 diode, high temp. and freq. characts., made by gas-transport method 9-19654
 diode, with Schottky barrier, photoluminesc. (*Russian*) 9-28410
 dislocation dissociation, electron microscopy 9-46665
 donor-acceptor type complex, mag. field splitting of photolum. line 9-15512
 doped, photoemission, calc. of escape probability of electrons (*Russian*) 9-24408
 electroabsorption avalanche photodiode waveguide detector, freq. demultiplexing 9-17486
 electrodes in aqueous electrolytes, localised avalanche breakdown 9-4599
 electromodulated reabsorption of luminesc. in MOS and Schottky systems 9-15524
 electron bombardment, absorption of energy 9-14847
 electron scattering interaction with coupled plasmon-polar-phonon modes 9-42536
 electron speed, technique for doubling 9-38076
 electron-hole liquid form., luminesc. 9-33804
 electronic states associated with 60° dislocations, tight-binding calc. 9-15114
 electronic structure, mol. cluster model, SCF multiple scatt. method 9-42446
 electronic structure, self-consistent localised description 9-42445
 epitaxial, polycryst., monocryst. layers and whiskers growth by CVD, SEM obs. electron diff. study (*French*) 9-43150
 epitaxial film, positron annihilation, impurity centre study 9-15554
 epitaxial layer, comparison of compensation ratios determ. by photolum. and elec. methods 9-28818
 epitaxial layers, growth below 700°C, electrophysical props. 9-1827
 epitaxial layers, quantitative anal. of oxygen by SIMS 9-5233
 epitaxial n⁺n⁺ multilayers, carrier conc. from Fourier transform anal. of magnetoresist. signal 9-38205
 exciton ground state and oscillatory absorption spectra in mag. fields, variational calc. 9-11071
 excitons detect., precision method 9-19906
 film, electroreflectance effects 9-43055
 film, polycryst. for terrestrial photovoltaic energy conversion 9-15242
 film, selective anodisation, grain boundary edge passivation 9-11711
 GaAlAs diode sources for laser-Doppler anemometry 9-14499
 GaAs:Fe, superparamagnetism, spontaneous magnetization 9-11285
 GaAs-Al_xGa_{1-x}As strip buried heterostructure laser densely packed monolithic linear array 9-45956
 Gunn effect, carrier generation-recomb. processes 9-38080
 heavily doped, strongly compensated, hopping cond. 9-47180
 heteroepitaxial layers, on Si substrates by LPE 9-1832
 heterolaser active layer, photoluminesc., temp. depend. (*Russian*) 9-10310
 highly deformed samples, absence of dislocation-induced luminescence 9-4835
 homojunction solar cell, temp. depend. of photovolt. solar energy conversion 9-43768
 hot carrier noise, in epilayer for FET 9-24035
 gallium arsenide continued
 hot electron distrib. function with LO phonon kink, photoluminesc. 9-19925
 hot electrons, diffusion coeff. 9-15156
 HV diode, I-V characts. 9-24068
 impact ionisation of excitons 9-38079
 impact ionisation rates, temp. depend. 9-38077
 IMPATT diode, maximum efficiency single- and double drift region, 3 to 18 GHz range 9-24058
 implanted ion lateral spread (*Japanese*) 9-4322
 injection lasers, spectral output, influence of diffusion and spontaneous emission 9-13965
 integrated multijunction photodetector with high output voltage 9-6178
 interface, energetic barrier height hypothesis 9-19657
 ion channelling meas. for lattice location of S and Mn implanted in single crystals 9-4332
 ion implantation, 1978 state of art review 9-42089
 ion-bombarded, energy band struct., electrorefl. obs. 9-19517
 laser, broadening mechanism, limitations to single mode power emission 9-961
 laser, photopumping of quantum well heterostruct. Al_xGa_{1-x}As-GaAs-Al_xGa_{1-x}As 9-22956
 laser, single-channel injection, radiative characts., single longit. mode 9-10309
 laser, single-freq. injection, coherence of emitted radiation 9-31904
 laser array, integrated, Si substrate package fabrication 9-18555
 laser convex micromirror mode control 9-36920
 laser diode, fabrication and characts. (*Korean*) 9-7144
 laser diode, SEM electron beam induced current study, contamination effect 9-43773
 laser diodes, junction temp. meas. method 9-36895
 laser-induced recrystallisation and damage of ion-implanted amorphous samples 9-47557
 lattice dynamics, overlap shell model, bond charge model 9-42156
 layer growth by electroepitaxy, thickness profiles 9-4486
 layers, grown by electroepitaxy and LPE, surface morphology 9-19478
 LED, minority carrier lifetime determ. 9-42560
 LED, optimum p-n junction depth, photoluminesc. method 9-4598
 LED absorption effect on freq. characteristic 9-8189
 lightly doped, p-n structure, parameters of nonequilibrium carriers, transient photoeffect method 9-11143
 liquid-phase electroepitaxial growth kinetics, Peltier effect and solute electromigration 9-42401
 longitudinal magnetophonon reson. and Fourier anal. 9-4569
 LPE, deep levels rel. to growth conditions 9-28314
 LPE, gaseous impurity source and effect on purity 9-28959
 LPE, residual impurities and deep levels, FET fabrication 9-28964
 LPE growth, high purity, using sliding boat method for FET buffers (*Japanese*) 9-28955
 LPE growth rate calc., from GaP and GaAs LPE data 9-19485
 LPE on polycrystalline Mo 9-43157
 luminescence, electron-hole plasma 9-47500
 magnetic susceptibility and absorption spectra, exam. 9-1778
 MBE, growth temp. depend. and characts. 9-28946
 MBE, technology and epitaxial layers props. 9-33945
 MBE layers, H₂ effect on residual impurities, photolum. obs. and elec. characts. 9-47636
 MBE physical characteristics and applications (*German*) 9-7618
 metal-GaAs junctions, thermal stability improvement, with and without near noble metals 9-7143
 MIS Schottky barrier diodes, radiation effects 9-24078
 MIS structures and metal-semicond. structures, effects of ultrathin oxides 9-1626
 MOS capacitor characts. and anodic oxidation in nonaqueous electrolyte 9-38183
 MOS capacitor fabrication and transient response for minority carrier lifetime meas. 9-47103
 MOS capacitors, anodized, C-V characts., surface pot. 9-11227
 n-n junctions, simulation of long-term relax. of nonequilibrium conductivity 9-38156
 n-type, compensated, LF current instabilities 9-7859
 n-type, donor-acceptor pair recomb., isolated-pair model revisited 9-28825
 n-type, electrical instability, negative differential cond., electron heating by static and alternating elec. fields 9-11165
 n-type, far IR propag. of surface EM waves 9-42615
 n-type, freq. depend. of effective temp. of hot carriers 9-11135
 n-type, hot carrier thermoelec. power, temp. depend. in mm wavelength range 9-23996
 n-type, interband transition times, luminesc. depolarisation obs. (*Russian*) 9-33831
 n-type, IR transmission, cond. variations effects 9-15158
 n-type, MIS struct., native oxide, effect on interface props. and removal by sputter etching 9-11228
 n-type, non-Maxwellian electron distribution function, from electric field-depend. photolum. spectrum 9-11450
 n-type, piezoelec. semicond., nonlinear interaction of acoustic waves with microwave elec. fields 9-42593
 n-type, semidegenerate, acoustoelec., gain and lattice attenuation, X-ray Brillouin scatt. and elec. meas. 9-15193
 n-type, tunable far IR Landau emission with subnanosecond rise time 9-32015
 n-type, undoped, proton radiation defect detect. by transient capacitance spectroscopy 9-11089
 n-type and p-type electrodes in acetonitrile solns., photoelectrochem. behaviour 9-4600
 n-type surface recomb. vel. meas., diff. from transient optical grating 9-1604
 n-type wafer, defect studies by ASLEEP, SEM and scanning AES 9-19256
 neutron irradiated, effect on cryst. lattice period, X-ray diff. meas. 9-37743
 ohmic contact form. to n- and p-type samples by MBE, characts. 9-47159
 optical inhomogeneity, physical basis 9-15430
 optical waveguides, strain induced in epitaxial layers 9-27388
 oscillatory electron drift rel. in non-ohmic regime at low temp. 9-33291
 oxide films grown by anodization in electrolytes, electron spectroscopy exam. (*German*) 9-15837
 oxides, appl. of selective chemical reaction concept for controlling props. 9-47790

gallium arsenide continued

p⁻i-n diode, radiative hot carrier recomb., photoluminesc. and electroluminesc. meas. 9-38676
 p-i-n avalanche photodiode, temp. depend. characts. 9-35835
 p-n junction, HV, current induced by electron probe in space charge region 9-24065
 p-type, carrier drag by photons 9-11185
 p-type, linear polarisation of hot photoluminescence 9-38661
 p-type, photon drag optical rectification detectors, performance in 2 to 33 μ m range 9-35834
 p-type, piezoresistance, relax. time for heavy and light holes determ. 9-19599
 phonon generation, anisotropic, in p-n junctions and GaAs epilayers 9-37784
 photocathode with Cs-O adlayer, negative electron affinity, core level photoemission of adlayer 9-19965
 photoconductivity and photomagnetic effect spectra 9-11178
 photoemission, from layers produced by pyrolytic synthesis 9-43100
 photoemission characteristics, parameters of emitters with negative electron affinity 9-4898
 photoexcited, band edge absorpt. dynamics 9-19879
 picosecond absorption spectroscopy 9-47482
 piezoelectric constant due to bond bending, electron redistribution effect 9-38457
 point defect generation by electron-hole recombination at dislocations 9-37699
 polycrystalline film growth for solar cells 9-33941
 positron annihilation, deep acceptor level props. 9-11485
 powder, RF field depend. of memory echoes 9-8095
 proton range data and deep proton-isolated lasers 9-36923
 reflection spectra, optical consts. (*Russian*) 9-38571
 refractive index dispersion 9-24280
 resonant Brillouin scatt., book contrib. 9-42983
 S-shaped I/V characteristics based on laminated semicond. cryst. structures (*Russian*) 9-42628
 SAW amplification 9-46907
 Schottky barrier diodes, strain sensitivity mechanism 9-38165
 Schottky barrier height, semi-empirical tight-binding calc. 9-28408
 shallow donors, screening, energy spectrum of electrons and cond. mech. 9-7831
 solar cell, thin film, prep. by Peeled Film Technology 9-29472
 solar cell film, large-grained, growth method 9-38737
 solar cells, shallow junction, damaged by electron irradi., recovery of short cct. current 9-29471
 spreading resistance, meas. for p- and n-type and Zn diffused samples 9-28343
 substrate, optical meas. of temp. (*French*) 9-35743
 superconductor-semicond. device research, future prospects 9-28467
 surface, (110), chemisorption of O₂, electronic struct. theory, oxidation, electron spectra interpretation 9-42376
 surface, (110), oxidation process, XPS study 9-15585
 surface, negative electron affinity, optically pumped, depolarization of emitted photoelectrons 9-8223
 surface, oxide film influence on adsorption and electrophys. props. 9-42369
 surface (100), electronic struct., scattering-theory formulation 9-42607
 surface (110), low O₂ exposure effects on electronic props. 9-47146
 surface (111), MBE prep., angular resolved UPS of surface states 9-47598
 surface polaron in mag. field 9-23912
 surface recombination velocity, diff. from picosecond transient free carrier gratings 9-47109
 surface relax. models, tight-binding calcs. 9-4594
 thick sample, atomic comp. determ., H⁺ and He⁺ induced X-ray anal. 9-5223
 thin film external resonator for optimum SHG 9-18485
 transport phenomena, review 9-19587
 two-photon electroabsorption by excitons 9-42944
 two-photon interband transitions, carrier drag 9-7858
 vacancy, ideal, electronic struct., tight-binding calc. 9-4529
 vapour phase epitaxy using computer control 9-38744
 VPE, growth method at low H₂ press. 9-28936
 VPE, multi-wafer growth technique using AlCl₃-Ga-N₂ system with horizontal reactor 9-28934
 VPE, partial press. diagrams use for thermodynamic represent. 9-33201
 VPE, review of growth techniques (*French*) 9-33935
 VPE, thermodynamic analysis of Si contamination 9-28932
 VPE, thermodynamic factor influencing growth rate and layer purity in Ga-AsCl₃-H₂ system 9-28933
 VPE by CVD, vapour-solid interface, expt. anal. (*French*) 9-33940
 VPE in Ga-AsCl₃-H₂ system at reduced temp. 9-11519
 VPE using organometallics and hydrides (*French*) 9-33936
 wafer, H₂PO₄-H₂O₂-H₂O etching solution system and its kinetics 9-20229
 wafer diagnostics, using computer automated scanning low-energy electron probe 9-4214
 X-ray and Rutherford backscatt. yields from channelled ⁴He⁺ ions 9-46730
 (Al,Ga)As DH diode laser, double-dovetail constricted, single mode CW operation 9-22949
 Al-GaAs heterostructure photocell with a transition layer 9-19655
 Al-Ga-In-P(As)(Sb), III-V quaternary alloy, A_xB_yC₂D or AB₂C₂D₂, energy band gap and lattice constant 9-4296
 AlAs-GaAs heterostructure, fabrication by selective liq.-phase epitaxy 9-15618
 AlAs-GaAs stripe heterojunction laser, O⁺ implantation effect on threshold characts. 9-41383
 (AlGa)As, CW laser diodes, long-term lifetests at room temp. 9-22963
 AlGaAs DH, temp. depend. of intensities and times of radiative transitions 9-38660
 AlGaAs DH stripe geometry lasers, spontaneous radiation, carrier conc., and threshold current, luminesc. meas. 9-36898
 AlGaAs laser mode, fractional spontaneous emission coupling, power fraction, expt. evaluation 9-959
 AlGaAs-GaAs, DH semiconductor laser, influence of struct. parameters on lasing characteristics 9-45942
 AlGaAs-GaAs cascade solar-cell structure, fabrication and characteristics 9-43758
 AlGaAs-GaAs concentrator solar cells of high-efficiency characts. 9-48125

gallium arsenide continued

AlGaAs-GaAs DH lasers, coupling efficiency between gain-induced guides 9-23094
 AlGaAs-GaAs heterostructure, minority carrier lifetime, photon recycling effect (*Japanese*) 9-42556
 AlGaAs-GaAs lasers, defects and degradation (*Japanese*) 9-31899
 AlGaAs-GaAs lasers for optical fibre transmission, defects and degradation 9-41382
 Al_{1-x}Ga_xAs CSP laser, analytical waveguide study 9-10302
 Al_{1-x}Ga_{1-x}As, DH, defect generation in active regions at high optical excitation rates 9-23845
 Al_{1-x}Ga_{1-x}As epitaxial diode, neutron and γ -irrad. effects on cathodolum. in SEM 9-11473
 Al_{1-x}Ga_{1-x}As epitaxial films, microanal. in photoemissive electron microscope 9-16068
 Al_{1-x}Ga_{1-x}As, graded band-gap heterostruct., photo-EMF 9-24072
 Al_{1-x}Ga_{1-x}As heterojunction LED 9-28403
 Al_{1-x}Ga_{1-x}As, indirect, exciton-phonon coupling, photolum. meas. 9-47511
 p-Al_{1-x}Ga_{1-x}As, LED in red and IR region, multiple-pass heterostruct. 9-19653
 Al_{1-x}Ga_{1-x}As MBE layers, ionized beam doping, elec. and optical characts. 9-37721
 Al_{1-x}Ga_{1-x}As, metalorganic-CVD, photopumped laser operation meas. GaAs quantum well 9-10303
 Al_{1-x}Ga_{1-x}As, mode-stabilised injection laser, longitudinal-mode behaviour 9-962
 Al_{1-x}Ga_{1-x}As, resistor pressure sensors 9-2756
 Al_{1-x}Ga_{1-x}As, temp. coeff. of resistance of pressure sensors 9-6108
 Al_{1-x}Ga_{1-x}As thick epitaxial layer production, by zone recrystn. in temp. gradient 9-15619
 Al_{1-x}Ga_{1-x}As, valence and core level photoemission spectra 9-19973
 Al_{1-x}Ga_{1-x}As variable gap thin structs., radiative recomb. photoluminesc. spectra 9-43036
 n-Al_{1-x}Ga_{1-x}As, variable-gap solid solns., diffusion length, photolum. meas. 9-38659
 Al_{1-x}Ga_{1-x}As, waveguide heterostruct. epitaxial growth with gradual composition change 9-42416
 Al_{1-x}Ga_{1-x}As-GaAs, diode pump system for YAG:Nd³⁺ laser 9-41396
 Al_{1-x}Ga_{1-x}As-GaAs, quantum-well MO-CVD heterostructure lasers, band-filling props. 9-22954
 Al_{1-x}Ga_{1-x}As-GaAs linear-gradient heterostruct., photoelec. props. 9-11205
 Al_{1-x}Ga_{1-x}As-GaAs multilayers, LPE, using addition of GaCl vapour and new boat struct. 9-33950
 Al_{1-x}Ga_{1-x}As-GaAs quantum-well heterostructure laser, metalorganic CVD growth, CW operation 300 to 337K 9-10304
 Al_{1-x}Ga_{1-x}As-GaAs-Al_{1-x}Ga_{1-x}As quantum well, carrier collection 9-15211
 Al_{1-x}Ga_{1-x}As_{1-x}Sb_x, LPE, strain effects near miscibility gap, importance 9-7759
 Cr-GaAs, metal-nn⁺ Schottky diode, I-V characts., inverse branch, effect of dislocation defects (*Russian*) 9-15217
 (Ga,Al)As injection laser parameters, homogeneous degradation calc. from initial rates 9-22951
 Ga-In-As-Sb quaternary system, phase equilib. and heterojunctions 9-34016
 Ga_{1-x}Al_xAs, anodic oxide films, ellipsometric anal. 9-20234
 GaAlAs DH laser, optimum p-n junction depth, photoluminesc. method 9-4598
 GaAlAs DH laser, stripe geometry, spatially resolved emission 9-27257
 GaAlAs DH lasers, electron-hole recomb. effects 9-45944
 GaAlAs DH lasers, nonlinearity, second and third harmonic distortion 9-31898
 GaAlAs DH photovoltaic detectors, high efficiency 9-11198
 GaAlAs plasma grown oxide film, anal. by combined ion beam techniques 9-7760
 (GaAl)As system, automated system for growth of multilayered structs. by LPE 9-38752
 n-GaAlAs:Sn LED DH donor-level analysis, DLTS obs. 9-47040
 GaAlAs/GaAs heterostructures, ellipsometric assessment of epitaxial layer during growth in organometallic VPE system 9-37933
 (GaAl)As-GaAs, DH laser, degradation in water due to facet deterioration 9-22970
 (GaAl)As-GaAs, double heterostructure laser, TEM study of dark line defect growth from dislocation clusters 9-33206
 GaAlAs-GaAs heterostruct. solar cells, Al, P, Zn incorporation by LPE (*French*) 9-24899
 GaAlAs-GaAs n-n heterojunction, rectification 9-28402
 (GaAl)As-GaAs twin-transverse-junction stripe laser with linear light/current characteristic and low threshold 9-36893
 GaAlAs_{1-x}As_x ion beam synthesis for photodetector fabrication 9-46688
 Ga_{0.5}Al_{0.5}As-GaAs(Ge) DH structure, minority carrier lifetime and internal quantum efficiency of surface-free GaAs 9-43013
 Ga_{1-x}Al_xAs DH laser hybrid device, reliability 9-27281
 Ga_{1-x}Al_xAs, DH stripe geometry laser, lasing-induced change in differential resistance 9-45943
 Ga_{1-x}Al_xAs electrodes, interface capacitance meas., flatband pot., conduction and valence band boundaries (*French*) 9-33339
 Ga_{1-x}Al_xAs, epitaxial layers, on GaAs substrates, X-ray double-cryst. diffractometry, state of strain 9-19480
 Ga_{1-x}Al_xAs, LPE, growth mechanism and morphology on channelled substrates 9-28960
 Ga_{1-x}Al_xAs LPE crystals for DH laser, LEDs, TEM obs. of Ge, Si-doped epitaxial layers 9-1556
 Ga_{1-x}Al_xAs laser, buried heterostruct., stable operation during accelerated ageing at 70°C 9-7125
 Ga_{1-x}Al_xAs laser diode end facet protection by parylene coating 9-36921
 Ga_{1-x}Al_xAs, MBE, state-of-the-art 9-24450
 Ga_{1-x}Al_xAs, STEM techniques for simultaneous electronic anal. and obs. of defects 9-14812
 Ga_{1-x}Al_xAs, solar cells appl., technology advancements 9-43776
 Ga_{1-x}Al_xAs, solid solution, synthesized by ion implantation, Raman scattering 9-42972
 n-Ga_{1-x}Al_xAs, variable gap photodetector, quantum efficiency 9-7903
 Ga_{1-x}Al_xAs-GaAs, injection lasers, defects, TEM anal. 9-23866
 Ga_{1-x}Al_xAs-GaAs channel guide laser grown by metalorganic CVD 9-10317
 Ga_{1-x}Al_xAs-GaAs heterostructure lasers grown by metalorganic CVD, prep. and props. 9-36918
 Ga_{1-x}Al_xAs-GaAs high-efficiency solar cell 9-29469
 Ga_{1-x}Al_xAs-GaAs LPE multilayer heterostructure photovolt. solar cells, fabrication and performance 9-48128

gallium arsenide continued

- Ga_{1-x}Al_xAs-GaAs p-n structures, variable-gap front layer, photoelec. props. 9-7884
- Ga_{1-x}Al_xAs-GaAs p-n solar cell, with thin variable gap layer, high efficiency 9-24064
- Ga_{1-x}Al_xAs-GaAs-GaAs, p-p-n junctions, variable gap solar photocell with coordinate depend. band gap gradient 9-11213
- Ga_{1-x}Al_xAs-Ge, MBE of ultra thin film superlattices on GaAs substrates, TEM study 9-37932
- Ga_{1-x}Al_xAs_{1-y}P_y layer of uniform composition grown on GaAs by LPE, temp. diff. method appl. 9-23864
- Ga_{1-x}Al_xAs_{1-y}P_y-GaAs heterojunctions, light-induced misfit dislocation motion, photoluminesc. and X-ray diff. meas. 9-11200
- n-GaAs, and Te doped, homogeneity, IR microscopy investig. 9-15446
- GaAs, exciton-polariton reflectance spectra, exciton impact ionization and illum. intensity effects 9-42943
- GaAs integrated optical circuits by wet chemical etching 9-32092
- GaAs, lightly doped, p-n junctions, forward branches of current-voltage characts. 9-7890
- GaAs, polariton fluoresc., spatial and spectral features 9-33760
- GaAs:Be, implanted, determ. of Be concentration profiles by ⁹Be(p,α) reactions and SIMS anal. 9-4335
- p-GaAs:Be, ion implanted, annealing characts., defect cond. profiling, electron diff. obs. 9-4318
- GaAs:C, Zeeman effect of effective mass acceptor, polarised luminesc. 9-4541
- GaAs:Cd, time depend. of Cd diffusion from gaseous phase 9-46844
- GaAs:Co²⁺, piezoabsorption meas. tunnel splitting and Jahn Teller effect in ⁴T₂(P) state 9-15494
- GaAs:Cr, current voltage characterisation, deep levels and Fermi level determ. 9-7823
- GaAs:Cr, hot electron relax. process and ionization of traps (Russian) 9-28354
- GaAs:Cr, intracenter radiative transition in Cr²⁺ ions 9-11463
- GaAs:Cr, local level near valence band, photocapacitance 9-11080
- GaAs:Cr²⁺, US attenuation meas. of Jahn-Teller distorted Cr²⁺ centres 9-28048
- GaAs:Cr(O), photocapacitance of deep levels obs. 9-38021
- n-GaAs:Cu, electron-phonon interaction in optical transitions between deep impurity level and allowed bands 9-42591
- GaAs:Cu, sensitivity of impurity photocond., ordered surface irregularities 9-24018
- GaAs:Cu electrode photographic device, CO₂ pulsed laser output high-speed meas. 9-14008
- GaAs:Fe, exchange-coupled pairs, ESR 9-11343
- GaAs:Fe, impurity atom charge exchange, Mossbauer spectroscopy 9-47050
- GaAs:Ge, stress depend. of donor-acceptor recomb. energy 9-15113
- GaAs:O, deep traps, photocapacitance meas., complementary transition energy threshold determ. 9-19550
- GaAs:O, oxygen-compensated single GaAs cryst., photoelec. memory 9-11184
- n-GaAs:O film, influence of O on elec. props. 9-11252
- GaAs:p⁺(N⁺), struct. characts. of radiation damage produced by high energy ion implantation 9-4340
- GaAs:S(Se), ion-implanted, evaluation by contactless mobility meas. 9-1448
- GaAs:S(Se), MBE grown, surface exchange doping using PbS(Se) captive sources 9-10864
- GaAs:Se, implanted, multilayered encapsulation using SiO₂:As and Si₃N₄ 9-11715
- GaAs:Se, LPE growth, Ga-As-Se phase diagram 9-1849
- GaAs:Se depth profiles, Cs⁺ SIMS anal. appl. 9-39265
- GaAs:Se⁺, Cs⁺-SIMS and negative ion spectrometry 9-12882
- GaAs:Se(Te), laser annealed, donor implanted, elec. props. 9-4556
- GaAs:Si, electrical activity of Si 9-15145
- GaAs:Si, encapsulated by SiO₂ and Si₃N₄, ion-implanted As profiles 9-4319
- GaAs:Si, ion-implanted, elec. props. 9-46686
- GaAs:Si, LED, effect of struct., defects on quantum efficiency 9-11211
- GaAs:Si, single crystals, asymmetric deform. 9-23616
- n-GaAs:Si, thermally treated, photolum., acceptor levels obs. 9-38587
- GaAs:Si, Cr, under layer of SiO₂, effect of annealing, on electron concentration and mobility, and impurity distrib. 9-4323
- GaAs:Si LED, with anti-Stokes phosphor 9-11204
- GaAs:Si LED p-n structures, speed (Russian) 9-43044
- GaAs:Si LEDs grown from restricted soln.-alloy bulk, props. (Russian) 9-43043
- GaAs:Sn, doping characts. during LPE 9-10866
- n-GaAs:Sn, heavily doped, nonalloyed ohmic contact form. by MBE and metallisation 9-7895
- GaAs:Sn, nature and conc. of point defects over conc. range 10¹⁷ to 6.10¹⁸ cm⁻³ 9-14802
- n-GaAs:Sn, photoluminesc. spectra 9-43031
- GaAs:Sn films, MBE grown, doping profiles, carrier mobilities, RHEED and AES obs. 9-1447
- n-GaAs:Sn(Te), pure and doped, diffusion of Sn, radiotracer profiles 9-23782
- GaAs:Te, amorphous, ion implanted layers, optical refl., 1.5-7.0 eV 9-8152
- n-GaAs:Te, elec. cond. and Hall coeff. temp. depend. meas., three band model 9-33287
- GaAs:Te, microcathodoluminesc. of effect of struct. defects on radiative recomb. 9-11475
- GaAs:Te, preferential precipitation on dislocation loops 9-7612
- GaAs:Te-implanted by laser-annealing, ohmic contacts 9-19658
- GaAs:Zn, Se, double doping during LPE, exam. of elec. cond. and Hall effect 9-4923
- GaAs:Zn films, VPE growth and photoluminesc. props. 9-38642
- GaAs:Zn MBE layers, ionized beam doping, elec. and optical characts. 9-37721
- n-GaAs:Zn substrate, ion implantation as predeposition process 9-19268
- GaAs:Zn waveguide, light coupling at fundamental absorption edge 9-23082
- GaAs:Zn(S), LPE, and doping characts. 9-33948
- GaAs/Au-Ge/Au structure, ohmic contact behaviour, alloying time effect 9-19659
- GaAs/HBr system, heterogeneous reactions, modified entrainment method appls. 9-23551
- n-GaAs/Pt/Cr Schottky contact, barrier height change due to heat treatment 9-47165

gallium arsenide continued

- GaAs-(SN), semiconductor-polymer solar cell 9-15219
- p-GaAs-Al interface, produced by diffusion method using heavily doped GaAs, rectifying props. 9-28409
- GaAs-Al interfaces, chemically induced charge redistrib. 9-33342
- GaAs-Al_{1-x}Ga_xAs, film waveguide, heterojunction lasers with Bragg mirrors, threshold characts. 9-23095
- GaAs-Al_{1-x}Ga_{1-x}As, carrier transport across heterojunction interfaces 9-47158
- GaAs-Al_{1-x}Ga_{1-x}As double heterojunctions, dark-line defects and recomb. centres, scanning photocurrent microscopy 9-35822
- GaAs-Al_{1-x}Ga_{1-x}As heterojunctions, MBE grown, photocollection efficiency and interface charges 9-11199
- GaAs-Al_{1-x}Ga_{1-x}As heterostruct., photon recycling, diffusion length and lifetime determ. 9-47499
- GaAs-Al_{1-x}Ga_{1-x}As modulation-doped heterojunction superlattices, electron mobilities 9-7877
- GaAs-Al_{1-x}Ga_{1-x}As structures for DH lasers, LPE (Polish) 9-4922
- GaAs-Al_{1-x}Ga_{1-x}As heterostructure thyristors, operation and elec. characts. 9-7891
- GaAs-anodic oxide interfaces, struct. and chem. props., Raman scatt. obs. 9-47168
- GaAs-Au Schottky barriers, PES and depth profiling obs. 9-42641
- GaAs-Au Schottky diode, electroless plating of Au, fast characterisation of epitaxial layers 9-33347
- GaAs-Cr Schottky barriers, interfacial structural defects effect on avalanche breakdown 9-42644
- GaAs-Ga_{1-x}Al_xAs-Ga_{1-x}Al_xAs n⁺-i-n heterostructure, electroluminesc. characts., 80 to 330K (Russian) 9-28404
- GaAs-Ga_{1-x}Al_xAs double heterojunction laser structures, LPE growth with double source method 9-28962
- GaAs-Ga_{1-x}Al_xAs superlattice, photoconductor with high sensitivity and reduced dark current appl. 9-7881
- GaAs-Ga_{1-x}In_x-P multilayer epitaxial films, MBE technology and epitaxial layers props. 9-33945
- GaAs-GaAlAs DH laser, beam scanning with twin-stripe injection lasers 9-10334
- GaAs-GaAlAs double heterostructures for CW injection lasers, LPE growth 9-31931
- GaAs-GaAlAs heterostructure, GaAs preferential etching, using O₂ and CCl₂F₂ 9-8373
- GaAs-GaAlAs heterostructure lasers on semi-insulating substrates 9-13977
- GaAs-GaAlAs injection laser sources for fibre optic communications, design 9-31923
- GaAs-GaAlAs laser, high-spectral radiance source using integrated optics 9-36931
- GaAs-GaAlAs multiple-stripe phase-locked laser array, behaviour 9-45955
- GaAs-GaAlAs stripe injection laser, CW double heterostruct., technology 9-31933
- GaAs-GaAlAs stripe injection laser, high performance, design and characts. 9-31932
- GaAs-GaAlAs superluminescent diodes for optical fibre links, modulation bandwidth 9-36993
- GaAs-GaAsSb_{1-x}, heteroepitaxial struts., mismatch dislocation nets 9-10855
- GaAs-Ge heterojunction, band discontinuities, angle-resolved UPS obs. 9-7878
- GaAs-Ge heterojunctions, electronic struct., tight-binding and pseudopot. models 9-42633
- GaAs-Ge interface, surface and interface states of (111) surfaces 9-15206
- GaAs-Ge interfaces, heteroepitaxial, misfit dislocations, TEM obs. 9-23610
- GaAs-metal junction stabilisation by transition metal diffusion barrier 9-38161
- GaAs-metal junction stabilisation by intermetallic diffusion barrier 9-38160
- GaAs-metal struct., photoresponse spectra, electron thermalisation (Russian) 9-15221
- GaAs-Pb junctions, electron tunnelling under high press., transition temp., energy gap, phonon energies 9-15257
- GaAs-plasma grown oxide interface, new resonant ellipsometric technique for characterisation 9-40606
- GaAs-Pt interface states energy distrib. and relaxation time 9-33345
- GaAs-Pt-air system, far IR propag. distances of surface EM waves 9-42616
- GaAs-Si₃N₄ system, photoluminesc. edge line (Russian) 9-4852
- GaAs-SiO₂ MIS structures, fabrication and elec. props. 9-47166
- GaAs-ZnS p-n heterojunction, struct., multibeam electron microscopy obs. 9-11031
- (GaAs)_n(AlAs)_n, multilayer heterostructure, cation order, effect on energy bands 9-1570
- Ga_{1-x}Al_x(Al_{1-x}In_x), heterojunction solar cells, optimum bandgap, computer anal. 9-43767
- GaAsP epitaxial films, planar waveguides for integrated optics appls. 9-10416
- GaAsP epitaxial waveguide, electro-optic phase modulation of laser radiation 9-10417
- GaAs_{0.6}P_{0.4} CVD growth for LEDs 9-19998
- GaAs_{1-x}P_x anodic oxide films, ellipsometric anal. 9-20234
- GaAs_{1-x}P_x electrodes, interface capacitance meas., flatband pot., conduction and valence band boundaries (French) 9-33339
- GaAs_{1-x}P_x SIMS, energy distrib. of sputtered ions 9-38706
- GaAs_{1-x}P_x solid solution, synthesized by ion implantation, Raman scattering 9-42972
- GaAs_{1-x}P_xN, photoluminesc. and optical absorpt. spectra of N impurity bound-excitons 9-47496
- GaAs_{1-x}P_xSiO₂N, Zn ion-implanted multiple layers, ion range distrib., secondary ion microprobe meas. 9-42129
- GaAs₂P_{1-x}, surface phonon polaritons, total internal refl. (Russian) 9-38688
- GaAs₂P_{1-x}, liquid phase epitaxial growth on GaP, growth and properties 9-47641
- GaAs_{1-x}P_x, heteroepitaxial solid soln., defects of struct. 9-28223
- GaAs_{1-x}Sb_x epitaxial n-n heterostructures, gap energies and interface pots., modulation electroabsorpt. meas. 9-11201
- GaAsSb_{1-x}, lattice-matched LPE growth in InP substrates 9-42402
- GaAsSb_{1-x}-GaAs epitaxial films and multilayer heterostruct., SEM obs. under cathodolum. conditions 9-11023

gallium arsenide continued

GaAs_{1-x}Sb_x, miscibility gap, rel. to LPE 9-33090
GaInAs, photocathode with negative electron affinity, photoemission, influence of strong elec. field 9-8227
Ga_{0.47}In_{0.53}As homojunction photodiode, avalanche photodetector for 1.0-1.6 μ m region 9-6179
Ga_{0.7}In_{0.3}As photodiodes, fibre optic appls. 9-40613
Ga_{1-x}In_xAs photocathode, negative electron affinity, photoelectron scatt. in Cs-O film 9-28899
Ga_{1-x}In_xAs solid solns., electron scatt. by isoelectronic impurities in covalent crystals. 9-11129
Ga_{1-x}In_xAs, VPE grown, refractive index, reflectance meas. 9-4780
Ga_{1-x}In_xAs-InP heterostructure, growth by MBE 9-8251
GaInAsP DH laser diode CW modeling 9-7126
GaInAsP/InP DH lasers, with (100) substrate, 1.2-1.5 μ m, LPE growth conditions 9-15617
GaInAsP-InP buried stripe DH laser, fabrication using meltback method and CW operation 9-3708
GaInAsP-InP DH layers, lattice deform. and misfit dislocations 9-19473
GaInAsP-InP DH lasers with low threshold, narrow-beam divergence 9-36892
GaInAsP-InP lasers and detectors, for fibre optic communications at 1.0-1.6 μ m 9-3803
Ga_{0.98}In_{0.02}As_{0.18}P_{0.82}, band struct., optical studies 9-47013
Ga_{1-x}In_xAs_{1-x}P_x, film, energy band struct., photolum. meas. 9-7784
Ga_{1-x}In_xAs_{1-y}P_yGe(Sn)(Te), epitaxial film, elec. and optical props. 9-11251
Ga_{1-x}In_xAs_{1-x}P_x, thermal expansion coefficients, 25-400°C 9-46817
Ga_{1-x}In_xAs_{1-y}Sb_y laser, efficient room temp. stimulated emission, 1.8 to 2.4 μ m spectral range 9-10307
GaP_{1-x}As_x, exam. of magnetic susceptibility and absorption spectra 9-1778
GaP_{1-x}As_x, ion beam synthesis for photodetector fabrication 9-46688
GaP_{1-x}As_xN, impurity electron states, binding energies and wavefunctions 9-42488
GaSb_{1-x}As_x, disorder-enhanced Auger recomb. 9-43014
GaSb_{1-x}As_x alloy surface states obs., using electron energy loss spectra 9-15202
GaSb_{1-x}As_x films, MBE growth and elec. props. 9-23863
Ge-GaAs, p-n⁺ junction, I-V characts., inverse branch, effect of dislocation defects (*Russian*) 9-15217
Ge-GaAs heterodiode, interfacial structural defects effect on avalanche breakdown 9-42644
Ge-GaAs p-n heterojunction, current fluctuations 9-11209
Ge-GaAs p-n junction, microparameters determ. 9-11216
Ge_{0.8}(GaAs)_{0.2}, metastable solid solns., decomp. kinetics 9-38789
Ge_{1-x}(GaAs)_x, metastable solid solution, fine struct. (*Russian*) 9-27960
In-GaAs system, heterophase equilibrium, phase diagram calc. 9-43212
InGaAs-GaSbAs periodic structures, with controlled emission 9-7880
InGaAs-In_{1-x}Ga_xAs_{1-y}P_y DH laser, LPE fabrication, electroluminesc., lasing characts. 9-3709
In_{1-x}Ga_xAs, LPE growth on InP, electron probe anal. of etched surface 9-23862
In_{1-x}Ga_xAs, LPE on InP substrate, comp. latching phenomenon and lattice mismatching effects 9-28961
In_{1-x}Ga_xAs-GaSb_{1-y}As_y superlattice, with nonlinear energy-wave and energy-momentum relationships 9-7871
In_{1-x}Ga_xAs-GaSb_{1-y}As_y heterostructure devices 9-42624
InGa_{1-x}As_xAu Schottky contacts, interfacial oxide layers used to increase effective barrier height 9-7896
InGaAsP IR heterojunction photodiode detector 9-21813
InGaAsP, LPE growth on InP, influence of lattice mismatch on surface morphology 9-1553
InGaAsP quaternary alloy IR heterojunction detectors, props. 9-2823
InGaAsP, with and without InP cladding layers, low photolum. regions 9-33754
InGaAsP:Be ion-implanted avalanche photodiode, struct. and characts. 9-17487
InGaAsP:Sn(Te)(Zn), LPE growth, influence of growth-solution dopants on distrib. coeffs. 9-47640
InGaAsP-InP DH laser, threshold depend. on active layer thickness 9-7127
InGaAsP-InP photodiodes, microplasma-limited avalanche multiplication at 1 to 1.3 μ m 9-26128
In_{0.79}Ga_{0.21}As_{0.54}P_{0.46}, LPE layer, electroreflectance meas. 9-24290
In_{1-x}Ga_xAs_{1-y}P_y layers on InP substrate, LPE growth, quaternary phase diagram, and band gaps 9-42403
In_{1-x}Ga_xAs_{1-y}P_y, p-n junction diodes, fabrication by Be ion implantation 9-47156
In_{1-x}Ga_xAs_{1-y}P_y, DH laser material, spatially resolved photolum. characterisation and optically induced degradation 9-47486
In_{1-x}Ga_xAs_{1-y}P_y, lattice matched to InP, band gap vs. comp., and Vegard's law demonstration 9-7782
In_{1-x}Ga_xAs_{1-y}P_y:Be, ion implantation, hole conc. and mobility, junction depth 9-46685
InGa_{1-x}As_xP_{1-y} layers on InP, LPE and opt. props. characteris. 9-28849
InGaAsSb based injection heterolaser, 1.9 μ m stimulated emission 9-18420
InGaP-GaAs junction, effect of elastic strain on energy band gap and lattice parameters 9-24057
In_{1-x}Ga_xP_{1-x}As_x, stimulated yellow-green emission under electron excitation, 80K 9-33846
In_{1-x}Ga_xP_{1-x}As_x, visible spectrum laser diode, continuous operation, 6280 Å, 77K 9-960
InP-Ga_{1-x}In_xAs_{1-y}P_y systems, for optical devices in 1 to 1.6 μ m region, LPE growth (*Japanese*) 9-28956
InP-In_{1-x}Ga_xP_{1-x}As_x quantum-well LPE heterostructure lasers, band filling and gain 9-22955
optical constants of n- and p-type, 2.5-3.5 eV 9-15428
Si_{1-x}Ge_x-GaAs, p-n⁺ junction, I-V characts., inverse branch, effect of dislocation defects (*Russian*) 9-15217
Si_{1-x}Ge_x-GaAs heterodiode, interfacial structural defects effect on avalanche breakdown 9-42644
n-ZnSe-p-GaAs heterojunction high-detectivity threshold photodetectors 9-6181

gallium compounds

see also gallium alloys; gallium arsenide
C GaP on GaAs substrate, heteroepitaxial layers, struct. defects (*German*) 9-23865

gallium compounds continued

cathodoluminescence, bibliography of papers till 1977 9-21482
[CC] In_{1-x}Ga_xAs-GaSb_{1-y}As_y superlattice, optical absorption 9-19887
N-GaP and p-GaP, photon drag-optical rectification detectors, performance in 2 to 33 μ m range 9-35834
methyllummonium gallium selenate, lattice consts. and ferroelec. props. 9-33641
methyllummonium-Ga(SO₄)₂·12H₂O, ferroelec. alum single crystals, dielec. dispersion and characts. 9-15408
AgGaSe, exciton energy determ., electron beam excited luminesc. 9-38680
AlGa_{1-x}Ga_xP structure, LPE, double heterostruct. light modulator appl. 9-28963
AlGa_{1-x}Ga_xAs_{1-x}Sb_x, LPE, strain effects near miscibility gap, importance 9-7759
AlGa_{1-x}Ga_xN epitaxial layers, growth and props. 9-11522
Al₂Ga_{2(1-x)}O₃Cr³⁺, luminesc., lifetime, 77 and 4K, struct., energy transfer 9-28798
Al₂Ga_{2(1-x)}O₃Cr³⁺, luminesc., lifetimes 9-33784
AlGa_{1-x}Ga_xSb, LED, 1.54 μ m efficient emission at 300K reproducible fabrication 9-42636
AlGa_{1-x}Ga_xSb, photolum. intensity increase due to composition variation 9-15528
AlGa_{1-x}Ga_xSb, surface flatness depend. on LPE condition 9-15042
Ba₂Ga₂GeO₇, gehlenite struct., synthesis and physicochem. props. 9-43181
CuGaS₂, exciton energy determ., electron beam excited luminesc. 9-38680
CuGaS₂, tetragonal distortion, crystal field splitting, temp. depend. 9-47060
CuGaTe₂, IR lattice vibr. spectra 9-28765
Ga-Al-In-P(As)(Sb), III-V quaternary alloy, A_xB_yC₂D or AB_xC₂D_y, energy band gap and lattice constant 9-4296
Ga-Al-Sb, liq. phase epitaxy, phase diagram, X-ray microanal. 9-19491
Ga-As-Se, exam. of phase diagram, rel. to LPE of GaAs:Se 9-1849
Ga-In-As-Sb quaternary system, phase equilib. and heterojunctions 9-34016
Ga-In-Sb, ternary phase diagram, thermodynamic models of solidus and liquidus isotherms 9-24504
Ga-P-As-Sb, III-V quaternary alloy, A_xB_yC₂D or AB_xC₂D_y, energy band gap and lattice constant 9-4296
Ga-Sb-Te, props. of ternary solid solution based on GaSb 9-7826
Ga-Zn(Cd), excimer visible emission spectra in RF discharge, vibr. struct. 9-18201
GaAlAs-GaAs heterostruct. solar cells, Al, P, Zn incorporation by LPE (*French*) 9-24899
Ga_{0.5}Al_{0.5}As, heterostructure, cation order, effect on energy bands 9-1570
Ga_{1-x}Al_xAs, STEM techniques for simultaneous electronic anal. and obs. of defects 9-14812
Ga_{1-x}Al_xAs_{1-y}P_y layer of uniform composition grown on GaAs by LPE, temp. diff. method appl. 9-23864
Ga_{0.72}Al_{0.28}Sb avalanche photodiodes, ionization coeff. 9-17488
Ga_{1-x}Al_xSb variable-gap p-n structures, wide-band photoelec. effect 9-42635
GaAl_{1-x}Ga_xSb, VPE, closed tube transport technique 9-28935
GaAs, (110) surface, trnd in energy distrib. of Ga dangling orbital surface states 9-28397
GaAsO₄, XPS of cryst., inner shell binding energies of elements 9-43092
GaAsP epitaxial waveguide, electro-optic phase modulation of laser radiation 9-10417
GaAs_{0.4}P_{0.6}, CVD growth for LEDs 9-19998
GaAs_{1-x}P_x electrodes, interface capacitance meas., flatband pot., conduction and valence band boundaries (*French*) 9-33339
GaAs_{1-x}P_x, synthesized by ion implantation, Raman scattering 9-42972
GaAs_{1-x}P_x:N, photoluminesc. and optical absorpt. spectra of N impurity bound-excitons 9-47496
GaAs_{1-x}P_x:SiO₂:N, Zn ion-implanted multiple layers, ion range distrib., secondary ion microprobe meas. 9-42129
GaAs_{1-x}P_x, surface phonon polaritons, total internal refl. (*Russian*) 9-38688
GaAs_{1-x}P_x, liquid phase epitaxial growth on GaP, growth and properties 9-47641
GaAs_{1-x}P_x, heteroepitaxial solid soln., defects of struct 9-28223
GaAs_{1-x}Sb_x epitaxial n-n heterostructures, gap energies and interface pots., modulation electroabsorpt. meas. 9-11201
GaAsSb_{1-x}, lattice-matched LPE growth in InP substrates 9-42402
GaAsSb_{1-x}Ga_xAs_{1-y}As_y epitaxial films and multilayer heterostruct., SEM obs. under cathodolum. conditions 9-11023
GaAsSb_{1-y}, miscibility gap, rel. to LPE 9-33090
GaBr, rot. spectrum hyperfine struct. 9-13838
GaF+O matrix reaction, OGaF IR spectrum 9-11787
GaH(SO₄)₂·4H₂O, cryst. parameters and X-ray powder diffr. data (*French*) 9-14765
GaInAsP-InP buried heterostructure laser with mesa substrate, linear light/current characts. 9-36894
GaInAsP-InP DH layers, lattice deform. and misfit dislocations 9-19473
GaInAsP-InP DH lasers, for fibre optic communications 9-31924
GaInAsP-InP DH lasers with low threshold, narrow-beam divergence 9-36892
GaInAsP-InP lasers and detectors, for fibre optic communications at 1.0-1.6 μ m 9-3803
Ga_{0.98}In_{0.02}As_{0.18}P_{0.82}, band struct., optical studies 9-47013
Ga_{1-x}In_xAs_{1-y}P_yGe(Sn)(Te), epitaxial film, elec. and optical props. 9-11251
Ga_{1-x}In_xAs_{1-y}P_y, thermal expansion coefficients, 25-400°C 9-46817
Ga_{1-x}In_xAs_{1-y}P_y, film, energy band struct., photolum. meas. 9-7784
Ga_{1-x}In_xAs_{1-y}P_y:Mn, ESR of Mn 9-11341
Ga_{1-x}In_xSb, epitaxial, vapour-phase growth using open-tube flow system 9-33943
Ga_{1-x}In_xSb-GaSb, lattice parameter meas. in epitaxial layers 9-11040
Ga_{1-x}In_xSe, energy spectrum and struct., X-ray diffr. and light absorption 9-11437
GaKr, low-lying electronic states, PE curves, transition moments, emission coeffs. 9-6894
GaN epitaxial films, planar waveguides for integrated optics appls. 9-10416
GaN, epitaxial growth on sapphire substrates, elec. props., X-ray diffr. anal., photoluminescence spectra 9-4919
GaN film, heteroepitaxial deposition, growth kinetics and catalytic effects 9-4487

gallium compounds continued

- GaN single crystals, growth and morphology (*Japanese*) 9-43112
 GaN VPE for blue LEDs (*French*) 9-28928
 GaN:Zn, cathodolum. obs., recomb. model 9-11474
 GaN:Zn, cathodoluminesc., photocapacitance 9-38679
 GaN:Zn, violet bipolar LED 9-38190
 GaO, B-X band system, electronic spectrum, struct. and anal. 9-45732
 β - and β' -Ga₂O₃-Na₂O, fast ion conductor, Na⁺ self diffusion and Na-K exchange 9-28133
 β -Ga₂O₃, rel. between rutile, hollandite, piemontite, ramsdellite type structs. 9-37664
 β'' -Ga₂O₃-Na₂O-K₂O mixed crystals, cond. anomaly 9-46838
 GaP (110) surface, oxidation process, XPS study 9-15585
 GaP, (110) surface, trnd in energy distrib. of Ga dangling orbital surface states 9-28397
 n-GaP, CO₂ laser induced photon drag effect 9-42589
 GaP, camel's back induced stabilisation of electron-hole liquids 9-19524
 GaP, containing matrix metal inclusions, internal friction study 9-42145
 GaP, cubic cryst., lattice dynamics, overlap shell model and bond charge model 9-42156
 GaP, deep centres, many-electron effects 9-15117
 GaP, deep level profiles at substrate-epitaxial interfaces, photoionisation meas. 9-38025
 GaP, donor-acceptor pair spectra, electron-phonon interactions 9-38631
 GaP, electron-hole drop, luminesc. 9-33812
 GaP, electron-hole plasma luminesc. 9-38651
 GaP, epitaxial layers, dislocation recomb., SEM cathodoluminescence studies 9-42558
 GaP epitaxial layers, stable growth conditions, by molten salt electrodeposition on Si and GaP substrates 9-20000
 GaP, exam. of magnetic susceptibility and absorption spectra 9-1778
 n-GaP films, reduced work function, energy spectra of secondary electron emission 9-28867
 GaP, heteroepitaxial deposition on GaAs, Sn solvent inclusion, surface morphology (*German*) 9-28968
 GaP, hyperbolic singularity of dispersion law of excitons 9-42466
 GaP, impurity interaction on excited acceptor states, luminesc. excitation spectra 9-15517
 GaP, indirect exciton fine struct. in absorpt. spectrum, stress effects 9-42986
 GaP, ion-bombarded, energy band struct., electrorefl. obs. 9-19517
 GaP, ionised-cluster beam epitaxial growth on GaP and Si, characts. for LED 9-28951
 GaP, LED, efficiency depend. on O₂ conc. 9-19613
 GaP, LPE growth rate calc., model of LPE growth 9-19485
 GaP layers, LPE growth, elec. props., residual impurities 9-38202
 GaP, light emitting diode structure, effect of neutron irradiation on cathodoluminesc. 9-28843
 GaP, light scatt. spectra of guided wave polaritons 9-15101
 n-GaP low absorption monitors for HF laser 9-31964
 GaP, luminesc. from electron-hole drops, 2 to 77K 9-11454
 n-GaP, many-valley semiconductor, relative displacement of D₁ and D₂', bands under shear deform. influence 9-15080
 GaP, Mott transition of exciton gas, cathodoluminesc. 9-33845
 GaP, n-, p-type, electrode, impedance in alkaline medium (*French*) 9-43586
 GaP, optical inhomogeneity, physical basis 9-15430
 GaP oxide films grown by anodization in electrolytes, electron spectroscopy exam. (*German*) 9-15837
 GaP, photoelectron spectra at Schottky barrier (*Korean*) 9-11220
 GaP, photoexcited, Raman scatt. from plasmons 9-38541
 GaP polycrystals, subgrain boundaries, cathodolum. in SEM 9-1440
 GaP, positron annihilation, deep acceptor level props. 9-11485
 GaP, semicond., ³¹P nuclear mag. shielding 9-33549
 GaP single crystal, direct obs. of dislocations by birefringence 9-14810
 GaP, spectral depend. of O photoneutralisation cross-section near threshold, and band gap 9-1788
 GaP, stress-induced X_{1c}-X_{3c} conduction band mixing 9-19515
 GaP surface, Ar⁺ and e⁻ excited Ar Auger electron emission 9-47560
 GaP surface barrier structure, breakdown voltage exam., effect of proton irradiation 9-11225
 GaP, thermoelectric performance of Si-Ge alloy improvement 9-47115
 GaP:Bi(N), luminesc. decay kinetics 9-38646
 GaP:Cr, local level near valence band, photocapacitance 9-11080
 GaP:Cu, deep levels, photoluminesc. and optical cross sections 9-38653
 GaP:Fe, impurity atom charge exchange, Mossbauer spectroscopy 9-47050
 GaP:N, electronic energy levels calc., optimisation 9-28315
 GaP:N, luminesc. from electron-hole drop 9-33813
 GaP:N, N doping profiles in GaP grown by LPE, cathodoluminesc. data 9-23631
 GaP:N, photoluminescence, temp. modulated 9-38623
 GaP:N VPE LED, deep level centres, DLTS studies 9-42493
 GaP:N VPE layers, thermal emission energies, trapping, and carrier lifetimes, deep level capacitance spectroscopy 9-42487
 GaP:Ni, absorpt. and luminesc. spectra 9-42996
 GaP:O, whisker growth on surface 9-33212
 GaP:O, multicharged state of O, TSC and photoinduced currents 9-7808
 n-GaP:Si(Te), IR absorpt. cross-section 9-38582
 GaP:Si p-n struct., on n-Ga_{1-x}Al_xP and n-GaP substrates, electrolum. spectra 9-24368
 GaP:Te, ENDOR meas., hyperfine interactions and elec. field gradient 9-42869
 GaP:Te on GaAs, LPE growth from Sn, exam. of impurity band conduction effects 9-11249
 GaP:V, ESR exam. 9-11344
 GaP:Zn, light attenuation by impurity precipitates 9-11441
 GaP(TeS), IR lattice band profile, electron spin reversion in mag. field, Ni-R curve 9-28771
 GaPAs_{1-x}, exam. of magnetic susceptibility and absorption spectra 9-1778
 GaPAs_{1-x}, ion beam synthesis for photodetector fabrication 9-46688
 GaPAs_{1-x}N, impurity electron states, binding energies and wavefunctions 9-42488
 GaPO₄, XPS of cryst., inner shell binding energies of elements 9-43092
 GaP(Sb), refractive index dispersion 9-24280
 GaPZZ, 9-28408
 (GaP)(ZnSe)_{1-x}, solid solution, reaction of Zn with Se during Czochralski growth and LPE 9-8238
 (GaP)(ZnSe)_{1-x}, two-photon absorpt. at ruby laser freq., clarification (*Russian*) 9-15505

gallium compounds continued

- GaS, factor-group analysis of high-symmetry layer dynamics 9-42160
 GaS layer crystal, differential indirect exciton spectra 9-8159
 GaS, two-photon photoemission 9-28890
 GaS-YbS system, phase diagram, reactis., thermal, mag. and elec. meas. 9-11578
 GaS₂Se_{1-x}, grown by iodine vapour transport, X-ray struct. studies 9-4411
 GaS₂Se_{1-x}, indirect exciton spectrum and phase transition, luminesc. and absorption spectra 9-8160
 GaS₂Se_{1-x}, recomb. radiation intensity, temp. depend. (*Russian*) 9-33830
 GaSb_{1-x}(110) surface, trnd in energy distrib. of Ga dangling orbital surface states 9-28397
 GaSb, amorphous, two-circle SSD diffractometer appl. in angle dispersive mode 9-14641
 GaSb, Au overlayer adatom interactions, photoemission obs. 9-33898
 GaSb, Auger coeffs. calc. 9-15160
 GaSb, bound excitons at doubly ionisable acceptors 9-42459
 p-GaSb, CESR, optically detected, giant Overhauser shift 9-4722
 GaSb, chemisorption and oxidation states of (110) surfaces 9-24049
 GaSb, cubic cryst., lattice dynamics, overlap shell model and bond charge model 9-42156
 p-GaSb, elec. cond., Hall effect, mobility and carrier concentration (*Russian*) 9-19603
 GaSb film, gamma-irradiated, struct., TEM and SEM obs. 9-15033
 GaSb films, MBE growth and elec. props. 9-23863
 GaSb, interaction of exciton recombination with LO phonons 9-38647
 GaSb, inversion of Γ and L conduction bands under uniaxial stress, photoluminescence meas. 9-33229
 GaSb oxide films grown by anodization in electrolytes, electron spectroscopy exam. (*German*) 9-15837
 GaSb, photolum. spectra under hydrostatic press. 9-19930
 GaSb, proton range data and deep proton-isolated lasers 9-36923
 GaSb, single crystal, stress-induced phase change 9-23720
 GaSb, single crystals., grown by vertical and horizontal travelling heater method, growth parameters and cryst. quality 9-24421
 GaSb, transport phenomena, review 9-19587
 GaSb:Fe, shallow acceptor level, electrical meas. 9-11087
 n-GaSb:Te, Hall coeff., carrier conc. and mobility, elec. cond., 290 to 550K (*Russian*) 9-19604
 n-GaSb:Te, heavily doped, spontaneous radiative recomb. vel., photoluminesc. spectra 9-11458
 GaSb-Au Schottky barriers, PES and depth profiling obs. 9-42641
 GaSb_{1-x}As_x, disorder-enhanced Auger recomb. 9-43014
 GaSb_{1-x}As_x alloy surface states obs., using electron energy loss spectra 9-15202
 GaSb_{1-x}As_x films, MBE growth and elec. props. 9-23863
 GaSe, band struct. and electron density of states in two-dimens. approx. 9-37987
 GaSe, electron beam excited free exciton luminesc. 9-19940
 GaSe, factor-group analysis of high-symmetry layer dynamics 9-42160
 GaSe film, structure, influence of laser beam 9-7761
 GaSe, lattice dynamics, in one-layer approach 9-14900
 GaSe, layer, upper valence bands using bond-orbital model 9-15078
 GaSe, layer cryst., elastic props. rel. to zone-centre phonon freqs. 9-46736
 GaSe, layer struct., fine independent elastic const. using Brillouin scatt. 9-19896
 GaSe layers, band struct. and state density calc. by empirical tight-binding method 9-42443
 p-GaSe, monocrystal, temp. depend. of mechanical strength (*Russian*) 9-10892
 GaSe, optical detection of triplet exciton reson. 9-33567
 GaSe, photolum. decay 9-15518
 GaSe, photolum. under strong optical excitation 9-24364
 n-GaSe, photomagneto-elec. and photocond. current spectral distrib. 9-42585
 p-GaSe, resistivity, anisotropy 77 to 750K 9-4559
 p-GaSe, single cryst., negative photocond. induced by elec. field 9-19623
 GaSe, thin film, photoelectrical props. at high electric field (*Russian*) 9-11247
 GaSe, triplet indirect bound exciton, level anticrossing effect on magnetolum. 9-47513
 GaSe, type II crystals, triplet exciton resonances 9-47359
 GaSe:Sn, single crystal, transient photoconductivity (*Russian*) 9-11171
 GaSe-SnSe system, phase diagram and lattice const. of solid solns. 9-34014
 Ga₂Se₃-MnSe system, crystallographic study, phase diagram, DTA and X-ray diffr. determ. (*French*) 9-24506
 GaTe, Hall mobility, resistivity anisotropy 9-11150
 GaTe, Schottky barrier, photovaltaic props. 9-7854
 GaTe, transport anisotropy 9-23975
 GaTe:Sn, electroabsorption spectra 9-19901
 Ga₂Te₃, liq., elec. resistivity meas. up to 30 kbar 9-38070
 Ga₂Te₃, single cryst., elec. cond. meas. 9-11124
 Ga₂Ti_{1-x}O_{2x-2} (where x=odd) type structures, rel. between rutile, β -gallia, hollandite piemontite type structs. 9-37664
 Ga₂VO₄, reduced, microstruct., crystallographic shear planes, electron microscope obs. 9-1443
 GaP-Ge, compensated, photosensitivity 9-19624
 Ge-GaSb, metastable continuous solid solutions 9-8284
 Ge_{1-x}(GaSb)_x, metastable solid solution, fine struct. (*Russian*) 9-27960
 InAs-Al_{0.5}Ga_{0.5}Sb heterojunctions, elec. and photoelec. props. 9-11206
 InAs-GaSb superlattice energy struct. and semiconductor-semimetal transition 9-23893
 InGa-GaSe interface, microplasma electrolum. at 300K 9-11469
 InGaAs-GaSbAs periodic structures, with controlled emission 9-7880
 In_{1-x}Ga_xAs alloy surface states obs., using electron energy loss spectra 9-15202
 In_{1-x}Ga_xAs-GaSb_{1-x}As_x superlattice, with nonlinear energy-wave and energy-momentum relationships 9-7871
 InGaAsP IR heterojunction photodiode detector 9-21813
 InGaAsP, LPE growth on InP, influence of lattice mismatch on surface morphology 9-1553
 InGaAsP, with and without InP cladding layers, low photolum. regions 9-33754
 InGaAsP:Be ion-implanted avalanche photodiode, struct. and characts. 9-17487
 InGaAsP:Sn(Te)(Zn), LPE growth, influence of growth-solution dopants on distrib. coeffs. 9-47640
 In_{0.79}Ga_{0.21}As_{0.54}P_{0.46}, LPE layer, electroreflectance meas. 9-24290

gallium compounds continued

- $\text{In}_{1-x}\text{Ga}_x\text{As}_y\text{P}_{1-y}$, p-n junction diodes, fabrication by Be ion implantation 9-47156
- $\text{In}_{1-x}\text{Ga}_x\text{As}_y\text{P}_{1-y}$, DH laser material, spatially resolved photolum. characterisation and optically induced degradation 9-47486
- $\text{In}_{1-x}\text{Ga}_x\text{As}_y\text{P}_{1-y}$, lattice matched to InP, band gap vs. comp., and Vegard's law demonstration 9-7782
- $\text{In}_{1-x}\text{Ga}_x\text{As}_y\text{P}_{1-y}$, Be, ion implantation, hole conc. and mobility, junction depth 9-46685
- $\text{In}_{1-x}\text{Ga}_x\text{As}_y\text{P}_{1-y}$, InP photodetectors, high-efficiency with selective wavelength response, 0.9-1.7 μm 9-21810
- $\text{In}_x\text{Ga}_{1-x}\text{As}_y\text{P}_{1-y}$ layers on InP, LPE and opt. props. characteris. 9-28849
- InGaAsSb based injection heterolaser, 1.9 μm stimulated emission 9-18420
- InGaP-GaAs junction, effect of elastic strain on energy band gap and lattice parameters 9-24057
- $\text{In}_{1-x}\text{Ga}_x\text{P}$, LPE, conditions, reacts. in In-Ga-P system 9-11525
- $\text{In}_{1-x}\text{Ga}_x\text{P}$, non-isodisplacement of P atoms in long-wavelength optical phonons 9-47444
- $\text{In}_{1-x}\text{Ga}_x\text{P}$, quantitative characterisation of chemical disorder from wavelength-modulated no-phonon absorb. 9-15482
- $\text{n-In}_{1-x}\text{Ga}_x\text{P}$ solid solns., electron scatt. mechanisms (*Russian*) 9-4568
- $\text{In}_x\text{Ga}_{1-x}\text{P}$, TEM foil preparation, using polishing set 'Elypovist' (*German*) 9-9264
- $\text{In}_{1-x}\text{Ga}_x\text{P}_{1-x}\text{As}_x$ solid solution, radiative transitions 9-11476
- $\text{In}_{1-x}\text{Ga}_x\text{P}_{1-x}\text{As}_x$, stimulated yellow-green emission under electron excitation, 80K 9-33846
- $\text{In}_{1-x}\text{Ga}_x\text{P}_{1-x}\text{As}_x$, visible spectrum laser diode, continuous operation, 6280 Å, 77K 9-960
- $\text{In}_{0.58}\text{Ga}_{0.42}\text{Sb}$, interband magneto-optical transitions, arbitrary field orientation 9-42948
- $\text{In}_{1-x}\text{Ga}_x\text{Sb}$ alloy system, interband magneto-optical study using Schottky barrier 9-8124
- $\text{In}_x\text{Ga}_{1-x}\text{Sb}$, molecular beam epitaxy 9-47638
- InGaGeTe_{10} , X-ray cryst. struct. determ. (*French*) 9-23580
- $\text{InP-Ga}_{1-x}\text{In}_{1-x}\text{As}_x\text{P}_{1-y}$ systems, for optical devices in 1 to 1.6 μm region, LPE growth (*Japanese*) 9-28956
- InSb-GaSb alloys, directionally solidified, composition variations, electron probe anal. 9-24513
- InSb-GaSb solid solution ingots, orientation, twinning and orientation depend. reflectance 9-28001
- $\text{P}_x\text{As}_{1-x}$, periodic structs. characts. determ. by means of satellite Bragg reflections 9-46510
- $\text{RBGa}(\text{SO}_4)_2 \cdot 12\text{H}_2\text{O}$, ENDOR of $^{57}\text{Fe}^{3+}$ in trigonally distorted octahedral sites 9-38405
- Si-GaP , heterojunction, photosensitivity spectrum, characts. 9-24071
- $\text{SnGa}_6\text{Te}_{10}$, X-ray cryst. struct. determ. (*French*) 9-23580
- TiGaS₂, optical and photoelectric exam. 9-11180
- $\text{TiGaS}_2\text{Se}_{2(1-x)}$, layer solid soln., mixed one- and two-mode behaviour of optical phonons 9-47445
- $\text{TiGaS}_2\text{Se}_{2-x}$, optical and photoelectric props., composition depend. 9-15183
- $\text{Y}_3\text{Ga}_2\text{Fe}_5\text{O}_{12}$, garnet, computer simulation of temp. and field depend. of sublattice magnetisation and spin-flip transition 9-11300
- YIG, Ga-substituted, mag. birefringence rel. to sublattices 9-28723

gallium phosphide light emitting diodes *see light emitting diodes***galvanomagnetic effects**

- see also Hall effect; magnetoresistance; Suhl effect; thermomagnetic effects*
- cascade capture of charge carriers in quantised mag. field, appl. to many-valley semicond. (*Russian*) 9-4572
- graphite, anomalous galvanomagnetic properties, in strong mag. field 9-23986
- Gunn diodes, domain instabilities in transverse mag. field 9-23981
- many valley semiconductor, galvanomag. effects 9-11157
- semiconductor, layered compound, collective electron cond. in strong mag. field 9-42525
- semiconductor, microwave magnetoconductivity in large quantising mag. field, effect of band non-parabolicity 9-47112
- semiconductor, polarity reversing control current magnet power supply with triangular waveform for meas. 9-12827
- semiconductor and semimetallic thin films, dislocation superstructures and conduction electron kinetics, oscil. phenomena (*Russian*) 9-19678
- semiconductor stable electron-hole plasma, diffusion in magnetic field 9-24001
- semimetal, electric current distribution, by diffusion size effect 9-23987
- Al-Ge(Mg)(Zn)(Ga), dil., electronic transport coeffs. for point defect scatt., 4-OPW calc. 9-42531
- Bi, galvanomag. wave propag. obs. (*Russian*) 9-33301
- Bi, magnetoplasma waves in strong mag. fields at 300 GHz 9-38116
- Bi-Sb, magnetoplasma waves in strong mag. fields at 300 GHz 9-38116
- $\text{Cd}_{0.24}\text{Hg}_{0.76}\text{Te}$, mag. quantum oscil. in photovoltaic effect 9-19619
- CdTe, n- and p-type, elec. and galvanomag. props. 9-7830
- Fe_2Pd , quenched, or annealed exam. of magnetostriction, galvanomag. and thermomagnetic props. (*Russian*) 9-19757
- GaAs:Si(Se), ion implanted, evaluation by contactless mobility meas. 9-1448
- Ge microconductor mag. field transducer, cast, galvanomag. recomb. effect 9-19609
- InSb, donor spectrum, effect of strong mag. field 9-7806
- InSb film, magneto-concentration effects (*Russian*) 9-47113
- InSb, high-purity, electron irradiation effects on transport props. 9-23650
- p-InSb, influence of plastic bending on galvanomag. props. 9-28349
- n-InSb, photoconductivity meas. in crossed fields 9-7852
- InSb, polar semiconductor, impact ionisation in crossed elec. and mag. fields 9-28355
- InSb-NiSb system, anisotropic, acoustomagneto-elec. effect, theory 9-24021
- $\text{Pb}_{1-x}\text{Sn}_x\text{Te}$, nonequib. metallic state (*Russian*) 9-33300
- Si, many-valley semiconductor, linear galvanomag. effects of hot electrons 9-11154
- n-Si, noise and hot carrier diffusion in mag. fields 9-11193
- SiIr, magnetosensitive diodes, characts. 9-24069
- Te, Faraday-type microwave Kerr effect 9-23998
- U film, condensed on cold substrate, electronic props. (*Russian*) 9-7912

galvanomagnetism *see electromagnetism***galvanometers**

- beam-scanning rotating lens system, for laser fibre drawing 9-41463
- photoelectric colorimeter reconditioning methods 9-39618

galvanothermomagnetic effects *see thermomagnetic effects***game theory**

see also information theory

- matrix games, monotonic iterative algorithm 9-12563
- thermal power reactor, operations research 9-13396

gamma fission reaction *see photofission***gamma radiation** *see gamma-rays***gamma-ray absorption**

- absorbed energy distrib. in γ -irradiated layered target, Monte Carlo program 9-19279
- air-water slug flow in horizontal pipe, liquid holdup determination 9-46362
- bremsstrahlung influence on γ dose buildup factors rel. to penetration depth (*Russian*) 9-13542
- concrete, porosity determ. from combined US and gamma absorption meas., mech. props. 9-29295
- LWR LOCA, fission product gamma-ray energy absorption in emergency cooling solns. 9-31052
- penetration in heterogeneous systems 9-18050

gamma-ray angular distribution

see also gamma-ray spectra

- ion, free, aligned, static hyperfine interaction, gamma-ray ang. distrib. 9-9508
- penetration in heterogeneous systems 9-18050
- relativistic electron+laser photon scatt., angular and energy distrib. (*Russian*) 9-3029
- spin-alignment attenuation factors in mass 61-67 nuclei populated by (α , n) and (α , p) reactions 9-26390
- vitamin B₁₂- ^{181}Re Hf complex, γ -ray PAC expt., crystal and liq. 9-39341
- $^{63}\text{Cu}+^{20}\text{Ne}$, 168 MeV, gamma ray multiplicity distrib. in strongly damped oscil. 9-36266
- ^{24}Al , β -transitions, weak magnetism, nuclear struct., matrix elements 9-13253
- $^{27}\text{Al}(n,n'\gamma)^{27}\text{Al}$, γ -ray prod. cross-section meas. 9-26434
- $^{19}\text{Au}(n,\gamma)$, ^{198}Au energy level spins 9-457
- ^{32}Cr , β -transitions, weak magnetism, nuclear struct., matrix elements 9-13253
- ^{51}Cr , strongly deformed $K^\pi=1/2^-$ bands from γ meas., level transition parameters 9-3113
- ^{15}Dy , γ -ray angular correlations 9-6494
- ^{16}Er , A=154, 155, γ -ray spectra, ang. distrib., high spin states 9-9503
- ^{16}Er levels and transitions, spectroscopic factor bombarding energy depend. from $^{16}\text{Er}(d,t)$, 9-15 MeV 9-495
- ^{16}Eu , A=145, 147, 149, mag. moments of $11/2^-$ states 9-40846
- ^{20}F , β -transitions, weak magnetism, nuclear struct., matrix elements 9-13253
- Fe, ferromag., transient mag. field for ^{13}C 9-47362
- ^{52}Fe , strongly deformed $K^\pi=1/2^-$ bands from γ meas., level transition parameters 9-3113
- ^{157}Gd γ -directional distrib., levels, spin assignments from ^{157}Tb decay 9-13241
- ^{154}Gd levels from γ ang. distrib., populated by $^{152}\text{Sm}(\alpha,2n\gamma)$ and ^{154}Tb decay 9-442
- ^{70}Ge level spin and parity assignments from $^{66}\text{Fe}(^{16}\text{O},2p\gamma)$, $^{67}\text{Zn}(\alpha,n\gamma)$, $^{68}\text{Zn}(\alpha,2n\gamma)$ 9-3081
- ^{12}N , β -transitions, weak magnetism, nuclear struct., matrix elements 9-13253
- ^{11}Na , A=22, 24, β -transitions, weak magnetism, nuclear struct., matrix elements 9-13253
- $^{34}\text{S}(p,\gamma)^{35}\text{Cl}$, determ. of ^{35}Cl resonance level spin and multipolarity mixing coeff. 9-9552
- $^{34}\text{S}(p,\gamma)^{35}\text{Cl}$, $E_p=700$ to 2100 keV, γ -ray angular distrib. 9-9466
- ^{114}Sn , even A=116, to 124, $2_2^+ \rightarrow 2_1^+$ energy level transitions in (n,n' γ) reaction, pair interaction effects (*Russian*) 9-3114
- ^{181}Ta , 136 keV level, g-factor meas. 9-6387
- ^{181}Ta , elec. quadrupole interactions in 482-keV level, meas. using Ge detector 9-40842
- ^{157}Tb low excited states, γ -ray angular distrib. in ^{153}Dy decay 9-6471
- ^{157}Tb , low excited states, lifetime meas. 9-6492
- ^{155}Tb , oriented in Gd, γ -decay ang. distrib., hyperfine splitting, moment and mixing ratios 9-45242
- ^{160}Tb , perturbed ang. correl. determ. by one ang. meas. 9-17851
- $^{160}\text{Tb} \rightarrow ^{160}\text{Dy}$, A_2^β ang. correl. coeff., β - γ ang. correl. studies 9-13255
- ^{63}Zn level scheme, spin and parity assignments from (p,d), (p,n γ), (α ,n γ), (^{12}C ,pn γ) 9-465
- $^{94}\text{Zr}(p,n\gamma)^{94}\text{Nb}$, neutron escape cross section determ., 1.7-3.0 MeV 9-9551

gamma-ray applications

see also radiation therapy

- density of liquids meas., food industry appl. 9-44903
- flaw detection, use of Kalman filter 9-5121
- speed-granularity relations for X-ray and γ -ray exposures 9-21828
- ^{60}Co irradiation sterilisation processing unequal mass interchange model verification 9-26759
- ^{60}Co irradiation sterilisation processing, unequal mass interchange model 9-26758
- ^{60}Co irradiation sterilisation processing, nonstandard double carton simulation 9-26760

gamma-ray astronomical observations

- burst source registration by Prognoz 6 Sneg-2MP instrument (*Russian*) 9-21468
- bursts, intensity distrib., galactic origin (*Russian*) 9-16772
- CG sources, 100 MeV, very high energy gamma-ray emission search 9-40293
- cosmic gamma-ray burst source, position from Helios 2-Vela-Ariel 5 obs. 9-48956
- Crab Nebula, obs. by gamma-ray telescope with modulating anticollimator (*Russian*) 9-16832
- galactic centre direction, positron annihilation radiation at 511 keV 9-5902
- galactic centre region, medium-energy gamma-ray emission obs. 9-9030
- solar spectrometric obs. from Prognoz satellites 9-21127

gamma-ray astronomy

see also gamma-ray sources (astronomical)

- COS-B satellite, ESA extraterrestrial gamma radiation obs. project (*German*) 9-21151
- cosmic ray origin and gamma-ray astronomy 9-29951
- cosmic rays, review (*Korean*) 9-12368

gamma-ray astronomy continued

- double scatter telescope for medium energy gamma ray astronomy from a satellite 9-48676
- drift chamber detector, performance figures, γ -ray astronomy appl. 9-48674
- drift chamber telescope for gamma-ray astronomy 9-21185
- hard X-ray camera for study of gamma ray burst sources 9-25502
- High Energy Astronomy Observatory (HEAO) programme 9-44368
- imaging double Compton telescope for balloon obs. of MeV gamma radiation 9-25503
- instrumentation, for low and medium energy ranges 9-25492
- line emission sources, review 9-44641
- maximum-entropy image processing in gamma-ray astronomy 9-48684
- MISO low energy γ -ray telescope 9-25472
- modulating anticollimator for low and medium energy gamma-ray telescope (*Russian*) 9-16832
- planetary surface elemental anal. via orbital gamma-ray spectroscopy 9-12412
- point sources of 10^{11} - 10^{14} eV gamma-rays using atmospheric Cherenkov technique 9-25422
- present status, review 9-25763
- pulsars, gamma-ray spectra 9-30083
- remote sensing spectrometers, data analysis system for planetary mission appl. 9-12411
- superconducting superheated granules as X-ray and γ -ray imaging detectors 9-25504
- telescope on satellite, axis orientation determ. 9-2479

gamma-ray detection and measurement

- see also gamma-ray spectrometers; radioactivity measurement
- airborne gamma-ray spectrometry data processing using multivariable statistical analysis 9-35004
- analysis using ion induced gamma rays 9-5220
- associated gamma-ray technique for neutron fluence meas. 9-9978
- background correction algorithm for γ - γ coincidences 9-13616
- backscattered photons number albedo meas. 9-36490
- benchmark γ -spectrometry, unfolding codes 9-26802
- betatron, radiation protection meas. 9-29636
- borehole capture gamma-ray anal., optimal size ^{252}Cf neutron source 9-29890
- borehole probe with LED for γ -ray spectrum stabilisation 9-45552
- calorimeter for high energy photons 9-36469
- cellulose nitrate, effect of high γ -doses on etching characts., dosimetry appl. 9-31224
- coded-aperture configuration, gamma-ray imaging in Fourier space 9-17588
- coincidence meas. of α , X, and γ -rays 9-26851
- composite X-ray and γ -ray detectors 9-9890
- concrete, meas. of albedo number using ^{60}Co , ^{137}Cs sources 9-26768
- constant fraction differential discriminator for use in fast timing coincidence systems 9-45580
- detector calibration for extended sources 9-724
- detector system for determ. of internal radiation exposure dose 9-5378
- distance meas. with coincident gamma-ray using positron lifetime spectrometer 9-12765
- dosimeter testing, effect of air scattered radiation 9-6774
- dosimeters, energy relationship of effectiveness and error estimation 9-31225
- double ionization chamber for the differential method 9-22552
- double scatter telescope for medium energy gamma ray astronomy from a satellite 9-48676
- drift chamber detector, performance figures, γ -ray astronomy appl. 9-48674
- drift chamber telescope for gamma-ray astronomy 9-21185
- EBR-II active calorimeter design improvement 9-9967
- electron and γ interaction ranges, Monte Carlo calc. (*Russian*) 9-12370
- electronic lifetime meas. with Ge(Li) detector using centroid-shift method 9-6790
- emulsion chamber for cosmic γ -ray detection 9-29959
- emulsion chamber for cosmic γ -ray detection 9-29958
- exposure rate and absorbed dose meas. for 6-7 MeV γ -26766
- fallout γ -ray spectra anal. using Ge(Li) detector, 19th Chinese nucl. test explosion (*Japanese*) 9-31219
- FFTF element measuring system 9-9729
- fission product activity ratios in RA used fuel element, γ -ray spectroscopy 9-41061
- gamma thermometer, developments for LWR power monitoring 9-45368
- high density proportional counter, medical imaging of e^+ radioisotope distrib. 9-5399
- high energy interaction, effect on spectral peak centroid determ. 9-36468
- high rate 4π β - γ coincidence counting system 9-45588
- hybrid MWPC gamma ray detecting system for applications in nuclear medicine 9-5397
- imaging double Compton telescope for balloon obs. of MeV gamma radiation 9-25503
- instrumentation, for low and medium energy ranges, astronomical appl. 9-25492
- ionisation chamber for X, gamma rays, performance monitoring of radiation shielding 9-6797
- irradiated fuel rods, computer-controlled gamma scanning 9-9753
- Kodak Type II film badges, gamma dose meas. in presence of thermal neutrons 9-39517
- LMFBR fuel pins, computer anal. and control for nondestructive gamma scanning 9-9754
- marine gamma-spectrometric surveying problems 9-2390
- medical imaging instrument, positron emitting heavy ion beam injection 9-48329
- MISO low energy γ -ray telescope 9-25472
- Monte-Carlo calcs., number and energy albedo 9-31221
- multidetector meas. of ang. correl. 9-41084
- MWPC, appl. to radiation localisation problems in medicine and biology, review 9-5432
- MWPC with analogue read-out, high energy e^-/γ detection 9-13593
- nuclear accident dosimetry systems, comparison 9-22496
- nuclear excited states, 10^{-10} to 10^{-6} s, lifetime meas. by time spectrometer system 9-31313
- nuclear explosion, time distrib. and anal. fallout particles from 1977 Sept. 18 Chinese detonation 9-25796
- nuclear reactor critically incident detect. with γ dose rate alarm 9-36423
- nuclide activity measurement, correlation factor for self-absorpt. 9-34401

gamma-ray detection and measurement continued

- nuclide mass yield identification following heavy ion induced reacts. 9-22531
- paired LiF TLD 600, 700 technique, γ -dose in mixed n- γ radiation fields 9-45432
- photographic film dosimetry by low energy photon transmission 9-45433
- photon energy spectra estimation based on 34×34 matrix 9-41059
- positron annihilation radiation at 511 keV from galactic centre 9-5902
- proportional counter, sectional flow, high background, for Mossbauer spectroscopy 9-727
- pulse shape discriminator for n- γ separation, appl. to TOF spectroscopy 9-6786
- pulsed gamma-ray method for rocks density determ. theory (*Russian*) 9-39956
- radioactive element conc. from γ -ray intensity meas., numerical method 9-18059
- radionuclide radiation precision spectrometry using semiconductor detectors (*Russian*) 9-31305
- radiopharmaceuticals, γ -emitting, in rat blood, continuous monitoring technique 9-2129
- self-powered detectors, reactor in-core monitoring (*Slovak*) 9-31322
- self-powered detectors, review 9-45558
- self-powered gamma-ray detector with directional discrimination 9-30895
- solid-liquid pipe flow, cross correlation method anal. 9-32638
- spectrometer for underwater gamma surveying, calibration 9-21066
- spectrometer systems, portable, in situ field meas. applications 9-9958
- spectroscopy processor X- and γ -ray, active zero-pole cancellation feedback loop 9-9972
- stack gas monitor, β scintillation detector+Ge(Li) detector system, environmental γ dose (*Japanese*) 9-3246
- superconducting superheated granules as X-ray and γ -ray imaging detectors, astronomical appl. 9-25504
- surface contamination meter 9-22494
- survey meters for low γ -ray dose rate meas. 9-41081
- time-domain spectroscopy of recoilless gamma rays 9-26812
- VIPER reactor, neutron leakage spectrum and dose meas. 9-3243
- $e^- \gamma$ delayed coincidences using magnetic lens spectrometer and Ge(Li) detector 9-710
- e^+ annihilation in solids, angular correl. meas. by proportional counter 9-4869
- Al, meas. of albedo number using ^{60}Co , ^{137}Cs sources 9-26768
- ^{241}Am spectrometer for Compton scatt. studies 9-2899
- Ar, liquid calorimeter γ -detector, 5 to 80 MeV 9-6799
- CaSO_4 :Dy phosphor powder, effect of grinding on thermoluminescent sensitivity 9-33852
- CaSO_4 :Dy TLD, temp. effect during UV and gamma irradiation 9-38684
- CaSO_4 :Dy TLD, thermal neutron and γ -ray meas. in mixed radiation field, activation and capture gamma technique 9-738
- CdTe detector for personal radiation chirper 9-45557
- CdTe photovoltaic mode γ - and X-radiation dosimeters 9-13594
- ^{139}Ce - ^{139}La , internat. comparison of activity meas. March 1976 9-13613
- ^{60}Co source, ionisation chamber beam standardisation, Monte Carlo calcs. of wall correction factors 9-3288
- CsI(Tl), params., of FEU-118 photomultiplier in operation with NaI(Tl), CsI(Tl) dets. 9-3284
- ^{137}Cs distributions effects on γ -intensity in γ scan method for reactor fuel bundle (*Japanese*) 9-36342
- ^{152}Eu sources, international comparison of γ -ray emission rate meas. using Ge spectrom. 9-22529
- Ge coaxial detectors, n-type high purity, construction and performance 9-41075
- Ge detectors in space, computer spectral anal. of cosmic ray proton induced radioactivity 9-12413
- Ge radiation detectors used for high resolution gas ray spectroscopy 9-6804
- Ge spectrum, precise γ -ray energies for calibration up to 3.5 MeV 9-31311
- Ge-Li total efficiency calc., algorithm for small calculators 9-9938
- Ge(Li) anticoincidence shielded spectrom. for environmental radionuclide meas. 9-6791
- Ge(Li), calc. of finite angle correction coeffs. and linear polarisation sensitivity 9-736
- Ge(Li) detectors, commercial, time parameters 9-728
- Ge(Li) detectors, energy meas. source position effect 9-13579
- Ge(Li), meas. of γ -ray elastic and Compton scatt. through small angles 9-718
- Ge(Li) spectrometry at low source-detector distances, coinc. summing corrections 9-22528
- ^{192}Ir , specific γ -ray constant and exposure rate constant 9-36187
- ^3LiF TLD, evaluation of γ -ray response calcs. 9-31229
- ^7LiF -Teflon disc TLD, determ. of neutron fluence and γ -dose distrib. 9-45434
- NaI collimated detector response matrix generation 9-22553
- NaI detector system, front end electronic, pulse height anal. 9-45587
- NaI scintillation counter, sex-dependent calibration factor, ^{42}K whole-body content meas. 9-29593
- NaI(Tl) detectors, determ. of full energy peak efficiency 9-31318
- NaI(Tl) linear response photon counter 9-45567
- NaI(Tl), params., of FEU-118 photomultiplier in operation with NaI(Tl), CsI(Tl) dets. 9-3284
- NaI(Tl) scintillator, electron detection efficiency for electrons and gamma-rays > few keV 9-36461
- Pb glass detectors for high-energy photons, Monte Carlo calc. of energy resolution 9-18072
- ^{86}Rb decay, γ -ray energy meas. 9-22530
- Si microelectronic p-n junction photon detector 9-26815
- Si(Li) detector, improvement of time depend. instabilities by IR and γ -irradiation 9-36477
- ^{181}Ta , elec. quadrupole interactions in 482-keV level, meas. using Ge detector 9-40842
- U- and Th-series, secular equilb. investigation method 9-2381

gamma-ray diffraction

- combined neutron/gamma ray crystallography techniques, possibilities 9-46518
- Al, energy release during annealing, Bragg diff. expt. with Mossbauer γ rays 9-24546

gamma-ray diffraction continued

- Au, inner electron wavefunction, meas. using Bragg scatt. of 412 keV gamma-radiation 9-14734
 PdH_{0.73}, 50K transition, γ -ray and neutron diffr. study 9-14932

gamma-ray effects

- see also biological effects of gamma-rays; radiolysis*
 absorbed energy distrib. in γ -irradiated layered target, Monte Carlo program 9-19279
 alkali borate and silicate glasses, γ -irrad., paramag. SO₃⁻ radicals 9-42838
 alkali halide, gamma irradiated, positron annihilation 9-23643
 alkane glass, γ -irradiated, charge trapping, isotope and mol. struct. effects 9-5164
 anthracene, structural defect, photolum., γ -irrad. and temp. depend. (*Russian*) 9-28797
 B-group vitamins in aqueous systems, decomposition by γ -rays in presence and absence of protective additives 9-2006
 borosilicate glass US attenuation temp. dependence rel. to γ irradi. 9-46755
 bovine bone, degraded, ESR study 9-39432
 1-bromoadamantane, orientationally disordered, γ -irrad. free radical defects, positron probe obs. 9-23647
 cellulose nitrate, effect of high γ -doses on etching characts., dosimetry appl. 9-31224
 concrete, gamma-ray buildup factors, Tcheycheff-fitted Berger coeffs. 9-31226
 deposition profiles of irradiated materials interfaces, Monte Carlo calcs., photo Compton current 9-24383
 diacel solid state track detector 9-750
 dimethyl sulphoxide, UO₂²⁺ γ -irrad. frozen solns., radiothermolum. and temp. deactivation (*Russian*) 9-33854
 4-methyl-2,6-di-tertarybutylphenol, tunnelling methyl groups, EPR 9-4723
 methylene diiodide, in 3-methyl pentane, γ -radiolysis 9-24776
 optical fibre, γ -ray irradi., damage recovery by annealing 9-23078
 phosphors, TLD, γ -induced sensitisation and residual thermolum. 9-28844
 photochromic glass, γ -ray effects on sensitivity (*Japanese*) 9-38583
 photoelastic modelling, suitability of materials under γ -irradiation (*German*) 9-33666
 photographic film, fogging effects diagnosis, use of granularity meas. 9-47952
 polyethylene, amorphised by γ -irradiation, radial distribution function anal. for degree of interchain ordering 9-23530
 polyethylene films, low density, γ -irrad., elec. cond., effect of elongation 9-4564
 polypropylene, gamma-irradiated, active centres recombination kinetics, ESR study (*Rumanian*) 9-19778
 polypropylene fibres, EPR during glass transition, γ -irrad. 9-8445
 α -quartz:Ag²⁺(Cu²⁺), γ -irradiated, stabilisation of impurity atoms 9-8047
 quartz, absorpt. of γ -irrad. samples, comparison with absorpt. of electron irradi. samples 9-1779
 quartz, E_i' centre formation and regeneration, α and γ radiation efficiency 9-32992
 radiation dose rate calc. in building materials 9-18057
 radiation stability of 'nuclear class' ion-exchange resins 9-43609
 ruby, γ -irradiated low temp. UV bleaching 9-23646
 sewage sludge irradiation plant, dose and irradiation homogeneity 9-22489
 silica gel, effect of gamma-rays, electron scavenging by N₂O 9-24762
 silicone rubber biomaterial, filler free, radiation chemical and physical evaluation 9-39608
 skyshine dose due to gamma-rays from nucl. power plant (*Japanese*) 9-29917
 SOS capacitors, ion-implanted with negative charge gamma radiation effects 9-23645
 superconducting magnet epoxy fracture after low-temp. irradiation 9-34147
 superlinear filling of traps in crystals due to competition during irradiation 9-33850
 TGS, interaction of γ -irrad., induced defect electron microscope expts. 9-10876
 TGS, pure and with lattice defects, elec. cond. 9-42538
 TGS crystals, thermal props., γ -radiation defects and inhomogeneity of domain deposition 9-46810
 TLD-600, activation and damage effects after neutron pre-exposure 9-13540
 1-vinyl-o-carborane, orientationally disordered, γ -irrad. free radical defects, positron probe obs. 9-23647
 Ag-Zn (24 at.% Zn), γ -irradiated, freely migrating defects, rate of production (*French*) 9-10877
 Al₃Ga_{1-x}As epitaxial diode, neutron and γ -irrad. effects on cathodolum. in SEM 9-11473
 BaTiO₃, rare earth doped ceramics, thermolum. and microwave induced thermolum. fading 9-1792
 C fibre reinforced plastics with mixed fibres, exam. of fracture toughness and shear strength 9-20151
 CaF₂:Na, γ -irrad. cryst., spontaneous and induced colour centre emission 9-7131
 CaF₂:U⁵⁺, charge compensation, struct. 9-15124
 CaSO₄:Dy phosphor powder, effect of grinding on thermoluminescent sensitivity 9-33852
 CaSO₄:Dy TLD, temp. effect during UV and gamma irradiation 9-38684
 CdS:Mn gamma-irradiated ESR meas. 9-11342
 CdTe metal-semicond.-metal detectors, degradation characts. due to e and γ irradiation 9-45543
 CsBr, impurity absorpt. spectra after γ -irrad., aggregated colour centres 9-4829
 C₅H₂AsO₄, influence of γ -radiation on dielec. props. 9-46703
 CsNO₃, single cryst., γ -irradiated, X-ray diffr. effects 9-46704
 FeO-P₂O₅ glass, elec. props. effect of high energy γ -radiation 9-11173
 GaAs MIS Schottky barrier diodes, radiation effects 9-24078
 GaSb film, gamma-irradiated, struct., TEM and SEM obs. 9-15033
 Ge, gamma irradiated, radiation defects, formation kinetics, successive capture of vacancies by impurities 9-10873
 n-Ge, γ -irrad. and subjected to arbitrary excitation and rate, recombination 9-38101
 Ge:O, elec. props., O interaction with point defects 9-11081

gamma-ray effects continued

- Hg_{1-x}Cd_xTe photoconductors, gamma ray effects on surface props. and detector props. 9-17489
 InSb film, gamma-irradiated, struct., TEM and SEM obs. 9-15033
 KBr:Li(Na), low temp. radiation hardening mechanism, single halogen interstitials as hardening agent, Ha annealing 9-23634
 KCl, cryst. γ -irrad., holographic information recording appls. (*Russian*) 9-27218
 KCl, gamma irradi. relationship between thermolum. and deform. luminesc. 9-19942
 LiF crystal, gamma irradiated, shear stress depend. on oriented dipoles conc. 9-28013
 LiF, dosimeter material, thermolum. non-linear response to sequential irradi. at different dose rates 9-1793
 LiF, TLD phosphor, Z₃ centre, thermolum. and optical absorption spectra 9-24374
 LiF:Mg,Ti, (TLD-100), optical bleaching of defect centres 9-19911
 LiF:Mg,Ti, optically induced dichroism of Z₂-centres 9-28710
 Mg, SiO₂:Th TLD phosphor, γ -ray induced sensitisation and photo-transfer 9-33851
 MgF₂:Fe²⁺, γ -irrad., F-centres, Fe²⁺ ion hole traps, absorpt. and EPR meas. 9-7598
 MgO-Al₂O₃-SiO₂-NiO glass, gamma ray irradiated, exam. of ESR spectrum of Ni(II) 9-4719
 N₂, electric breakdown in long high-voltage gaps with gamma and alpha particle irradi. 9-18993
 (NH₄)₂BeF₄, γ -irrad., trapped H atoms, ferroelec. transition, EPR meas. 9-4724
 NH₄ClO₄, γ -irrad., trapping and motion of NH₃⁺ radical in cryst. lattice 9-33538
 NaClO₃, γ -irradiated, ESR of trapped O₂⁻ 9-29381
 NaF, γ -irradiated cryst., relaxational damping of elastic waves and activation energy of motion of defects 9-14891
 Na₂O-B₂O₃ glass, γ - or UV-irrad., laser and thermal bleaching of colour centre, absorpt. spectra 9-33744
 RbCl, undoped and Sn doped, γ -irrad. crystals, thermolum. and emission, 300 to 560K 9-15539
 RbCl:Mg, γ -irrad., thermoluminesc. 9-47528
 RbNgF₃, radiation defect F,M,R-centre absorpt., emission, excitation spectra 9-43000
 Si dosimetry diode, irradi. by γ -rays and fast neutrons, lattice defect annealing (*Czech*) 9-45570
 n-Si, γ -irrad., galvanomagnetic effect anisotropy rel. to layer inhomogeneity 9-33299
 Si-SiO₂ interface, anal. of fast surface states 9-42648
 SiCl₄, γ -irrad. of SiCl₄ in adamantane matrix, ESR spectra 9-27011
 Si(Li) detector, improvement of time depend. instabilities by IR and γ -irradiation 9-36477
 SiO₂ gel, irradi., adsorpt. of NH₃, neutron scatt. 9-33194
 SiO₂ optical fibres, plastic clad, gamma-ray irradiated, signal level depend. of recovery rate 9-36997
 Ti anode, with RuO₂-TiO₂ active film, Cl overvoltage, γ -irrad. effects 9-16005

gamma-ray interactions

- see also gamma-ray scattering*
 γ d-K⁺ Δ n, differential cross section, influence of Δ n interaction (*Russian*) 9-394

gamma-ray lasers

- collimated particles, gamma-ray lasing and radiation emission 9-27230
 micro-resonators, high flux, for X and γ -ray lasers 9-7151
 progress and problems (*Russian*) 9-36867
 recoilless γ -rays, observation of stimulated emission, possibilities (*Russian*) 9-18383

gamma-ray polarisation

- linear polarisation enhancement of bremsstrahlung in crystals, spin effects 9-11359
 longitudinal polarisation, of e,e⁺ and γ -rays in e⁺e⁻ annihilation in crystal 9-11482
 parity violating terms in nuclear EM operators and struct. effects 9-6482
¹⁹⁷Au(n, γ), ¹⁹⁸Au energy level spins 9-457
⁵⁷Co:Fe Mossbauer source linear polarisation rate meas. (*French*) 9-30633
¹⁸F, 1.08 MeV γ transition, circular polarisation affected by neutral weak currents 9-13243
 Ni⁴⁺VO, 100 MeV, deep inelastic, γ -circular polarisation and spin orientation 9-17848
¹²Sb, first forbidden β -transitions, β - γ circular polarisation correlations 9-9517
⁶⁴Zn, J^π assignments from γ -ray linear polarisation meas. from ⁵⁹Co(⁷Li,2n) 9-6383

gamma-ray production

- apparatus for low-temp./high pressure Mossbauer absorber study, modified 9-17591
 inclusive γ production in pp collisions, quark parton model 9-429
 multiple Compton effect, cross sections, γ spectra and number (*Russian*) 9-370
 N-16 source, exposure rate and absorbed dose meas. for 6-7 MeV photons 9-26766
 NBS positron annihilation in flight facility, positron beam calibration 9-31306
 pair annihilation, 1 γ and 2 γ , in strong mag. fields 9-17704
 sources for Compton profile meas. 9-35907
 (p, γ) resonance yield curves, from H₂⁺ and H₁⁰ beams on Al targets, materials anal. 9-3530
 pp collisions, real photon prod. at large p_T, cross section calc. 9-13149
 pp- γ +X, 4.6, 9.1 GeV/c, inclusive total, topological and invariant differential cross sections 9-408
 T decay, photon spectrum, branching ratios, leptonic, hadronic widths, quarkonium model 9-3020
²⁷Al(n,n' γ)²⁷Al, γ -ray prod. cross-section meas. 9-26434
¹³C(α ,n), n and 6.13 MeV γ -ray emission for Ge(Li) detector calibration 9-13572
⁵⁷Co:Fe Mossbauer source linear polarisation rate meas. (*French*) 9-30633
⁶⁰Co, 2505 keV gamma ray intensity in β -decay 9-13249
⁶⁰Co isotopic γ -ray source, quantum yield of electrons from cylindrical casing 9-31289
¹⁹⁷Hg source for Mossbauer studies 9-26796
¹⁰³Pd decay, 357 keV γ -K X-ray abundance ratio obs. 9-498

gamma-ray scattering

- see also *Compton effect; gamma-ray interactions*
 atom, coherent and incoherent scatt. by bound electrons, 0.145-1.33 MeV 9-45680
 backscattered photons number albedo meas. 9-36490
 double-scattered γ energy spectrum simulation and expt. 9-9905
 elastic and Compton scatt. through small angles, Ge(Li) meas. 9-718
 SCAP-BR, multilegged duct γ streaming computer program 9-9906
 singly scattered gamma radiation, albedo 9-40783
 Ag, total at. cross-section, incoherent scatt., 45-1115 keV 9-13679
 Al, total at. cross-section, incoherent scatt., 45-1115 keV 9-13679
 C, total at. cross-section, incoherent scatt., 45-1115 keV 9-13679
 Cu, total at. cross-section, incoherent scatt., 45-1115 keV 9-13679
 Pb, elastic scatt. cross section for 279 keV γ -rays 9-26421
 Pb, elastic scatt. of 145 keV gamma rays 9-13680
 Pb, total at. cross-section, incoherent scatt., 45-1115 keV 9-13679
 Sm, total at. cross-section, incoherent scatt., 45-1115 keV 9-13679
 Sn, elastic scatt. cross section for 279 keV γ -rays 9-26421
 Sn, elastic scatt. of 145 keV gamma rays 9-13680
 Ta, elastic scatt. cross section for 279 keV γ -rays 9-26421
 Ta, elastic scatt. of 145 keV gamma rays 9-13680
 W, total at. cross-section, incoherent scatt., 45-1115 keV 9-13679
 Zr, elastic scatt. cross section for 279 keV γ -rays 9-26421
 Zr, elastic scatt. of 145 keV gamma rays 9-13680

gamma-ray sources see *gamma-ray production***gamma-ray sources (astronomical)**

- black holes, gamma rays from accretion 9-48841
 burst source registration by Prognoz 6 Sneg-2MP instrument (Russian) 9-21468
 3C273, gamma-radiation, X-ray source size limitations 9-30143
 CG sources, 100 MeV, very high energy gamma-ray emission search 9-40293
 Crab Nebula, obs. by gamma-ray telescope with modulating anticollimator (Russian) 9-16832
 discrete sources, contrib. to galactic gamma rays 9-35436
 extragalactic sources, observational results review 9-25763
 galactic centre, gamma-ray line emission 9-44641
 galactic centre, positron annihilation rel. to gamma radiation spectrum 9-44309
 galactic centre region, medium-energy gamma-ray emission obs. 9-9030
 galactic disc, bremsstrahlung gamma radiation emissivity and local interstellar electron spectrum 9-25417
 galactic gamma rays, discrete source component 9-35436
 galactic gamma-ray sources, unidentified, rel. to quasars and radio galaxies 9-25747
 galactic sources, observational results review 9-25763
 Helios 2-Vela-Ariel 5 gamma-ray burst source, position 9-48956
 NGC 5128 (Centaurus A), gamma-ray line emission 9-44641
 optical counterparts search, supernova remnants 9-35429
 primordial black holes, gamma-ray bursts, upper limits 9-30085
 pulsars, curvature radiation-pair prod. model for gamma-ray emission 9-5852
 quasars nuclei, gamma-ray source model 9-25747
 radio galaxies nuclei, gamma-ray source model 9-25747
 spatial pattern, anal. via spectrometer with various shaped scintillators 9-16831

gamma-ray spectra

- see also *gamma-ray angular distribution; gamma-ray spectra of liquids and solids; nuclear decay theory*
 accelerated fitting and nuclide identification by graphical and associative memory methods 9-9945
 activation analysis, low-energy photon spectra, nonlinear least-squares fitting program 9-1987
 activation analysis, photopeak integration, quality assurance of computer programs 9-1986
 analysis, software system VAT-69 9-9949
 analysis program SAMPO, radioisotope identification subroutine IDENT 9-9953
 automated spectrometry, original version of neutron activation analysis 9-11861
 automatic analysis, fast program 9-9948
 background correction algorithm for γ - γ coincidences 9-13616
 background subtraction, direct method 9-723
 backscattered gamma method, universal, based on computer interpretation of spectra 9-1984
 chemical anal. with low-energy t and α particles, 0.1 to 100 ppm 9-8460
 computer code for qualitative anal. 9-9943
 computer interpretation of spectrometric information in instrumental neutron-activation analysis 9-31351
 computer methodology for spectral data reduction and anal. 9-1988
 computer processing code for large numbers of spectra 9-9942
 computers in activation analysis and γ -ray spectroscopy, conference, Mayaguez, Puerto Rico (May 1978) 9-1983
 cosmic gamma-ray spectra, high energy, near top of atmos. detection + meas. by emulsion chamber 9-29958
 data analysis, theoretical foundations 9-233
 deformed nuclei fusion reactions, γ -multiplicities, collective and statistical γ -rays Monte Carlo calcs. 9-578
 delayed fission product γ spectra following short neutron irradiation 9-9645
 double-scattered γ energy spectrum simulation and expt. 9-9905
 doublet resolving power and area determ. accuracy, comparison of computer programs 9-9944
 electronic lifetime meas. with Ge(Li) detector using centroid-shift method 9-6790
 energy spectrum of resonance gamma-rays obtained by time measurements (Russian) 9-19815
 environmental, eval. of standard library spectra for use in least-squares resoln. 9-9915
 environmental, least squares method for computing nuclide conc. 9-9914
 environmental samples anal. for U, Th, neutron activation anal. data resolution for high throughput system 9-11848
 evaluation, appl. of programmable calculators and minicomputers 9-9956
 excited nuclear states, 10^{-18} to 10^{-6} s, lifetimes, direct meas. 9-30804
 fission fragment deexcitation, statistical model anal. of spin influence 9-17941
 fuel element scanning, Ge(Li) gamma spectroscopy, ANGEL computer program 9-9755
 GASP, gamma-ray spectra analysis programme, user guide 9-6810
 Ge(Li) spectrometers, set of computer programs SPECTRAN for anal. 9-9947

gamma-ray spectra continued

- heavy ion-nucleus reactions, spectra anal. by interactive computerised system 9-9509
 heavy nuclei, fission process gamma ray analysis (Rumanian) 9-40973
 heavy-ion collisions, in-beam gamma-ray spectroscopy, nuclear shape and reaction mechanism (French) 9-560
 internal conversion coefficients, $30 \leq Z \leq 104$, Hartree-Fock-Slater model calcs. 9-36199
 least-squares peak search algorithm, linear 9-754
 lunar surface elemental composition, analytical determ. from Apollo X-ray and γ -ray spectrometer data 9-2495
 meson condensation and two photon emission in hadron capture by nuclei and heavy-ion collisions 9-3109
 microprocessor system 9-9955
 millisecond isomers, 38 MeV α -induced reactions, abs. cross-section determ. 9-9502
 mobile computerised analysis and data processing system 9-9959
 multiple Compton effect, cross sections, γ spectra and number (Russian) 9-370
 multiplet resolution, semiempirical approach 9-234
 multiuser minicomputer system for gamma-ray spectroscopy and laboratory programming 9-9952
 neutron activation anal., computer methodology, appl. to geological and environmental samples 9-11867
 neutron activation anal., computer-simulated gamma-ray spectra 9-1985
 neutron activation anal., control software for high throughput system 9-11849
 neutron activation anal., data processing system 9-11863
 neutron activation anal., instrumental large-scale routine, computer aspects 9-11862
 neutron activation anal., ion microprobe surface anal., control and data analysis software 9-11860
 neutron activation anal., least squares deconvolution on minicomputer, NAALSQ program 9-11853
 neutron activation anal. instrumental, in US Geological Survey (Reston) 9-11850
 neutron capture gamma spectra for neutron thermometry 9-30837
 neutron irradiation short-lived products, rapid anal. using minicomputer based pulse height analyser 9-11866
 nuclear continuum spectrum from disintegration by high energy particles, direct and resonant mechanisms (Russian) 9-30803
 nuclear fusion α -induced, γ -ray spectra calcs. 9-36291
 nuclear isomers, 10^{-4} to 10^{-1} sec lifetime, decay spectra, meas. procedure 9-36167
 nuclear isotopes far off stability line, production, props., review (Hungarian) 9-9927
 peak areas, analytical results calc. 9-11851
 photon energy spectra estimation based on 34×34 matrix 9-41059
 planetary surface elemental anal. via orbital gamma-ray spectroscopy 9-12412
 pulse height analyser data, on-line method for peak area determ. 9-755
 pulse height analysers, computerised, windowless stabilisation scheme 9-9976
 pulse height analysis computer system 9-9975
 radioactive waste, control and accountability by gamma scan assay 9-9913
 radiochemical analysis by coincidence spectrometry, minicomputer system 9-11864
 radionuclides in BWR cooling system, gamma spectra 9-9731
 relativistic electron + laser photon scatt., angular and energy distrib. (Russian) 9-3029
 secondary bremsstrahlung, contrib. in gamma quanta transport problems 9-40782
 spectral parameter measurement for γ -rays using overtone effect 9-45436
 spectrometry appl. in radiological protection meas., small computer system 9-9917
 thermal-neutron activated samples, CERPL and CEREL codes for γ emitter automatic ident. and determ. 9-11852
 twelve-program package for activation anal. and gamma spectrometry 9-9950
 unfolding of spectra with continuum and discrete components 9-9946
 VIPER reactor, neutron leakage spectrum and dose meas. 9-3243
 (n, γ) reactions with polarised thermal neutrons, spin state determ. (Dutch) 9-22290
 p+nucleus reactions, 400 MeV, multi-nucleon removal, p- γ coincidence spectra 9-6549
 $\pi^+p \rightarrow \pi^0n$, matrix element calc. and verification (Russian) 9-9396
 π^+p , anal. of reson. multipoles, γ -ray spectra calc. (Russian) 9-26346
 $^{27}\text{Al}(n, \gamma)$, gamma ray coincidence spectra, nuclear surface clustering evidence 9-6707
 $^{27}\text{Al}(\pi^+, p\gamma)$, 300 MeV, proton-gamma ray coincidence spectra 9-6704
 $^{27}\text{Al}(\pi^+, \pi^+\gamma)$, 300 MeV, pion-gamma coincidence spectra 9-6705
 $^{27}\text{Al}(\pi^+, n\gamma)$, 300 MeV, gamma-ray coincidence spectra, clustering evidence 9-6706
 ^{241}Am , γ -ray spectrum above 600 keV, Ge(Li) detector, ^{237}Np states 9-6480
 $^{241}\text{Am}(n, \alpha)$ sources, characteristic gamma-ray spectra from light elements within sources 9-3269
 ^{75}As , stopped π^- absorption, in beam and activation γ -ray spectroscopy 9-40960
 ^{85}As , investigation of beta-strength functions by neutron and γ -spectroscopy 9-45209
 Au(Ar,X), 227 MeV, ang. momentum transfer in deep inelastic collisions 9-45281
 Au(^{63}Cu ,X), 365 and 443 MeV, ang. momentum transfer in deep inelastic collisions 9-45281
 ^{197}Au , stopped π^- absorption, in beam and activation γ -ray spectroscopy 9-40960
 ^{123}Ba , high spin levels and bands from $^{114}\text{Sn}(^{12}\text{C}, 3n)^{123}\text{Ba}$ 9-45127
 ^{209}Bi capture, two-photon emission obs. 9-26460
 ^{209}Bi , stopped π^- absorption, in beam and activation γ -ray spectroscopy 9-40960
 ^{87}Br , investigation of beta-strength functions by neutron and γ -spectroscopy 9-45209
 $^{12}\text{C}, \pi$ capture, two-photon emission obs. 9-26460
 $^{12}\text{C} + ^{14}\text{N}$, fusion cross sections, struct. in γ -ray yields 9-9626
 $^{12}\text{C}(^{16}\text{O}, n)^{28}\text{Si}$, 12.8 MeV resonance investig. by time-of-flight spectra and n - γ coincidence 9-9627
 $^{40}\text{Ca} + \pi^+$, multinucleon removal, prompt de-excitation γ -spectra obs. 9-6708

gamma-ray spectra continued

- ¹⁴⁴Ce, errors in activity ratio determ. in reactor RA used fuel element 9-41061
- ²⁵²Cf-²³⁵U subcritical multiplier, computer-controlled cyclic activation anal. 9-11865
- ²⁴³Cm, from ²⁴⁹Cf α -decay, γ -spectra and internal conversion spectra 9-6477
- ⁵⁹Co, stopped π^- absorption, in beam and activation γ -ray spectroscopy 9-40960
- ⁵²Cr(p, γ)⁵³Mn, resonant react. appl. to Cr depth distrib. 9-33011
- ¹³³Cs(n, γ)¹³⁴Cs, $E_\gamma=14.1$ MeV, γ emission exciton model (*Russian*) 9-13302
- ¹³⁵Cs, error in activity ratio determ. in reactor RA used fuel element 9-41061
- ¹³⁷Cs, errors in activity ratio determ. in reactor RA used fuel element 9-41061
- ^AEr, A=154, 155, γ -ray spectra, ang. distrib., high spin states 9-9503
- ¹⁵²Eu sources, international comparison of γ -ray emission rate meas. using Ge spectrom. 9-22529
- ^AGd+ α , A=154,160, reaction cross section meas., in beam γ -spectrometric technique 9-26445
- ¹⁵⁶Gd(n, γ), up to 2.24 keV, n resonances, spectra fluctuation, statistical theory test 9-36188
- ¹⁶⁰Gd(α ,xn γ), compound and precompound γ -ray entry lines from measured multiplicities and energies 9-6649
- Ge detectors, automatic computer anal. for peak area and position 9-9941
- Ge detectors in space, computer spectral anal. of cosmic ray proton induced radioactivity 9-12413
- Ge(Li) detector, IAEA intercomparison of computer processing methods 9-9954
- Ge(Li) detector, simple computer program (BASIC) for spectra eval. 9-9951
- ^AHg, A=200,202,204, oblate shape determ. 9-17792
- ¹⁹⁷Hg source for Mossbauer studies 9-26796
- ^AI, A=131-135, gamma spectra of radioiodines in reactor coolant 9-9732
- ¹²⁹I, γ -ray and X-ray radiation, internal conversion coeff. 9-6499
- ¹³¹I decay, weak transition energies and intensities, γ -spectrum, ¹³²Xe 9-9521
- ¹³⁷I, investigation of beta-strength functions by neutron and γ -spectroscopy 9-45209
- ⁹²Mo in beam γ -spectroscopy, level, lifetimes and excitation functions from ⁹⁰Zr(α ,Zn) 9-13240
- NaI pulse height spectra for >1.5 MeV gamma-rays, model modification 9-36459
- ⁹³Nb(n, γ)⁹⁴Nb, $E_n=14.1$ MeV, γ emission exciton model (*Russian*) 9-13302
- ⁹⁹Nb, level schemes, from ⁹⁹Zr β -decay obs. 9-17863
- ¹⁴⁴Nd, neg. parity states, γ -transition multipolarity 9-40882
- ^ANi(π^+ ,x γ), 100-200 MeV, prompt and delayed γ spectra, nuclide yields 9-22332
- ²³⁷Np, gamma-ray spectra following ²³¹Am α -decay (*French*) 9-492
- ³¹P, precision Doppler-shift attenuation lifetime meas. from γ -ray line-shapes 9-36195
- ¹⁰⁴Pd, characts. of the levels excited in ^{104,104m}Ag decay 9-9515
- ¹⁰⁵Pd levels with large spin, γ spectra 9-6478
- ¹¹⁰Pd(¹²C,xn γ), shell effects at high spin in the γ -continuum from Te evaporation residues 9-22165
- ⁸⁸Rb decay, γ -ray energy meas. 9-22530
- ¹⁷²Re, isomeric states, γ -ray transition 9-9433
- ¹⁸¹Re states and transitions, rot. bands and Nilsson states from ¹⁸¹Ta(³He,3n γ) 9-36152
- ⁹⁹Rh isomer, ($T_{1/2}=4.5$ hr.), decay, anticoincidence and integral coincidence spectra meas. 9-6479
- ¹⁰⁰Rh, γ -ray spectrum and ang. $\gamma\gamma$ correlations, ¹⁰⁰Ru level struct. study 9-6510
- ¹⁰⁹Rh, 79.8 sec., β -decay to ¹⁰⁹Pd, γ and $\gamma\gamma$ meas. 9-3116
- ²²¹Rn, decay scheme, α -, β -, γ -spectra meas. 9-6507
- ¹⁰⁶Ru, errors in activity ratio determ. in reactor RA used fuel element 9-41061
- ¹³⁵Sb, investigation of beta-strength functions by neutron and γ -spectroscopy 9-45209
- ⁸¹Se(⁴⁰Ar,xn γ), shell effects at high spin in the γ -continuum from Te evaporation residues 9-22165
- ²⁸Si, 12917 and 12924 KeV level gamma-gamma directional correl. 9-536
- ²⁸Si, precision Doppler-shift attenuation lifetime meas. from γ -ray line-shapes 9-36195
- ²⁹Si(n, γ), evidence for neutron capture through doorway states 9-17909
- ¹²⁴Sn(⁴⁰Ar,xn)^{Er}, 161-236 MeV, pre-equilibrium neutron emission 9-3169
- ⁸⁵Sr, lifetime DSA meas. in ⁸⁵Rb(p,n γ) 9-36196
- ¹⁵¹Tb, positron decay, γ -ray coincidence spectra 9-9513
- ¹⁵⁹Tb(n, γ)¹⁶⁰Tb, $E_n=14.1$ MeV, γ emission exciton model (*Russian*) 9-13302
- ⁹³Tc, g.m. γ -ray spectra 9-6476
- ⁹⁷Tc, K-capture probability for β -transition to 216 and 324 keV levels 9-6511
- ¹⁰³Tc, decay scheme to ¹⁰³Ru 9-9470
- ²³²Th, vibr. states, Coulomb excitation 9-9432
- ¹⁷⁰Tm, precise γ -ray energies from radioactive decay 9-45525
- U resource survey, NURAB system for processing neutron activated samples 9-11847
- ²³⁵U/²³⁸U isotopic ratio determination, by γ -ray spectroscopy 9-5240
- ²³⁸U(n, γ), 1.06 MeV, cross sections and γ spectra for various energy levels (*Russian*) 9-40883
- ¹⁶⁹Yb, precise γ -ray energies from radioactive decay 9-45525
- ⁶⁷Zn, Coulomb excitation, gamma-ray spectra 9-9434
- ⁸⁷Zr, in-beam γ -ray spectroscopy of excited states 9-17852

gamma-ray spectra of liquids and solids

- see also Mossbauer effect
- channelled particles, emission of γ quanta (*Russian*) 9-8205
- crystals, electron spin correlation, gamma-ray and X-ray production 9-11486
- diamond:¹²⁹Xe, implanted, elec. quadrupole interaction, integral perturbed ang. correlation study 9-11364
- linear polarisation enhancement of bremsstrahlung in crystals, spin effects 9-11359

gamma-ray spectra of liquids and solids continued

- Mossbauer effect-time dependent PAC technique, theory of combined method 9-28645
- phase diagrams, construction, use of NMR, Mossbauer effect, and gamma ray perturbed angular correlation 9-8417
- radioactivation of shielding materials Fe, Benelex by fast neutrons, decay rates 9-682
- rare earth, heavy, elec. field gradient, at ¹¹¹Cd impurities, temp. depend. 9-28642
- resonant γ -radiation, transmission through nonresonance absorber, time depend. (*Russian*) 9-19814
- surface analysis, using SIMS, Mossbauer spectra and spectrometry 9-16050
- transferrin, ¹¹¹In labeled, perturbed angular correl. study 9-39342
- transition metal, d-series, density of partially delocalised d electron from distrib. of γ -ray from positron-electron annihilation 9-14811
- US modulation of γ -radiation 9-24249
- Ag, recoil implanted ¹¹¹In impurities, interaction with radiation damage, TDPAC meas. 9-11362
- Ag-Cd, dil., DPAD meas. on ¹⁰⁷Cd and ¹⁰⁹Cd, nucl. Larmor precession meas., role of hyperfine interactions 9-47363
- ²⁷Al¹ ion ranges in Ti(Ni)(Cu)(Mo)(Ag)(Ta)(W)(Au)(Pb), meas. by (p, γ) reson. broadening 9-46729
- Cd:⁸⁷Ge, elec. quadrupole interaction temp. depend., PAC meas. 9-42877
- Cd:⁶⁷Zn elec. quadrupole interaction temp. depend., PAC meas. 9-42877
- Cr-Rh, dil., hyperfine fields meas. 9-47056
- Cu, defect annealing around stage III, $\gamma\gamma$ ang. correlation expt. 9-14846
- Cu, ion-irradiated, impurity defect configuration, by DPAC-technique with ¹¹¹In 9-28021
- Fe, ferromag. transient mag. field for ¹³C 9-47362
- ⁵⁷Fe, Mossbauer effect-time dependent PAC technique, theory of combined method 9-28645
- GaAs, positron annihilation, deep acceptor level props. 9-11485
- Gd-Ta, dil., mag. hyperfine field and elec. field gradient at ¹⁸¹Ta impurities, TDPAC meas. 9-47361
- Hf complex, tetrakis (tropolonato) hafnium (IV), mol. interactions in solid, perturbed γ - γ ang. correl. obs. (*French*) 9-8076
- HfO₂-CaO(MgO) elec. field gradient at ¹⁸¹Ta, TDPAC meas. 9-33577
- In:⁷⁶Ge, elec. quadrupole interaction temp. depend., PAC meas. 9-42877
- In-Te, elec. field gradient, at ¹¹¹Cd probes, temp. depend. 9-28643
- Mo, deformed, ⁵⁷Fe doped, positron annihilation exam. 9-15556
- Ni, mag. hyperfine field at ¹⁴⁰Ce, TDPAC meas. 9-11363
- Ni:Fe, ion-implanted, mag. hyperfine field, anomalous temp. depend., PAC meas. 9-4754
- Ni-In, elec. field gradient, at ¹¹¹Cd probes, temp. depend. 9-28643
- Pb, elastic scatt. cross section for 279 keV γ -rays 9-26421
- Pd,MnSn_{1-x}, Sb-,Cd, dil., Heusler alloy, hyperfine mag. field on Cd, TDPAC obs. 9-8075
- Pt:¹⁸¹Ta, lattice defect induced elec. field gradient, PAC meas. 9-42878
- Pu, determ. in soln., on-line γ -ray spectrometric meas. 9-11872
- Sb-Hg, quadrupole interaction, time differential perturbed ang. correl. and nucl. orientation 9-24250
- Se:Cd dilute liquid, perturbed ang.-correl. meas. of motional-correl. time 9-41930
- Sn, elastic scatt. cross section for 279 keV γ -rays 9-26421
- Sn:⁸⁷Ge, elec. quadrupole interaction temp. depend., PAC meas. 9-42877
- Ta, elastic scatt. cross section for 279 keV γ -rays 9-26421
- ^{99m}Tc, point source depth, meas. from γ -ray spectra 9-39492
- Zn:⁸⁷Ge, elec. quadrupole interaction temp. depend., PAC meas. 9-42877
- Zr, elastic scatt. cross section for 279 keV γ -rays 9-26421
- ZrH_{1.97}, FCT, elec. quadrupole interaction at ¹⁸¹Ta, TDPAC obs., 20-588K 9-33574

gamma-ray spectrometers

- see also gamma-ray spectra
- anti-Compton spectrometer with Ge(Li) semiconductor detector 9-26804
- benchmark γ -spectrometry, unfolding codes 9-26802
- coal 9-48015
- Compton spectrometer for elec. momentum density studies 9-21885
- computers in activation analysis and γ -ray spectroscopy, conference, Mayaguez, Puerto Rico (May 1978) 9-1983
- drift chamber telescope for gamma-ray astronomy 9-21185
- fine γ spectrometry and release meas. (*French*) 9-3258
- four-detector counting system, computer controlled 9-9957
- gaseous release monitoring and γ spectrometric analysis (*French*) 9-3259
- magnetic Compton spectrometer free of second-order aberration 9-36457
- MOS diode as low energy X and γ -ray spectrum 9-36462
- Mossbauer CAMAC data acquisition system 9-30439
- Mossbauer spectrometer and its applications (*Chinese*) 9-35913
- MWPC, design and construction, for high count rate, Mossbauer spectroscopy 9-13580
- nuclear excited states, 10^{-10} to 10^{-6} s, lifetime meas. by time spectrometer system 9-31313
- nuclear oil well logging using 14 MeV neutron-excited gamma-ray spectrometry 9-48581
- pair spectrum, high resolution for medium energy photons 9-31312
- portable, in situ field meas. applications 9-9958
- proportional counter, sectional flow, high background, for Mossbauer spectroscopy 9-727
- pulse selection to improve energy resolution of spectrometers with CdTe detectors 9-22533
- radionuclide concentration determ. in ground level air 9-24927
- remote computer-controlled, for nuclear power plant monitoring 9-9916
- remote sensing, data analysis system for planetary mission appl. 9-12411
- scintillation counters, temperature characteristics of α -datum stabilizers 9-26808
- scintillators with various shapes, for gamma-ray spatial pattern anal. 9-16831
- self-stabilising peak detector (*Russian*) 9-26814
- spectroscopy processor X- and γ -ray, active zero-pole cancellation feedback loop 9-9972
- time-domain spectroscopy of recoilless gamma rays 9-26812
- underwater gamma surveying, calibration 9-21066
- ²⁴¹Am spectrometer for Compton scatt. studies 9-2899
- Ge spectrom, precise γ -ray energies for calibration up to 3.5 MeV 9-31311
- Ge(I) gas cooled high resolution mini-probe 9-22550
- Ge(Li) anticoincidence shielded spectrom. for environmental radionuclide meas. 9-6791
- Ge(Li) detector, well type, spectrum interpretation problems due to self absorption variations 9-31307

gamma-ray spectrometers continued

- Ge(Li) detectors, energy meas. source position effect 9-13579
 Ge(Li), meas. of γ -ray elastic and Compton scatt. through small angles 9-718
 Ge(Li) photon detectors, analytic fitting of full energy peaks 9-36458
 Ge(Li) spectrometry at low source-detector distances, coinc. summing corrections 9-22528
 NaI pulse height spectra for >1.5 MeV gamma-rays, model modification 9-36459
 NaI(Tl), appl. in NBS positron annihilation in flight facility 9-31306
 NaI(Tl) array, calibration using 500 keV Van de Graaff proton accelerator 9-45524
 NaI(Tl) double crystal gamma ray spectrom., efficiency calibration 9-717
 Pb glass detectors for high-energy photons, Monte Carlo calc. of energy resolution 9-18072
 Si(Li) detector, improvement of time depend. instabilities by IR and γ -irradiation 9-36477
 Si(Li) gas cooled high resolution mini-probe 9-22550
 Si(Li) photon detectors, analytic fitting of full energy peaks 9-36458

gamma-ray transport *see photon transport theory***gamma-rays**

- cosmic rays gamma-rays, traversing cosmic blackbody photon gas, effective penetration distance 9-5742

gamma transition *see glass transition***Gamow-Teller transitions** *see beta-decay***garnets**

- includes ferrimagnetic insulators, $M_3Fe_2O_{12}$ for rock-type garnets, $MM(SiO_4)_3$, see minerals*
see also ferrimagnetic properties of substances
 bubble film, LPE growth reproducibility 9-1830
 bubble film, with induced anisotropy, domain wall energy 9-19750
 bubble film LPE with high Pb content 9-38750
 concentrational inhomogeneities, appl. of vacuum decoration method 9-14835
 crystal symmetry, X-ray diffr. data 9-42024
 epitaxial layer/substrate lattice mismatch meas. using X-ray double-crystal method 9-28235
 ferrogarnet crystal, surface layer damage thickness meas. 9-5106
 film, low freq. excitation spectra, mobility of domain boundaries 9-42815
 film, LPE, time resolved obs. system for domain dynamics, appl. to contracting motion of stripe domains (*Japanese*) 9-47312
 film, LPE technique, difficulties and advantages 9-28958
 film, motion of mag. bubble domains near point defect 9-28575
 film in mag. field, domain dynamics (*Russian*) 9-4711
 ion-implanted film, large automation of $S=1/2$ bubble 9-24203
 LPE layers, growth rate depend. on supercooling, induced striation expt. 9-24453
 magnetic domains, skew, cylindrical, light modulator appl. anal. 9-38360
 Mossbauer effect, electric field gradient of ^{57}Fe 9-1732
 rare earth garnets- $R_3R'_3Fe_5[M_2O_{12}]$, R,R' -rare earths, on Y ions, $Mp=Al^{3+}$, Ga^{3+} , Sc^{3+} , In^{3+} , effect of ion replacements on lattice constant 9-1408
 rare-earth Fe garnets, solubility model in PbO/B_2O_3 soln. 9-46807
 YAG, crystal orientation determ. by Laue method, computer calc. (*Chinese*) 9-32853
 YAG synthetic, cryst. growth, review (*German*) 9-33926
 YIG, energy location of mag. Fe levels, spin polarised photoemission 9-24413
 YIG, reson. magnetostatic modes, spectrum in inhomogeneous mag. field 9-28621
 $Ca_{2-x}Bi_{1-2x}V_xFe_{5-x}O_{12}$ ferrogarnet, magnetis. distrib., correl. with morphological habit 9-28202
 $Ca_3Fe_2Ge_2O_{12}$, antiferromag. single crystal garnet, magnetostriction (*Russian*) 9-8027
 $Er_2EuFe_{5-x}Ga_xO_{12}$, rag-domain garnet film, controlled variation of props. under O_2 annealing 9-15328
 $Er_3Fe_2O_{12}$, low temp. CVD epitaxial film growth and mag. props. 9-42406
 (Eu, Y_3) Fe_2O_{12} , low temp. CVD epitaxial film growth and mag. props. 9-42406
 (Eu, Yb_3) Fe_2O_{12} , low temp. CVD epitaxial film growth and mag. props. 9-42406
 EuIG bubble domain film, magnetocrystalline anisotropy coeff. reduction, by Pb addition 9-11329
 GdFe garnet, thermomagnetic recording on magnetised single cryst. plate 9-47285
 $Gd_3Ga_5O_{12}$, cryst. growth by Czochralski technique, dissociation products calcs. 9-47615
 $Gd_3Ga_5O_{12}$, elec. cond. meas. 9-23961
 $Gd_3Ga_5O_{12}$ single crystal polishing characteristics, comparison chemical, mechanical methods, magnetic bubble device appl. (*Japanese*) 9-5067
 $Gd_3Ga_5O_{12}$, synthetic, cryst. growth, review (*German*) 9-33926
 GdIG, empirical formula for lattice const. calc. 9-27968
 GdIG single crystal plates for magnetooptical information storage 9-7997
 Nd:YAG, high repetitive picosecond laser system and broad range wavelength tuning (*Japanese*) 9-3698
 $Tb_3Fe_5O_{12}$, mag. phase transition exam. 9-19736
 TbIG, mag. birefringence rel. to sublattices 9-28723
 TbIG, mag. linear double refr., two-sublattice model (*Russian*) 9-28728
 TbY ferrite garnet, Tb^{3+} energy level inversion, Faraday effect (*Russian*) 9-47418
 $Tb_{0.26}Y_{0.74}Fe_5O_{12}$, anomalous props., 200-250K 9-28527
 UIG, Ga-substituted, computer simulation of temp. and field depend. of sublattice magnetisation and spin-flip transition 9-11300
 (Y, Ca_3)(Fe) $_2$ (FeGe) $_2O_{12}$ film, exchange const., ferromag. reson. meas. 9-8023
 (Y, Sm,Ca_3)(Fe,Ge) $_4O_{12}$, garnet thin film, mag. anisotropy, Faraday effect meas. 9-42812
 (Y, Sm,Ca_3)(Fe,Ge) $_5O_{12}$, domain wall, radial motion, method of dynamic collapse of mag. bubbles 9-8026
 YAG, crystallization kinetics and growth mechanism on oriented seeds in melt-solns. 9-14717
 YAG, exposed to ultrasoft X-rays, thermal luminesc. and electron emission 9-8192
 YAG, influence of facial growth effect on Yb ion incorporation 9-10822
 YAG, interrelationship between mech. props. and elec. relief on surface layer 9-23821
 YAG, molten, complexity in solidification behaviour, SEM electron images 9-43229

garnets continued

- YAG, optical films, high quality growth 9-46984
 YAG single crystals, derivation of cryst. parameters and orientation by X-ray topography (*Chinese*) 9-46622
 YAG, single crystals, kinetic characts. of growth from melt-solns. on oriented seeds 9-14719
 YAG solution, in $PbO/PbF_2/B_2O_3$ solvent systems, density, surface tension and expansivity data, effect of B_2O_3 conc. 9-19985
 YAG, stress fields of dislocation arrays (*German*) 9-23615
 YAG:Er $^{3+}$ (Ho $^{3+}$)(Tm $^{3+}$), oscillator strengths of impurities, 5000 to 30000 cm^{-1} 9-4830
 YAG:Nd $^{3+}$ and free Nd $^{3+}$ ion, energy levels, absorption spectra 9-11076
 YAG:Nd $^{3+}$ crystal, zero-phonon linewidths, in $^{41}S_{1/2} \rightarrow ^4F_{3/2}$ luminesc. band calc. 9-28834
 $Y_3(Al,Fe)_5O_{12}$, optical anisotropy and stress birefringence assoc. with growth directions 9-42940
 $Y_3(Al_{1-x}Ga_x)_5O_{12}$:Nd, fluoresc. energy transfer and radiationless relax. 9-38625
 $Y_{1.6}Bi_{1.0}Ca_{0.4}Fe_{4.4}In_{0.4}V_{0.2}O_{12}$, cation distrib. 9-19211
 $Y_{1-x}BiFe_{1-x}Ga_{1+x}O_{12}$ garnet films, bistable bubble domain 9-15331
 $Y_2BiFe_2O_{12}$ garnet films, magnetooptical interference 9-28724
 (Y $_3$ -Ca $_2$)(Fe $_2$ -Sn $_2$)(Fe $_3$) O_{12} , long and short range magnetic order 9-38419
 (YEuTmCa) $_3$ (FeGe) $_5$ bubble garnet films, ion-implanted, mag. susceptibility meas. 9-47311
 (YEuYbCa) $_3$ (FeGe) $_5O_{12}$ bubble films, Ne $^{+}$ -implanted, cryst. and mag. props., X-ray diffr. obs. 9-38362
 (YEuYbCa) $_3$ (FeGe) $_5O_{12}$ film, isolated straight stripe domain dynamic props. 9-33514
 $Y_3Fe_{5-x}Ga_xO_{12}$, inhomogeneous stress effect on ferromagnetic resonance 9-24219
 $Y_3Fe_{5-x}Si_xO_{12}$, photoinduced jumps of permeability 9-28564
 $Y_{1.4}Gd_{0.6}BiFe_{1.4}Ga_{1.2}O_{12}$ film, bistable bubble domains, static, dynamic and optical props. 9-28574
 $Y_{2.3}Gd_{0.4}Fe_{4.7}Al_{0.3}O_{12}$ garnet, effect of Gd on magnetite exsolution in a garnet matrix 9-11624
 (YGdYbBi) $_3$ (FeAl) $_5O_{12}$ films, substrate orientation influence on max. vel. of domain boundaries 9-15330
 YIG, Al substituted, transferred hyperfine fields, Mossbauer effect meas. 9-1726
 YIG, Al- and Ga-substituted, floating zone method growth, interface shape and horizontal variations of Al and Ga contents by electron pulse anal. 9-33929
 YIG, and Ga-substituted YIG, mag. birefringence rel. to sublattices 9-28723
 YIG, anisotropic elastic waveguide normal-mode anal., appl. to Rayleigh-Love wave mode converter 9-23113
 YIG, diamagnetically substituted, annealing effects on cation distrib. 9-1455
 YIG, dissociation press. and Gibbs energy of form. 9-11816
 YIG, empirical formula for lattice const. calc. 9-27968
 YIG, Faraday effect and IR radiation modulation 9-10403
 YIG, Faraday rot. rel. to sublattice magnetisation 9-33675
 YIG film, magnetostatic surface wave propag. 9-4661
 YIG film, surface pinning parameter, symm. props. 9-28570
 YIG film, with periodic mag. struct., dispersion characts. anal. (*Japanese*) 9-42809
 YIG film filter, theory of characts. 9-42808
 YIG films, MCD spectrum 9-28722
 YIG, Ga and Al substituted, single cryst. growth by the travelling solvent float zone technique 9-43138
 YIG, mag. linear double refr., two-sublattice model (*Russian*) 9-28728
 YIG, magnetocrystalline surface anisotropy energy, one-ion mechanism 9-42756
 YIG, parametrically excited spin waves, spectral density (*Russian*) 9-4667
 YIG, polar Kerr rotation spectra, 2-5.7 eV, comparative study with $Li_{0.5}Fe_{2.5}O_4$ 9-47413
 YIG, relax. after spin wave excitation in ferrite (*Russian*) 9-19783
 YIG, single cryst., spin-wave linewidth influence on spin wave propagation direction for parallel pumping 9-1660
 YIG, single crystals, grown by floating zone method, quality eval. of etching and optical microscopy, ferromag. resonance linewidth meas. 9-19990
 YIG, spin wave instability, parametrically excited spin waves distrib. (*Russian*) 9-38317
 YIG, substituted, effect of electron bombardment on mag. and elec. props. 9-42103
 YIG, thin ferromagnetic film, exchange interaction constant, from paramag. resonance spectra of spin waves 9-42811
 YIG:Ca(Mg), films, microwave losses induced by Fe $^{4+}$ ions, ferromag. reson. study 9-1715
 YIG:Nb, tetrahedral Fe $^{2+}$ detect. by induced anisotropy ang. variation 9-11311
 YIG:Pr $^{3+}$ influence of Pr $^{3+}$ ions on spin-wave damping 9-28625
 (YSmCa) $_3$ (FeGe) $_5O_{12}$ LPE film, growth and coercivity 9-4707

gas**gas analysis** *see chemical analysis***gas blast circuit breakers***see also air blast circuit breakers*

- arc quenching, plasma turbulence effects 9-27861
 arcs, radiative transfer investigation 9-27864
 DC arc in supersonic nozzle flow, appl. to gas blast circuit breaker 9-23469
 nozzle gas blast flows with arc heating 9-46502
 three nozzle arc models, review 9-27862
 SF $_6$, high-temp. circuit-breaking arc, axial and radial heat transport 9-19105

gas breakdown *see electric breakdown of gases***gas bubbles** *see bubbles***gas discharge lamps** *see discharge lamps***gas-discharge tubes***see also ion sources; thyatrons*

- high-pressure, device for filling and sealing 9-35772
 information display technology, symposium, San Francisco (1978) 9-9209
 metal ion, gas-discharge source 9-36448
 optical chambers in mode of pulsed proportional amplification 9-726
 transparent hollow cathode, discharge tube 9-1368
 CO $_2$ laser, Lamberton and Pearson type, shock wave detect. 9-36946
 He-Cd, hollow cathode discharge tube, voltage, ion spectral line intensities and metastable states 9-46505

- gas discharges *see discharges (electric)*
- gas dynamics *see aerodynamics*
- gas ionisation *see ionisation of gases*
- gas lasers
see also chemical lasers; excimer lasers; gasdynamic lasers; ion lasers
 acetic acid, active medium of optically pumped submm laser, double reson. 9-18215
 acetonitrile, far IR laser gas absorption obs. with and without DC field 9-31870
 annular gas laser, with anisotropic resonator, longit. mag. field effects 9-27293
 automatic frequency control system, long-term instability and irreproducibility of freq. 9-45962
 Brillouin laser, high efficiency, wavefront reversal influence on operation 9-23026
 carbon tetrafluoride, lasing action, spectroscopy of features near 9 μm lines 9-22944
 carbon tetrafluoride optically pumped laser, pulse-periodic operation, 0.2 W average output power 9-27247
 corrosive gas laser systems, capacitance manometer design and perform. 9-36909
 CW flowing gas lasers, mode medium interaction 9-36876
 1,4-di(2-(5-phenyloxazoly))benzene, vap., lasing kinetics calcs. (*Russian*) 9-13778
 dichloromethane, CD_2Cl_2 , CW optically pumped, submm. laser action, 100 to 900 μm 9-929
 dideuteroacetylene, optically pumped laser action, 17.4 to 20.5 μm 9-935
 1,1-difluoroethylene, optically pumped, far IR laser line assignment 9-31865
 1,1-difluoroethylene, submillimetre laser molecules, Stark and ODR spectroscopy 9-31864
 difluoromethane, optically pumped, efficient CW far IR laser action obs. 9-928
 discharge, pulsed, density perturbations, laser beam diagnostics 9-7498
 distributed spark discharge for volume photoionization laser appls. 9-14634
 dynamic power supplies for TEA lasers 9-7136
 electron beam controlled laser, space-time evolution of cathode layer 9-10288
 electron beam excited laser vapour cell designs 9-13951
 electron beam sources for pulsed lasers 9-36913
 engineering aspects, colloquium, London, England (Nov. 1978) 9-31940
 externally maintained discharge with gasdynamic window for low energy electron beam 9-32843
 far IR gas laser pump line, optoacoustic determ. 9-31872
 far IR laser gas absorption obs. with and without DC field 9-31870
 fluoromethane, 496 μm transition, laser pumped mol. laser theory 9-36868
 fluoromethane, $^{12}\text{CH}_3\text{F}$, far IR CW laser emission by optical pumping 9-3687
 fluoromethane, angular correlation between far IR emission and CO_2 pump radiation, Dicke superradiance theory 9-41370
 fluoromethane, pulsed optically-pumped submillimetre-wave amplifier theory 9-31868
 fluoromethane, synchronous mode-locked pumping, mode-locked far IR pulse generation 9-27271
 fluoromethane far IR CW laser, Stark effect, large freq. tuning and resolved structures 9-45931
 fluoromethane far IR Stark laser using rectangular metal-dielec. waveguide 9-27245
 fluoromethane laser diagnostics using two CO_2 laser pump pulses 9-31869
 fluoromethane laser emission from unstable resonator 9-22983
 formic acid, CW submm. laser assignment 9-27244
 formic acid, far IR laser gas absorption obs. with and without DC field 9-31870
 frequency stabilised by saturated absorpt., synthesis and measurement of optical frequencies, review (*French*) 9-31966
 halogen hydride lasers, vibr. energy transfer, from metastable diatomic molecules 9-31882
 halogen-metal vapour lasers, average lasing power 9-936
 high pressure laser media excitation by discharge through an insulator 9-27273
 high-power, model for stable high-density discharges 9-13943
 high-power lasers and appls., conf., Munich, Germany (June 1977) 9-964
 hollow cylindrical anisotropic dielectric guide, propagation 9-32047
 inert gas atomic transition lasers, excitation by discharge through an insulator 9-27273
 inhomogeneous active medium gain 9-22930
 ionised-gas lasers, refr. during pump pulse due to gasdynamic motion 9-3723
 kinetics, proton excited gas mixture obs. 9-48013
 metal pure vapours, apparatus for stimulated emission obs. from transverse discharges 9-13954
 metal vapour lasers excited by pulse trains 9-13955
 metal vapour pulsed lasers, quantum amplifiers, image distortion 9-18433
 methanol, CD_2OH , CH_3DOH , CW optically pumped, submm. laser action, 100 to 900 μm 9-929
 methanol, far IR laser gas absorption obs. with and without DC field 9-31870
 methanol, far IR laser line obs. and assignment 9-31867
 methanol, optically pumped, far IR laser lines meas. and assignments 9-22939
 methanol, submillimetre laser molecules, Stark and ODR spectroscopy 9-31864
 methanol CW optically pumped waveguide far IR laser, 10 to 100 mW, design and perform. 9-31934
 methanol far IR CW laser, Stark effect, large freq. tuning and resolved structures 9-45931
 methyl alcohol, assignment of submillimetre transitions 9-22943
 methyl alcohol IR absorption, diode laser obs. 9-31518
 methyl fluoride, optically pumped mirrorless laser at 496 μm 9-31871
 methyl halides, candidate transition identification for optically pumped far IR lasers 9-931
 minicomputer-controlled diagnostic and display system for high-energy lasers 9-36915
 mode-locked binary laser oscillator, bistability induced by optical nutation 9-31958
 mode-locking operation using modulator with acoustic Fabry-Perot resonator 9-45976
- gas lasers continued
 modulation spectroscopy using solid-state and gas lasers 9-30572
 molecular gas lasers, pulsed high press. transversely excited, design 9-31946
 molecular lasers, laser pumped, theory 9-36868
 multichannel surface spark gaps 9-18436
 multifrequency emission, atomic states interference effect on polaris, characts. 9-27235
 multimode high-intensity laser dynamics theory 9-41363
 nuclear pumping by vol. source of fission fragments 9-36879
 optically pumped far IR laser design and performance, review 9-31917
 optically pumped mid-IR lasers 9-22961
 optically pumped submillimetre lasers, collisional contrib. to dynamic Stark effect 9-13765
 organic dye attachment for wavelength conversion within 340 to 1200 nm 9-7147
 output characts., effect of spatial and temporal modulation of excitation 9-3681
 output power external stabilisation using Faraday effect, control unit design (*German*) 9-18455
 preionisation by electrodeless capacitive pulses, pulse-periodic operation regime 9-31937
 pulsed optically-pumped submillimetre-wave amplifier theory 9-31868
 retroreflecting mirror for dynamic compensation of optical inhomogeneities 9-31970
 review of lasers with wide-band optical pumping 9-31885
 ring laser, opposite wave freq. difference, mag. field 9-7156
 ring laser, reson. radiation trapping and nonlinear interaction of waves 9-18452
 ring laser characteristics, influence of radiation interaction with reflector material 9-13993
 single-mode, autodyne effect (*Russian*) 9-925
 single-mode, in transverse mag. field, polarisation props. 9-7167
 spontaneous coherent pulsations in laser oscillators 9-921
 submillimetre CW laser, amplitude stability improved by phase modulated pumping 9-22967
 submillimetre laser molecules, Stark and ODR spectroscopy 9-31864
 submillimetre laser output and efficiency, rel. to pump frequency displacement 9-31866
 submillimetre waves and applications, conference, Guildford, England (1978) 9-31916
 surface discharge, use for gas preionisation 9-46504
 technology advances, conf., Washington, USA (Mar. 1978) 9-36911
 tetrafluoromethane optically pumped laser, tuning and stabilisation 9-13985
 thyatron pulser, high-power, HF, for photo-impulse ionised lasers 9-18444
 travelling wave amplifier, spontaneous radiation channelling 9-27294
 two-mode oscill. gas laser, saturation-induced polaris. preferences 9-22929
 unstable confocal resonator operating point choice 9-36938
 UV laser (*Japanese*) 9-3686
 volume discharge excited by electron beam, mag. field influence 9-27241
 waveguide, miniaturised, communication appl. 9-31936
 Au vapour laser, 627.8 nm UV emission, average output power and efficiency 9-45933
 Ba vapour laser, energy characts. at 1.5 μm 9-13953
 CO CW lasers, effect of Xe addition on room temp. operation 9-18407
 CO cooled electron-beam-controlled laser, two-quantum transitions 9-45935
 CO laser, simple model for power and spectra 9-7119
 CO laser, steady state operation, vibr. distrib., numerical calc. 9-36884
 CO laser driven spectrophone, humidity trace detection in H_2 and air 9-20477
 CO pulsed TE laser and pulsed CS_2/O_2 chemical laser, comparative study 9-31876
 CO pump laser, multiline operation producing SFRL multiline output, CO laser lines 9-7132
 CO, simple high energy TEA laser 9-3714
 CO, variable attenuator for Gaussian laser beams 9-22987
 CO, vibr. relax. at glass surface, glow discharge meas. 9-18409
 CO-Xe- N_2 -He gas laser power rel. to mixture composition (*Russian*) 9-7114
 CO+ZZ 9-13799
 CO_2 16 μm laser, pumped optically in 4.3 μm , 9.6 μm bands, energy characts. 9-18398
 CO_2 amplifier, spatial and temporal fluctuations of nanosecond radiation pulses 9-14009
 CO_2 , atm. press. laser pulse duration reduction by stimulated emission quenching 9-18400
 CO_2 , atmospheric sealed CW laser, gain characts. 9-36871
 CO_2 , α -crystal quartz mirror 9-36908
 CO_2 , CW, surface modification and welding appl. 9-15879
 CO_2 CW closed-cycle technological laser with 6 kW output power 9-27291
 CO_2 , CW electric discharge lasers, mode medium interaction 9-36876
 CO_2 CW electric discharge laser, output beam props. 9-36877
 CO_2 CW sequence laser lines generated using incavity NH_3 cell 9-18438
 CO_2 compact sealed TEA laser, single mode operation 9-968
 CO_2 computer modelling, book 9-41364
 CO_2 construction and excitation circuit 9-22968
 CO_2 doped TEA laser, Penning ionisation 9-3678
 CO_2 double discharge and photopreionisation types, comparison (*French*) 9-31855
 CO_2 eight-beam laser, Helios, evaluation of single-point diamond-turned Cu mirrors 9-23044
 CO_2 electric discharge laser, free oscill. stimulated emission, nanosecond pulse duration 9-31860
 CO_2 electroionisation laser plasma mirror, soft X-ray emission for biological radiography 9-43983
 CO_2 , excitation by discharge through an insulator 9-27273
 CO_2 gas flow laser, vibr. and translational temp. fields, panoramic spectrosc. obs. (*Russian*) 9-12868
 CO_2 helical TEA laser, output power as function of discharge inductivity 9-10278
 CO_2 , high power pulse, single-stage, electroionisation laser, tens of gigawatts 9-3704
 CO_2 , high press. sealed-off laser amplifier characts. 9-18397
 CO_2 , high temp. absorpt. meas. in 10.4 μm laser band 9-36870
 CO_2 , high-power multibeam CW laser, parallel packed tubes in common resonator 9-13984

gas lasers continued

- CO₂ high-power pulsed laser continuously tunable over wide freq. range 9-45925
 CO₂, high-pressure, pulsed ionisation using cold-cathode glow discharge electron gun 9-27269
 CO₂ highly multimode pulsed electron beam laser, beam divergence 9-3731
 CO₂ hybrid laser, operating regimes 9-22932
 CO₂, IR luminesc. of active layer (*Russian*) 9-31862
 CO₂ Lambertson and Pearson type, shock wave detect. 9-36946
 CO₂ laser, alkali halides, behaviour as materials for optical components (*Rumanian*) 9-18462
 CO₂ laser, CW, electrically excited (*Japanese*) 9-3676
 CO₂ laser, pulsed transverse electrodeless discharge excitation 9-45958
 CO₂ laser, saturable absorber using doped KCl 9-10363
 CO₂ laser, thermodynamic approach (*Rumanian*) 9-7109
 CO₂ laser, tri-n-propylamine in working gas 9-22935
 CO₂ laser, vac. UV preionisation source spectral characts. 9-31938
 CO₂ laser, with anisotropic resonator, radiation polarisation (*Russian*) 9-27309
 CO₂ laser amplifier chain, laser plasma isolator for repopulate 9-22959
 CO₂ laser beam, intensity fluctuations, spatial distrib. 9-18458
 CO₂ laser multiwavelength interferometry, absolute distance meas. 9-31974
 CO₂ laser operating under free-oscillation conditions, nanosecond pulse emission 9-22933
 CO₂ laser with partial population inversion, 16 μ m steady state action 9-36873
 CO₂ lasers, radiation detection using CdHgTe detectors 9-40615
 CO₂ needle laser improvements, preionisation influence 9-31926
 CO₂ oscillating laser transition, band width meas. 9-3677
 CO₂, periodically pulsed, metal, semiconductor and oxide thin film deposition 9-28926
 CO₂ periodically pulsed laser, appl. isotope separation 9-27287
 CO₂, photoinitiated impulse-enhanced elec. excited struct., operational characts. 9-27283
 CO₂ photoionisation laser with 300 J output energy 9-31939
 CO₂ pulse-periodic laser, preionisation by electrodeless capacitive pulses 9-31937
 CO₂ pulsed laser, damage resistance of coated optics 9-45989
 CO₂ pulsed laser output, spatial distrib. meas. by photographic device 9-14008
 CO₂, pulsed TE laser, tunable single-mode operation by means of selective absorbers 9-36940
 CO₂ pulsed transversely excited waveguide laser design 9-27280
 CO₂ pulser-sustained, gain and optical extraction meas. 9-27284
 CO₂ rapid discharge TEA laser, construction and performance characts. 9-3710
 CO₂ repetitively pulsed electron beam laser operation 9-31943
 CO₂ sealed-off TEA lasers, size reduction and improved efficiency 9-31942
 CO₂ short-pulse laser high-pressure amplifiers, design engineering 9-36936
 CO₂ single-pulse laser, emission spectrum photographic recording by parametric conversion 9-10357
 CO₂ TE laser pumped NH₃, IR and far IR laser emissions 9-934
 CO₂ TE multiautos. laser, 10 μ m pulse generation and amplification 9-45981
 CO₂ TEA, field uniformity requirements 9-3675
 CO₂ TEA, mode characts. using unstable resonators 9-3719
 CO₂ TEA and superatm. press., design and operation 9-31946
 CO₂ TEA far IR laser, optimum spectral matching 9-31857
 CO₂ TEA laser, homogeneous discharge development, preionisation conditions influence 9-18399
 CO₂ TEA laser, picosecond pulse generation using Ge optical switch 9-7159
 CO₂ TEA laser, pulse shaping by independent excitation of coaxial discharge systems 9-7150
 CO₂ TEA laser amplifier, high power short-pulse, efficiency enhancement 9-36872
 CO₂ TEA UV preionised laser, non-dispersive tuning 9-31856
 CO₂ TEA with high repetition rate (*Italian*) 9-27276
 CO₂ thermally pumped laser, He and Ar gas addition effect on small signal gain 9-22931
 CO₂, transition strength of 00² 9.4 μ m sequence band, appl. to IR isotope anal. 9-18395
 CO₂ UV preionised laser discharge, large scale, aero-acoustic effects 9-36875
 CO₂ versus semiconductor diode lasers for long path monitoring of ambient gases 9-16682
 CO₂, volume discharge excited by electron beam, mag. field influence 9-27241
 CO₂ waveguide laser, parameters meas. 9-31859
 CO₂ waveguide laser, saturation intensity, effect of wall deexcitation 9-924
 CO₂ waveguide laser with plane parallel mirror resonator 9-3715
 CO₂ waveguide lasers, engineering aspects 9-31941
 CO₂-N₂-³He, laser, plasma diagnostics of media capable of lasing in nucl. reactor environment 9-10279
 CO₂-N₂-He laser, pulsed microwave discharge pump, skin effect and gain 9-13945
 CO₂-N₂-He laser mixtures, electron swarm parameters, Boltzmann eqn. anal. 9-18396
 CO₂-N₂-Ne-H₂O mixture IR laser (*Russian*) 9-10323
 CO₂+ZZ 9-13799
 CO₂ laser short pulse diagnostics, using upconversion linearity in Ag₃AsS₃ 9-27304
 Ca, pumped via collision-induced absorpt. in Ca-inert gas mixture 9-7117
 Cu halide, Cu laser lines, broadening, induced emission cross-sections 9-26928
 Cu I lines, superradiance obs. in pulse vaporisation of pulverised Cu₂O, CuO 9-45934
 Cu, single pulse spectral distrib. meas. 9-3732
 Cu transversely excited pulsed vapour laser, gas discharge parameters influence 9-10291
 Cu, used for single crystal impurity luminesc. attenuation in Raman spectra 9-15467
 Cu vapour, comparison of copper acetate, acetylacetonate and CuCl lasants 9-31875

gas lasers continued

- Cu vapour laser, coherent props., dynamic holography in VO₂ films 9-13929
 Cu vapour laser, discharge-heated 9-7149
 Cu vapour laser, electron energy distrib. in Cu-Ne(He) mixtures 9-13956
 Cu vapour laser, service life and efficiency 9-27292
 Cu/CuCl double pulsed laser, extrema by electron density and output pulse energy 9-10283
 Cu-Ne, hollow cathode laser discharge, spectroscopic temp. meas. 9-7490
 Cu-Ne laser, spectral lines emission of gas-discharge pulse plasma 9-31883
 CuCl, metal vapour lasers excited by pulse trains 9-13955
 DCN, 250 mW continuous discharge laser at 195 μ m 9-31949
 D₂O, 385 μ m transition, laser pumped mol. laser theory 9-36868
 D₂O, angular correlation between far IR emission and CO₂ pump radiation, Dicke superradiance theory 9-41370
 D₂O, candidate transition identification for optically pumped far IR lasers 9-931
 D₂O, far IR CW laser emission by optical pumping 9-3687
 D₂O far IR laser pulses, real-time spectral anal. using SAW dispersive delay line 9-45983
 D₂O laser, zigzag-pumped, oscillator and superradiance characteristics 9-31873
 D₂O optically pumped mirrorless laser at 385 μ m 9-31871
 D₂S, CO₂ laser pumped, high power far IR superfluorescent emission 9-27243
 D₂O, synchronous mode-locked pumping, mode-locked far IR pulse generation 9-27271
 Fe vapour laser, 4529 Å emission 9-10282
 H₂ laser, tunable IR waveguide Raman type pumped by dye laser, 0.7-7 μ m range 9-45959
 HBr high-energy laser, parametric and engineering studies 9-41391
 HCN CW laser, auxiliary DC discharge effects 9-31925
 HCN compact CW laser, output increased by He, Ar, air and O₂ buffer gases 9-10293
 HCN, short 337 μ m CW laser, output characts. 9-36882
 HDS, CO₂ laser pumped, high power far IR superfluorescent emission 9-27243
 He, high press., laser plasma optically pumped by focusing CO₂ laser beam with axicon 9-32792
 He-Cd laser, 442 nm, high order mode crossing signals from Cd II 4d²5s² ³D_{3/2} state 9-796
 He-Cd segmental tube laser ageing (*Bulgarian*) 9-18441
 He-Ne, field autocorrelation function, in threshold region, fine struct. 9-3683
 He-Ne, freq. stabilised, use as freq. and length standards (*French*) 9-31935
 He-Ne, I₂ stabilised, design construction and performance 9-13978
 He-Ne, I₂ stabilised, with improved performance 9-22964
 He-Ne, short pulses, self mode-locking (*Rumanian*) 9-13995
 He-Ne, single-mode, autodyne effect (*Russian*) 9-925
 He-Ne CW laser nuclear pumping demonstration 9-13949
 He-Ne compact LG-78 laser 9-7148
 He-Ne gas laser, behaviour in nonsynchronous frequency modulation regime (*Russian*) 9-7161
 He-Ne laser, ¹²⁷I₂ saturated absorption stabilised, wavelength meas. (*Russian*) 9-22996
 He-Ne laser, 6328 Å, output power, using intracavity rot. reflector 9-7113
 He-Ne laser, competitive oscillation mode frequency stabilisation (*Russian*) 9-22962
 He-Ne laser, elec. parameters of active element 9-3682
 He-Ne laser, used in Sagnac fibre-ring interferometer gyro with electronic phase sensing 9-17472
 He-Ne laser 10kV/1.5kV power supply 9-36906
 He-Ne laser beam, intensity fluctuations, spatial distrib. 9-18458
 He-Ne laser two-beam interferometer phase errors (*Russian*) 9-6166
 He-Ne laser with anisotropic cavity, fluctuations of field polaris. 9-27242
 He-Ne laser with external optical resonator, SHG 9-27326
 He-Ne lasers, life time depend. on impurity gases (*Chinese*) 9-36881
 He-Ne mixture, electron beam prod. plasma decay, appl. to laser pumping 9-41847
 He-Ne ring laser, freq. shift of 3.39 μ m methane transition 9-27298
 He-Ne waveguide lasers, HF discharge stability 9-18401
 He-Xe, H₂CO-stabilised laser, freq. stability in axial mag. field 9-22991
 He-Xe laser, nuclear pumping by vol. source of fission fragments 9-36879
 He-Xe laser, Zeeman tuned (*Korean*) 9-7145
³He-Ar(Xe)(Kr)(Cl) direct nuclear pumped lasers using ³He(n,p)³H reaction 9-31863
 Hg-N₂, optically pumped pulsed 546.1 nm laser emission 9-13952
 NH₃ high power laser, improved optical pumping geometry in Littrow cavity config. 9-22973
 NH₃, IR and far IR laser emissions, using TE CO₂ laser pump 9-934
 NH₃ laser, optically pumped, multiwave, laser operation in 12-13 μ m range 9-7141
¹⁴NH₃, far IR CW laser emission by optical pumping 9-3687
 Ne, atomic deexcitation effects of X-rays, X-ray preionisation in TEA lasers 9-793
 Pb⁺, electron collisional laser populated by recomb. 9-18405
 Sr vapour pulsed laser, power characts. of laser transitions in Sr I, II 9-10290
 UF₆ admixture effect on N₂ and Ar excited state lifetimes 9-10281
 Xe, high gain, ang. multiplexing for short pulse amplification 9-36924
 Xe laser, and associated high gain phenomena, expt. and theory 9-10280
 XeCl excimer laser, electron-beam pumped, emission spectrum, saturation intensity, optical absorpt. 9-927

gas permeability see permeability

gas phase electron diffraction

- bromochlorofluoromethane, struct., vibr. amplitudes, gas phase electron diff. obs. 9-31690
 cycloheptane, geom. struct. by electron diff. 9-31682
 cyclopentadienyl cobalt dicarbonyl, mol. struct., gas phase electron diff. obs. 9-31688
 furan-2-aldehyde, mol. struct., electron diff. and IR spectroscopic examination 9-10106
 tetrabromoformaldazine, mol. struct., electron diff. determ. 9-45858
 tetrakis(trifluoromethyl)germane, gas phase electron diff. struct., torsional force consts., CNDO/2 calc. 9-31687

gas phase electron diffraction continued

vinylfluoride, gas phase electron diffr. and microwave spectra, rot. const., struct., isotope shifts 9-31686
Hgl₂, mol. struct. and vibr. pot. function, gas-phase electron diffr. obs. 9-31689
RbBO₃, mol. struct. determ. by gas phase electron diffr. 9-10227
VBr₄, mol. struct., vibronic interactions, dynamic Jahn Teller effect, gas phase electron diffr. 9-31711
Xe, electron elastic scatt. 9-857

gas-surface interactions see sorption

gas technology, natural see natural gas technology

gas turbines

see also turbogenerators

airfoils, protective coatings, degradation characs. and methods of application 9-24670
annular axial compressor nonaxisymmetric flow anal. 9-32679
asymmetric swirling flow anal. 9-27694
cascaded blades with injection or suction, boundary layer theory and cascade tests 9-18878
ceramic turbine disc, subjected to centrifugal stresses, failure probability, photoelastic model 9-18816
combustion chamber, isothermal model, bluff body, recirculation phenomena in primary zone 9-47925
diffusion barrier between Ni-Cr-Al coatings and Ni eutectic alloys in gas turbines 9-24673
energy conversion, Conf., San Diego, CA, USA (Aug 1978) 9-48038
holes rows adiabatic wall temp. and heat transfer anal. 9-7376
measurement of fan vibration using double pulse holography 9-30462
noise, acoustic disturbance propagation in gas stream anal. (Russian) 9-32131
solar gas turbine plant, N₂O₄ as chemically reactive working fluid 9-39316
solar receiver, central, using liquid metal heat pipes 9-48096
temperature gradient along cooling channel surface, heat transfer in initial hydrodynamic section, effects 9-18892
uncooled radial, heat transfer anal. 9-4010
vibration-acoustic diagnostics, random signal patterns recognition, with aid of computer (Slovak) 9-18612
ZrO₂, stabilized, thermal barrier coating system, spectral emission and absorpt., 300 to 1590K 9-24672

gasdynamic lasers

cavity design, plane flows in presence of weak supply of energy (Russian) 9-32498
Fabry-Perot resonator of gasdynamic laser, collisional relax. effect on fundamental mode 9-31948
flow generated by an array of eccentric porous tubes 9-965
high speed, freq. stability mode struct., and output power characs. (Chinese) 9-31854
optically inverse media, improved GDL perform. by selective thermal pumping 9-31858
two-phase media, mol. vibr. relax. in gas-aerosol system 9-45807
CO₂, bipropellant, advanced fuel-rich and screen mixing gasdynamic laser concepts, performance 9-36878
CO₂, combustion gasdynamic laser, working cpds. simulation (Russian) 9-27239
CO₂, electron-beam-controlled gas-flow laser, CW and pulse periodic lasing 9-7111
CO₂, gas transport laser with cylindrical geometry 9-7108
CO₂, gasdynamic lasers, amplifying characteristics, combustion product utilisation 9-27240
CO₂, in burnt gases of combustion engines, laser action 9-45924
CO₂, injection into supersonic stream containing CO, gain 9-31861
CO₂, pulse-periodic elec. pumped gasdynamic laser, possibility of spontaneous circulation 9-45926
CO₂, thermally pumped gas-dynamic laser based on deformation and symmetric modes 9-36874
CO₂, with gas mixing, excitation efficiency 9-22934
CO₂-N₂, CW mixing gasdynamic laser, saturation parameter and small signal gain 9-45923
CO₂-N₂-H₂O, nonequilibrium flow calc. by relaxation formula (Chinese) 9-31853
CO₂-N₂-H₂O, water vapour condensation and mol. relax. processes 9-31946
He-CO₂-Xe, supersonic elec. discharge TEA laser, mag. field effects 9-7110
N₂O-N₂, CW mixing gasdynamic laser, saturation parameter and small signal gain 9-45923
N₂O-N₂-He, population inversion of N₂O vibr. levels behind shock wave front 9-31886

gases

see also aerodynamics; compressibility of gases; density of gases; dielectric properties of gases; diffusion in gases; electric breakdown of gases; electrical conductivity of gases; equations of state of gases; ionisation of gases; kinetic theory of gases; liquefaction of gases; luminescence of gases; Scott effect; Senftleben-Beenakker effect; specific heat of gases; thermal conductivity of gases; thermal diffusion in gases; viscosity of gases
No entries

gauge field theory

see also Weinberg model; Yang-Mills theory

γ -W⁰ mixing as an alternative to unified weak-electromagnetic gauge theories 9-2966
't Hooft monopoles, interaction energy in Prasad-Sommerfield limit 9-12950
A₀=0 gauge canonical formalism, gauge degrees of freedom, external charges, quark confinement 9-2936
Abelian gauge theories, (1+1) dimens., instanton effects 9-261
Abelian Higgs and Goldstone models, no-hair theorems for black holes 9-17016
Abelian Higgs model, two dimens. quark confinement 9-263
Abelianizable field, dual charged soln., gauge field decomposition and reduction 9-26245
asymptotic dynamics for gauge theories 9-21949
asymptotic estimates in perturbation theory and complex instantons 9-6273
asymptotically free gauge theories, deep inelastic scatt. beyond the leading order 9-21937
axial gauge for unified gauge models, renormalisation constants 9-12930
axial symmetry in lattice theories 9-9280
axially gauge-covariant electrodynamics 9-17644

gauge field theory continued

background functional renormalisation, in non-abelian gauge theories 9-30663
Backlund transformations describing SU(2) mag. monopoles 9-2915
Backlund transforms. for mag. monopoles in SU(2) gauge theory 9-2916
broken colour gauge theories, effective weak vertex, colour contrib. 9-40750
C* algebra, gauge transformation formulation for EM field 9-6307
Cabibbo angle and CP violation in a gauge model with discrete symmetry 9-45028
Cabibbo angle in six quark SU(2)_L×SU(2)_R×U(1) gauge model 9-17683
Callan-Symanzik $\beta(g)$ function in perturbation theory around gauge theory instanton 9-2931
caloron space of moduli at finite temps., gauge theory vacuum struct. 9-21947
canonical struct. of Abelian gauge theories 9-40666
canonical Yang-Mills field theory with invariant gauge families, renormalisation scheme 9-12944
CERN School of Physics, Austerlitz-Zeist, Holland (June 1978) 9-30857
charge-monopole duality in spontaneously broken gauge theories 9-267
charged Higgs boson in SU(2)×U(1) gauge field theory, production and decay 9-13015
charges, vortices and quark confinement, confinement phase transition 9-36004
charmonium and asymptotic freedom in QCD 9-6327
chiral gauge invariant Lagrangian, relationship to strong interactions (Chinese) 9-21968
chiral symmetry spontaneous breaking, using vacuum stability condition 9-35986
classical gauge field theory eqns. with arbitrary value of topological charge 9-21954
classification, Lorentz and gauge invariants 9-30648
classification by spinors and Lorentz invariants rank 9-259
closed vortices and Hopf index in Abelian and non-Abelian Higgs model, and nonlinear σ model 9-12960
color embeddings, charge assignments, and proton stability in unified gauge theories 9-6309
compact gauge groups for unified weak and EM interactions, representations and classifications 9-22008
compact group gauge fields, breaking of symmetry and dual charges (Chinese) 9-35918
conference, Schladming, Austria (Feb.-Mar. 1978) 9-26203
confinement criteria for gauge invariant, lattice, and Abelian models 9-22023
conformal relativity, gauge theories of interaction 9-9281
conformal transformations, gauge covariant 9-12946
continuous three states model, mean field cluster expansion convergence, phase transitions existence 9-12922
Coulomb gauge vac. degeneracies in (2+1) dimensions 9-2928
Coulomb-like quantization of the electromagnetic field on spacelike hyperboloids 9-306
coupled Einstein SO(3) gauge field eqn. solns. 9-274
coupling strengths and renormalization scale parameter in QCD by dimensional transmutation 9-6316
covariant 'in-out' formalism for creation by external fields 9-107
covariant quantisation of gauge theories with open gauge algebra 9-12947
CP violation and off-diagonal neutral currents 9-13008
current trends in the theory of fields, conf., Tallahassee, Florida, 6-7 April 1978 9-12923
currents and continuous symmetry restoration in two dimens., perturbation theory 9-21910
deep-inelastic leptonproduction off nucleons, struct. function model in asymptotically free gauge models 9-40786
defect dynamics, gauge transforms. in vector field theory 9-27981
diquark-antidiquark states, mass difference in lattice gauge theory 9-2985
Dirac Hamiltonian in presence of instanton and meron fields, fermion zero modes and level crossing 9-21927
Dirac spinor, relativistic exact bound states with gauge monopole 9-268
discrete and Abelian lattice gauge theories 9-9279
discrete lattice gauge fields, duality transformation, review 9-26236
dislocations and gauge invariance 9-27980
Drell-Yan process as a probe of color excitation 9-36021
droplet model for quark confinement phase transition, reduction to string statistical mechanics 9-2991
dual strings condensate, gauge fields as phonon excitations 9-35934
dynamic torsion, space-time dependent coupling 9-45017
dynamical symmetry breakdown at the two-dressed-loop level and beyond 9-294
E₆ unifying gauge symmetry, strong, weak and EM model embedding 9-9325
E₇ gauge model, lepton assignments and trimuon events in neutrino scatt. 9-17709
E₇ gauge model of weak interactions, neutrino prod. of neutral heavy lepton 9-17710
E₇ gauge theories with proton stability (Russian) 9-17659
effective Lagrangian in spontaneously broken gauge theories 9-17653
Einstein-Maxwell, field theory with teleparallelism and Dirac electron (German) 9-9168
Einstein-Yang-Mills equation, soln. for gravity coupled to non-Abelian plane waves 9-35602
Einstein's gravitation theory as a gauge field 9-26209
electric dipole radiation interactions, implications of gauge invariance 9-30268
electrons and gravitational instantons 9-25961
elementary particle classification and quark model, symmetry breaking gauge theories, unified theories 9-346
elementary particle symmetries, axiomatic approach 9-21897
elementary particle theory, mathematical method, conf., Liblice, Czechoslovakia (June 1978) 9-21891
equivalence theorem, validity in nonperturbative context 9-26214
Euclidean, four-dimens. SU(2) Yang-Mills theory, natural gauge condition ambiguities 9-2934
Euclidean Green functions, quantum fluctuations of instantons 9-26220
exact classical solutions of the massless α -model with gauge fields in Minkowski space 9-17619
exact SU(n) instantons with cylindrical symmetry, SO(3) symmetric 9-9290
exceptional gauge groups and quantum theory 9-35983

gauge field theory continued

exponential loop integrals, functional equation 9-35935
 extended supersymmetric theories, spontaneous generation of massive multiplets and central charges 9-35958
 factorised gauge solitons for compact gauge groups in n dims. 9-21944
 Fermion number violation in the presence of instantons 9-12949
 fermions, charge density phase transitions in gauge theories with spontaneous symmetry breaking (*Russian*) 9-2969
 fermions, massless, isospin $3/2$, coupled to N -particle field 9-6298
 fermions and vortex solutions in Abelian and non-Abelian gauge theories 9-12959
 fibre bundle analysis of topological charges in spontaneously broken gauge theories 9-2910
 field strength and dual variable formulations 9-35946
 fluxon solutions in non-abelian gauge models 9-9287
 forbidden ghost states in non-Abelian gauge theories 9-2929
 formulation in quantum field theory framework 9-21908
 gauge independence as a consequence of gauge covariance 9-6274
 gauge invariant operators, renormalisation, S -matrix elements 9-256
 gauge lattice systems, transition, duality 9-262
 gauge supersymmetry, spontaneous breaking, supergravity gauge invariance 9-9277
 general approach to the computation of instanton effects 9-12961
 generalised Federbush model, current definition, perturbation calcs., gauge transformations 9-6297
 geometrical models from fibre bundles in gauge fields 9-21899
 ghost-free string models, systematic search, struct. constants in gauge superalgebra 9-30719
 global $U(1)$ gauge theory, commutational relation (*Chinese*) 9-35919
 gluon collective excitations, nonabelian gauge theories, effective chiral Lagrangian 9-22034
 gluon mass shell Ward identities verification in axial gauge 9-13037
 graphical gauge transformations, using path-integral proof of gauge invariance 9-35950
 gravitation duality in quantisation problem 9-30344
 gravitational field theory, renormalisable, and cosmological implications 9-44839
 gravitational multi-instantons 9-2693
 gravity, broken symmetric theory, unified gauge field breaking 9-30343
 gravity and spin 1 gauge fields 9-21923
 gravity and supergravity on a group manifold, gauge theory 9-21635
 Gribov ambiguity, perturbation theory, and confinement 9-21934
 hadron states, quark sea and non-Abelian gauge field contrib. 9-327
 hadronic bag quark confinement through tensor gauge fields, de Sitter microuniverses 9-22045
 Hausdorff dimensions and gauge theories 9-35942
 heavy Higgs scalars, in $SU(2)_L \times SU(2)_R \times U(1)$ gauge theory, no decoupling at low energy 9-13018
 heavy quark pot., instanton effects, effective Hamiltonians 9-22048
 heavy quark potential, non-perturbative contrib., appl. to QCD 9-13025
 hidden gauge symmetry, appl. to elementary particle fundamental interactions 9-30658
 Higgs bosons in $SU(2) \times SU(2) \times U(1)$ left-right gauge field, coupling strength 9-13017
 Higgs fields and the determination of the Weinberg angle 9-40709
 Higgs self coupling effects on asymptotic freedom 9-266
 infinite conservation laws for EM and asymptotic gravitational fields 9-21613
 infrared regularizations in a model gauge theory 9-30700
 instanton effective size in dilute gas model, qq spin exchange force 9-6258
 instanton effects in bound state dynamics, quark-antiquark binding, gluon-instanton interactions 9-6280
 instanton effects on static QQ potential 9-9333
 instanton interactions at one-loop level in non-Abelian gauge theory, topological charge 9-6282
 instanton phenomena, real time approach, multidimens. potential with continuous symmetry 9-2922
 instanton solutions in Euclidean space, geometrical interpretation 9-40672
 instantons, high-dimens., topological charges in $SU(3)$ group 9-30638
 instantons, relationship to confinement, one-dimens. quantum mech. model anal. 9-12962
 instantons, the quark model, and the $1/N$ expansion 9-36005
 instantons and fermions in the field of instanton 9-26217
 instantons and Higgs fields 9-21957
 instantons and Kahler manifolds 9-12925
 instantons in quark plasma, multibaryon hadrons and neutron stars 9-40733
 internal gauge symmetry theory 9-12958
 invariant integration over $SU(N)$ 9-243
 invariants of equivalent Lagrangians 9-40654
 Kerr-Schild geometry, spinors, and instantons 9-35601
 Killing vectors in gauge supersymmetry 9-131
 Landau gauge formalism for non-Abelian gauge theories, Lagrangian gauge fixing term 9-6285
 lattice formulation of general relativity 9-40426
 lattice gauge theories, two dims., static quark confinement 9-35916
 lattice gauge theory, constructive method for gauge invariant actions, strong and weak coupling 9-6284
 lattice gauge theory, extreme environments and duality transform., review 9-13024
 lattice gauge theory, local struct. Kirkwood-Salzburg eqn., recursive eqns., critical behaviour 9-26207
 lattice gauge theory, map between corner and link operators, QCD relation 9-35926
 lattice gauge theory, strongly coupled, confinement of fermions 9-2905
 lattice gauge theory continuum limit, renormalised perturbation theory, lattice Lagrangian 9-6283
 lattice nonlinear $O(2)_3$ model, phase transition between broken/unbroken symmetries 9-9147
 left-right symmetric gauge models, $SU(2)_L \times SU(2)_R \times U(1)_L \times U(1)_R$, weak currents, Z^0 prod. and mass 9-253
 left-right symmetric $SU(N)$ gauge models, parity violation in atoms 9-21966
 Lehmann-Symanzik-Zimmermann formulas in a gauge-independent path-dependent formalism 9-21942
 leptoquark bosons, confinement in SU_4 theory 9-45052
 linear gauge theory algebraic struct., spontaneously broken symmetry, quantisation, massive gauge field 9-2906
 local field theory of solitons 9-12953

gauge field theory continued

local symmetry groups and fermion families 9-13030
 secret long range force in QFT with instantons 9-9283
 mass singularities and coherent states in gauge theories, QED and QCD results 9-12948
 massive, with instantons, wave functions, energies, vacuum and heavy quarks, WKB Schrodinger eqn. 9-35951
 massive QED, gauge invariant subtraction scheme 9-21993
 massive spin-zero particles, consistent formulation of relativistic dynamics in external fields 9-21977
 massless antisymmetric tensor gauge fields, second rank, free field theory quantisation 9-257
 massless fermion coupled to single axial vector field in $U(1)$ model, AAA triangle diagram 9-35965
 massless field theory observables, infrared finiteness proof for all perturbation theory orders 9-21917
 massless fields with half-integral spin 9-21926
 massless fields with integer spin 9-21925
 massless gauge theories, supersymmetric extension, supercurrent construction principle 9-40664
 massless non-Abelian fields, study of state vectors using Schrodinger equation (*Russian*) 9-30667
 massless QCD, instanton contribs. to fermion Green's functions 9-22037
 massless QED, dimensional regularisation of gauge fields in spherical spacetime, free field trace anomalies 9-40699
 massless Rarita-Schwinger field, axial current quantisation, chiral charge of ghosts 9-2918
 massless spin $3/2$ field, covariant canonical quantisation in general covariant gauges 9-40440
 massless spin $3/2$ field, irreducibility 9-35620
 mathematical formulation of gauge theory 9-40656
 mathematical idea in gauge theories 9-26204
 meron solutions in a non-Abelian, conformal invariant Higgs model 9-17610
 meson masses in gauge theory with harmonic oscillator pot., coloured quark-gluon model 9-350
 metastable vacuum states in $SU(2)$ Yang-Mills theory, quantisation in $A_0=0$ gauge 9-250
 minimal surfaces in pseudo-Euclidean space, correl. with instantons, $SU(2)$ gauge field solns. 9-21936
 modified supersymmetries 9-45024
 multiple vacua for non-Abelian lattice gauge theories 9-35929
 neutral currents and gauge theories, review 9-13011
 neutral currents in left-right symmetric unified gauge models 9-45044
 neutral gauge bosons props. in weak electron theories with natural parity conservation 9-321
 neutral spinless meson exchange, suppression of flavour changing effects 9-40716
 neutrino physics and gauge theory, book 9-30726
 neutrino scattering scale breaking models 9-13107
 Newtonian gravitational theory, continua and particle dynamics 9-6038
 Nielsen-Olesen vortices in coherent state approx., creation and annihilation operators 9-9284
 non-Abelian, field strength potential 9-17617
 non-Abelian, gauge fixing and canonical quantisation 9-35947
 non-Abelian defined on S^4 , use of holonomy group in problem of embedding 9-45016
 non-Abelian gauge potential, decomposability in Cartan geometry with zero torsion (*Chinese*) 9-17624
 non-Abelian gauge theories and quark confinement 9-13022
 non-Abelian gauge theory in a nonlinear gauge, charged current description 9-12937
 non-Abelian gauge theory of quarks and gluons in two dims. 9-30654
 non-Abelian symmetries, spontaneous breaking in $SU(2)$ and $SU(2) \times SU(2)$, observable consequences 9-26252
 non-integral gauge theories 9-12675
 non-self-dual gauge fields 9-9282
 non-semisimple gauge models, classical theory, ghost state props. 9-6253
 non-semisimple gauge models, renormalization 9-6254
 nonAbelian gauge condition ambiguity in the vicinity of instantons, ghost operator (*Russian*) 9-40677
 nonAbelian gauge theory, Higgs couplings and asymptotic freedom 9-21948
 nonlinear σ model, 2-D, topology and higher symmetries 9-26241
 nonlinear σ -model and classical solns. of instanton and meron type 9-21905
 nonlinear realisation, unified interaction, spontaneous symmetry breaking 9-13010
 nonlocal properties of fermionic matter in strong gravitational fields 9-26210
 $O(5)$ nonlinear σ -model as a $SU(2)$ gauge theory 9-35937
 one-loop counter terms, system with derivative couplings to fermions 9-249
 order/disorder quantum field operators associated with 2-D Ising model in continuum limit 9-9276
 particle creations in the pseudoparticle gravitational fields 9-2704
 Pauli-Villars regularization for non-Abelian gauge theories 9-21956
 periodic potential energy levels, late terms, asymptotic expansions 9-25895
 periodic solutions of massive ϕ^4 and Yang-Mills theories 9-12935
 periodic vacuums, functional integrals, classical sine-Gordon solns., Coulomb gas props. 9-26226
 photon structure functions, QCD predictions in asymptotically free gauge theory 9-30736
 pion production by weak neutral currents, gauge theory model predictions 9-13014
 pionisation region gauge invariance violation for hadrons, K and γ in EAS (*Russian*) 9-40676
 Poincare gauge invariance, conservation laws for particle, string and membrane systems 9-55
 Poincare gauge theory of gravitation, translational part of Lagrangian 9-2710
 point electric and mag. charge, nonAbelian gauge invariant classical Lagrangian formalism 9-12627
 pseudoinvariant gauge Lagrangians for Einstein gravity and supergravity 9-12680
 pure gauge fields on coset space 9-40673
 QCD, coloured cuts and mass gaps 9-9335
 QCD, field theoretical aspects, perturbative effects 9-26286
 QCD, gauge invariant quantum variables, $SU(N)_1 \otimes SU(N)_2 \otimes SU(N)_3$ algebra 9-30705

gauge field theory continued

QCD, jets, deep inelastic scatt., renormalisation group 9-26287
 QCD and the string model 9-26292
 QCD in axial gauge, boundary terms and Poincare invariance, asymptotic gauge pots. 9-329
 QCD spectrum calcs. in lattice gauge theory using Wilson's fermion method 9-367
 QCD vacuum, effects on hadronic currents, instantons, e^+e^- annihilation and precocious scaling 9-332
 QED appl. of gauge technique 9-35925
 quantisation, renormalisation, and fluctuations 9-30670
 quark and string interacting system, gauge theory for 2-D statistical mechanics 9-30713
 quark confinement, dynamical and topological considerations, review 9-26296
 quark confinement and lattice calculation, by Monte Carlo methods 9-13023
 quark confinement in 2-D lattice Higgs-Villain model 9-26289
 quark mass dependence ambiguities in gauge theory renormalisation 9-21913
 quark masses and Cabibbo angles 9-9332
 random magnetic systems, gauge symmetries, Ising and X-Y models anal. 9-38295
 reciprocal effects and other quark theories, charm quarks, J/ψ discovery, gauge theories (Danish) 9-30698
 renormalisation of Spontaneously broken gauge theories 9-12945
 riemannian spaces with local duality and gravitational instantons 9-25938
 right handed neutrino interactions in gauge theories 9-35941
 scalar loops consequences on gauge symm. hierarchies 9-2930
 Schwinger model, new and local Lorentz-covariant soln. for arbitrary gauge 9-40668
 Schwinger theory, vacuum struct. generators in Lowenstein-Swieca gauge 9-6259
 self dual Euclidean gauge fields, semisimple groups, Lie algebra, SU(2) and SU(3) fields 9-6278
 self-dual equations for SU(n) theory, props. 9-17607
 self-dual SU(2) gauge fields, symmetries 9-21935
 singular gauge transform. in non-Abelian gauge theory 9-2927
 sixth quark mass in SU(2)_L×SU(2)_R×U(1) gauge group 9-26291
 SO(1,3)-gauge theory of gravity 9-129
 SO(3) gauge invariant theory, quantisation, spontaneous broken gauge theory, S-matrix gauge independ. 9-269
 SO(4,1) gauge field eqns., de Sitter plane wave solns. 9-30646
 SO(4,1) sourceless gauge field eqns., classical solns. 9-2921
 SO(4)×U(1) model of weak and electromagnetic interactions 9-13009
 SO(N) grand unified gauge theories, eigenvalue conditions and asymptotic freedom 9-22010
 sourceless quantum EM field in multiply connected asymptotically flat background metric 9-25946
 Sp(4)×U(1) theory of weak and EM interactions, little groups and discrete symmetry 9-26283
 spherically symmetric eqns. in gauge theories for arbitrary semisimple compact Lie group 9-2929
 spin 3/2 field, axial and trace anomalies 9-2690
 spin-couplings 3/2, consistency 9-44824
 spin-glasses, Landau-Ginzburg gauge model 9-42772
 spinor electrodynamics, anomaly free and axially coupled, bilinear gauge renormalisation 9-307
 spinor fields in four dimensional space-time 9-6271
 spontaneous breaking of gauge symmetry in a nonstationary isotropic metric 9-21643
 spontaneous compactification, mag. monopoles in higher dims., Wu Yang global gauge descript. 9-2920
 spontaneous symmetry breaking and gauge interaction hierarchy 9-17621
 spontaneously broken gauge theories, 1-loop corrections, 2-point functions and fermion masses 9-17599
 spontaneously broken gauge theories, 3- and 4-point functions and renormalisation consts. 9-17600
 spontaneously broken gauge theories, general struct. and renormalisation 9-17598
 stable heavy neutrinos, dynamical interactions and astrophys. effects 9-5743
 static colour change screening in classical gauge theories 9-45050
 strangeness changing neutral currents, avoidance in gauge theories of weak and EM interactions 9-22005
 stress tensor in gauge theory class, Lagrangian density, massless Rarita-Schwinger theory 9-2939
 strong P and T noninvariance, natural suppression in SU(2)_L×SU(2)_R×U(1)_{L+R} gauge model 9-9303
 strong-coupling limit of gauge theories, Fermion-Boson decoupling, quark confinement 9-35924
 SU_L(2)⊗SU(2)_R⊗U(1) and SU(2)⊗U_L(1)⊗U_R(1) gauge theories, neutral current constraints 9-277
 SU_N gauge group uniqueness in grand unified model, U₁ color, proton stability 9-316
 SU(2)_L×SU(2)_R×U(1)_L×U(1)_R gauge models, parity violation in SLAC neutral current expt. 9-9305
 SU(2)_L×SU(2)_R×U(1) gauge model, possibility of b-quark weak interactions 9-26285
 SU(2)_L×SU(2)_R×U(1) gauge models, parity violating effective interaction 9-9304
 SU(2)_L×SU(2)_R×U(1) model, weak and EM interactions, Higgs scalars, vac. instability 9-317
 SU(2)_L×U(1) gauge model with off-diagonal neutral currents, anomalous lepton events 9-2923
 SU(2)_L×U(1) primitive particle model 9-40708
 SU(2)_L⊗SU(2)_R⊗U(1) gauge models confronting neutral current data 9-22013
 SU(2)_L×SU(2)_R×U(1) gauge models, neutral current sector, natural parity conservation 9-9324
 SU(2)×SU(2) chiral symmetric Lagrangian description of low energy $\pi\pi$ and NN scatt. 9-26251
 SU(2)×U(1)×U(1) gauge models, neutral current struct., parity nonconservation 9-292
 SU(2)×U(1) gauge model, symmetry breaking pattern with two Higgs doublets 9-12978
 SU(2)×U(1) gauge models, CP violation origin, Yukawa interaction 9-40712
 SU(2)×U(1) gauge theories of leptons, T violation, leptonic decay and dipole moment 9-299

gauge field theory continued

SU(2)×U(1) gauge theory, μ -e mass ratio and CP violation as quantum effect 9-30691
 SU(2)×U(1) vectorlike model: new leptons, quarks, and the axion question 9-40711
 SU(2)⊗U(1)_Y⊗U(1)_c gauge model, neutral current and $\Delta I=1/2$ rule 9-6257
 SU(2)⊗U(1)⊗U'(1), anal. in neutral current interactions, parity nonconservation in ed scatt. 9-17731
 SU(2)⊗U(1) gauge model, strange baryon weak radiative decays and CP violation 9-6260
 SU(2)⊗U(1) gauge models, neutral current couplings 9-40715
 SU(2) gauge field, spinorial classification 9-260
 SU(2) gauge fields in interaction with static extended quark sources 9-30709
 SU(2) gauge theory, Mobius invariance and classical solutions, generalised and excited merons 9-6265
 SU(2) gauge theory instanton solns., duality condition, Lie group interpretation, quasiparticle soln. 9-6261
 SU(2) gauge theory solns. 9-9285
 SU(2) lattice Yang-Mills fields, strong coupling expansion, recursive eqns. 9-245
 SU(2) self dual gauge fields, static axially symmetric solns. 9-35603
 SU(2) symmetry, classical quark confining solns. incorporating colour 9-339
 SU(3)×U(1) unified gauge theory without μ -e universality 9-26274
 SU(3) instantons with cylindrical symmetry, Pontryagin indices 9-286
 SU(3) non-Abelian gauge theories, gauge fixing ambiguities in axial and Coulomb gauges 9-21945
 SU(3)-symmetric gauge theory, static gluon pots., appl. to fermions 9-12967
 SU(6) unified gauge field theory of weak, EM and strong interactions 9-17658
 SU(n), instantons, geometrical description of parameter space 9-30653
 SU(N) group, quantum fluctuations in vicinity of an instanton, quadratic Lagrangian 9-6266
 super-dense matter, phase transitions in gauge theories and cosmology, review 9-44654
 superconformal gravity, local geometry 9-44836
 superfields in higher-dimensional spacetime 9-17316
 supergravity, auxiliary fields 9-17315
 supergravity, constraint-free superfield formalism 9-17309
 extended supergravity, N=2, auxiliary fields in 5, 6 space-time dims. 9-30339
 supergravity, relation between vector and scalar multiplets and gauge invariance 9-12684
 supergravity in superspace, algebraic approach 9-17314
 supergravity structure, gauge actions, multiplets 9-2971
 supergravity without cosmological constant, spontaneous symmetry breaking and Higgs effect 9-17310
 superrenormalisable interactions, struct. of infrared divergences 9-40663
 superspace formulation of supergravity using vierbeins 9-2972
 supersymmetry, spontaneously broken, quantum loops UV finiteness 9-21919
 supersymmetry and gauge theories of weak and electromagnetic interactions 9-26208
 Symonzik's approach to nonrenormalizable theories for massless models 9-26212
 symmetry breaking perturbation technique, tensor operators 9-12975
 tensor gauge theory, Kerr type exact soln. 9-21631
 tetrad Palatini formalism and quadratic Lagrangians in gauge theory of gravitation 9-2697
 topological charge, effects in gauge theories 9-26205
 topological methods for gauge theories, winding numbers, euclidean Dirac eqn. 9-26206
 topological solitons and instantons 9-12924
 two-dimensional gauge model perturbation theory, Schwinger and massive vector meson models 9-6269
 U₃(W), charged heavy muonic lepton production, explanation of Kolar events in ν -N collisions 9-9364
 U-gauge Green's functions construction, with spontaneous symmetry breaking and Slavnov identities 9-235
 unambiguous field-strength formulation and dual potentials for gauge theories 9-35938
 unification of fermions and bosons, interacting model 9-21629
 unification of fermions and bosons, math. structures and phys. questions 9-21630
 unification of fermions and bosons, physical foundations of local (algebraic) approach 9-21628
 unification of Maxwell, Dirac and Yang-Mills eqns., octave algebra 9-2967
 unified actions for gauge fields and gravitation (Chinese) 9-17305
 unified gauge field underlying supersymmetry space, physico-geometrical remarks 9-13007
 unified gauge theories of weak and electromag. interactions, review (Russian) 9-26278
 unified gauge theory, improved Pati-Salam model for strong+EM+weak interactions 9-318
 unified gauge theory, low energy neutral current struct. 9-2975
 unified Lagrangian formulation for massive and massless tensor fields 9-12686
 unified model of weak and electromagnetic interactions based on the gauge group SU(3)×U(1) 9-22003
 uniqueness of the Weinberg-Salam gauge model 9-35989
 unitary field theory, preliminaries and recent developments, review 9-35613
 vacuum tunnelling, fluctuations around a most probable escape path in Minkowski space 9-2935
 vacuum copies and perturbation theory 9-17612
 vacuum copies and perturbation theory in the 't Hooft-Veltman gauge of QED 9-21989
 vacuum manifolds, gauge groups and topological invariants 9-237
 vacuum polarization about instantons 9-21928
 vacuum symmetries of gauge supersymmetry, quantum effects 9-17634
 vacuum tunneling in spontaneously broken gauge theory 9-40703
 vector boson model from SL(2,C) gauge theory of gravitation and Yang-Mills theory 9-322
 vortices topology of unified intrinsic field quantities for elementary particle systems 9-40653
 Ward Takahashi identities soln. 9-241
 weak, EM, and strong interactions, book contrib. 9-30694

gauge field theory continued

- weak and EM interactions, quantisation and renormalisation of gauge theories, book contrib. 9-30669
- weak hypercharge embedding in strong gauge groups 9-30692
- Weinberg's model of CP violation in gauge theories, valence quark hypothesis 9-12940
- Weinberg-Salam SU(2)×U(1) gauge theory effective Lagrangian, neutral current results 9-35992
- Yang-Mills, field strengths, sources, and gauge potentials (*Chinese*) 9-35920
- Yang-Mills theory, non-Abelian structure, IR finite asymptotic states 9-265
- Z(N) gauge theories, self duality 9-2919
- b-quark interaction with τ -lepton, gauge model 9-40738
- $\Delta(1236)$ isomer production, by charged and neutral currents 9-17711
- e- μ - τ spontaneous symmetry breaking and rare τ decays 9-9301
- ed, polarised e, elastic scatt. asymmetries in SU(2)×U(1) gauge theory 9-40781
- e $^+e^- \rightarrow \gamma\gamma$, weak interaction effects, QED tests, SU(2)×U(1) gauge theory 9-40767
- en, polarised e, elastic scatt. asymmetries in SU(2)×U(1) gauge theory 9-40781
- eN deep inelastic scattering asymmetries, gauge theory predictions 9-22104
- eN scatt., polarised e, testing unified gauge theories prediction 9-17732
- e ^+p , polarised e, elastic scatt. asymmetries in SU(2)×U(1) gauge theory 9-40781
- μ anomalous mag. moment in SU(3)×U(1) gauge model 9-3026
- μ -e universality constraints, implications for SU(2)×U(1) gauge models of τ decay 9-9368
- NN elastic scatt. in spontaneously broken gauge field theory 9-36091
- ν decay in gauge theory of weak and EM processes (*Russian*) 9-22087
- ν neutral current data, elastic and deep inelastic, gauge model constraints 9-40718
- qq non Abelian gluon interactions, long distance behaviour of chromostatic potential 9-17676
- pn scatt. in Bardakci-Halpern model 1^+ channel, N/D anal., A_1 status 9-40688
- Z \rightarrow H γ , decay rate determ. in SU(2)×U(1) gauge theory 9-40717
- ^3He , superfluid, gauge group and p-wave phases 9-23798
- ^3He , superfluid, Ginsburg-Landau region, phase equilb. in Lie group method 9-23799

Gaussian noise *see random noise***Gaussian orbital calculations** *see GO calculations***Gaussian-type orbital calculations** *see GTO calculations***Ge-Si alloys**

- crystal growth, equilb. gas phase comp. in Si-Ge-Br heterogeneous system 9-10820
- crystal growth by electron-beam zone melting without crucible 9-4917
- epitaxial growth by getter sputtering, characts. 9-28915
- photoconductivity and optical props. of samples fabricated by Si implantation 9-24014
- photoconductivity of single crystals in intrinsic region (*Russian*) 9-11170
- thermoelectric performance improvement, by GaP additions 9-47115
- Ge $_x$ -Si $_y$ -Ga $_z$ As, interimpurity radiative recombination, composition depend. 9-11465
- Ge $_x$ -Si $_y$ -x-Cu, solid soln., single cryst., photocond. spectra 9-24015
- Si $_x$ Ge $_y$ -x-GaAs, p-n $^+$ junction, I-V characts., inverse branch, effect of dislocation defects (*Russian*) 9-15217
- Si $_x$ Ge $_y$ -x-Si(GaAs) heterodiodes, interfacial structural defects effect on avalanche breakdown 9-42644

gegenschein *see zodiacal light***Geiger counters**

- CANDU 600 MW, spent fuel bundle counter, safeguard design 9-13495
- neutron calibration technique for detectors with low neutron/high photon sensitivity 9-31344
- organic, suppression and utilisation of spurious pulses 9-22547
- H $_2$ CN, gaseous, radioactivity meas. by internal counting method 9-36483
- ^{125}I surface contamination meas., sensitivity comparison with other detectors (*Czech*) 9-34673

Geiger Muller counters *see Geiger counters***gelatin***see also gels*

- adsorption on single AgBr crystals, ellipsometric investigations 9-24779
- crosslinking by formaldehyde, ^{13}C NMR obs. 9-5187
- dichromate gelatin, holographic information recording (*German*) 9-27207
- Ag halide hydrosol models of photographic emulsions 9-20470

gels

- acrylic, US observation of critical behaviour (*French*) 9-29414
- butadiene acrylonitrile copolymer, raw elastomer, containing crosslinked particles, flow behaviour 9-37359
- calcium alginate gels, Raleigh scatt., spectral broadening, density fluctuations 9-1776
- cellulose acetate-dimethylphthalate gel, mech. props., substitution effect (*Russian*) 9-23291
- dipalmitoyl phosphatidyl choline, deuterated gel phase lipid bilayer, neutron scatt. study 9-43829
- Ficoll, bacterial movement in viscous environments 9-43840
- gel-chromatogram processing technique allowing for spreading, Friedholm eqn. soln. (*Russian*) 9-24880
- hydrogel coatings, and impregnations in silastic, dacron and polyethylene 9-20719
- light modulating media, controlled gelatinous, dynamic deform obs. by laser interferometry 9-32072
- methyl methacrylate+diallyl phthalate, two-step copolymerisation, light focusing plastic rod prep. (*Japanese*) 9-37064
- methylcellulose, bacterial movement in viscous environments 9-43840
- nylon-6 dilute soln., gelation and crystallisation, struct. determ. 9-37635
- poly(ethylene-but-1-ene) copolymer, gelation and precipitation from solutions, NMR exam. 9-43641
- polymer gelation, statistical mech. model, site-band correl. 9-34368
- polymer statistics of long chains in solns. or melts 9-31758
- silica gel, adsorption from soln. of benzene-cyclohexane mixtures 9-23826
- silica gel, effect of gamma-rays, electron scavenging by N $_2$ O 9-24762
- silica gel, Mn $^{2+}$ adsorption rel. to H $_2$ O adsorp., EPR study 9-5180
- silica gel regeneration by adiabatic desorption mathematical model 9-1967
- swelling kinetics theory, polyacrylamide gel obs. 9-39214
- thoria sol-gel processes for nucl. fuel fabrication 9-13503

gels continued

- tissue mimicking materials for ultrasound phantoms 9-5333
- Al(OH) $_3$, coprecipitated with Cr(OH) $_3$ gel, magnetic, optical studies, calcination 9-47995
- B $_2$ O $_3$ -SiO $_2$ glass synthesis by hot pressing of gels 9-15637
- Cr(OH) $_3$, coprecipitated with Al(OH) $_3$ gel, magnetic, optical studies, calcination 9-47995
- FeOOH, ferric hydroxide gel, struct. determ. 9-11832
- La $_2$ O $_3$ -SiO $_2$ glass synthesis by hot pressing of gels 9-15637
- SiO $_2$ gel, irradi., adsorp. of NH $_3$, neutron scatt. 9-33194
- SiO $_2$ gel, pyrolysis, for low-temp. silica glass synthesis 9-43194
- SiO $_2$ gels, heats of immersion, effects of pore narrowing 9-11833
- SiO $_2$ glass synthesis by hot pressing of gels 9-15637
- Ta $_2$ O $_5$ -H $_2$ O $_m$, influence of preparation on pore structure and ion exchange props. 9-1970
- U kernels preparation by external gelation process 9-26663
- UO $_2$ sintering, thermal anal., hexavalent uranium xerogel drying, thermal treatment modelling (*Czech*) 9-36378

general relativity

- see also cosmology; gravitation; gravitational red shift; Schwarzschild metric; space-time configurations; unified field theories*
- accelerated detectors, thermal like behaviour, quantum noise 9-139
- ether drag and radiation press. in dispersive medium 9-35124
- anisotropic Bianchi II cosmological models with matter and electromagnetic fields 9-48976
- anisotropic incoherent fluid cosmological model in general relativity 9-40303
- Arnowitt-Deser-Misner energy and E_{00} 9-17297
- aspherical gravitational collapse, matter associated perturbations, linear Einstein field and conservation eqns. 9-5843
- Bach field equations, jump relations and associated transport equations (*German*) 9-9162
- Backlund transformations of axially symmetric stationary gravitational fields 9-40421
- Bertotti-Robinson metric, pair production, semi-classical treatment 9-2702
- bi-scale theory of gravitational and strong interactions 9-12696
- Bianchi model Lie groups, automorphisms 9-30313
- binary systems with compact objects, static two-body problem and attraction law, post-post Newtonian approx. 9-117
- black hole, definition 9-2555
- black hole, dissipative test EM fields in black hole background 9-25627
- black hole evaporation in projective relativity 9-17014
- black hole interactions, gravitational radiation emission 9-125
- black holes, gravitation, charges, cosmology and coherence, elementary particles and Dirac large numbers 9-2477
- black holes, primordial, self-similar growth for general sound speed case 9-5856
- black holes, test particle motion in crossing Schwarzschild surface, book contrib. 9-44816
- Bochner curvature tensors, Kahler manifolds (*Japanese*) 9-12663
- Brans-Dicke cylindrically symmetric fields, singularity of solns. 9-2669
- canonical coordinates in stationary axial symmetry (*French*) 9-25918
- cartesian operator algebra for expansion of tensor quantities and equations in a spherically symmetric background 9-44821
- Cauchy problem on a manifold, Einstein eqn. solns. (*French*) 9-25920
- charged homogeneous cosmologies, theory 9-25767
- charged particle motion in an electromagnetic field on Kerr background geometry 9-9167
- charged particle trajectories in static Ernst space-time 9-17291
- charged perfect fluid distrib., spherical symmetry 9-12668
- charged point particles with magnetic moment in general relativity 9-44811
- charged universe, general relativistic cosmological model 9-25766
- circular geodesics, non-equatorial, with constant latitude in Kerr metric, non-existence 9-25930
- Clifford-Klein space times, effective Lagrangian and vac. stress-energy tensor 9-2674
- cold relativistic neutron gas, study of massive neutron cores 9-35292
- collapsing star, neutrino ang. momentum loss by Poynting-Robertson effect 9-16928
- colliding plane gravitational waves 9-40431
- coloured cosmological black holes, soln. of Einstein-Yang-Mills system 9-12492
- compact rotating gravitational instanton from Einstein eqn. solns. 9-9161
- comparison with time varying pot. theory 9-30305
- conformal invariance, black hole nonexistence 9-25929
- conformal invariance, effect on field equations 9-25928
- conformal two-structure as the gravitational degrees of freedom in general relativity 9-17292
- conformally flat non-static plane symmetric perfect fluid distributions 9-30311
- conformally flat non-static spherically symmetric perfect fluid distributions in general relativity 9-21599
- conservation equations and the gravitational symplectic form 9-2679
- conservation laws and sources of plane symm. gravit. field (*Czech*) 9-12654
- conservation laws for general relativistic plasma MHD, black hole rot. energy 9-2685
- cosmic censorship, black holes, and particle orbits 9-44802
- cosmological models, homogeneous, using Einstein's theory of gravitation 9-12547
- cosmology, adiabatic density perturbations evolution 9-25769
- cosmology, anisotropic MHD model 9-35437
- cosmology, Einstein's field eqns., inhomogeneous soln., for $p=\mu$ eqn. of state 9-12666
- cosmology, initially inhomogeneous model, rel. to QSOs number density excess 9-2576
- coupled Einstein SO(3) gauge field eqn. solns. 9-274
- covariance principles, Einstein study, 1912 to 1916 9-40343
- covariant conservation eqns., relation to energy-momentum concept in general relativity 9-25933
- covariant perturbed wave equations in arbitrary type-D backgrounds 9-30314
- curvature collineation for the field of total radiation 9-21606
- cylindrically symmetric self-gravitating fluids with pressure equal to energy density 9-21612
- cylindrically symmetric stationary fields 9-44812
- deformed Lie groups 9-121
- Derrick's theorem in curved space 9-12658

general relativity continued
differential conservation laws with generalised Lagrangian (*Bulgarian*) 9-9153
differential eqns. of motion for systems of free gravitating particles 9-44806
differential forms in general relativity 9-44818
Dirac equation and higher symmetries 9-25931
divergence free tensors, struct., Einstein field eqns. 9-17293
Doppler effect and aberration of light via principle of equivalence 9-17286
Earth artificial satellites motion, relativistic effects 9-2465
Einstein's cosmological constant, lunar ranging data anal. by Seelinger's theory 9-6040
Einstein's eqns., algebraically special one Killing vector solns. 9-9160
Einstein's equation, technique for generating stationary axisymm. solns. 9-30319
Einstein's field equations, solns. for static fluid spheres, relativistic polytropic anal. 9-12669
Einstein's field theory with teleparallelism and Dirac's electrodynamics (*German*) 9-40418
Einstein's universe, radiating charged particle 9-17302
Einstein's vacuum field eqns., axially symmetric stationary exact solns. 9-35594
Einstein's vacuum field equations, axially symm. stationary solns. 9-17283
Einstein and general relativity, historical perspectives 9-40316
Einstein eqns. with stiff eqn. of state, exact soln. 9-2677
Einstein equation, 9-30321
Einstein equations, supersymmetry, and flat limits of curved superspace 9-25932
Einstein field eqns. for rotating isentropic perfect fluid, cylindrically symmetric solns. 9-40427
Einstein unitary field theory with tele-parallelism, Dirac's classical theory of electrons 9-12685
Einstein vacuum field, generation of Brans-Dicke field 9-30308
Einstein vacuum field eqns., Taub-NUT family of solns. 9-12665
Einstein-Cartan first order invariant variational structures 9-44809
Einstein-Godel universe 9-2583
Einstein-Klein-Gordon eqn. solns. in stationary axially symmetric space-time (*French*) 9-25921
Einstein-Klein-Gordon equations, Killing field vectors, theorem (*French*) 9-30340
Einstein-Maxwell eqns., exterior stationary axisymmetric solns. 9-21622
Einstein-Maxwell eqns., solns. for cylindrically symmetric space-time 9-12657
Einstein-Maxwell eqns. soln. for cylindrically symm. fluid distrib. and mag. energy 9-30312
Einstein-Maxwell equations, solns., causality violation in rotating universe 9-44828
Einstein-Maxwell fields for massless charge 9-44804
Einstein-Maxwell generalised field theory, pp-wave soln. 9-6034
Einstein-Maxwell stationary eqns., transforms. preserving asymptotic flatness 9-118
Einstein-Yang-Mills equation, soln. for gravity coupled to non-Abelian plane waves 9-35602
Einsteinian relativity, rel. to gravit. const. and cosmic large numbers 9-48969
Einstein's assembly of test particles, reconstruction in Minkowski space-time 9-30303
electromagnetic fields conformal to non-empty space-times 9-30331
EM fluids and Ricci collineations 9-35605
EM radiation, polarisation plane rot. induced by non-Minkowskian space-time 9-35115
empty space Einstein eqn. solns., Mach's principle in spatially homogeneous spacetimes 9-17295
energy problem, struct. of gravitational field (*Russian*) 9-21598
equations $\partial R^2/\partial g_{ij}=0$, transformability to 5 dimens. eqns. 9-12655
equivalence of active gravitational mass to inertial mass 9-44808
equivalence of vacuum Yang-Mills gravitation and vacuum Einstein gravitation 9-25924
equivalence principle, gravitational collapse, and the classical particle problem 9-25927
Ernst equation, Backlund transformation, pseudophysical method 9-123
ether, cause of relativistic effects, and one-way velocity of light, discussion 9-30306
ether, relativity, and the wave nature of matter 9-25926
ether theory, compatibility with relativity 9-30307
evolving flowless drainhole, nongravitating particle model 9-44803
exact geodesics of Erez-Rosen metric 9-6027
expanding spherical radiossources, flux vars. 9-17112
extremal surfaces, uniqueness, maximizing props. in Taub type universe 9-6026
faster than light phenomena in special and general relativity, book contrib. 9-44817
fibre bundles with Ricci curvature on Riemann manifolds (*French*) 9-21594
Finsler space, second curvature tensor 9-17318
Finsler spaces, structural remarks on field theory 9-12660
Finslerian relativity, development and basic theoretical principles review 9-35596
Finslerian space-time with absolute parallelism, scalar and EM fields 9-40436
fluid dynamics, macroscopic relativistic approach to numerical simulation 9-9122
fluid spheres, physical solns. 9-21169
G-structures, general theory and algebraically degenerate spaces 9-17299
galaxy formation and vacuum quantum fluctuation of the gravitational field 9-30156
general flat four-dimensional world pictures and clock systems 9-17288
general relativistic nonlinear field, kink soln. in generalised geometry 9-21922
generalised equations of motion for test particle 9-35593
geodesically complete space time, topology change of edgeless acausal spacelike hypersurface 9-6029
geodesics in rotating systems 9-6028
geometric formalisation of classical dynamics (*Russian*) 9-9105
geometrical optics in general relativistic dispersive media 9-40435
geometrical spacetime perturbation theory: regular first-order structures 9-2678
geometrised gravitational theory, energy-momentum tensor 9-25958
geometrodynamics and Gauss-Codazzi eqns. in affine 5-space 9-35595

general relativity continued
globally hyperbolic spacetimes, conformal deform., Ricci curvature and energy condition 9-9159
gravitation and inertia corpuscular model, geophysical consequences (*Russian*) 9-40439
gravitational experiments in space, review 9-6042
gravitational field energy, local eqn. 9-30323
gravitational mass change in two point charges system, for teaching 9-35460
gravitational singularities, effect of self-induced torsion of Dirac sources 9-21626
gravitational waves, Bianchi type-I universe, tensor perturbation equations, derivation 9-124
gravitational waves energy-momentum 9-21607
gravity, microscopic, as Yang-Mills field 9-44829
Hamilton-Jacobi generalised theories 9-2681
Hauser space-time in General Relativity (*French*) 9-25919
high energy stability and renormalisability of gravitation, Einstein Lagrangian supplement 9-25935
homothetic Killing trajectories, stationary limit surface geometry 9-40424
homothetic maps of the space-time distance function and differentiability 9-116
incompressible minimal surfaces, 3-dimens. manifolds with nonneg. scalar curvature, positive mass conjecture 9-30318
indefinite metric quantum field theory, Poincare generators 9-35618
inertial forces, modified Thirring shell model 9-12667
interacting relativistic particles in phase space, manifestly covariant theory, central force system 9-6031
interiors with relativistic dust flow 9-17290
isolated system, supertranslation invariance of spin vectors 9-6030
isotropic Finsler spaces, const. sectional curvature in Berwald's connection (*French*) 9-44801
K3 gravitational instanton, physical interpretation 9-17320
Kasner spacetime, conformal energy-momentum tensor trace anomaly calc. 9-21603
Kerr black hole, gravitational perturbations 9-44819
Kerr metric, null trajectories 9-25925
kerr-Schild geometry, spinors, and instantons 9-35601
Killing fields, evolution for dust matter space time (*French*) 9-21617
kinematics via principle of equivalence 9-17285
large numbers hypothesis and the Einstein theory of gravitation 9-21477
lattice formulation of general relativity 9-40426
light ray and particle paths on rotating disc 9-40422
Mach's-principle, the cosmological constant, and the scale-covariant theory of gravity 9-25774
mach principle and the quantal response of the Universe 9-12549
Machian effects in compact rapidly spinning shells 9-2684
magnetised cylinders in general relativity 9-25936
magnetised relativistic continuum, shock invariants (*French*) 9-25944
massive particle finite motion in Kerr and Schwarzschild fields (*Russian*) 9-8833
massive quantum field theory in two-dimensional Robertson-Walker space-time 9-25962
matter field spacetimes, symm. mappings satisfying vanishing contraction of Lie deform. of Ricci tensor 9-113
matter terms in gravit. theory, minimal prescription method 9-25916
maximally symmetric space with torsion 9-115
Maxwell's eqn. soln. for any static axisymmetric vac. space time 9-25874
Maxwell's equations in anisotropic space 9-44758
Maxwell equations, in Minkowski space-time and Poincare group 9-30301
metric affine variational principles, Riemannian space time 9-21596
metric-affine gravit. theory, vol. preserving and canonical transform. 9-44826
MHD, definite material scheme 9-25943
MIT bag with de Sitter geometry 9-2988
multiply-connected space-time, black holes and tachyons 9-30315
naked singularities in Kerr metric, relationship to black hole 9-21600
natural theory of continuous media 9-25917
neutrino fields in axially and reflection symmetric space-times 9-40425
neutrino trapping in rotating matter 9-2673
neutron stars, nonrotating, mass and moment of inertia bounds 9-2551
neutron stars, relativistic fluid spheres appl. 9-5855
neutron stars, relativistic slowly rotating stars 9-21321
Newman-Penrose formalism and its application in general relativity, review (*Russian*) 9-21595
noncanonical vacuum metrics with two commuting Killing vectors 9-30320
nonlinear, electromagnetic and gravitational Hertz potentials 9-2680
nonlinear electrodynamics, new variant (*Russian*) 9-5990
nonlinear graviton-photon interaction in Einstein-Maxwell space-time 9-30338
nonlinear scalar field theory in isotropic homogeneous space-time 9-2676
nonlocal theories satisfying Bell's inequality 9-12642
optical ordinates, problem of distance 9-21601
orbital equations in the relativistic two-body problem 9-44805
parallel vector fields and Betti number in Riemannian manifold 9-44810
particle cloud surrounding massive rotating nucleus, relativistic dynamics 9-114
particle creation by black hole due to Casimir effect 9-35607
particle creations in the pseudoparticle gravitational fields 9-2704
particle emission in the de Sitter universe for massless fields with spin 9-40434
periodic gravitational waves, focusing effects (*Russian*) 9-6032
philosophical aspects, ideas of Eastern and Western cultures 9-44699
photon motion in gravitational field of rotating cylinder 9-25937
plane electromagnetic-gravitational waves, interaction general relativity soln. (*Russian*) 9-21605
Poincare's retention of Euclid on apparently adverse parallactic findings 9-40429
Poincare's thesis, stellar parallax, compatibility with Euclideanism of astronomical 3-space 9-40428
Poisson sphere, global dynamics eqns. (*French*) 9-30324
positive energy conjecture for isolated systems 9-40419
positive mass conjecture proof for general relativity 9-40420
positive-action conjecture, proof 9-30322
potential blue shift, Cs beam clock meas. as theory test 9-12704
Prasad-Sommerfield monopole, time depend. soln. of SU(2) Yang-Mills-Higgs system 9-273
predictive relativistic mechanics of gravitating masses 9-25914

general relativity continued

- pregeometry, gravity with composite metric 9-35619
 problem of motion, infeld theory (*Polish*) 9-35513
 propagators for quantised scalar field in static closed Universe 9-35597
 pseudoinvariant gauge Lagrangians for Einstein gravity and supergravity 9-12680
 pseudoriemannian manifold, differential forms as spinors 9-25915
 pseudospherically symmetric tachyon perfect fluids 9-35599
 PSR 1913+16, binary pulsar, general relativistic effects meas. 9-35286
 quantum cosmology, non-singular model 9-30158
 quantum effects in the Bertotti-Robinson space-time 9-35930
 quantum field theory for rotating observer 9-12941
 quantum linearization instabilities 9-44835
 radiating Demianski-type space-times 9-30309
 radiating non-twisting charged systems, gravitational field 9-40430
 recurrent Finsler space, projective motion 9-30327
 Reissner-Nordstrom black hole, perturbation treatment using Newman-Penrose formalism 9-44820
 Reissner-Nordstrom-de Sitter metric, the third law, and cosmic censorship 9-35609
 relativistic magnetofluids and symmetry mappings 9-27700
 relativistic magnetofluids and symmetry mappings 9-23379
 relativistic magnetofluids and symmetry mappings. II 9-27701
 relativistic wave equations in curved spacetime 9-21962
 renormalisation of the quantum stress tensor in curved space-time by dimensional regularisation 9-40423
 Ricci tensor, invariant two spaces and canonical forms 9-12659
 Riemannian spaces, connections and spinor connections associated with finite groups of transformations 9-44842
 riemannian spaces with local duality and gravitational instantons 9-25938
 Rindler, de Sitter and Schwarzschild spaces, Greens function thermal props., renormalisation 9-2686
 Robertson-Walker spacetime, energy-momentum tensor and particle state definition 9-25934
 Robertson-Walker type solutions in unitary theory (*French*) 9-17287
 rotating disc, light ray and particle paths 9-2670
 rotating disc, light-ray and particle paths 9-2671
 rotating sphere, internal gravit. field in weak-field approx., appl. to astrophysical objects (*Russian*) 9-25939
 rotating universe, stability 9-17146
 S-PRF₂-space of first kind 9-17294
 s-recurrent Finsler space 9-30326
 scalar fields, non-null eigenvalues 9-21623
 Schwarzschild black hole, $\gamma > 5/3$ gas accretion 9-17011
 Schwarzschild space time, algebraic embeddings in R^7 space (*Italian*) 9-17284
 short range scalar field 9-44813
 singularities, incompleteness and the Lorentzian distance function 9-30317
 singularities in general relativity theory 9-35591
 SL(2,C) Lorentz group, relativistic equations and indecomposable representations 9-30298
 SL(2,C) Yang-Mills field theory description, in curved twistor space 9-21602
 source energy change for gravitational wave emission in Einstein theory 9-21608
 space-matter spinor 9-30310
 space-matter tensor algebra 9-12656
 space-time experiments, potential of an orbiting interferometer 9-35624
 space-time manifold geometrical singularities, edge geometry 9-44807
 spacetime foam, mathematical framework 9-9172
 spatially homogeneous cosmology, dynamical degrees of freedom 9-30155
 special birecurrent Finsler space, props. 9-30325
 spherical rigid body, pole-dipole singularity idealised description 9-2683
 spherical stellar models, stability and normal modes 9-29983
 spherical symmetry in a 4-dimens. space-time 9-35590
 spherically symmetric charged dust distrib., Brans-Dicke theory, Schrödinger eqn. soln. 9-12693
 spherically symmetric charged dust distrib., Einsteins theory generalised to Brans-Dicke theory 9-2694
 spin coefficient equations with nongeodesic eigenrays 9-25941
 spinning particles, eqn. of motion in post-Newtonian approx. of Einstein-Cartan theory 9-25954
 spinor connections, almost product struct., Riemann spaces (*Rumanian*) 9-30297
 spinor fields in an Einstein universe, finite temp. effects 9-21614
 spinor space, quantum phenomena 9-17192
 starlight deflection by Sun, daytime obs. by photographic astrometry 9-8797
 static fluid cylinders and plane layers 9-17289
 stationary axially symmetric vacuum metrics maximality of the local symmetry group 9-12664
 stationary axisymmetric vacuum gravitation field equations, separable solutions 9-9156
 stationary axisymmetric vacuum gravitational field equations, new formulation 9-9155
 strong Backlund transformations, generalisation and existence in ≥ 4 dims. 9-30316
 strong spin-two interaction and general relativity, review 9-45046
 SU(1,1) spin coefficient equations with nongeodesic eigenrays 9-25942
 SU(2) self dual gauge fields, static axially symmetric solns. 9-35603
 symmetric and traceless tensors on Minkowski space 9-17298
 symmetry properties of embedded space-times 9-44814
 Synge's equations of motion applied to a perfect fluid 9-40433
 tachyon quasi-catastrophe theory, tachyon existence, imaginaries, and causality, book contrib. 9-44815
 tachyons, monopoles and related topics, book 9-44718
 telescopic principles in the theory of gravitation (*German*) 9-40416
 test particle mass in gravitational field, rel. to Mach's principle 9-12670
 time analysis, universal and relativistic time 9-30299
 time-machines 9-2672
 topological charge of singularity 9-12661
 torsion gravitational theories, spinning particle motion, Lagrangian theory 9-12692
 two-body problem, nonlinear effects 9-8799
 unified fields in pentadimensional theory 9-44832
 uniform electrovacuum space time, observer dependent effects, Bertotti-Robinson line element 9-122
 universe with variable G and c, initial conditions 9-48977

general relativity continued

- vacuum metrics, with two Killing vectors, twisting type II and III solns. 9-17296
 van Stockum metric, axially symmetric gravitational fields of bounded sources 9-21597
 variable rest masses, black hole solutions and neutron star models 9-30162
 variational principle and gravitational field energy 9-25923
 virial theorem in general relativity, consequences for spherical symmetry stability 9-21593
 wave propagation in prestressed nonlinear elastic solids, relativistic theory 9-1124
 Weyl space, proper time measurement by geometric clocks 9-30300
 white holes, optical appearance 9-21323
 zero mass surfaces, rel. to cosmological singularities 9-25772
- generator coordinate method**
see also nuclear structure theory
 coupled channel variational method for microscopic study of reactions between complex nuclei 9-13263
 exchange kernels, analytical derivation methods 9-13228
 kernels of GCM, RGM and OCM and their calculational methods 9-13227
 resonating-group method for nuclear many-body problems, matrix elements calc. by GCM 9-9497
 theory of resonating group method and generator coordinate method, and orthogonality condition model 9-13226
- ⁸Be low lying states, Sp(2, R) model with generator coordinate method 9-45169
⁹Be, $1/2^+$ resonance state at 1.68 MeV 9-6398
¹²C, excited state struct., anomalous α -decay props. 3-cluster GCM model 9-6399
¹²C + ¹²C system, dynamical struct. change during scatt. process and mol. resonances 9-13321
¹⁴C + ¹⁶O scatt., molecular resonances, generator coordinate study 9-36216
- generator protection** *see machine protection*
generators, acoustic *see acoustic generators*
generators, electric *see electric generators*
- geochemistry**
see also Earth structure; geology
 S.African kimberlites, phlogopites excess ⁴⁰Ar distrib. rel. to K 9-34769
 andesites from S.America, Nd and Sr isotope data 9-29726
 Antarctic snows, trace metals contents (1914 to 1974) 9-34867
 N.Atlantic basalt geochemistry rel. to mantle heterogeneity 9-29745
 barite, in Devonian carbonate rocks, NE British Columbia, origin hypothesis 9-25240
 basalt, hydrothermal alteration by seawater, chemical exchange exptl. results 9-20828
 basalt from DSDP Leg 34, cooling rate effects on pyroxene chemistry 9-44148
 basalt-seawater alteration reactions, studies via dynamic hydrothermal experimental system 9-5686
 basalts, Palaeocene, of Mull and Skye, immobile trace elements rel. to palaeotectonic affinities 9-34816
 basalts from Mid-Atlantic Ridge in central N.Atlantic 9-39675
 basalts from Project FAMOUS area, petrogenesis from 0 to 15 kbars exptl. study 9-29768
 big river sands, modern, petrology and chemistry 9-25274
 bulk chemical anal. calc. from mineral phases obs. in thin section, BULK computer program 9-2378
 calcite-depositing spring, chemical vars. and calcite precipitation 9-44202
 cave waters, stable isotope geochemistry rel. to climatic change, 230000 to 100000 BP 9-2234
 charnockites from Sao Paulo State, Brazil 9-44145
 Chesapeake Bay, pollution history 9-34445
 N.Chilean ignimbrites, REE data and Sr isotopes rel. to petrogenesis 9-44146
 coastal zone, particulate U, Pu, and Po in biogeochemistries 9-29787
 composite dike, geochemistry of co-existing acidic and basic melts 9-2233
 Derwent Reservoir, N.England, Zn, Cd and Pb in water, sediments and submerged plants 9-25286
 diamonds from S.Africa, elemental concs. and Pb and Sr isotopes 9-34775
 differentiation of Earth material, as energy source for continental tectonics and seismicity 9-44160
 DSDP Leg 34 basalt, clay mineral form. 9-29767
 El Tatio geothermal field waters, N.Chile, isotopic comp. rel. to sources 9-16525
 English Channel, actinide concs. and transfer into S.North Sea 9-48519
 estuaries, nontidal, natural and artificial hydrographic and hydrochemical changes 9-29792
 estuarine tidal front, trace metal enhancements in biotic and abiotic components 9-2265
 Galapagos spreading centre, hydrothermal deposits and assoc. basement rocks 9-29750
 gypsum, hydration water isotopic comp. rel. to form. and water exchange 9-20829
 hydrocarbons, light, in Recent Texas continental shelf and slope sediments, origin 9-2213
 hydrothermal mounds near Galapagos Rift, chemistry 9-29739
 Indian Ocean, bottom sediments geochem. studies 9-20808
 W.Indian Ocean, mantle uplifted block 9-25228
 Indian rivers, chemical and sediment load input into world oceans 9-34870
 Kimmeridgian black shales, N Atlantic region, rare earth elements distrib. 9-44187
 lake chemistry, geology and physics, book 9-44215
 Lake Monona, Wisconsin, Cu environmental chemistry 9-44214
 lake sediments, E_g meas. reliability conditions 9-48528
 Lonar Crater, India, chem. study of impact glasses and basalts 9-20836
 Long Island Sound, ²¹⁰Pb balance 9-20861
 Louvem volcanogenic Cu deposit, Quebec, lithogeochem. anomalies 9-5480
 Lower Palaeozoic carbonate sequence, Arctic Canada, palaeosalinity and dolomitization 9-25241
 magma, ascending, heat and mass transfer 9-34768
 magmatic differentiation models, computer program for interactive testing 9-2377

geochemistry continued

- magnetic spherules in marine sediments, K and Ca isotopic comps. 9-44423
- marine environment of Straits of Malacca, radioactivity 9-12135
- marine plankton, C isotope ratio rel. to surface water masses 9-29783
- Massif Central hot springs, France, alkaline earth ions acquisition, rel. to geothermometry (French) 9-29788
- Mesozoic volcano-tectonic rift zone and back-arc basin development, South America 9-29762
- metalliferous sediment components, microprobe study 9-34792
- metallogenesis along fossil oceanic fracture zone Arakapas fault belt, Troodos Massif, Cyprus 9-29769
- metamorphism, rate laws 9-16467
- micaceous kimberlites, micas chemistry 9-16465
- Michigan Basin deep hole metagabbro, mineralogy and geochemistry compared to seawater hydrothermal alteration 9-39710
- mineral, dissolution under Earth surface conditions, rate control 9-20817
- North Sea, actinide activities in inflowing water 9-16520
- nucleon stability testing, radiochemical and geochemical method limits 9-22093
- obsidian, hydration 9-8629
- oceanic crust, automated X-ray spectrometer appl. 9-16711
- oceanic suspended matter, trace metal chemistry, atmospheric input 9-44199
- oil and gas exploration, information content of geochem. parameters (*Russian*) 9-39957
- Upper Ordovician volcanics, geochemistry and tectonics in E. and SE.Ireland 9-44144
- ore prospecting, and mining research, examples of mineralogy contrib. (French) 9-5475
- Pacific Ocean, Cd distrib. in bottom sediments surface layer 9-20809
- pegmatite ores in Tanco mine area, SE.Manitoba, in Canada, geochemical exploration 9-48577
- phosphatic nodule beds in Victoria, geochemistry and rel. to late Miocene-Pliocene eustatic event 9-12105
- plagioclase, zoned, of different magmatic environments, preliminary ion-microprobe anal. 9-34815
- plateau lavas from S.America, Nd and Sr isotope data 9-29726
- Precambrian solution photochemistry, inverse segregation, and banded iron formations 9-20863
- pyroxenes in CaO-MgO-Al₂O₃-SiO₂ system, subsolidus phase relations rel. to geothermometry and geobarometry 9-16440
- quantitative ion-microprobe analysis, geochem. apps. 9-34976
- radionuclide disposal, GARD computer program for geochemical assessment 9-31068
- rare earth element, abundances in layered Komatiite lava flow, Ontario, Canada 9-29764
- rare earth elements, partitioning between hydrous silicate melt, amphibole and garnet peridotite 9-20775
- resource potential, geochemical surveys of large areas in USA and Alaska 9-30924
- River Main, County Antrim, N and P loads meas. by discrete and intensive sampling 9-44213
- rivers, dissolved humic acids and Fe removal during estuarine mixing 9-34830
- rivers, evidence for higher natural U content 9-44208
- rocks, ancient metamorphic, appl. of geophysical and geochemical data combined anal. (*Russian*) 9-8630
- sea ice chemistry 9-12128
- Sea of Okhotsk, water-soluble gases conc. meas. 9-2291
- sediment-water interface, chemical exchange 9-5505
- shelf sediments off Bombay, geochem. study 9-48449
- Skaergard intrusion, E.Greenland, Sr, Pb, O isotopic anal. 9-29763
- soil pollution elemental deposition downwind of coal-fired power plant 9-20838
- speleothems, stable isotope geochemistry rel. to climatic change, 230000 to 100000 BP 9-2234
- spilitite and keratophyre from Permo-Triassic volcanic arc terrane, Oregon-Idaho, petrogenesis 9-20826
- spilitic rocks from Michigan Basin deep drill hole, petrology 9-39711
- spinel ilherzolite xenoliths, implications of texture composition depend. 9-25244
- submarine pillow basalts, abundance and distrib. of H₂O, C and S in glassy rims 9-12111
- sulphate deposits, stable isotopic comp. and early Archaean origins 9-20832
- tetraalkyllead in air, natural source? 9-2367
- thermal fluids of Abano region, N.Italy, sources, circulation paths and geochemistry 9-20883
- trace element geochem. of peridotite-gabbro-basalt suite, DSDP Leg 37 site 9-34793
- undifferentiated Earth, chemical reactions thermal effects 9-25218
- Urach region, Germany, geochemical obs. rel. to temp. field investigation at great depths 9-48440
- volcanic rocks, W abundances 9-16468
- volcanic rocks evolution in island arc, batch fractionation model, example from Japan 9-34818
- water-rock partition coefficients, correl. with seawater and river water comp. 9-44200
- waters from high altitude region north of Jolma Longma mountain, geochem. characts. of isotopic distrib. (*Chinese*) 9-2304
- As, inorganic, in freshwater environment, stability and solubility theoretical aspects 9-16553
- ¹⁰Be in 1000 and 5000 yr old Antarctic ice, meas. 9-2305
- C, mass transfer and isotope evolution in natural water systems 9-20882
- CO₂ content of ocean water, gradual increase 9-29786
- CO₂ in upper mantle, fugacity at high temps. and press. from decarbonation reactions 9-16439
- ¹⁴C, concs. in Florida annual coral rings 9-16513
- Ca excess in snow and rain samples, Japan, from calcite source 9-39766
- Ca, isotope fractionation on Earth and other solar system materials 9-20835
- CaCO₃ dissolution rates in deep ocean, in situ expt. in N.Atlantic 9-34853
- D/H ratios of natural serpentines, rel. D/H fractionation factors between serpentine and water at 100-500°C 9-34803
- Fe-Mn deposits on abyssal sea floor, geochem. 9-12107
- Fe-Mn nodules from Pacific Ocean, sorption processes 9-16435
- Ge/Si and Ga/Al ratios vars. along Reykjanes Ridge and Iceland 9-8617
- Ge-Si and Ga-Al fractionation in Hawaiian volcanic rocks 9-12112

geochemistry continued

- He spots caused by diapiric magma from upper mantle, Matsushiro fault zone, Japan 9-8618
- Hg, average content of oceans and European air, soil, and river sediments 9-8687
- Li, needs and resources, conf., Corning, USA (Oct. 1977) 9-48473
- Li, occurrence in flint clay and related rock types in United States, preliminary survey 9-48475
- Li ores in Horse Spring Formation Miocene rocks, Clark County, Nevada, report 9-48474
- Li, ores in United Kingdom, brief assessment 9-48476
- Li rich brines in SW.Bolivia, chemical composition and distribution 9-48479
- Mg mass balance in continental runoff 9-34859
- Mn nodules, deep-sea, diffusion-controlled growth model 9-2212
- Mn nodules, mineralogy and comp. changes from long-term seafloor mineral exposure expts. 9-5471
- Mn nodules from N equatorial Pacific, post-depositional internal metal enrichment processes 9-34791
- Na-selective electrodes in marine geochemical studies 9-12312
- O isotope geochemistry of cherts from South Africa 9-34820
- Pb in environment 9-34443
- Pb, in Irish Sea, oxidation state 9-16516
- ²²⁶Ra leaching from contaminated soils, investigation of Ra bearing soils from Port Hope, Ontario 9-20900
- Si-O bonds, cryst. chem. at high press., rel. to Earth mantle mineralogy 9-48470
- ⁸⁷Sr/⁸⁶Sr ratio reduction during hydrothermal alteration of basalts 9-16446
- ⁸⁷Sr/⁸⁶Sr ratios of interstitial waters from DSPD sites rel. to sediment geochem. 9-34794
- U extraction from natural seawater, by sorption techniques 9-29902
- U resource research using Pennsylvania State Univ. reactor 9-12159
- U series disequilibrium, mechanisms involving recoiling alpha-emitting nuclei 9-16466

geochronology*see also radioactive dating*

- S.African kimberlites, ⁴⁰Ar/³⁹Ar anal. of phlogopite nodules and phlogopite-bearing peridotites 9-34769
- Archaean migmatites in Lofoten-Vesteralen, Norway, Nd, Sr and Pb isotope data interpretation 9-34773
- Arctic Basin, tectonic evolution, Jurassic to present 9-48446
- Baltic Ice Lake levels, dating rel. to S.Finland Salpausselka moraines 9-20872
- basement slice in Appalachian orogen western margin, Saint-Malachie, Quebec, Grenvillian age 9-20824
- Bay of Biscay, sedimentary sequences rel. to rifting, crustal attenuation and subsidence 9-2209
- Benue Trough, stratigraphic evolution and implications for W.Africa Upper Cretaceous palaeogeography 9-2230
- Black Sea, Upper Quaternary deep-sea sediments stratigraphy 9-20811
- Bolivia, evidence for glaciation 3.27 Myr BP 9-34865
- Capraia, Italy, volcanic rocks 9-16418
- Carboniferous Andacollo series (Argentina), palaeomagnetism, K-Ar dating and hydrothermal overprinting age 9-29698
- cave waters, stable isotope geochemistry, ages and climatic change, 230000 to 100000 BP 9-2234
- Chesapeake Bay, pollution history 9-34445
- dating using ESR (*Japanese*) 9-48437
- deep sea carbonates, thickness and ¹⁴C age of mixed layer 9-29742
- Earth early history, review 9-20739
- ferromanganese nodules, oriented, U-Th series nuclides rel. to growth rates and turnover times 9-29740
- fission Xe isotope dating technique 9-21043
- geomagnetic field reversal time scale back to 13 Myr BP 9-44085
- geophysical timescales from absolute-dated ice cores from Greenland (*Danish*) 9-34776
- Glacier Peak tephra in North Cascade Range, stratigraphy, distrib., rel. to glacial events 9-25247
- global plate reorganization during early Cenozoic 9-34788
- Grenville basement rocks, SW Newfoundland, ⁴⁰Ar/³⁹Ar ages rel. to Proterozoic-Palaeozoic thermal history 9-20771
- Grenville orogeny, palaeomag., Rb-Sr ages from dolerites, Canada and Greenland 9-34772
- Grenvillian palaeopoles, calibration by ⁴⁰Ar/³⁹Ar dating 9-20778
- Huronian polar wander and Thessalon volcanics palaeomag. 9-5444
- interstadial sea level of -40 m at 30000 yr BP, ²³³Th/²³⁴U agg support 9-16504
- central Israel, evidence for pre-Late Jurassic east-west fossil continental margin 9-34766
- Japan, late glacial age chronology from morainic features and Lake Biwa sedimentary sequence 9-34872
- Korostenian pluton gabbro-anorthosites, form. time from palaeomag. meas. (*Russian*) 9-8599
- Lake Bogoria, Kenya Rift Valley, radiocarbon date 9-44207
- Laschamp palaeomagnetic excursion age reconsidered 9-44091
- Lewisian gneisses, Sm-Nd systematics and implications for granulites origin 9-20777
- Massif central volcanism, age rel. to upper mantle struct. and geodynamics (French) 9-48424
- Messejana Dolerite fault-dike system (Iberia), age and origin rel. to N.Atlantic Ocean opening 9-2198
- metagabbro at bottom of Michigan Basin deep drill hole, Rb-Sr geochronologic anal. 9-39680
- Michigan Basin borehole, igneous and sedimentary rocks palaeomagnetism rel. to ages 9-39636
- S Nain complex, Labrador, anorthosite and assoc. plutons relative ages 9-20825
- Neogene relative motion between Pacific plate, mantle and Earth spin axis 9-44167
- obsidian, hydration profiles meas. by sputter-induced optical emission, rel. to dating technique 9-24871
- oceanic crust, hydrothermal alteration age 9-34798
- oceanic lithosphere age-dependent subduction beneath western South America 9-2211
- Olby-Laschamp geomag. polarity event, age 9-12067
- ophiolite complex, early Caledonian age, on Karmoy island, Norway 9-2235
- orogenic episodes, dating from global sea-level changes 9-29743

geochronology continued

- palaeomagnetic secular variation, recent, in lake sediments from New Guinea Highlands 9-12069
- Palmaim structure in SE Mediterranean off Israel, continuous tectonic activity since Upper Miocene 9-34790
- central Peru, Eocene uplift and unroofing of coastal batholith near Lima 9-2199
- phosphatic nodule beds in Victoria, correl. with late Miocene-Pliocene eustatic event 9-12105
- Precambrian metavolcanics in Orange River region, S.Africa, isotopic study 9-44147
- Precambrian-Cambrian boundary problem, palaeomag. directions from Amadeus Basin, Central Australia 9-29697
- N Pyrenean metamorphism, age and tectonic implications 9-34819
- Quaternary glaciolacustrine sediments in Val Tresa, age and collapse dislocations origin (Italian) 9-8647
- Rostherne Mere, Cheshire, ^{137}Cs dating confirmation by algal stratigraphy 9-12156
- Salpausselka moraines, S.Finland, dating rel. to Baltic Ice Lake levels 9-20872
- sediments baked by lava flows, Chaine des Puys, France, ages and palaeomag. field strengths 9-44100
- Siwalik Group, Dhok Pathan, Potwar Plateau, Pakistan, mag. polarity stratigraphy and age 9-29725
- slates, age studies, $^{40}\text{Ar}/^{39}\text{Ar}$ stepwise outgassing method applicability 9-29721
- speleothems, stable isotope geochemistry, ages and climatic change, 230000 to 100000 BP 9-2234
- St. Helena Is., seamount age and bathymetry 9-16436
- sulphide minerals, K-bearing, age meas. by $^{40}\text{Ar}/^{39}\text{Ar}$ technique 9-29720
- thermoluminescent dating of geological objects, appl. of natural quartz dosimetric props. 9-12288
- Toba, N. Sumatra, late Pleistocene eruption K-Ar age 9-16427
- travertine from archaeological sites, Nahal Zin, Israel, U series dating 9-34781
- tree-ring evidence of past climatic variability 9-16642
- Tuscan anatectic magmatism, eastward migration due to Apennines anticlockwise rot. 9-16428
- W United States, Cenozoic magmatism chronology rel. to plate interaction and absolute motion 9-2207
- Upper Cenozoic volcanism, central Andes, ages and volumes 9-29730
- coastal Zagros, Mountains near Bandar Abbas, Iran, Holocene folding rates 9-48445
- ^{39}Ar - ^{40}Ar dating, K-feldspar importance in polyorogenic areas 9-44152
- $^{40}\text{Ar}/^{39}\text{Ar}$ dating, appl. of isochron diagrams 9-29873
- ^{40}Ar - ^{39}Ar systematics, temp. and pressure effects 9-44178
- ^{14}C beam prod. from natural sample, radioactive dating 9-25352
- ^{14}C dating of CO_2 sample with accelerator, blind meas. 9-25362
- ^{14}C dating of mg geological samples with electrostatic accelerators 9-25361
- ^{14}C radioactive dating, determ. of $^{14}\text{C}/^{12}\text{C}$ ratio, review of methods (Hungarian) 9-48578
- K-Ar dating method for argillaceous sediments 9-8716
- K-Ar dating of intrusion gas and scheelite mineralisation, Cantung, Canada 9-5460
- Pb isotope studies of ore deposits of circum-Kisseynew volcanic belt, Canada, ages 9-5479
- Rb-Sr ages of rocks, Hopei, China (Chinese) 9-20776
- Rb-Sr dating of transect of Chilean Andes, latit. 45-46°S 9-29723
- Rb-Sr whole rock isochron age from Kangamiut dykes rel. to Hudsonian orogeny in W.Greenland 9-5459
- Rb-Sr whole-rock isochron age, 2390 Myr, for Scourie dykes, NW.Scotland 9-39690
- Sm-Nd and Rb-Sr chronology of continental crust formation 9-12100
- U series dating, open system model appl. 9-29874
- ^{238}U , determ. of time since arrival in matrix existing at time of discovery in Pakistan 9-34822

geodesy

see also gravity

- antipodal normal section 9-29691
- Bouguer formula of 1749, appl. to gravity corrections derivation 9-29692
- bubble levels, apparatus for testing bubble vials 9-29871
- S.California uplift, geodimeter meas. of strain 9-48434
- crustal movement measurement, instrumentation trends and prospect 9-29738
- digital correlation of complex exponentiated data (German) 9-44279
- Earth equilibrium figure, integro-differential eqns. 9-44077
- Earth figure and gravit. field determ., least-squares collocation method 9-48392
- geoid depression and elevation obs. (German) 9-5442
- geopotential, evaluation of 14th order harmonics 9-29694
- geopotential models, accuracy 9-25183
- Global Positioning System NAVSTAR connection to World geodetic system of DOD 9-25378
- gravimetric networks, adjustment (German) 9-44084
- gravity vector and geodetic position survey, inertial navigation system appl. 9-29914
- Great Britain, Earth strain tides survey 9-44080
- Gulf Stream, large-scale frontal study using Geos 3 radar altimeter data 9-5488
- height vars., basic determ. problems (German) 9-34725
- Indian Ocean, $1\times 1^\circ$ gravimetric geoid compared with GEOS-3 radar altimeter geoid profiles 9-16365
- integral computation over sphere, summation formula 9-29689
- isostatic geoid anomalies 9-20742
- Landsat MSS points location on maps, methods and accuracy 9-2389
- laser location (Polish) 9-27311
- Molodensky's problem in gravity space, existence and uniqueness of soln. by Newton's method 9-12061
- multibaseline, geodetic meas. technique, precision ground based 9-34987
- navigation and geodesy convergence 9-25186
- North Island, New Zealand, axial tectonic belt 9-2173
- ocean tides mapping with satellites, computer simulation 9-39880
- oceanic tides, semidiurnal waves determ. via obs. of artificial satellites trajectories (French) 9-8634
- parameter accuracy, improvement by choice and quality of obs. 9-44078
- Phlegrean Fields, Naples, geodetic and geophys. meas., elevation changes 9-29734
- position location and navigation, conf., San Diego, CA, USA, Nov. (1978) 9-25374
- geodesy continued
- radio interferometric systems appl. 9-25375
- recurrence relations for integrals of associated Legendre functions 9-29690
- N.Upper Rhine Graben, negative height change causes (German) 9-34727
- Upper Rhine Graben, repeated levellings, errors (German) 9-34726
- Upper Rhine Graben and Rhine Shield, levelling data, multivariate analysis (German) 9-34728
- satellite, geodesy, appl. to GRIM 2 gravit. pot. model determ. and evaluation (French) 9-8587
- satellite altimetry, algorithm for subsatellite point position vector length determ. 9-29869
- satellite Doppler techniques, geocentric positioning of triangulation of Great Britain 9-29695
- satellite laser tracking data, ray tracing evaluation of refraction errors 9-8588
- space geodesy, twin probes method 9-25443
- statistical geodesy 9-29696
- systematic errors detection, hypothesis tests using adjustment in sections (German) 9-44083
- transatlantic long base line interferometry at 10680 MHz 9-48390
- VLBI using geostationary satellite link 9-29968
- geodetics see geodesy
- geoelectricity see terrestrial electricity
- geography
- barrier islands, global distrib. in terms of tectonic setting 9-2214
- estuaries, nontidal, hydrographic network changes under influence of natural factors and water management measures 9-29792
- impact struts., so called, non-random geographical distrib., implications 9-34825
- Jordan, land system classification using Landsat imagery 9-2388
- remotely sensed data acquisition and processing, developing countries appl. 9-34963
- seismic zoning map, new elements 9-44105
- Villavernia-Varzi-Bobbio Line (N.Apennines), geomorphological evidence of neotectonic deform. (Italian) 9-8624
- geology
- see also rocks
- Abano region, N.Italy, geology rel. to thermal fluids sources and circulation paths 9-20883
- accretion at trenches, model, rel. to subduction complexes tectonic evolution 9-20797
- Afar region, geological evolution and geophysics 9-5468
- N.American continental margin in Nevada during Late Cambrian 9-48472
- ancient metamorphic rocks, geophysical and geological data combined anal. technique (Russian) 9-8630
- NW.Apennines, surface struts. rel. to seismicity 9-34749
- Appalachian orogen western margin, basement slice at Saint-Malachie, Quebec 9-20824
- Apuane Alps structural evolution, continental margin deform. in N.Apennines, Italy 9-25245
- Arakapas fault belt, Troodos Massif, Cyprus, metallogenesis along fossil oceanic fracture zone 9-29769
- Archaean basin-craton complexes, critical appraisal, Canada 9-5481
- Archaean migmatites in Lofoten-Vesteralen, Norway, Nd, Sr and Pb isotope data interpretation 9-34773
- Archaean terrains, press.-temp. data rel. to continental geotherms 9-34780
- Arunta Block, Australia, sapphirine-bearing rocks with sedimentary and volcanogenic protoliths 9-44185
- Askja Caldera, Iceland, imaging radar obs. rel. to surface roughness 9-16426
- Badra area of Iraq, gravity investigation rel. to geological struts. 9-34729
- basaltic bodies, flow and emplacement direction from mag. susceptibility anisotropy meas. 9-29766
- Benue Trough, stratigraphic evolution and implications for W.Africa Upper Cretaceous palaeogeography 9-2230
- Black Sea continental slope, Cretaceous rock outcrops 9-44173
- blueschists at Shangla Pass, N.Pakistan, early Tertiary, evidence for subduction 9-2229
- Bolivia, evidence for glaciation 3.27 Myr BP 9-34865
- boudins, Precambrian terrain, India, geometric analysis 9-29771
- Bucegi Conglomerate, Romanian Carpathian submarine slope deposit 9-8632
- Bulgarian mid-Rhodopes massive, depth struct. metallogeny and main formation tendencies (Bulgarian) 9-34812
- Bulgarian Staro-Planina mountain range, metasomatic displays, geology, struct., form. of granulites (Russian) 9-5476
- Cambrian greenschist belts, Australia, marginal sea crust slices in Lachlan Fold Belt 9-29765
- Carpathians internal region, geology rel. to lithosphere dynamics and tectonic movements (Russian) 9-48444
- cathodoluminescence, bibliography of papers till 1977 9-21482
- Cretaceous magmatic stratigraphy from Cison section, N.Italy 9-44086
- Cundeelee area, W.Australia, regional geology and gross structure 9-2194
- Cyprus, ophiolitic sulphide ore deposits prod. by hydrothermal convection 9-29761
- Death Valley, California, radar discrimination of geological units 9-12293
- deformational history of the Delhi rocks around Biliawas, Central Rajasthan 9-25246
- Devonian carbonate rocks, NE British Columbia, barite origin hypothesis 9-25240
- dolerite sills, 'Twin Sisters', Baluchistan, Pakistan, petrology 9-44188
- education, physics joint honours degree course at Manchester University 9-35456
- N.Finland, magnetotelluric expts. rel. to geology 9-44093
- fold shape analysis, expansion of dip isogons use and preliminary investigations implications 9-39986
- gas-bearing strata, penetration zone break-up theoretical study (Russian) 9-39713
- Glacier Peak tephra in North Cascade Range, stratigraphy, distrib., rel. to glacial events 9-25247
- Gore Range (Summit County, Colorado), Quaternary geology, and reported surface faulting 9-2238

geology continued

- W.Great Kabylia (Algeria), granite, deform. by ductile shear (*French*) 9-39716
- Grenville basement rocks, SW Newfoundland, $^{40}\text{Ar}/^{39}\text{Ar}$ ages rel. to Proterozoic-Palaeozoic thermal history 9-20771
- heterogeneous formations, pulse neutron logging data interpretation theoretical bases (*Russian*) 9-44273
- history, methodologies of Gilbert and Chamberlin 9-17182
- Late Holocene marsh deposits rel. to prehistoric large earthquakes on San Andreas fault 9-2188
- Huronian sedimentary rock outlier, Goulais River area, Ontario 9-25243
- impact struct., so called, non-random geographical distrib., implications 9-34825
- central Israel, stratigraphic thickness rel. to pre-Late Jurassic east-west fossil continental margin 9-34766
- Italian W. Alps, mineral parageneses of mafic metamorphic rocks 9-16464
- Jamaican blueschists, coaxial pure shear rel. to deform. assoc. with subduction 9-2236
- Jotunheimen Caledonian structure, geological evidence 9-25222
- Jura mountains, stratigraphy and tectonics, rot. tectonics on laramide fault pattern (*French*) 9-34785
- Kambalda (W.Australia) komatiite sequence, precious metals values in interflow sedimentary rocks 9-20830
- karst depressions, areal growth rates, ages 9-48484
- Keweenaw turbidites in Michigan, foundered basin sequence developed during protoceanic rift system evolution 9-39712
- lake chemistry, geology and physics, book 9-44215
- Late Cretaceous fore-arc basin, N. and Central California, petrofacies and petrological evolution 9-2232
- lineament interpretation, multi-attribute method 9-2399
- lineaments, human perception from remote imagery, model 9-2400
- Lithuanian inter-river relief, kames structure (*Russian*) 9-48486
- local inhomogeneities determ. by reflected-wave probing method (*Russian*) 9-39947
- loess profile near Einbeck, W.Germany, stratigraphic arrangements and material (*German*) 9-20823
- Louvem volcanogenic Cu deposit, Quebec, lithogeochem. anomalies 9-5480
- Lower Palaeozoic carbonate sequence, Arctic Canada, palaeosalinity and dolomitization 9-25241
- magmatic environments, zoned plagioclase anal. by ion-microprobe technique 9-34815
- magnetic and gravity anomalies extrapolation, equivalence principle and geological interpretation (*Russian*) 9-39926
- Mesozoic volcano-tectonic rift zone and back-arc basin development, South America 9-29762
- Messejana Dolerite fault-dike system (Iberia), age and origin rel. to N. Atlantic Ocean opening 9-2198
- Michigan Basin deep drill hole, spilitic rocks petrology 9-39711
- mudboils nature and genesis, Keewatin, Canada 9-5478
- multilevel syntax analysis for geological data compilation 9-48569
- multispectral imaging, principal components 9-34823
- S Nain complex, Labrador, anorthosite and assoc. plutons 9-20825
- Nevada Test Site, geology effect on absolute travel-time residuals 9-16391
- nuclear raw materials prospecting, isotopic dating methods (*Russian*) 9-30925
- oil and gas deposits in low amplitude struct., parameters from gravity test data (*Russian*) 9-44271
- oil and gas formations, prediction prior to drilling (*Russian*) 9-39970
- Oklo natural nuclear reactor, discovery and reactor parameters, geological formation 9-2240
- ophiolite complex, early Caledonian age, on Karmoy island, Norway 9-2235
- ophiolitic rocks tectonic emplacement in Precambrian Mona Complex, Anglesey 9-8631
- Ordovician Cap des Rosiers Formation, Quebec, deposits on submarine fan 9-25242
- overburden stratification, effect on basement seismic vel. determ. (*Russian*) 9-39961
- S.Pacific, DSDP site 284, Late Cainozoic isotopic history 9-48516
- palaeocontinental maps for Early Phanerozoic and Proterozoic 9-44150
- Pamir-Himalayan deep fault zone description 9-39676
- Pau D'Albo struct., Sao Paulo, Brazil, form. mechanism 9-48441
- central Peru, Eocene uplift and unroofing of coastal batholith near Lima 9-2199
- Precambrian, time divisions in South America, chronotectonic boundaries 9-48442
- Precambrian schist belt, Karnataka, India, aeromag. anomaly harmonic inversion 9-44094
- Rio Grande rift, New Mexico, transient heat flow model 9-34771
- S.Rio Grande Rift, underlying oceanic mantle discovery 9-29724
- rock formation and penetration zone elec. parameters determ., probes number and type (*Russian*) 9-39969
- Rubble Creek landslide, British Columbia, during 19th century, potential slide area 9-5477
- salt deposit formation (*Russian*) 9-2237
- San Andreas fault zone, constitution at depth 9-12097
- sandstones, Indian east coast, post-Pleistocene age 9-48485
- S.Saskatchewan, geology rel. to seismotectonics 9-20757
- satellite imagery, linear features enhancement by rotational exposure 9-35874
- NW.Scotland, Lewisian Units subsurface geology from seismic vel. depth depend. 9-44179
- Scotland, magnetotelluric study, geophys. and tectonic implications 9-29706
- section prediction, appl. of seismic waves integral spectrum parameters (*Russian*) 9-8705
- sedimentary basins, development and evolution 9-29719
- sedimentary deposits, welding out zones separation via multiple seismic waves freq. selection (*Russian*) 9-8706
- Siwalik Group, Dhok Pathan, Potwar Plateau, Pakistan, mag. polarity stratigraphy and age 9-29725
- small amplitude structures, gravity prospecting, meas. spacings and contour intervals (*Russian*) 9-44272
- sonar survey, automatic recognition of submarine sediments (*Japanese*) 9-39985
- Spain, geomagnetic anomalies, geological interpretation (*Spanish*) 9-29710

geology continued

- Stavelot massif, pyrophyllite, dickite and kaolinite in quartz veins 9-34813
- strain patterns in crestal region of immature diapirs 9-29752
- strained rock units, stratigraphic thickness determ. 9-21034
- stratified homogeneous formations, common depth point effective velocities, critical values (*Russian*) 9-39668
- stratigraphic correlation by principal components, effects of missing data 9-25350
- stratigraphy of deep sea sediments rel. to Eemian interglacial 9-29770
- stratum sounding by UHF radar (*German*) 9-8702
- structural and vibr. bedrock props. in Sweden, seismic events 9-16402
- S.Sulaiman Range, Pakistan, struct. and seismicity rel. to tectonics 9-39715
- surface geology, remote sensing by Heat Capacity Mapping Mission 9-5640
- tectonic dislocations prospecting in complex media, appl. to seismic surface waves correl. method (*Russian*) 9-8605
- thermal IR scanning appls. 9-8723
- Tien Shan region, field data rel. to contemporary tectonics 9-29733
- Tirumalai hill range AP, porphyritic granite fracture pattern interpretation 9-44156
- tracer theory, nonsteady state systems 9-5646
- trappean terrain of Sholapur district, Maharashtra, groundwater occurrence 9-8649
- Triassic clay assemblages of Europe 9-12118
- ultramafic nodules, from Kimberley pipes, South Africa 9-34821
- W United States, Cenozoic igneous activity rel. to plate interaction and absolute motion 9-2207
- United States, geological data appl. in seismic hazard maps 9-44110
- Vredefort structure, S.Africa, comp. of spherulites on shatter cone surfaces 9-29773
- Zagros Mountains, geological comparison with island arcs 9-2231
- Fe ore formation, Addatigala, India, mag. profiles 9-34808
- Li concentrations in McDermitt Caldera, in Nevada and Oregon, geological survey 9-48478
- Li deposits and potential, Quebec and Atlantic Provinces, in Canada, report 9-48481
- Li, needs and resources, conf., Corning, USA (Oct. 1977) 9-48473
- Li, occurrence in flint clay and related rock types in United States, preliminary survey 9-48475
- Li ores in Horse Spring Formation Miocene rocks, Clark County, Nevada, report 9-48474
- Li, ores in United Kingdom, brief assessment 9-48476
- Li ores resource evaluation, United States Geological Survey role 9-48477
- Li pegmatite ores in Western Superior Province, in Canadian Shield, distribution and petrogenesis 9-48480
- Li resources, Yellowknife area, in NW.Canada, report 9-48482
- Li resources and potentials, NW.Ontario, Manitoba, Saskatchewan, in Canada, estimation 9-48483
- Pb and Zn layers in South Niger, geological features (*Croatian*) 9-29772
- U deposit, Saima alkaline massif, NE China 9-16470
- U, deposit distribution patterns and formation investigation (*Russian*) 9-30926
- geomagnetic storms** *see magnetic storms*
- geomagnetic variations**
see also micropulsations
- 60-year variations of geomag. field and mantle elec. cond. 9-8596
- A₂-index, correl. with solar activity and Jupiter decametric radio emission 9-21222
- aa index rel. to solar dipole mag. field and interplanetary sector struct. (*Russian*) 9-21261
- activity recurrence tendency during 20th solar cycle 9-25196
- AE index fluctuations, modulation by solar surface oscils. 9-8777
- annual line in geomag. field elements, components 9-20752
- Astronomical Netherlands Satellite, orbit prediction, geomag. disturbances effects 9-21139
- Mid Atlantic Ridge, palaeomag. studies, direct test of Vine-Matthews hypothesis 9-34734
- auroral zone, geomag. vars. rel. to elec. currents induction in Alaska pipeline 9-39645
- automatic digital magnetic recording system in Tihany Observatory 9-39989
- Brunhes epoch palaeosecular var. studies in volcanic province, Germany 9-25198
- Cainozoic field inversions, W.Turkmenian data 9-44098
- conducting channel between India and Sri Lanka, effects on equatorial electrojet 9-25189
- correlations of changes in geomag. field, climate and weather 9-39648
- crochet, two-layer current model 9-44300
- D_{st} variations, influence of solar wind parameters 9-40054
- detection by fish, expt. evidence 9-39381
- effect of interplanetary mag. field on geomag. activity (*Hungarian*) 9-25544
- EM field, conf., Hurbanovo, Czechoslovakia (Oct. 75) 9-39646
- EM induction in Earth, by moving ionospheric current systems 9-16370
- equatorial electrojet, bay type disturbances rel. to ionospheric dynamo regions global coupling 9-44297
- field potential vars. separation into external and internal parts for mag. profiling (*Russian*) 9-39991
- field reversal time scale back to 13 Myr BP 9-44085
- field reversals, nature of transition periods 9-8598
- Geomagnetic Meridian Project, magnetic var. of auroral electrojets 9-29936
- global magnetic field, northward and westward drifts, theory (*German*) 9-16375
- Grampian orogeny in Scotland: arc-continent collision and polarity reversal 9-39696
- H-component regular daily var. at Alibag, solar cycle depend. 9-8593
- heart attacks correl. with geomag. activity 9-39424
- India, induced magnetic vars., regional charact. 9-39639
- internal variations, screening by mantle when elec. cond. is concentrated near core boundary 9-12064
- ionosphere, mag. activity correl. with S. hemisphere mid-latit. gravity waves obs. 9-21096
- K_p index rel. to interplanetary mag. field intensity (*Russian*) 9-40055
- K_p-index, correl. with mid-latit. charged particle precip. 9-44291
- Kansu Province, short period geomag. var. rel. to cond. belt (*Chinese*) 9-20745

geomagnetic variations continued

- Laschamp magnetic reversal (*French*) 9-48401
 long-period variations, spectra anal. methods (*Russian*) 9-34743
 low latitude field disturbance, effect of interplanetary mag. field 9-35090
 lunar daily geomagnetic variations at Sabhawala and Hyderabad, harmonic anal. 9-44097
 lunar daily variation, Sanae, Antarctica 9-12070
 magnetosphere, mag. activity rel. to electron density meas. by (GEOS-1) 9-35071
 magnetosphere, plasma density depend. on mag. activity, GEOS-1 relaxation sounder obs. 9-35072
 magnetosphere dayside cleft, mag. field perturbations rel. to interplanetary mag. field 9-40023
 magnetotail, distant, lower-hybrid-drift wave turbulence 9-25399
 marine magnetic anomalies, Atlantic Ocean, palaeomag. field anomalous behaviour 9-29699
 measurement and data processing, new methods 9-39988
 Mono Lake geomagnetic excursion 9-48397
 nondipole field component, westward drift rate determ. 9-12065
 ohmic region effect on vars. (*German*) 9-29708
 Olby-Laschamp geomag. polarity event, age 9-12067
 palaeomagnetic secular variation, recent, in lake sediments from New Guinea Highlands 9-12069
 palaeosecular variation, directional data sets shape 9-39881
 planetary pulsation indices of geophys. activity 9-40041
 power spectrum anal. of time series 9-16705
 Precambrian geomagnetic reversal, from Korostenian pluton gabbro-anorthosite rocks NRM (*Russian*) 9-8599
 reversals at central European locations 9-39652
 S_q variation currents, day to day variability over Europe 9-44299
 secular change determ. by tridipole model, 1942-1950 period 9-5443
 secular variation, mathematical-physical anal. and interpretation (*German*) 9-34742
 secular variation anomalies in Europe 9-39650
 secular variation rel. to Earth internal struct. 9-39647
 secular variations, dynamics rel. to Earth core elec. cond. 9-12066
 secular vars. recorded in Loch Lomond sediments 9-44088
 solar coronal holes, solar wind streams and geomag. activity during 1976-77 period 9-25570
 solar daily geomagnetic variations at Sabhawala and Hyderabad, harmonic anal. 9-44097
 solar high latitude field rel. to geomagnetic activity 9-44308
 solar wind parameters depend. of geomag. activity, statistical anal. 9-48402
 S_q variation near mag. equator, solar control, obs. at Huancayo 1922-73 period 9-2181
 tectonomagnetic events, detect. using empirical transfer functions 9-16374
 thermosphere, midlatitude winds rel. to storm time disturbance change rate 9-12323

geomagnetism

- see also *geomagnetic variations; magnetic storms*
 aeromagnetic anomaly from remanently magnetised Precambrian schist belt, Karnataka, India harmonic inversion 9-44094
 alternating EM field perturbs. by cond. inhomogeneities 9-39653
 anomalies, Atlantic Ocean, statistical anal. 9-44101
 anomalies, conformal deform. method for singular points determ. (*Russian*) 9-39934
 anomalies, Czechoslovakia (*Russian*) 9-39655
 anomalies, deep sounding data interpretation, use of equivalent current systems 9-25190
 anomalies, magnetic and gravitational equivalence of extrapolation (*Russian*) 9-39926
 anomalies, total, of step model, spectral anal. 9-5450
 anomalies across Campbell Plateau, New Zealand 9-29700
 anomalies assoc. with dilatant regions in layered Earth rel. to earthquake prediction 9-39658
 anomalies at mouth of Gulf of Kutch 9-25195
 anomalous magnetic fields interpretation, computer modelling 9-34971
 anomaly field vertical intensity, autocovariance function analytic derivation for sources statistical distrib. (*German*) 9-34746
 anomaly interpretation, pot. fields linear anal. (*Russian*) 9-35011
 anomaly interpretation, bidimensional inhomogeneous problem soln. via Cauchy integrals (*Russian*) 9-35013
 anomaly source models, statistical parameters rel. to pot. fields obtained by superposition (*German*) 9-34783
 Arctic Ocean, mag. anomalies rel. to evolution 9-48398
 Arctic Ocean, magnetotelluric soundings rel. to sediment thicknesses and upper mantle temps. 9-48454
 Argo Abyssal Plain, mag. anomalies, bathymetry and seismic struct. 9-29741
 artificial premagnetization method, theory, ore prospecting appl. 9-39876
 Bielsko, Poland, mag. field components meas. by proton magnetometer (*Russian*) 9-39656
 Cayman Trough, mag. anomalies inversion and sea floor spreading 9-34789
 dipole tilt angle influence on auroral electrojet development 9-16744
 dynamo integrals, numerical evaluation code 9-34733
 electric current circular loops model 9-39635
 EM exploration, target near dipping contact, response modelling 9-8595
 EM field, conf., Hurbanovo, Czechoslovakia (Oct. 75) 9-39646
 EM field sounding, appl. of composite obs. patterns in near field (*Russian*) 9-44270
 EM fields, about horizontal electric wire source of arbitrary length 9-27130
 EM induction, freq. and transient responses of EM fields created by currents in confined conductors 9-29702
 EM induction, two-dimensional, in thin surface sheet of variable integrated cond. 9-16372
 EM induction in conducting stratified medium, numerical analysis 9-34740
 EM induction one-dimensional problem, model refinement 9-44096
 EM logging in inhomogeneous media, axisym. problem 9-39877
 EM scattering from buried wires, fast Fourier transform 9-16369
 EM sounding, analogue model meas. for horizontal mag. dipole embedded in conducting medium 9-12068
 EM sounding, appl. to shallow permafrost mapping 9-16694
 EM sounding, induced polarisation effect on near-field form. (*Russian*) 9-39641

geomagnetism continued

- EM sounding over horizontally layered media, total field resistivity mapping 9-16693
 EM transients over low-resist. polarisable Earth, formulae (*Russian*) 9-39644
 external mag. field, analytical extrapolation into two-dimens. magnetised body (*German*) 9-48393
 field palaeohistory, nature of transition periods during reversals 9-8598
 field reversals 9-2182
 field structure and secular variation, mathematical-physical anal. and interpretation (*German*) 9-34742
 field tipping, nonlinear differential eqns. (*Hungarian*) 9-16368
 N. Finland, magneto-telluric expts. 9-44093
 fluxgate magnetometry, review 9-35800
 gradients from ocean waves, meas. using supercond. mag. gradiometer 9-29867
 gravitationally powered dynamo, thermal consequences 9-39687
 H-polarization induction in two thin half-sheets 9-34737
 horizontal component, sudden storm commencement, negative impulse at equatorial stations 9-16768
 induction, in arbitrarily shaped ocean of finite conductivity 9-16371
 inductive magnetisation sounding, inverse mag. problem numerical soln. (*Russian*) 9-34747
 intensity rel. to climate, historical records 9-39638
 interpretation of time-domain airborne electromagnetic (INPUT) anomalies 9-2383
 inverse problem of gravit. and mag. prospecting, approximate soln. (*Russian*) 9-39927
 ionosphere, cleft currents determined from magnetic and electric fields 9-35036
 ionosphere, field parameters rel. to radiowave magnetoionic components lateral deviations 9-8747
 ionosphere, field-aligned equatorial bubbles obs. by topside sounder 9-16737
 ionosphere, geomag. control of mesosphere NO concs. from D and F region ionisation meas. 9-8651
 ionosphere electrostatic field structure in wake of disc, external mag. field effect 9-10648
 ionosphere inhomogeneities drift, ionospheric wind influence (*Russian*) 9-29926
 ionosphere source, for geomag. field elements annual line component 9-20752
 ionosphere unstable polar cap, mag. fields meas. rel. to electrostatic waves 9-29927
 central Israel, crustal structure for magnetotelluric data inversion 9-2196
 central Israel, mag. evidence for pre-Late Jurassic east-west fossil continental margin 9-34766
 kinematic dynamo of three spherical eddies, model 9-8597
 Kirovograd anomaly/Dnieper-Donets depression intersection, magnetotelluric sounding (*Russian*) 9-20748
 magnetized buried object, depth determ. errors (*Russian*) 9-20750
 magnetosphere, dynamics of protons trapped in geomag. field 9-16756
 magnetosphere, mag. energy accumulation and transfer during substorms 9-12343
 magnetosphere, mag. field and plasma dynamics laboratory simulation 9-16757
 magnetosphere, open and closed models, expt. evidence 9-8771
 magnetosphere, substorm-assoc. particle-flux vars. due to drift in geomag. field 9-35067
 magnetosphere source, for geomag. field elements annual line component 9-20752
 magnetotail magnetic current sheets, effect of press. anisotropy on equilib. struct. 9-12354
 magnetotelluric and geoelectrical prospecting, thin-layer problem 9-44095
 magnetotelluric fields, calc. in horizontally-inhomogeneous media using finite differences method (*Russian*) 9-44102
 magnetotelluric investigations, induction effects detect. methods appl. in Sakhalin and Yakutia (*Russian*) 9-39642
 magnetotelluric meas. using SQUID magnetometer, remote reference technique 9-29866
 magnetotelluric probing, data interpretation, reliability estimate (*Russian*) 9-39949
 magnetotelluric probing, input impedance determ. accuracy, noise effects (*Russian*) 9-39950
 magnetotelluric probing in complex geoelec. conditions, data interpretation (*Russian*) 9-39932
 magnetotelluric probing phase curves, horizontally inhomogeneous medium (*Russian*) 9-39931
 magnetotelluric sounding, direct problem soln. for ideally conducting hemisphere with point source (*Russian*) 9-34745
 magnetotelluric sounding, fields of vertical mag. dipole over vertically inhomogeneous Earth 9-34736
 magnetotelluric sounding curves in nonuniform field of linear sources, comparative anal. (*Russian*) 9-48395
 magnetotelluric studies in Central Urals and Transurals 9-25194
 magnetotelluric study, S.Scotland, fieldwork, data anal. and results 9-29705
 magnetotelluric study, S.Scotland, Monte-Carlo data inversion, geophys. and tectonic implications 9-29706
 marine magnetic anomalies source, dredged oceanic gabbro mag. props. 9-16437
 MHD dynamo theory of mag. field (*French*) 9-35161
 Mount Shasta, magnetisation implications for virtual geomag. poles determ. from seamounts 9-39637
 nondipole field component, westward drift rate determ. 9-12065
 nonlinear analytical prolongation method, survey inverse problem appl. (*Russian*) 9-21037
 palaeointensity determination, ARM correction method 9-34968
 plasmasphere, Coulomb collision-induced photoelectron trapping by geomag. field 9-8739
 potential field anomalies geodynamic interpretation, physically based source models (*German*) 9-34782
 potential fields due to vertical cylindrical cylinder and dike, statistical anal. 9-34972
 potential fields from arbitrary 2-, 2 $\frac{1}{2}$ - and 3-dimensional bodies, wave-number domain expressions 9-5634
 secular variation sources, evidence from New Guinea Highlands lake sediments palaeomagnetism 9-12069
 sounding data, upward and downward continuation as inverse problems 9-44262

geomagnetism continued

- Spain, geomagnetic anomalies, geological interpretation (*Spanish*) 9-29710
 three-frequency computational method for two-layer CFS data 9-16688
 total field mag. anomalies of spherical ore-bodies, interpretation via zero-line method 9-39973
 transient EM sounding records computer processing, meas. errors anal. (*Russian*) 9-44269
 Ukrainian Precambrian Shield, deep fractures analysis (*Russian*) 9-20773
 ULF/ELF EM fields generated above finite depth sea by submerged vertical mag. dipole 9-48400
 NE. United States and White Mountain heat flow anomaly 9-8594
 Urach region, Germany, geomag. obs. rel. to temp. field investigation at great depths 9-48440
 $V_{\Sigma}(V_{\Delta}, Z_{\Delta})$ anomalies over stratified bodies, interpretation analytic method (*Russian*) 9-39968
 VLF signals in ionosphere-Earth waveguide, geomag. activity effects (*Russian*) 9-2426
 world-wide belts in geomag. field, rel. to tectonic features 9-39651

geometric programming

- ^3H breeding ratio maximisation 9-9879

geometrical optics

- AM/FM radio signal diffraction in homogeneous dispersive medium, space time geometric theory 9-4149
 astronomical telescope resolution explanation (*Spanish*) 9-40075
 beam positioning and focusing system combination in optical memory system (*Russian*) 9-7194
 bent multimode waveguide, loss calcs., geometric optics method 9-37013
 caustic patterns for melt zones in solidified glass samples, asymmetric cases 9-22893
 caustic patterns for melt zones in solidified glass samples, symmetric cases 9-22892
 caustics from rippling water 9-18345
 conical light guide, theory, divergence reducing props. (*German*) 9-14090
 crystal inhomogeneous in optical anisotropy due to stress distrib., light propag. eqns. 9-13897
 deflectors using electro-optically controlled interference 9-1007
 diffraction, geometrical theorem and Keller's diff. coeff. (*French*) 9-41307
 directional coupling device of two glass prisms, geometrical optics (*German*) 9-18524
 double phase-matching function 9-41332
 doubly-curved narrow-beam reflectors 9-23040
 EM wave diffraction by plane angular sector, geometrical theory 9-45896
 Fermat's principle, student expts. 9-30178
 fibre tapered sections, ray trajectories 9-18508
 focal length of thin lens under water, determ., teaching appl. 9-44676
 gasdynamic high speed lasers, optical cavity anal. using geometrical optics methods (*Chinese*) 9-31854
 general relativistic dispersive media 9-40435
 generalised radiance propag. through lenses 9-27359
 grating equation, Hilbert's independence integral 9-899
 gravitational lenses, high-intensification regions 9-25463
 ideal concentrators, three dimens., for distant sources 9-41334
 lens maker's equation, teaching 9-44683
 light propagation in noninertial reference system (*Russian*) 9-897
 linear systems, Fourier transforms and optics, book 9-41350
 long optical fibres with random inhomogeneities, output pulse shape 9-3791
 mountain shadow phenomena theory 9-36831
 multimode waveguide core-cladding interface, macroscopic roughness effect 9-18523
 multiple integrals in waveguide scatt. problems 9-3796
 multiply reflected Gaussian beams in circular cross section 9-18343
 optical system design method 9-36974
 optical systems with spherical and nonspherical dioptrics, in three-dimens. space, calc. method (*Rumanian*) 9-13898
 phase retrieval from intensity meas., uniqueness question 9-13915
 photoelastic materials and crystals, light wave propag. 9-898
 plane plates, two sets of different physical props., energy flux splitting (*German*) 9-18500
 ray paths in a fluctuating environment 9-9129
 ray paths in nonuniform axially symmetric medium 9-7076
 ray trace program, TI59 calculator 9-32023
 ray tracing, generalised, caustic surfaces 9-23043
 real space-time rays in absorbing media, Fermat's principle 9-3628
 retroreflection from rough surfaces 9-10258
 scattering of ultrashort laser pulse by large spherical particle 9-906
 skew ray tracing through plane surfaces (*German*) 9-900
 tapered cylindrical optical fibre, radiation characts. 9-10388
 thermal lens, time-resolved geometrical optics 9-12795
 thin lenses formulae for teaching purposes 9-35509
 turbulent medium with smooth space-time fluctuations, absorpt. effects on statistical characts. (*Russian*) 9-18330
 white holes optical appearance in geometrical optics framework 9-21323
 Na vapour lamp reflector design (*Spanish*) 9-23042

geometry

- see also space time configurations*
 coincidence site lattice, differential geometry 9-28000
 control moment gyroscopes, single-gimbal, geometric theory 9-21738
 coupled harmonic oscillators, natural freqs. from anal. geometry, for teaching 9-25806
 Eulerian and Lagrangian coordinate systems, for teachers 9-21491
 fifteen parameter conformal group, geometry and isomorphism 9-9154
 instantaneous invariants in three-dimensional kinematics 9-18698
 intrinsic geometry of quantum mech. phase space Hamiltonian systems, correspondence principle 9-83
 matter field spacetimes, symm. mappings satisfying vanishing contraction of Lie deform. of Ricci tensor 9-113
 mechanical theorem-proving in elementary differential geometry (*Chinese*) 9-35535
 MHD, in transverse mag. field, streamline orthogonal-net anal. 9-37417
 physics, algebras, manifolds and fibre bundles 9-44709
 space-time manifold geometrical singularities, edge geometry 9-44807
 stable tangent bundle in differential geometry and unified field theory, generating method 9-5974
 twist disclinations, differential geom. 9-14805

geons *see gravitons*

geophones *see seismometers*

geophysical aspects of cosmic rays

- antiproton spectrum, at top of atm., scaling law 9-12365
 atmosphere medium-energy gamma-rays, spectrum meas. 9-9030
 atmosphere prompt high-energy neutrinos, rel. to cosmic neutrinos diffuse fluxes 9-44327
 atmosphere prompt neutrinos, W-bosons prod. 9-3014
 atmospheric electrons, MeV range registration instrument 9-5645
 atmospheric X-rays, separation from primary diffuse X-ray component using growth curves 9-25512
 bow shock, origin of 30-100 keV protons in upstream region 9-48622
 charged hadrons, negative/positive ratio, 3220 m above sea level (*Chinese*) 9-12369
 clean atmospheric jet, 878 TeV, cascade degradation absence 9-35084
 D-region, ionisation effects from cosmic X-ray sources 9-35048
 daily intensity variation, depend. on mag. storms, sunspot no., and solar flux 9-35082
 diffusion in random magnetic field, weak particle-field interaction theory validity 9-21109
 diurnal variation, power spectrum anal. 9-25416
 diurnal variation of cosmic ray intensity, interplanetary diffusion coeffs. calcs. 9-29952
 diurnal variation of cosmic ray intensity, two approaches to study 9-29953
 EAS, detectors pulse profiles studies 9-25421
 EAS and radiowaves produced from secondary electrons in geoelectric field, 10 kHz-10 MHz 9-21118
 electrons and γ -rays, short-period fluctuations, in upper atm., correl. with solar diameter vars. 9-21115
 EM cascade, particle-induced, in water, thermoacoustic effect, neutrino detection appl. 9-29960
 EM cascades in air, caused by 10-100 GeV electrons and photons 9-21120
 flux in atmosphere, primary and splash albedo components, polar orbiting satellite meas. 9-25415
 gamma rays in 10^{11} - 10^{14} eV range using atmospheric Cherenkov technique 9-25422
 gamma-ray bundles, high transverse momentum estimated from RE distrib. 9-40046
 gamma-ray prod. spectra for high energy reactions in graphite 9-29959
 gamma-ray spectra, high energy, near top of atmos. detection+meas. by emulsion chamber 9-29958
 ground level enhancements, comparison of 1977 Nov. 22 and 1969 Feb. 25 events 9-40042
 ground level enhancements during 21st solar cycle 9-12361
 ground level event of 1977 November 22, solar flare increase of cosmic ray intensity 9-48629
 large air showers, Cherenkov radiation image reconstruction 9-25420
 meteorological and geomagnetic vars., separation via spectrographic instrument set 9-12404
 muon spectra at different altitudes, Bose-type model calcs. 9-44326
 muon spectra at sea-level, solar modulation at geomag. equator 9-16775
 muons, scaling and charge ratio 9-12371
 muons, vertical integrated momentum spectrum, 3220 m above sea level (*Chinese*) 9-12372
 north-south asymmetry, interplanetary mag. field sector polarity determ. 9-30009
 nucleon cascade in atmosphere 9-12363
 primary nucleon spectra from atmospheric γ -ray and muon data 9-44320
 protons in plasma sheet boundary during substorm expansion phase 9-35062
 sea level ionisation meas. in 900 l chamber 9-35081
 sea-level flux determination for heavy cosmic-ray particles 9-29956
 sea-level muon spectra, Cocconi-Koester-Perkins model 9-48634
 seawater and atm. surface layer gamma radiation field rel. to cosmic ray neutrons (*Russian*) 9-39746
 semidiurnal anisotropy, latitude dependence 9-48631
 solar protons in magnetosphere (1971 September 1-16) 9-2446
 stratospheric cosmic rays height-intensity distrib., meson decay effect 9-12364
 stratospheric superfamily with $\Sigma E_{\gamma} \sim 2.10^{15}$ eV 9-2451
 ^{10}Be in marine sediments rel. to geophysical events and cosmic ray var. 9-29748
 ^{14}C , production rel. to cosmic rays and solar activity cyclic vars. 9-16776
 ^{44}Ca production in Earth surface layers, possible use for radioactive dating 9-21063

geophysical equipment

- see also atmospheric measuring apparatus; geophysical prospecting; geophysical techniques; meteorological instruments; oceanographic equipment; seismometers*
 absolute vector magnetometer 9-16703
 additive colour viewer, for inexpensive remote sensing 9-29897
 aerial lenses, for multispectral photographs from high altitudes 9-35868
 automatic AF demagnetiser for igneous rock specimens 9-25347
 automatic digital magnetic recording system in Tihany Observatory 9-39989
 borehole probe with LED for γ -ray spectrum stabilisation 9-45552
 C-CD digital image store for Earth resource surveying 9-34964
 C-CD space-borne Earth imager, high resolution, features 9-35097
 Camkometer, in situ soil testing pressuremeter 9-8717
 cavity pyrheliometers, appl. to solar const. accurate determs. 9-2341
 coordimeter, two-dimens. for displacement meas. in rock masses 9-35016
 cursor, aided-track, for improving digitising accuracy 9-29899
 decrepitemetric recorder with electronic filter (*French*) 9-48571
 deep EM sounding of Earth's crust, pulsed MHD generator 9-48589
 depth measuring apparatus for borehole logging 9-5643
 dynamic hydrothermal experimental system, for seawater-basalt reactions study 9-5686
 electronic tachymetry, ten years of Zeiss equipment (*German*) 9-34999
 electrooptical distance meas. instruments, Zeiss ELDI 2 type, error anal. (*German*) 9-21081
 electrostatic accelerator, appl. to ^{36}Cl anal. in environmental water samples 9-20895
 EM field, conf., Hrubanovo, Czechoslovakia (Oct. 75) 9-39646
 fluxgate magnetometer, review 9-35800
 geomagnetic monitoring system for International Magnetospheric Study 9-29882
 glacier sounder, appl. to gravity surveys in glacier-covered regions 9-16697

geophysical equipment continued

- gravimetric networks, adjustment (*German*) 9-44084
- gravity meters, quartz, terrestrial, microseisms influence on reading, mechanism (*Russian*) 9-39967
- hydrology instrumentation, review (*French*) 9-39979
- induction logging probes for rock forms. elec. parameters determ., number and type choice (*Russian*) 9-39969
- induction-logging tools, sonde eccentricity effect on response 9-12300
- IR Fourier spectrometer for space appl., thermal behaviour (*German*) 9-35091
- IR line scanner, Reconofax XIII A, improved recording system using LED 9-25335
- Kodak LR 115 dielec. track detect., applicability as α -particle detector (*Czech*) 9-8711
- Landstet filters for rock type discrimination assessment using laboratory spectra information 9-16791
- linear multichannel systems employed in regular waves separation, efficiency comparative anal. (*Russian*) 9-39922
- magnetometer, RF SQUID, construction, geomag. microfluctuation meas. appl. (*Japanese*) 9-5641
- microprocessor-based system for surveying data acquisition and processing 9-29913
- multichannel telemetry system, design, seismic data processing (*Chinese*) 9-21033
- multifrequency airborne EM system, for Earth conductivities mapping 9-5446
- navigational sextant, hand-held SPT-2, construction features 9-32027
- neutron moisture gauge for permafrost regions (*Chinese*) 9-34997
- nuclear borehole logging system 9-25353
- oil, exploration and exploitation instrumentation 9-34982
- optimum multichannel filters used in seismic surveys theory (*Russian*) 9-39921
- phoswich battery operated portable detector for field monitoring of transuranic contaminants 9-683
- photogrammetric camera, distortion calibration using star images 9-35881
- piezoelectric sensor element for press. meas. in soil pores (*Polish*) 9-25363
- polished metal sphere and microaccelerometer, for absolute meas. of Earth's radiation balance (*French*) 9-29900
- proton microprobe, X-ray and γ -ray, appls. 9-48010
- radiometric field instruments, experiences with concrete calibration sources 9-5633
- rain gauge, quick response, water drop counting type 9-5647
- remote sensing, sensors and detectors in NASA's future mission 9-5656
- rock elastic wave absorption meas. and recording instrument (*Russian*) 9-29891
- satellite laser ranging system 9-39994
- seismic recording channel, input cct. parameters matching (*Russian*) 9-39920
- seismic wide-band recorders specification 9-39908
- signal amplitude digital automatic control system, instrumental realisation algorithm (*Russian*) 9-39924
- soil temperature measuring system and data for Whiteshell Nuclear Resea-ch Establishment 9-48590
- sonobuoys, data comparison with ocean bottom seismograph rel. to Texas shelf zone crustal struct. 9-5462
- specific resistivity meter with logarithmic output for rock samples 9-35781
- superconductive magnetic gradiometer for meas. of mag. gradients from ocean waves 9-29867
- thematic mapper, time-delay and integration CCD imager appl. 9-35098
- theodolite, reduction of influence of vertical axis error on horizontal angle meas. (*German*) 9-44278
- transistor sensors for electrical temp. meas. (*German*) 9-30468

geophysical prospecting

see also minerals

- acoustic logging, channel requirements for elastic waves recording (*Russian*) 9-39955
- acoustic logging, elastic props. of near-hole bed-zone and profile lengths (*Russian*) 9-39938
- acoustic logging, errors of statistical signal processing (*Russian*) 9-39939
- acoustic logging, optical filtering appl. in data processing (*Russian*) 9-39942
- acoustic logging, phase-freq. charact. effect on transmission accuracy of analogue signals (*Russian*) 9-39940
- acoustic reflection in discrete layered media, structure estimation accuracy 9-23108
- airborne gamma-ray spectrometry data processing using multivariable statistical analysis 9-35004
- alpha activity of natural samples, appl. of Kodak LR 115 dielectric track detector (*Czech*) 9-8711
- artificial premagnetization method, theory, ore prospecting appl. 9-39876
- Athabasca oil sand behaviour under cyclic and uniaxial loading and hydrostatic press. 9-48468
- borehole capture gamma-ray anal., optimal size ^{252}Cf neutron source 9-29890
- coaxial coils, for signalling between surface and buried coils, max. induced voltage calc. 9-12299
- critical mineral resources 9-5482
- dipole measuring apparatus for borehole logging 9-5643
- dipole electrical soundings, perpendicular, numerical procedure for direct interpretation 9-34732
- dipole soundings data obtained along crooked line, transform. 9-44259
- directional antenna, miniature, design, for geophys. probing from boreholes 9-12297
- electrical conductivity, model for quantitative interpretation of towed-bird airborne EM system meas. 9-5447
- electrical sounding, pots. of simple bodies in half-space (*Russian*) 9-34744
- electroprospecting, direct problem soln. for ideally conducting hemisphere in space with point source (*Russian*) 9-34745
- EM exploration, target near dipping contact, response modelling 9-8595
- EM field sounding, appl. of composite obs. patterns in near field (*Russian*) 9-44270
- EM induction, freq. and transient responses of EM fields created by currents in confined conductors 9-29702
- EM induction in conducting stratified medium, numerical analysis 9-34740
- EM logging in inhomogeneous media, axisymm. problem 9-39877
- geophysical prospecting continued
 - EM modelling of transmissions through in situ gasified coal seam 9-12298
 - EM probing, expt. curves features due to seismoelec. effects (*Russian*) 9-39643
 - EM sounding, analogue model meas. for horizontal mag. dipole embedded in conducting medium 9-12068
 - EM sounding, induced polarisation effect on near-field form. (*Russian*) 9-39641
 - environmental samples anal. for U, Th, neutron activation anal. data resolution for high throughput system 9-11848
 - exploration seismology, wave refl., refr. and diffr. in media with elliptical vel. depend. 9-5454
 - faults prospecting via seismic refr. method, model expt. and features of seismograms (*Chinese*) 9-12286
 - N.Finland, magneto-telluric expts. 9-44093
 - folded and crystalline basements of deep cavities, determ. from seismic data (*Russian*) 9-39692
 - geolectrical method for thickness var. detection 9-2384
 - geolectrical prospecting, thin-layer problem 9-44095
 - geological section local inhomogeneities determ. by reflected-wave probing method (*Russian*) 9-39947
 - geological stratum sounding by UHF radar (*German*) 9-8702
 - geophysical cybernetics (*Russian*) 9-48488
 - gravimetry, direct and inverse problems soln. for hemispherical bodies (*Russian*) 9-35012
 - gravitational prospecting, inverse problem approximate soln. (*Russian*) 9-39927
 - gravity and magnetic surveys, nonlinear analytical prolongation method, for inverse problem (*Russian*) 9-21037
 - gravity anomalies extrapolation in structural gravity prospecting (*Russian*) 9-39951
 - gravity anomalies interpretation, computer modelling 9-34971
 - gravity anomaly interpretation, pot. fields linear anal. (*Russian*) 9-35011
 - gravity measurements, borehole data accuracy 9-5632
 - gravity prospecting, accuracy, meas. spacings and contour intervals calc. techniques (*Russian*) 9-44272
 - Gulf of Oman, gas hydrate layers trapping free gas 9-29746
 - image analysis system for Earth resources surveys 9-5644
 - induced polarisation, multifrequency mineral discrimination and inductive coupling removal 9-5448
 - induced polarisation sounding, response of polarisable inhomogeneous sphere 9-44092
 - induced-polarization freq.-domain method, metallic mineral deposits (*Italian*) 9-16686
 - induction-logging tools, sonde eccentricity effect on response 9-12300
 - inductive logging near single and multiple conductive bodies, scale model results 9-16666
 - interpretation methods, conf. (Bratislava, Czechoslovakia, May 1974) (*German*) 9-35001
 - interpretation of time-domain airborne electromagnetic (INPUT) anomalies 9-2383
 - inversion probes in γ - γ methods, laminar medium, nuclear geophysics 9-34992
 - kinematic multiple wave analogues strongest families, parameter prediction algorithm (*Russian*) 9-39943
 - lateral induction logging, calibration of apparatus (*Russian*) 9-39941
 - low-amplitude structure with oil (gas) deposits, parameters from gravity test data (*Russian*) 9-44271
 - magnetic anomalies interpretation, computer modelling 9-34971
 - magnetic anomaly interpretation, pot. fields linear anal. (*Russian*) 9-35011
 - magnetic deep sounding data interpretation, use of equivalent current systems 9-25190
 - magnetic profiling, separation of geomag. vars. into external and internal parts (*Russian*) 9-39991
 - magnetic prospecting, inverse problem approximate soln. (*Russian*) 9-39927
 - magnetic sounding, anomaly field vertical intensity autocovariance function (*German*) 9-34746
 - magnetized buried object, depth determ. errors (*Russian*) 9-20750
 - magnetotelluric meas. using SQUID magnetometer, remote reference technique 9-29866
 - magnetotelluric probing, data interpretation, reliability estimate (*Russian*) 9-39949
 - magnetotelluric probing, input impedance determ. accuracy, noise effects (*Russian*) 9-39950
 - magnetotelluric probing in complex geoelec. conditions, data interpretation (*Russian*) 9-39932
 - magnetotelluric probing phase curves, horizontally inhomogeneous medium (*Russian*) 9-39931
 - magnetotelluric sounding, fields of vertical mag. dipole over vertically inhomogeneous Earth 9-34736
 - magnetotelluric studies in Central Urals and Transurals 9-25194
 - magnetotelluric study, S.Scotland, fieldwork, data anal. and results 9-29705
 - magnetotelluric study, S.Scotland, Monte-Carlo data inversion, geophys. and tectonic implications 9-29706
 - marine gamma-spectrometric surveying problems 9-2390
 - marine minerals exploration, Mobile Initial Condition Indicator approach 9-5687
 - matched electromagnetic pulse transmission, for good conducting media 9-36823
 - mining and prospecting research, examples of mineralogy contrib. (*French*) 9-5475
 - natural radioactive series, secular equilb. investigation method 9-2381
 - nuclear borehole logging system 9-25353
 - nuclear oil well logging using 14 MeV neutron-excited gamma-ray spectrometry 9-48581
 - nuclear raw materials prospecting, isotopic dating methods (*Russian*) 9-30925
 - oil, exploration and exploitation instrumentation 9-34982
 - oil and gas exploration, information content of geochem. parameters (*Russian*) 9-39957
 - oil and gas formations, prediction prior to drilling (*Russian*) 9-39970
 - oil deposits rel. to sea ice chemistry 9-12128
 - pegmatite ores in Tanco mine area, SE.Manitoba, in Canada, exploration methods 9-48577
 - penetration zone shaping, numerical soln. (*Russian*) 9-39958
 - potential fields due to vertical circular cylinder and dike, statistical anal. 9-34972

geophysical prospecting continued

- pulsed gamma-ray method for rocks density determ. theory (*Russian*) 9-39956
- radioactive element conc. from γ -ray intensity meas., numerical method 9-18059
- ray theoretical seismograms, construction methods 9-34761
- reflection seismology, wavefront synthesis for vel. estimation and downward continuation 9-16392
- remote sensing, principles and interpretation, book 9-12319
- remote sensing of Earth's resources using satellites, review of techniques 9-16714
- residual Bouguer anomalies, line masses depth estimation via Backus-Gilbert min. distance criterion 9-44257
- resistance method, oil-gas field appl. (*Russian*) 9-20749
- resistivity finite-difference modelling, practical approach 9-29878
- resistivity sounding, buried electrode data interpretation using layered Earth model 9-29701
- resource potential, geochemical surveys of large areas in USA and Alaska 9-30924
- rock elastic wave absorption meas. and recording instrument (*Russian*) 9-29891
- sedimentary rocks containing water and oil, dielectric constant and losses (*Russian*) 9-20747
- seismic data processing, Karhunen-Loeve transform. appl. (*French*) 9-44258
- seismic data processing, predictive deconvolution method appl. 9-8725
- seismic exploration, deep refls. unravelling via seismic stripping 9-34970
- seismic exploration, effect of multiple scatt. on wave field spectral comp. (*Russian*) 9-8607
- seismic exploration, nature of arc-shaped line-ups common depth point seismic profiles (*Russian*) 9-44134
- seismic prospecting, common depth point vels. critical values for stratified homogeneous forms. (*Russian*) 9-39668
- seismic prospecting, effect of spatial deflection during longit. obs. (*Russian*) 9-39945
- seismic prospecting, far field waves definition criteria (*Russian*) 9-39965
- seismic prospecting, inverse kinematic case soln. in layered Earth using reciprocal points (*Russian*) 9-44268
- seismic prospecting, minimisation of distortion caused by geophone-ground coupling 9-44256
- seismic prospecting, overlying sequence stratification effect on basement vel. determ. (*Russian*) 9-39961
- seismic velocities in geological strata with curvilinear boundaries, three-dimens. case (*Russian*) 9-39928
- seismogram synthesis in multilayered dissipative media 9-2382
- spectrometer for underwater gamma surveying, calibration 9-21066
- subsurface radar for Earth's surface remote probing 9-8724
- sulphide mineralisation in Rajasthan, and Gujarat, India, induced polarisation surveys results 9-39714
- sulphide minerals, induced polarisation, decay curves theory (*German*) 9-29709
- tectonic dislocations prospecting in complex media, appl. to seismic surface waves correl. method (*Russian*) 9-8605
- three-frequency computational method for two-layer CFS data 9-16688
- underwater towed EM source for geophys. exploration 9-5676
- well logging, multiple measuring systems 9-26049
- Cu deposits, exploration using LANDSAT-1 imagery 9-2398
- Fe ores, exploration with integrated aeroelectromagnetic and magnetic methods 9-16690
- Fe ores, grade, bulk density, porosity determ. by nuclear geophysical methods 9-48570
- Li, needs and resources, conf., Corning, USA (Oct. 1977) 9-48473
- Rn, moisture insensitive monitoring using solid detectors 9-31228
- U and Th, resources and prospecting techniques and equipment development in India 9-30923
- U deposit, Saima alkaline massif, NE China 9-16470
- U exploration, borehole probe with LED for γ -ray spectrum stabilisation 9-45552
- U exploration, delayed fission neutron and prompt fission neutron logging, comparison of predicted signals 9-39879
- U, exploration and evaluation techniques for ore bodies 9-26536
- U, exploration in Australia, Alligator Rivers Uranium Province 9-30922
- U, exploration in Australia 9-48471
- U exploration in Egypt, exploration under arid conditions 9-26538
- U exploration probes, meas. spatial depend. of delayed neutron signals 9-34989
- U, modern prospecting techniques evaluation, Athabaska sandstone deposits 9-26537
- U, quantitative determs. from gamma-ray logs, digital time series analysis 9-48580
- U/Th prospecting, use of alpha sensitive plastic films 9-39980

geophysical techniques

- see also *atmospheric techniques; geophysics; hydrological techniques; ionospheric techniques; oceanographic techniques*
- acoustic logging, signals limited spectrum rel. to time interval and damping determ. accuracy (*Russian*) 9-39971
- acoustic microscopy of sedimentary rock samples 9-12292
- active remote sensing with radar, radiative transfer theory, half-space random media appl. 9-8721
- aerial triangulation, bridging with independent horizontal control 9-25184
- aeromagnetic anomaly from remanently magnetised Precambrian schist belt, Karnataka, India harmonic inversion 9-44094
- airborne gamma-ray spectrometry data processing using multivariable statistical analysis 9-35004
- anomaly source models, statistical parameters rel. to pot. fields obtained by superposition (*German*) 9-34783
- array algebra appls. 9-44702
- basaltic bodies, flow and emplacement direction from mag. susceptibility anisotropy meas. 9-29766
- catastrophic earthquakes prediction, development monitoring via seismic b-value time and space scanning (*Chinese*) 9-12072
- cavity radius estimation for contained nuclear explosions 9-16712
- chamber methods for soil gas fluxes determ., numerical evaluation 9-16700
- coastal geomorphology from satellite imagery, appl. to Bermuda 9-5470
- contacting surface depth and shape determ., random and systematic errors (*Russian*) 9-39935
- convolution product, deconvolution problem (*French*) 9-44275

geophysical techniques continued

- correlation analysis of geophysical fields, input conditions (*German*) 9-35014
- crustal stress meas. limits 9-48588
- crustal vertical movement detection, noise reduction in sea-level records 9-2395
- data inversion from diffraction-limited multiwavelength remote sensing 9-39976
- data upward and downward continuation as inverse problems 9-44262
- dating using ESR (*Japanese*) 9-48437
- DC resistivity measurements, interpretation 9-5449
- DC resistivity modelling for axially symmetric bodies, finite element method appl. 9-5445
- digital, seismic recordings, dynamic range compression (*Russian*) 9-39930
- digital correlation of complex exponentiated data (*German*) 9-44279
- digital recording and anal. of broadband seismic data at Graefenberg array 9-25348
- digital signal processing appls. to seismology 9-29915
- dipole electrical soundings, perpendicular, numerical procedure for direct interpretation 9-34732
- dipole soundings data obtained along crooked line, transform. 9-44259
- Duhamel's integral numerical evaluation, earthquakes response spectra calc. appl. 9-21035
- dynamic fracture strength of oil shale, expt. determ. method 9-48584
- dynamic spectra of non-stationary signals, operator calculus appl. 9-35002
- Earth conductivities, mapping via multifreq. airborne EM system 9-5446
- Earth crust, dielectric const. determ. from rocks elec. parameters correl. at high temps. (*Russian*) 9-8628
- Earth crust and upper mantle structure, experimental study by converted waves (*Chinese*) 9-12093
- Earth crust stress changes, in situ monitoring 9-29884
- Earth crust stress measurement by overcoring, diagnostic stress-relief curves 9-29886
- Earth gravity field anomalies sources, depths determ. 9-16366
- Earth interior exploration, via seismic body waves focused at epicentre antipode 9-16399
- earthquake acceleration hazard map, sensitivity to input seismic parameters 9-44111
- earthquake local magnitude determ. from strong-motion accelerograms 9-12290
- earthquake prediction, biosystem behaviour as precursor 9-39673
- earthquake prediction, electrokinetic and magnetic anomalies associated with dilatant regions in a layered Earth 9-39658
- earthquake prediction, seismic b-values vars. before large earthquakes (*Chinese*) 9-12073
- earthquake prediction and warning, theoretical review 9-5455
- earthquake risk, assessment via focal mechanism consistency parameter of seismic activity (*Chinese*) 9-12074
- earthquakes source spectrum determ. using code of seismic oscills. 9-48405
- electrical conductivity, model for quantitative interpretation of towed-bird airborne EM system meas. 9-5447
- electrical sounding, pots. of simple bodies in half-space (*Russian*) 9-34744
- electron microprobe, and ion microanalyser, appls. in mineralogy (*French*) 9-5628
- electroprospecting, direct problem soln. for ideally conducting hemisphere in space with point source (*Russian*) 9-34745
- element analysis of geological and extraterrestrial samples, laser mass spectra 9-16717
- EM field, conf., Hurbanovo, Czechoslovakia (Oct. 75) 9-39646
- EM field sounding, appl. of composite obs. patterns in near field (*Russian*) 9-44270
- EM induction, freq. and transient responses of EM fields created by currents in confined conductors 9-29702
- EM induction in conducting stratified medium, numerical analysis 9-34740
- EM sounding, analogue model meas. for horizontal mag. dipole embedded in conducting medium 9-12068
- EM sounding, induced polarisation effect on near-field form. (*Russian*) 9-39641
- EM sounding, scatt. from buried wires 9-16369
- EM sounding over horizontally layered media, total field resistivity mapping 9-16693
- exploration seismology, wave refl., refr. and diffr. in media with elliptical vel. depend. 9-5454
- exploration with integrated aeroelectromagnetic and magnetic methods for Fe ores 9-16690
- faults prospecting via seismic refr. method, model expt. and features of seismograms (*Chinese*) 9-12286
- filtration algorithms taking into account noise in input data, efficiency 9-25344
- fission Xe isotope dating technique 9-21043
- fold shape analysis, expansion of dip isogons use and preliminary investigations implications 9-39986
- frequency-filter anal. of surface waves, fast method, west Pacific region appl. 9-48573
- function, analytic continuation for Earth surface (*Russian*) 9-35008
- geodesy, parameter accuracy improvement by choice and quality of obs. 9-44078
- geodesy, statistical, mathematical struct. and appls. 9-29696
- geodesy, systematic errors detect. by hypothesis tests using adjustment in sections (*German*) 9-44083
- geodesy applied to crustal movement measurement, instrumentation trends and prospect 9-29738
- geolectric dipolar techniques, archaeological appl. 9-16687
- geolectrical method for thickness var. detection 9-2384
- geolectrical prospecting, thin-layer problem 9-44095
- geological lineament interpretation, multi-attribute method 9-2399
- geological samples, prep. for SEM 9-12785
- geological section prediction, appl. of seismic waves integral spectrum parameters (*Russian*) 9-8705
- geological stratum sounding by UHF radar (*German*) 9-8702
- geology, discrimination using dual freq. and polarization imaging radar 9-12293
- geomagnetic field long-period variations, spectra anal. methods (*Russian*) 9-34743
- geomagnetic measurements and data processing, new methods 9-39988

geophysical techniques continued

- geomagnetic monitoring system for International Magnetospheric Study 9-29882
- geomagnetic $V_{zz}(V_{\Delta}, Z_{\Delta})$ anomalies over stratified bodies, interpolation analytic method (*Russian*) 9-39968
- geomagnetic virtual poles determination from seamounts, implications of Mount Shasta magnetisation 9-39637
- gravimeter network adjustment, equiprobable interval method of sample classification 9-29889
- gravimetric and deep seismic sounding, data interpretation (*Russian*) 9-39937
- gravimetric estimation technique using FFT, inertial navigation systems appls. 9-25376
- gravimetry, direct and inverse problems soln. for hemispherical bodies (*Russian*) 9-35012
- gravitational prospecting, inverse problem approximate soln. (*Russian*) 9-39927
- gravity, anomalous fields, stochastic harmonic analysis 9-35003
- gravity and magnetic anomalies, conformal deform. method for singular points determ. (*Russian*) 9-39934
- gravity anomalies, stratified bodies, separation technique (*Russian*) 9-39933
- gravity anomalies interpretation, computer modelling 9-34971
- gravity base at Newcastle upon Tyne University, England 9-29693
- gravity complex fields interpretation via minimisation method, automated system appl. (*Russian*) 9-35006
- gravity data handling using collocation and least squares methods 9-29870
- gravity field vertical gradient calc. methods 9-16689
- gravity measurements, borehole data accuracy 9-5632
- gravity potential on mobile base, second derivatives determ. (*Russian*) 9-39954
- gravity prospecting, accuracy, meas. spacings and contour intervals calc. techniques (*Russian*) 9-44272
- gravity prospecting, determ. of parameters of low-amplitude struct. with oil (gas) deposits (*Russian*) 9-44271
- gravity surveys in glacier-covered regions, glacier sounder appl. 9-16697
- gravity two-dimensional potential fields, singular points determ. (*Russian*) 9-39925
- gravity $V_{zz}(V_{\Delta}, Z_{\Delta})$ anomalies over stratified bodies, interpretation analytic method (*Russian*) 9-39968
- gravity vector and geodetic position survey, inertial navigation system appl. 9-29914
- Heat Capacity Mapping Mission, methods and appls. 9-5640
- heat flow meas. by temp. wave reduction method, appl. to Crimea (*Russian*) 9-20774
- horizontal ground motion, two-dimensional, evaluation for structs. design 9-48419
- hydraulically induced crack, mapping by point source signals diffr. meas. 9-48572
- hydrology, method of characts. with fixed net for slowly varying nonstationary flows (*German*) 9-5515
- hydrothermal alteration mapping, airborne spectroradiometric data anal. and LANDSAT data appl. 9-34973
- imaging radar measurement of surface roughness, appl. to Askja Caldera, Iceland 9-16426
- induced polarisation, multifrequency mineral discrimination and inductive coupling removal 9-5448
- induced polarisation sounding, response of polarisable inhomogeneous sphere 9-44092
- induced polarisation sounding for sulphide mineralisation in Rajasthan and Gujarat, India 9-39714
- induced-polarization freq.-domain method, metallic mineral deposits (*Italian*) 9-16686
- inductive logging near single and multiple conductive bodies, scale model results 9-16696
- inductive magnetisation sounding, inverse mag. problem numerical soln. (*Russian*) 9-34747
- interpretation methods, conf. (Bratislava, Czechoslovakia, May 1974) (*German*) 9-35001
- interpretation of time-domain airborne electromagnetic (INPUT) anomalies 9-2383
- inverse normal mode problem, ideal soln. with finite spectral data 9-34974
- inverse problem for seismic wave eqns. in one dimens. (*French*) 9-44138
- inversion of two-dimensional resistivity and induced-polarisation data 9-16695
- ion microprobe analysis technique, appl. to zone plagioclase of different magmatic environments 9-34815
- IR remote sensing measurements, conceptual considerations and surface temp. estimation, review 9-34984
- land system classification of Jordan, appl. of Landsat imagery 9-2388
- LANDSAT imagery, photographic contrast enhancement 9-29896
- Landsat MSS points location on maps, methods and accuracy 9-2389
- least-squares collocation for Earth figure and gravit. field determ. 9-48392
- line masses depth estimation from residual Bouguer anomalies, via Bacus-Gilbert min. distance criterion 9-44257
- linear inversion, non-uniqueness resolution via a priori data appl. 9-44261
- linear transformation characts. of geophysical fields, props. (*Russian*) 9-35007
- magnetic and gravitational anomalies extrapolation, equivalence principle (*Russian*) 9-39926
- magnetic anomalies, total field, of spherical ore-bodies, interpretation via zero-line method 9-39973
- magnetic anomalies interpretation, computer modelling 9-34971
- magnetic anomaly interpretation, bidimensional inhomogeneous problem soln. via Cauchy integrals (*Russian*) 9-35013
- magnetic minerals, Curie temp., HF meas. method (*Russian*) 9-39992
- magnetic palaeointensity determination, ARM correction method 9-34968
- magnetic prospecting, inverse problem approximate soln. (*Russian*) 9-39927
- magnetic sounding, anomaly field vertical intensity autocovariance function (*German*) 9-34746
- magnetotelluric fields, calc. in horizontally-inhomogeneous media using finite differences method (*Russian*) 9-44102
- magnetotelluric investigations, induction effects detect. methods appl. in Sakhalin and Yakutia (*Russian*) 9-39642
- magnetotelluric sounding, fields of vertical mag. dipole over vertically inhomogeneous Earth 9-34736

geophysical techniques continued

- magnetotelluric sounding curves in nonuniform field of linear sources, comparative anal. (*Russian*) 9-48395
- map intensification from small format camera photography 9-25354
- marine seismograms, source signatures debubbling 9-16692
- maximum entropy spectral analysis, power estimation method 9-16691
- maximum entropy spectral analysis of multiple sinusoids in noise 9-48579
- metabasalts palaeotectonic affinities determ. via immobile trace elements, appl. to Scotland Palaeocene basalts 9-34816
- microdensitometry appls. (*Czech*) 9-30524
- microearthquake research, methods and meas. errors 9-39987
- minerals spatial isotope distributions, recovery from stepwise degassing data 9-34967
- monitoring underground nuclear explosions, book 9-681
- monochromatic and colour images by aero- and space methods 9-44252
- multibaseline, geodetic meas. technique, precision ground based 9-34987
- multilevel syntax analysis for geological data compression 9-48569
- multispectral imaging, geology appl. 9-34823
- nonlinear analytical prolongation method, survey inverse problem appl. (*Russian*) 9-21037
- NRM, multicomponent, separation method 9-34805
- nuclear 'in situ' methods used in hydrology and hydrogeology (*Rumanian*) 9-39982
- nuclear accelerator spectrometry, appl. to ^{10}Be meas. in 1000 and 5000 yr Antarctic ice 9-2305
- nuclear oil well logging using 14 MeV neutron-excited gamma-ray spectrometry 9-48581
- oceanic crust density section construction, appl. to NW Indian Ocean structures (*Russian*) 9-48431
- oceanic crust studies, deep seismic profiling using refl. meas. (*Russian*) 9-39966
- oil and gas formations, prediction prior to drilling (*Russian*) 9-39970
- operational environmental satellite system, next phase planning, USA 9-5728
- ores, Ta chem.-spectral determ. 9-16075
- palaeomagnetic data smoothing, objective method, comments 9-34975
- palaeomagnetic directional data sets, shape 9-39881
- palaeomagnetic sounding, inverse mag. problem numerical soln. (*Russian*) 9-34747
- perimeter survey by photogrammetric methods 9-25185
- permafrost, shallow, mapping, EM methods 9-16694
- photogrammetric camera, distortion calibration using star images 9-35881
- photogrammetry, SEM appls., simplified numerical transform. for distortion correction (*German*) 9-17572
- pollution monitoring and instrumentation 9-12301
- position location and navigation, conf., San Diego, CA, USA, Nov. (1978) 9-25374
- position meas., satellite surveyor MX 1502, microprocessor controlled ground based system 9-25377
- potential field anomalies geodynamic interpretation, physically based source models (*German*) 9-34782
- potential fields due to vertical circular cylinder and dike, statistical anal. 9-34972
- potential fields linear analysis, general theory (*Russian*) 9-35011
- prediction of geophysical events, overview and recommendations 9-8703
- pulse neutron logging in inhomogeneous beds, data interpretation theoretical bases (*Russian*) 9-44273
- pyroxene geothermometry and geobarometry, subsolidus phase relations in $\text{CaO-MgO-Al}_2\text{O}_3\text{-SiO}_2$ system 9-16440
- quantitative ion analysis, applic. to mineralogy (*French*) 9-5631
- quantitative ion-microprobe analysis, geochem. appls. 9-34976
- radar remote sensing of Earth's surface, techniques, review 9-12294
- radioactivity, secular equilib. investigation method 9-2381
- radiocarbon dating, ^{14}C detect. via small van de Graaff accelerator 9-11844
- radiocarbon dating, ^{14}C enrichment method 9-10220
- ray theoretical seismograms, construction methods 9-34761
- reflection seismograph data, maximum likelihood filtering 9-5453
- reflection seismology, curved interfaces determ. in bidimensional inhomogeneous media via time fields method (*Russian*) 9-35010
- reflection seismology, wavefront synthesis for vel. estimation and downward continuation 9-16392
- remote sensing, principles and interpretation, book 9-12319
- remote sensing, synthetic aperture radar, appl., technology trends 9-5655
- remote sensing of stratified media, pulse-spectrum technique, permittivity determ. 9-8722
- remote sensing technology developments and appl. (*Japanese*) 9-8701
- resistivity finite-difference modelling, practical approach 9-29878
- resistivity sounding, buried electrode data interpretation using layered Earth model 9-29701
- rock formation and penetration zone elec. parameters determ., probes number and type (*Russian*) 9-39969
- rock permeability est. techniques test (*French*) 9-34801
- rock stress measurement, hydrofracturing method and recent field results 9-29885
- rock type discrimination, Landsat filters assessment using laboratory spectral information 9-16791
- rocks, analysis, for $\text{C}_2\text{-C}_9$ hydrocarbons, gas chromatographic method 9-39226
- rocks, ancient metamorphic, study, appl. of geophysical and geological data combined anal. (*Russian*) 9-8630
- rocks, igneous, crack porosity calibration from thermal cycling cracks 9-29759
- rocks magnetic components, separation from alternating field step demagnetisation data 9-16444
- rocks tensile strength indirect measurements, new theoretical aspects 9-29883
- satellite data collection with Geostationary Operational Environmental Satellite 9-29977
- satellite Doppler geodesy, appl. to Great Britain triangulation geocentric positioning 9-29695
- satellite images macrophotography, technique 9-29895
- seismic boundary images, reconstruction using numerical models (*Russian*) 9-39923
- seismic common-depth-point stacking, appl. of multirate digital filtering approach to interpolation 9-29876
- seismic data, simultaneous inversion methods and resolving power 9-16699

geophysical techniques continued

- seismic data analysis, appl. of wavefront curvature expression in layered medium 9-29712
- seismic data processing, Karhunen-Loeve transform. appl. (*French*) 9-44258
- seismic data processing procedure (*Russian*) 9-21036
- seismic deconvolution, influence of phase prop. of random noise finite realisation 9-44254
- seismic events correlation in time section, algorithm (*Russian*) 9-39962
- seismic events identification, appl. of non-linear stochastic models 9-16396
- seismic events visual correlation quantitative estimates based on min. average risk criteria (*Russian*) 9-44133
- seismic exchange waves method, appl. to Cuba crust study (*Russian*) 9-44158
- seismic exploration, apparent attenuation due to intrabed multiples 9-16393
- seismic exploration, effect of multiple scatt. on wave field spectral comp. (*Russian*) 9-8607
- seismic exploration, nature of arc-shaped line-ups, common depth point seismic profiles (*Russian*) 9-44134
- seismic hazard and zoning maps, status and prospects in United States 9-44109
- seismic hazard mapping in United States, prospects for geological data appl. 9-44110
- seismic inverse problem appl. of control theory 9-2402
- seismic inversion for boundary shape between two layer stacks 9-16684
- seismic microzoning, mapping method based on subsoil conditions 9-44108
- seismic multiple waves, prediction filtering in non-ideal conditions (*Russian*) 9-44131
- seismic prospecting, common depth point vels. critical values for stratified homogeneous forms. (*Russian*) 9-39668
- seismic prospecting, inverse kinematic case soln. in layered Earth using reciprocal points (*Russian*) 9-44268
- seismic prospecting, minimisation of distortion caused by geophone-ground coupling 9-44256
- seismic recordings, information quality and data processing techniques efficiency (*Russian*) 9-39666
- seismic recordings, time-variable curvilinear anal. (*Russian*) 9-39946
- seismic reflection coefficients, determ. from waves 9-44115
- seismic reflection profiles of marine sediments, multivariate statistics tech. and cluster anal. 9-2385
- seismic sections, construction as Earth pictures using stacked recordings of controlled directional reception (*Russian*) 9-39960
- seismic SH-waves propag. in stratified medium with local inhomogeneities, finite element treatment (*Russian*) 9-34763
- seismic shocks, location with imperfect knowledge of seismic wave path hodographs (*Russian*) 9-35009
- seismic sounding, weathering correction method 9-44255
- seismic stripping, appl. to deep refls. unravelling 9-34970
- seismic surface waves analysis, new techniques appl. to Adriatic subplate averaged model 9-44159
- seismic surface waves dispersion curves, partial derivatives calc. (*Russian*) 9-34764
- seismic velocity analysis, accuracy of determ. kinematic parameters of regular events (*Russian*) 9-39944
- seismic velocity determination, overlying sequence stratification effect (*Russian*) 9-39961
- seismic wave filtering and group and phase vel. determ. 9-35005
- seismic waveforms extrapolation, by Fourier methods 9-34978
- seismic waves, reflection coeffs. identification from noisy data 9-29718
- seismic waves definition in far field, criteria (*Russian*) 9-39965
- seismic waves higher mode dispersion, meas. technique 9-39974
- seismic waves two-dimensional refl. time-delay curve, approximation for arbitrary refl. surface (*Russian*) 9-44132
- seismic wide angle refl. data from expendable sonobuoys, display and processing 9-39896
- seismic zoning, contrib. of geophysical methods, conference (Erice, Italy, 13-23 April, 1977) 9-44104
- seismic zoning, earthquake elastic energy release, heat prod., and Earth inertia tensor changes 9-44106
- seismic zoning map, new elements 9-44105
- seismic zoning problems, effect of earthquake freq.-magnitude statistical parameters 9-44112
- seismogram processing, for Rayleigh waves phase vel. investigations in middle Europe 9-44136
- seismograms, digital processing, kinematic corrections (*Russian*) 9-39929
- seismology, aftershock sequences relocation in Iran and Turkey, seismotectonic implications 9-44119
- seismology, complete microzonation procedure importance and existing methods reliability 9-34748
- seismology, interference method for lower mantle radial vel. anomalies identification 9-25209
- seismology, inverse problems interpretation (*Russian*) 9-34762
- seismology, props. of supercritical reflected waves from essentially non-plane seismic boundary (*Russian*) 9-8606
- seismology, rapid convolution and correl. (*Russian*) 9-39959
- seismology, ray amplitudes calc. of body waves in laterally inhomogeneous media 9-44118
- seismology, signals resolution from coherent and incoherent noise, operators efficiency (*Russian*) 9-39963
- seismology, single-station fault-plane solution method 9-44263
- seismology, small Friuli (Italy) shocks local magnitudes from total durations 9-34750
- seismology, variational approach to elastic wave propag. in anomalous layers 9-44260
- seismology multiple waves freq. selection appl. to wedging out zones separation (*Russian*) 9-8706
- SEM, and assoc. microanal. by X-ray dispersive spectrometry applic. to mineralogy (*French*) 9-5630
- SEM, wet, live and frozen objects, review 9-26183
- sinter mineral samples, analysis by electronic microsonde (*Croatian*) 9-29910
- slates age studies, $^{40}\text{Ar}/^{39}\text{Ar}$ stepwise outgassing method applicability 9-29721
- soil, thermal diffusivity, Fourier anal. of temp.-depth profile 9-44264
- soil hydraulic conductivity, numerical calc. from suction press.-moisture retention relation (*German*) 9-2297
- soil moisture and component estimation from spectral polarisation 9-16678

geophysical techniques continued

- soil specific thermal resistance meas., theoretical basis and apparatus (*Rumanian*) 9-5461
- sourcing method based on U, Th determ. in obsidian 9-2239
- space geodesy, twin probes method 9-25443
- spectral analysis of total mag. anomalies of step model 9-5450
- strain meas. laser interferometer methods (*Japanese*) 9-25346
- strained rock units, stratigraphic thickness determ. 9-21034
- stratigraphic correlation by principal components, effects of missing data 9-25350
- submarine sediment recognition, sonoprobe surveying (*Japanese*) 9-39985
- subsurface layered media parameters, estimation using linearised multiple refl. model 9-5691
- subsurface radar for Earth's surface remote probing 9-8724
- surveying, reduction of influence of theodolite vertical axis error on horizontal angle meas. (*German*) 9-44278
- synthetic seismograms, calc. for spherical waves normally incident on plane parallel absorbing layers (*Russian*) 9-39667
- tectonic dislocations prospecting in complex media, appl. to seismic surface waves correl. method (*Russian*) 9-8605
- tectonic processes modelling, appl. of creep rupture obs. in cold ice sheet 9-2306
- tectonodynamic regionalisation, appl. to Earth crustal struct. in Crimea (*Russian*) 9-8616
- tectonomagnetic events, detect. using empirical transfer functions 9-16374
- TEM, application to mineralogy, sample prep. methods (*French*) 9-5629
- temperature meas., transistor sensors for electrical systems (*German*) 9-30468
- theoretical seismograms, for crustal vel. models constraints in central United States 9-39693
- theoretical seismograms calc., reflectivity method for buried source 9-48421
- thermal IR scanning, appls. to geology and hydrology 9-8723
- thermal radio emission polarimetry, loss matrix 9-21069
- thermoluminescent dating of geological objects, appl. of natural quartz dosimetric props. 9-12288
- three-frequency computational method for two-layer CFS data 9-16688
- transient EM sounding records computer processing, meas. errors anal. (*Russian*) 9-44269
- transmission synthetic seismograms, direct inversion 9-29877
- tsunami-generating earthquakes, ionosphere detect. method 9-44681
- vertical electric sounding curves, computer interpretation (*Russian*) 9-34741
- VLBI using geostationary satellite link 9-29968
- volatile trace elements determ. by RNAA 9-44276
- water flow through rock specimens, average pore vel. meas. 9-5473
- $^{40}\text{Ar}/^{39}\text{Ar}$ dating, appl. of isochron diagrams 9-29873
- $^{40}\text{Ar}/^{39}\text{Ar}$ radioactive dating, appl. to K-bearing sulphide minerals age determ. 9-29720
- ^{14}C beam prod. from natural sample, radioactive dating 9-25352
- ^{14}C dating of CO_2 sample with accelerator, blind meas. 9-25362
- ^{14}C dating of mg geological samples with electrostatic accelerators 9-25361
- ^{41}Ca radioactive dating, feasibility and appls. 9-21063
- ^{137}Cs dating of sediments, confirmation by algal stratigraphy in Rostherne Mere, Cheshire 9-12156
- Fe ores, grade, bulk density, porosity determ. by nuclear geophysical methods 9-48570
- K-Ar dating method for argillaceous sediments 9-8716
- ^{210}Pb determination in lake and marine sediments 9-48582
- Rn, moisture insensitive monitoring using solid detectors 9-31228
- U prospecting, quantitative determ. from gamma-ray logs, digital time series analysis 9-48580
- U series dating, open system model appl. 9-29874
- U series dating of travertine, appl. to Nahal Zin, Israel, archaeological sites 9-34781
- geophysics**
- see also Earth; erosion; geochronology; geodesy; geology; geomagnetism; geophysical aspects of cosmic rays; geophysical techniques; hydrology; meteorology; oceanography; radiation belts; rocks; seismology; solar-terrestrial relationships; space research; terrestrial atmosphere; time and latitude; upper atmosphere
- Afar region, geological evolution and geophysics 9-5468
- anomaly source models, statistical parameters rel. to pot. fields obtained by superposition (*German*) 9-34783
- Arctic geophysical review, introduction (*French, English*) 9-48452
- Arctic geophysical review, summary 9-48456
- cosmology and geophysics, book 9-12552
- education, applied science CNAA degree course at Kingston Polytechnic 9-35454
- gravitation and inertia corpuscular model, geophysical consequences (*Russian*) 9-40439
- hydrology, method of characts. with fixed net for slowly varying nonstationary flows (*German*) 9-5515
- inverse problem, non-linearity effects 9-8704
- magnetothermoelastic waves, propag. in initially stressed conducting layer 9-63
- metamorphism, rate laws 9-16467
- natural slopes, failure surfaces propag. 9-39719
- potential fields from arbitrary 2-, 2 $^{1/2}$ - and 3-dimensional bodies, wave-number domain expressions 9-5634
- Rayleigh waves, magnetothermoelastic, with thermal relaxation, theory 9-62
- tracer theory in geophys. systems, nonsteady state 9-5646
- Vajont rock slide (Italy, 1963) analysis, new approach 9-8633
- geophysics computing**
- see also computerised instrumentation
- aeromagnetic anomaly from remanently magnetised Precambrian schist belt, Karnataka, India harmonic inversion 9-44094
- airborne spectroradiometric data, and LANDSAT data, hydrothermal alteration mapping appl. 9-34973
- alternating EM field perturbs. by cond. inhomogeneities 9-39653
- atmospheric precipitable water, computation from upper air data 9-34886
- atmospheric transmission, LOWTRAN 3B predictions for water vapour absorpt. 9-44245
- BULK: a computer program for calculating bulk-chemical analysis from mineral phases observed in thin section, FORTRAN IV program listed 9-2378

geophysics computing continued

- clouds and atm. phenomena, integrated automatic processing of obs. data 9-29907
- contouring method using digital filter, bathymetry appl. 9-39894
- cursor, aided-track, for improving digitising accuracy 9-29899
- digital signal processing appls. to seismology 9-29915
- earthquakes, epicentral parameters determ., software package 9-48585
- EM sounding, two-dimensional resistivity and induced-polarisation data inversion 9-16695
- far IR atmospheric emission and absorption spectrum calc. program 9-35020
- feature subset selection in remote sensing 9-25337
- geomagnetic dynamo integrals, numerical evaluation code 9-34733
- geomagnetic measurements and data processing, new methods 9-39988
- geomagnetic pulsations, numerical frequency-time anal. 9-39990
- gravity anomalies interpretation, computer modelling 9-34971
- gravity prospecting, determ. of parameters of low-amplitude struct. with oil (gas) deposits (*Russian*) 9-44271
- gravity waves, one-dimens., finite-element and finite-difference techniques comparison 9-18902
- gravity waves, two-dimens., finite-element and finite-difference techniques comparison 9-18903
- ground relief gravity effect, computer calc. (*Russian*) 9-39952
- groundwater with convective dispersion, finite element anal., book contrib. 9-34877
- holes in interlacing channels, nonlinear model 9-39720
- hydrologic data networks, design 9-21022
- hydrology, fractional Gaussian noise algorithms and rescaled adjusted range 9-16545
- hydrometeorological information, optimum conversion to digital form 9-29903
- inverse magnetic problem for inductive magnetisation and palaeomagnetic sounding, numerical soln. (*Russian*) 9-34747
- kinematic multiple wave analogues strongest families, parameter prediction algorithm (*Russian*) 9-39943
- magnetic anomalies interpretation, computer modelling 9-34971
- meteorological satellite visible and IR image data, computer processing 9-29864
- microearthquake research, methods and computer programs 9-39987
- natural streamflow control coeff., analytical calc. method 9-39777
- neutron activation anal. instrumental, in US Geological Survey (Reston) 9-11850
- ocean tides mapping with satellites, computer simulation 9-39880
- optical depth, integral of Voigt function 9-25468
- particulate pollution in Delhi due to Indraprastha power plant 9-21000
- radar image simulation, point scatt. model, remote sensing appl. 9-12296
- radioactive material release to atmosphere, calc. of consequences with TIRION-4 code 9-29944
- radionuclide disposal, GARD computer program for geochemical assessment 9-31068
- rain, heavy, basic characts, determ., max runoff calc. 9-29802
- remotely sensed data acquisition and processing, developing countries appl. 9-34963
- river, tidal wave propag., nonlinear model 9-5512
- sea level fluctuations, hydrodynamic numerical modelling of Lagoon of Venice 9-34832
- seismic data, nonlinear interference anal., crust and mantle regional studies 9-25217
- seismic data processing, Karhunen-Loeve transform. appl. (*French*) 9-44258
- seismic data processing, predictive deconvolution method appl. 9-8725
- seismic data processing procedure (*Russian*) 9-21036
- seismic events correlation in time section, algorithm (*Russian*) 9-39962
- seismic prospecting, inverse kinematic case soln. in layered Earth using reciprocal points (*Russian*) 9-44268
- seismic recordings, information quality and data processing techniques efficiency (*Russian*) 9-39666
- seismic recordings, time-variable curvilinear anal. (*Russian*) 9-39946
- seismic waveforms extrapolation, by Fourier methods 9-34978
- seismogram processing, for Rayleigh waves phase vel. investigations in middle Europe 9-44136
- Seismological Service of Canada, instrumentation and data processing 9-39914
- seismology, rapid convolution and correl. (*Russian*) 9-39959
- soil hydraulic conductivity, numerical calc. from suction press.-moisture retention relation (*German*) 9-2297
- solar energy simulations, typical weather determination 9-16614
- stratospheric photochemistry, computer simulation 9-21481
- tidal flow, interlacing channels, nonlinear computer model 9-34828
- torsional waves, computation of complete theoretical seismograms 9-12289
- transient EM sounding records computer processing, meas. errors anal. (*Russian*) 9-44269
- tropical cyclone surge model, finite difference method 9-12132
- vertical electric sounding curves, computer interpretation (*Russian*) 9-34741
- VLF waves obs. by GEOS-1 9-29943
- water resources research 9-20892
- XLFRAC: a program for the interactive testing of magmatic differentiation models, in FORTRAN IV 9-2377
- Hg pollution, future content of oceans and European air, soil, and river sediments 9-8687

geopotential see *geodesy***geothermal power stations**

- 10 MW. San Diego (USA) expt. facility performance 9-48085
- binary cycle, hydrocarbon working fluid and operating conditions selection 9-48091
- electric power generation technology, reviews 9-24883
- energy resources, in Great Britain 9-17166
- fouling problem overcoming, use of novel heat exchangers 9-43740
- France, extraction and utilisation of geothermal energy (*French*) 9-39276
- heat exchanger appl., liquid-fluidised bed, scale control and corrosion tests 9-48090
- heat exchanger design, shell and tube 9-48089
- hybrid geothermal/coal fired power plant, site specific economic anal. 9-24887
- industrial appl., evaporation/crystallisation processes, feasibility assessment 9-48086
- in Italy, survey (*Italian*) 9-24889
- Nicaraguan geothermal resource utilisation 9-29448

geothermal power stations continued

- preheating of feedwater, in hybrid fossil-fired steam plant 9-48084
 - salt domes, using double-pipe heat exchangers 9-48087
 - site identification and development processes 9-12101
 - steam, using fossil superheating, thermodynamic analysis 9-48088
- germanate glasses**
- absorption and emission of Ho^{3+} 9-11439
 - energy transfer between Bi^{3+} and Eu^{3+} using time resolved spectra 9-33748
 - germanate glass: Tb^{3+} , luminesc. props. 9-33798
 - germanate glass: Bi^{3+} , time-resolved spectra, radiative and nonradiative processes 9-47501
 - $\text{BaO-B}_2\text{O}_3\text{-GeO}_2$, exam. of glass formation and physicochemical props. 9-4959
 - $\text{CdO-B}_2\text{O}_3\text{-GeO}_2$ system, phase equilibria at 800°C, X-ray powder diffraction 9-4956
 - Ge-Pb-Bi-O glass, photoelasticity, glass transition limits 9-33670
 - GeO_2 based glasses, IR transmitting materials, appl. in 1 to 6 μm range, mech. props., review 9-4250
 - $\text{GeO}_2\text{-B}_2\text{O}_3\text{-SiO}_2$ optical fibres, optical transmission loss as function of drawing conditions 9-32038
 - $\text{K}_2\text{O-CaO-BaO-GeO}_2$, calc. of network refraction and exam. of glass structure 9-4783
 - Nd^{3+} doped, spectral behaviour under narrow-line excitation 9-33747
 - $\text{Pb}_3\text{Ge}_2\text{O}_{11}$, single crystals., photoemission anamoly during ferroelectric phase transitions 9-47599
 - PbO-GeO_2 , glass, exam. of Raman spectra (*Japanese*) 9-19894
 - $\text{SiO}_2\text{-GeO}_2$ single-mode optical fibre fabrication 9-46050
 - $\text{SiO}_2\text{-GeO}_2$, synthetic, struct, IR spectra 9-42993
- germanium**
- see also *nuclei with*
 - acceptors, transitions from second excited state, photocond. meas. 9-11082
 - adsorption of Cs on (111) surface, work function meas., adsorption site model 9-23839
 - adsorption of O_2 on surface, degree of freedom of rot. and translational motion of O particles 9-23842
 - adsorption of water, neutralization of surface recomb. and fast capture centre 9-33184
 - Akhieser region, nonlinearity parameter and US attenuation coeffs., temp. depend. 9-37762
 - amorphous, annealing effect on absorpt. edge (*Korean*) 9-15142
 - amorphous, laser reordering of implanted amorphous layer 9-19270
 - amorphous, struct. models 9-37628
 - amorphous, tunnelling states simulation and sp. ht. 9-37791
 - amorphous and crystn., contamination behaviour, XPS 9-1815
 - amorphous film, annealing, effect on localised states 9-4535
 - amorphous film, effective medium theory and freq. depend. of conductivity 9-24090
 - amorphous film, formation and stability criteria 9-10799
 - amorphous film, in situ meas. of thermal EMP, by ultrahigh vacuum electron microscopy 9-26184
 - amorphous film, ion-implanted, regrowth 9-15043
 - amorphous film, optical constns. in near IR range (*Korean*) 9-8137
 - amorphous films, self-ion bombard., electronic props. 9-28422
 - amorphous solid dielectric loss meas. by submillimetric waveguide laser 9-33603
 - anisotropic oxidation, ellipsometry meas. (*Russian*) 9-43451
 - anomalous transmission, in dislocation free single crystals., six wave diffraction X-rays 9-14650
 - atom, gas phase reactions with oxidisers, visible chem. laser development 9-948
 - autofocusing of X-rays and γ -rays using Ge cryst. 9-12916
 - black, solar selective absorber surface 9-29484
 - bolometer, low-temp., characts. 9-30561
 - Bormann topograms, diff. effects obs. during X-ray transmission through a cryst. with dislocations in slip planes 9-4310
 - capture of carriers by attractive centres 9-7836
 - carrier trapping in high-purity germanium 9-47104
 - coaxial detectors, n-type high purity, construction and performance 9-41075
 - coaxial detectors with reverse electrode, radiation damage resistance 9-41076
 - Compton profile anisotropy, pseudopot. calc. 9-28854
 - crystal growth and segregation under zero gravity 9-43130
 - cubic semiconductor, Zeeman split acceptor levels, calc. method 9-28322
 - deposition of Ge or Si substrates by low energy mass analysed ion beam 9-33946
 - detector, high purity, comparative study with Li drifted Si detector re. thyroid scanning 9-16275
 - detectors used for high resolution gas ray spectroscopy 9-6804
 - diamagnetic excitons, fundamental absorption edge, Faraday config. 9-8144
 - diamond, Ge doping by diffusion at high temp. and press. 9-19273
 - dielectric band structure calc. 9-47034
 - diffraction focusing of spherical X-rays (*Russian*) 9-4207
 - direct gap recombination, at high excitation level and low temp. 9-38650
 - directional Compton profile meas., structural information 9-28855
 - doped, D^- band width, influence of resonances 9-11061
 - electric quadrupole sum rules rel. to optical constns. 9-38036
 - electron hole drop diffusion const., hysteresis effect determ. 9-23902
 - electron hole drops, large, microwave heating and evaporation 9-28287
 - electron irradiated, energy levels 9-28316
 - electron states below cond. band originating from dissociated 60°-dislocations, calc. using effective mass method 9-19546
 - electron-hole correlation density depend., in electron-hole liq., under uniaxial stress 9-15090
 - electron-hole drop formation, nucleation phenomena 9-33240
 - electron-hole drop shape in mag. field 9-42458
 - electron-hole droplet scattering of acoustic phonons, total scatt. rate and anisotropy 9-33241
 - electron-hole droplets, variation of α_3 electron density at constant stress 9-47025
 - electron-hole drops, in superfluid He, threshold phenomena (*Russian*) 9-42462
 - electron-hole drops, inflammation radiation under action of ultrasound (*Russian*) 9-7788
 - electron-hole drops, motion in low mag. fields 9-23904
 - electron-hole drops, resonant power absorpt., Alfvén wave anal. 9-42569
 - electron-hole drops, rest friction (*Russian*) 9-42463

germanium continued

- electron-hole drops, size distrib., light scatt. meas. 9-28292
 electron-hole drops formation, nucleation theories 9-33239
 electron-hole drops net charge, photocond. and photoluminesc. for pure and doped examples 9-38589
 electronic structure, self-consistent localised description 9-42445
 electroreflectance spectra, nonparabolicity effects of bands (*Russian*) 9-4791
 energy-gap narrowing and state filling under laser irradi. 9-42441
 epitaxial film, misfit dislocations, determination of Burgers vector (*Russian*) 9-33207
 EXAFS, new horizon in struct. determs. 9-19949
 exciton condensate and electron-hole droplet, metastable state, effect of illumination and high-frequency heating 9-15097
 exciton condensation in electron-hole drops (*Russian*) 9-19522
 far IR photoconductive detector speed, limitation 9-30550
 Faraday effect, due to intervalence band transitions 9-38521
 FET, fabrication on high purity substrate 9-45579
 film, electrical cond. during laser-induced crystallisation 9-47175
 film, electroreflectance effects 9-43055
 film, prep. by low press. reactive deposition process 9-24449
 films, adhesion to substrates, effect of Ar^+ ion irradi. 9-11047
 four-wave mixing, phase-matched, of CO_2 and NH_3 laser radiation, 16 μm generation 9-3745
 free carrier, intervalence band indirect absorpt., at high optically created carrier densities 9-42961
 galvanomagnetic recombination effect in cast microconductors 9-19609
 growth, chem. transport, transfer inversion using Mo catalyst 9-11517
 heavily doped, multiplex AC hopping conduction 9-11122
 high purity melt, stability of oxide second phases 9-47898
 hole drag current in two-photon transitions due to EM wave momentum 9-15187
 hot hole distribution function, effect of impurity and hole scatt. 9-11139
 hot hole distribution function at low densities 9-11138
 impact ionisation by electrons and holes, threshold energy 9-38078
 impurity ion potential, in spatially varying dielec. const. semicond., variational calc. 9-7800
 impurity modes due to point defects, comparison with IR and Raman meas. 9-4386
 inelastic X-ray scatt. cross section accompanied by intermediate momentum transfer 9-24387
 inter-valence-band absorption in electron-hole droplets 9-4515
 intraband optical absorption of shallow acceptor impurities, sum rule 9-28793
 IR photon drag detector, photosensitivity spectrum 9-12853
 J_1J_2 transition from LS, revised assignments for $\text{d}^5\text{s}^2\text{p}^2$, $\text{d}^5\text{s}^2\text{p}^3$ 9-45630
 K-shell X-ray prod. for Br ions 9-47547
 laser pulse reflectivity, picosecond pulses from Nd^3+ glass laser 9-18469
 light scattering, by pure single cryst., influence of photoexcitation 9-28780
 magnetic susceptibility of light and heavy holes 9-42734
 magnetophotoconductivity, exciton contribution 9-15180
 magnetoplasma reson. spectra, electron-hole drop shape effects 9-1712
 magnetoresistance meas., transverse diffusion currents on source of error 9-7843
 magnetothermal conductivity at low temp. 9-28158
 microflaw vol. conc. determ., etching method 9-24688
 Mott distortion of the electron-hole fluid phase diagram, luminesc. meas. 9-42457
 multivalley structure, helical instability (*Russian*) 9-47101
 n-type, γ -irrad. and subjected to arbitrary excitation and rate, recombination 9-38101
 n-type, Hall mobility in specimens in strong pulsed electric fields, instrum. for meas. Hall current 9-35779
 n-type, hopping magnetoresistance percolation analysis 9-38106
 n-type, impurity breakdown field, temp. depend. 9-24263
 n-type, internal stress effect on electron-phonon interaction, thermal cond. anal. 9-42468
 n-type, noise, small signal conductivity and diffusion in strong elec. fields 9-11192
 n-type, noise and hot carrier diffusion in mag. fields 9-11193
 n-type, uniaxially deformed, longitudinal magnetoresist. in quantising mag. field 9-15168
 nonlinear absorption of CO_2 laser radiation by nonequilib. carriers 9-32000
 nonlinear mixing, non-collinear phase matched 4-wave, of CO_2 and NH_3 lasers 9-988
 optical absorption from indirect transitions at high mag. fields 9-47441
 optical spectra in interband transition region, lattice disorder influence 9-43006
 optical switch, picosecond pulse generation at 10.6 μm 9-7159
 optical windows, contaminated by NH_3 , CO_2 , CO, HCl, methane, cryo-cooled, IR transmission 9-32007
 oscillator, hysteresis effects and N-shaped V-I characts. 9-33306
 p-i-n avalanche photodiode, temp. depend. characts. 9-35835
 p-type, and n-type Ge converted to p-type by irradiation at 77K, defect form. mechanism 9-23651
 p-type, anomalous magnetoresist. under uniaxial compression (*Russian*) 9-33302
 p-type, bleaching, optical heating and cooling of electrons involving intraband transitions 9-10365
 p-type, carrier drag by photons, comparison with p-GaAs 9-11185
 p-type, detector-grade single crystals, impurity background 9-11088
 p-type, free-carrier reson., photoconductivity spectra in submillimetre wavelength 9-15353
 p-type, freq. depend. of effective temp. of hot carriers 9-11135
 p-type, neutron irradi. quenched sample, lattice defects 9-19284
 p-type, optical cooling and carrier heating, intraband photocond. meas. 9-11174
 p-type, photon drag detector, performance in 2 to 33 μm range 9-35834
 p-type, proton irradiated, kinetics of accumulation of radiation defects, minority carrier lifetime 9-10885
 p-type, spectral depend. of drag of electrons by photons 9-42590
 p-type, stretched along (111) axis, bulk negative differential cond. and current oscils., 78K 9-19601
 p-type, thermal conductivity, effect of uniaxial stress 9-23792
 particle detector; high-purity, effect of crystal growth direction on energy resolution 9-45541
 phonon density of states from thermodynamic functions (*Russian*) 9-35631

germanium continued

- photon-drag detector submillimetric-wave performance 9-30547
 picosecond optical absorption, at high optically created carrier densities 9-47462
 plastic deformation, impurities and dislocations interaction, cond. (*Russian*) 9-47100
 plate, (111), multiple X-ray diffr. expt., ambiguity in indexing Renninger diagrams 9-1370
 plates, semicond., scribing marks rel. to sclerometric microhardness 9-15891
 positron annihilation, effect of vacancies 9-24385
 positronium formation at surface, positron beam irradi. 9-13845
 proton and pion 15 GeV/c nucl. interactions under random and channelling conditions in single crystals 9-13348
 pure, degree of compensation, capacitance meas., 4.2-150K 9-7624
 recombination at dislocations 9-38023
 recombination characteristics used in design of semicond. devices (*Russian*) 9-42557
 recombination into shallow donors, low temp., transient case 9-38092
 recombination luminesc. spectra from hot and cold carriers in electron-hole drops 9-38608
 reflectivity, nonlinear, picosec. laser pulses and electron-hole plasma 9-47463
 refractive index dispersion 9-24280
 resonance Raman scatt. under uniaxial stress near E_1 gaps 9-42960
 Schottky barrier, electronic struct., pseudopotential method, jellium model 9-38162
 strain-confined electron-hole liquid, lifetime and radiative efficiency vs density 9-38000
 strain-narrowing of luminesc. line from excitons 9-24356
 strained, crit.-point for electron-hole droplets 9-4516
 stress-induced phase change in single cryst. 9-23720
 stressed, α_1 and α_2 electron-hole droplet luminesc. 9-28820
 stressed cryst., props. of strain-confined electron-hole liquid 9-7787
 superconductor-semicond. device research, future prospects 9-28467
 surface, (111), adsorption of polar molecules, surface recomb. centre neutralization 9-38147
 surface, field penetration and band bending in high elec. fields 9-42613
 surface, formation of sulphide layers in S vapour 9-7757
 surface, sulphide layer form. rate rel. to S_2 vapour press. 9-43152
 surface (100), electronic struct., scattering-theory formulation 9-42607
 surface ion implanted far IR composite bolometers 9-30549
 surface structure, LEED and spot photometric meas. 9-23811
 swinging fringes, six wave diffr. of X-rays from dislocation free single crystals 9-14649
 thermal conductivity, low temp. calc. for impure insulators 9-33128
 thermal expansion coeff., optical mode Gruneisen const. 9-46820
 thermal rectification and negative differential cond. 9-42554
 thin crystal, SEM, contrast features, variation of specimen thickness 9-23508
 transparent IR window design for uniform pressure loading 9-23088
 trapping defects, deep level transient spectroscopy 9-47045
 two photon absorption of light with optical transitions between heavy- and light-hole states 9-11421
 vacancy, ideal, electronic struct., tight-binding calc. 9-4529
 α -quartz:Ge, Ge^{3+} centres, dynamic interchange, EPR obs. 9-19776
 Al/Ge multilayered superconducting films, crit. fields and crit. temps. 9-7945
 Al/Ge/Al sandwich structs., interdiffusion effect on Ge film conductivity 9-23788
 Al-Ge photovoltaic cell, charact. 9-40612
 Au- SiO_2 -Ge, sandwich structure, exam. of image structure using mirror electron microscopy (*German*) 9-11019
 Cd^{67}Te , elec. quadrupole interaction temp. depend., PAC meas. 9-42877
 CdTe :Ge, negative thermally stimulated cond. 9-19621
 channelled energy loss for positive and negative 2-15 GeV/c, kaons, pions and protons 9-3332
 Ga-GaAs heterojunctions, electronic struct., tight-binding and pseudopot. models 9-42633
 GaAs:Ge, stress depend. of donor-acceptor recomb. energy 9-15113
 $\text{Ga}_x\text{In}_{1-x}\text{As}_y\text{P}_{1-y}$, Ge, epitaxial film, elec. and optical props. 9-11251
 GaP-Ge, compensated, photosensitivity 9-19624
 Ge, electron-hole drag binding energy, optical threshold studies 9-38652
 Ge XXIV, transitions between $1s^22s^2p^3$ - $1s^22s^2p^43d$ and $1s^22s^2p^5$ - $1s^22s^2p^43s$ configs. 9-26925
 GeAs, interaction of muonium with atoms 9-11373
 Ge:B, epitaxial film, exam. of doping during chemical deposition from gas phase 9-1446
 Ge:Cu, press. effect on energy spectrum of carriers, elec. cond. and Hall coeff. expts. 9-23930
 p-Ge:Ga, heavily doped, elec. resist., 40 mK to 300K 9-38071
 Ge:Ga surface, antireflection coated, laser pulse damage resistance obs. 9-14020
 Ge:Li, diffusion study using $^6\text{Li}(d,\alpha)$ reaction 9-5202
 Ge:Li, thermal cond., 0.4-20K, Li valley-orbit splitting 9-15111
 Ge:Li-O, donor complex EPR and photoelectron piezoelectric spectra, dynamic tunnelling 9-1711
 n-Ge:Ni, negative differential conductance of surface channels 9-11134
 Ge:O, elec. props., O interaction with point defects 9-11081
 Ge:P, peripheral phonons and phonon cond. 9-14973
 Ge:Sb, bolometer element, absorpt. spectra, bias depend. 9-30553
 n-Ge:Sb, fast electron irradi. at 77K, radiation defect changes by annealing at 220K 9-37737
 Ge:Sb, lattice thermal resist. due to bound state electrons 9-46850
 n-Ge:Sb,Cu, exactly compensated, static photocurrent-voltage characts. 9-38131
 n-Ge:Sb,Cu, exactly compensated, unipolar injection influence on photoconductivity 9-42592
 Ge:Sb crystals, purification by zone recrystallisation with temp. gradient 9-4916
 Ge:Te, ion-implanted, thermally assisted Xe-flash annealing, Rutherford backscatt. meas. 9-10881
 Ge/Si ratio vars. along Reykjanes Ridge and Iceland 9-8617
 Ge-Ga $_{1-x}$ Al $_x$ As, MBE of ultra thin film superlattices on GaAs substrates, TEM study 9-37932
 Ge-GaAs, p-n $^+$ junction, I-V characts., inverse branch, effect of dislocation defects (*Russian*) 9-15217
 Ge-GaAs heterojunction, band discontinuities, angle-resolved UPS obs. 9-7878
 Ge-GaAs inter faces, heteroepitaxial, misfit dislocations, TEM obs. 9-23610

germanium continued

- Ge-GaAs interface, surface and interface states of (111) surfaces 9-15206
 Ge-GaAs p-n heterojunction, current fluctuations 9-11209
 Ge-GaAs p-n junction, microparameters determ. 9-11216
 Ge-GeO₂, optical charging memory, influence of doping GeO₂ with metal ions (*Russian*) 9-24077
 Ge-In₂O₃ heterojunction solar cells, photovoltaic and rectifying props. 9-1618
 Ge-metal film, polycryst., struct. props. determ. 9-4494
 Ge-Si and Ga-Al fractionation in Hawaiian volcanic rocks 9-12112
 Ge-Si(GaAs) heterodiodes, interfacial structural defects effect on avalanche breakdown 9-42644
 Ge-ZnSe p-n heterojunctions, effect of interfacial condition on optoelectronic props. 9-24061
 Ge+GeBr₄, single crystal+vapour system, reaction kinetics and laws of soln., heat of adsorption 9-39196
 Ge₂, multiplet struct. and charge distrib. 9-26881
 In⁶⁷Ge, elec. quadrupole interaction temp. depend., PAC meas. 9-42877
 Si-Ge heteroepitaxial system, imperfections and morphology, electron microscope and electron diff. obs. 9-42420
 Sn¹¹⁹Ge, elec. quadrupole interaction temp. depend., PAC meas. 9-42877
 Zn⁶⁷Ge, elec. quadrupole interaction temp. depend., PAC meas. 9-42877

germanium alloys

- see also Ge-Si alloys
 film, superconducting props. 9-38215
 Al-Ge, dil., deviation from Matthiessen's rule, 4-OPW approx. calc. 9-19574
 Al-Ge, dil., electronic transport coeffs. for point defect scatt., 4-OPW calc. 9-42531
 Al-Ge, effect of irradiation on the nucleation of incoherent precipitates 9-8303
 Al-Ge, internal friction and shear modulus after neutron irradiation at 80K 9-1468
 Al-Ge alloy, effect of high pressure on phase equilibrium (*Russian*) 9-1844
 Al-Ge dil. alloys, Hall coeff., residual resist., and relax. times 9-11107
 Al-Ge film, random percolation, elec. resist. meas. 9-28418
 AlGe (4 wt.%), struct. peculiarities of superplastic behaviour due to porosity 9-34111
 Au/Au-Ge/GaAs structure, ohmic contact behaviour, alloying time effect 9-19659
 CoMnSi, CoMnSi_{0.85}Ge_{0.15}, mag. props. 9-42758
 Cr-Ge, dilute alloy, phase diagram of spin density wave states 9-24158
 Cr₃Ge₃, amorphous film, short-range-order struct., electron diff. meas. 9-15047
 Cu-Ge (5 at.%), single crystal, Bridgman growth, neutron diffraction topographic obs. of layer substructure 9-27938
 Cu-Ge (8 wt.%), anelastic effect due to deform. twins (*Japanese*) 9-20095
 Fe-Ge, interface struct. and growth mechanism from melt 9-14715
 Fe-Ge, liquid alloy, thermodynamic mixing function determ. by mass spectrometric meas. 9-29025
 β-Fe-Ge, mag. props. from X-ray, magnetisation and Mossbauer meas. 9-42755
 Fe-Ge melts, struct. determ. 9-41940
 Fe₈₀B₂₀-xGe_x, amorphous, effect of metalloids on mag. props. 9-11304
 Fe-Ge, cubic, spin resist., 4.2-300K, 3-35 GHz 9-38384
 FeGe₂, antiferromagnet, de Haas-van Alphen effect 9-4505
 Fe_{1.67}Ge, Mossbauer and X-ray expts. 9-1734
 Fe₃Ge, ¹¹⁹Sn mag. hyperfine interaction, Mossbauer spectra (*Russian*) 9-38420
 Ge-Ag, exam. of structure using electron microscope (*Russian*) 9-14738
 Ge-metal film, polycryst., struct. props. determ. 9-4494
 Ge-Sb, eutectic alloy, exam. of morphology during solidification (*Russian*) 9-34022
 Ge-Sn barriers, Josephson tunnelling 9-28468
 In-Ge film, random percolation, elec. resist. meas. 9-28418
 Mg₂Ge, L. electron-phonon interaction and phonon cond. at low temp. L n-type semicond. 9-14903
 Mn-Ge (10.3 to 15.5 wt.%), reversible memory of form, X-ray diff. expts. (*Russian*) 9-5006
 Mn₃Ge, triangular spin ordering, weak ferromagnetism 9-47237
 MnNiGe, coupled nature of mag. and struct. transition under press. 9-8033
 Mo-Ge amorphous films, supercond. transition temp. and residual elec. resist. (*Russian*) 9-19680
 Mo₃Ge, superconductivity, T_c related to disorder and density of states 9-15249
 Nb-Ge, superconductor, phase diagram determ. using various methods up to temp. of 2200°C 9-8414
 Nb-Ge, thermal anal. of levitation-heated samples 9-2772
 Nb-Ge, transition metal atom stabilised superconductivity 9-7924
 Nb-Ge system, phase diagram determ. 9-38796
 Nb-Ge system, reaction diffusion, electron probe anal. 9-28152
 Nb-Ge-Sn A15 cpds., CVD, superconductivity 9-38222
 Nb₃Al_{0.83}Ge_{0.17}, A-15 phase, sp. ht. meas. 9-19689
 Nb₃(Ge, X), X=Si, Ga, CVD tapes, supercond. props. at high mag. fields 9-38279
 NbGe₂, single crystals, elec. resist. and superconductivity 9-38233
 Nb₃Ge, A15 superconductor, rel. between transition temp. and density of states 9-15247
 Nb₃Ge amorphous films, microstruct. X-ray small angle scatt. study 9-14685
 Nb₃Ge, α-particle irradiation, relationship between density of states and supercond. transition temp. 9-42684
 Nb₃Ge CVD tapes, supercond. props. at high mag. fields 9-38279
 Nb₃Ge, DC sputtered films, annealing and mech. deform. effects on struct. and supercond. props. 9-38217
 Nb₃Ge, density of states from critical field meas. 9-42690
 Nb₃Ge, electronic struct. calcs. 9-47005
 Nb₃Ge film, prepared by cosputtering, supercond. props. 9-4634
 Nb₃Ge films, correl. between crit. current density and microstruct. 9-38277
 Nb₃Ge films, form. of A15 phases by DC sputtering 9-38740
 Nb₃Ge films, prep. by DC sputtering and solid state diffusion, supercond. props. and struct. 9-38212
 Nb₃Ge, high T_c films, electron tunnelling and AES anal. 9-28471
 Nb₃Ge, inhomogeneous superconductor, scaling laws for pinning forces 9-47214

germanium alloys continued

- Nb₃Ge sputtered and evaporated, struct.-depend. anisotropy of supercond. crit. currents 9-38292
 Nb₃Ge, supercond. film, prep. by chem. transport reaction, critical props. 9-47635
 Nb₃Ge superconducting film preparation and props. 9-11515
 Nb₃Ge superconducting long tapes, CVD prepared, high current densities at 20 T 9-33436
 Nb₃Ge tape conductors, strain depend. of crit. current density 9-38278
 Nb₃Ge_{1-x}Ga_x, CVD films, supercond. transition temp. depend. on lattice parameter 9-38219
 Nb₃Ge_{1-x}Ga_x(Sn_x) CVD films, supercond. props., 4.2 to 19K 9-42713
 Nb₃Ge_{1-x}M_x (M=Ga,Sn), pseudo-binary, scaling laws for supercond. crit. currents 9-24118
 (Nb_{0.99}Mo_{0.01})_{1-x}Ge_x, supercond. transition temp. and crit. field 9-38220
 (Nb_{0.99}Ti_{0.01})_{1-x}Ge_x, supercond. transition temp. and crit. field 9-38220
 (Nb_{0.99}Zr_{0.01})_{1-x}Ge_x, supercond. transition temp. and crit. field 9-38220
 Ni₃Ge single crystals, orientation and temp. depend. of flow stress 9-5008
 Ni₃Ge, temp. depend. of mech. props. (*Russian*) 9-38895
 Ni₇₄Ge₂₆, ordered BCC phases at high temp. 9-32948
 Pb-Ge amorphous films, supercond. transition temp. and residual elec. resist. (*Russian*) 9-19680
 Pd-Ge, metallic glass, theoretical studies on structural models 9-37633
 Pd-Ge metallic glass, appl. of EXAFS methods for struct. determ. 9-37624
 PdGe, dissociation in presence of Pd film 9-47892
 PdGe, Pd₂Ge, growth kinetics and structure on Ge substrate 9-11514
 Po-Ge film, random percolation, elec. resist. meas. 9-28418
 Si₃Ge_{1-x}, amorphous, vibr. props. 9-23693
 Ti-Nb-Ta-Ge (40,20,0.8 wt.%) foil, dispersion hardening, TEM and electron diff. obs. (*Russian*) 9-1873
 TiGe, TiGe₂, Ti₅Ge₃, X-ray K- and L-bands, electronic struct. (*Russian*) 9-1797
 V-Al/Cu-Ge composite superconductors, transition temp. and upper crit. field, heat treatment effects 9-38268
 V₃Ge, superconducting filament formation near edge dislocation (*Russian*) 9-4635
 V₃(Fe,Ge), struct. and supercond. transition temp. (*Russian*) 9-7920
 V₃Ge, Anderson-Grüneisen parameter, from 3rd order elastic const. data 9-33059
 V₃Ge, electron-phonon coupling and supercond. crit. temp. 9-33379
 V₃Ge, electronic struct. calcs. 9-47005
 V₃Ge, forbidden Bragg refls., rel. to supercond. transition temp. 9-15251
 V₃Ge, phonon density of states, temp. depend. 9-42183

germanium compounds

- see also germanium alloys
 germanate analogues of gehlenite, synthesis and physicochem. props. 9-43181
 metal-GeS-metal system, current-voltage characts., band struct. effects in field emission region 9-42667
 monochalcogenides, interaction of outer s states 9-10825
 monochalcogenides interaction of internal s states 9-10826
 transition metal germanium borides, metallic resist. mag. suscept. 9-42731
 As-Se-S-Ge chalcogenide glass films, appls. to passive optical waveguide components 9-37048
 As₂Ge₁₀Te_{90-x} glass, cond. and dielec. const. from 77 to 383K and from DC freq. to 5 MHz 9-23964
 As₂Se₃-GeSe₄-SnSe₄ (x=1,2), exam. of Sn valency and physical props. 9-4753
 (As₂Te₃)_{1-x}Ge_x, amorphous, AC cond. magnitude and variation (*French*) 9-47095
 As₃₀Te₄₈Si₂₂Ge₁₀, chalcogenide glass film, charge screening length 9-23974
 BaO-GeO₂-Na₂O-H₂O system, hydrothermal crystn., phase formation laws 9-46636
 Bi₁₂GeO₂₀, Czochralski single crystal growth 9-1823
 CdGeAs₂, electron irradiated, change in electrical props. 9-7829
 CdGeP₂, cond. compensation by electron bombardment 9-15151
 Ge-As-Ge films, light irradiation, heat treatment rel. to optical props. (*Russian*) 9-4858
 Ge-As-Te glass, between metal electrodes, contact props. determ. 9-7908
 Ge-GaSb, metastable continuous solid solutions 9-8284
 Ge-GeO₂, optical charging memory, influence of doping GeO₂ with metal ions (*Russian*) 9-24077
 Ge-P-Se system glasses, penetration by indenter, activation parameters, microhardness 9-43419
 Ge-S, Ge-S-Ag, amorphous prop. and origin of paramagnetic defects 9-10801
 Ge-S-In, chalcogenide glass, determ. of glass phases, phys. props. meas. 9-23526
 Ge-Se glass, effect of Ag electrodiffusion on volt-ampere characteristics 9-7869
 Ge-Te and Ge-Te-As system glasses, local struct., ¹¹⁹Sn Mossbauer obs. 9-41968
 Ge-Te-Se/Si amorphous film-cryst. heterojunction, electron-beam-induced current 9-24060
 Ge+GeBr₄, single crystal+vapour system, reaction kinetics and laws of soln., heat of adsorption 9-39196
 GeAs+Cl₂(Br₂)(I₂), high temp. Raman spectra, cryst. growth mechanism (*French*) 9-26999
 GeAsS, X-ray photoelectron spectra, valence electrons density of states (*Russian*) 9-15583
 Ge₃₀As₁₅Te₃₀Se₂₅, antireflection coating for KCl, design, prep. and performance 9-14063
 GeBr₄, fine struct. resolution in Raman-active fundamentals 9-42967
 GeCl₄, liq. struct., oscill. amp., neutron diff. study 9-46544
 Ge_{0.8}(GaAs)_{0.2}, metastable solid solns., decomp. kinetics 9-38789
 Ge_{1-x}(GaAs)_x, metastable solid solution, fine struct. (*Russian*) 9-27960
 Ge_{1-x}(GaSb)_x, metastable solid solution, fine struct. (*Russian*) 9-27960
 GeH₄, laser sideband spectroscopy (*German*) 9-26975
 GeH₄, Stark effect, rot. transitions in vibr. ground state, isotope shift 9-27029
 GeH₄SiH₃, symmetries of GeH₄ cryst. phases, IR spectra meas. 9-19886
 GeH₃X, mol. const. calcs. 9-36606
 Ge₂N₂O, time-of-flight neutron diff. study 9-19200
 GeO₂, α-quartz structure, compression mechanism 9-23673

germanium compounds continued
GeO₂:V⁴⁺, crystal field splitting from ESR and optical absorpt. results 9-47063
GeO₂:V⁴⁺(C₂³⁺), direct mechanism in supertransferred hyperfine interaction 9-23936
GeS₂, growth parameter meas. during cryst. growth from vapour in closed ampules 9-19168
GeS layers form. on Ge surface, S₂ vapour press. rel. to growth rate 9-43152
GeS, orthorhombic, atomic pseudopots. 9-42453
GeS, orthorhombic single cryst., fine struct. in reflectivity 9-19903
GeS, phonon dispersion relations, neutron scatt. study 9-42182
GeS, Schottky barrier, photovoltaic props. 9-7854
GeS₁₁, glass, neutron irradi., thermal and elec. props. 9-19286
GeS_{1.5}:Cu, interpretation of dielectric behaviour 9-33595
GeS₇:Na₂S, glass, synthesis, elec. cond., Raman spectra, temp. and composition depends. (*French*) 9-14962
GeS₂, glass, x=1.25 to 1.5, softening and crystallization kinetics 9-32906
Ge₄₀S₆₀, Ge₂₅S₇₅ glasses, Mn²⁺ EPR spectra investigation 9-11340
GeSe₂, and Ge_{1-x}Se_x, amorphous, struct. models 9-37628
GeSe₂ evaporated films, optical absorpt. and thermally induced effects 9-42989
GeSe₂ evaporated films, struct. and thermally induced effects 9-41963
GeSe₂, exciton absorpt., transmission spectra of cryst., glasses and amorphous samples 9-15485
GeSe₂, glassy photoinduced photoluminescence fatigue 9-28827
GeSe₂, liquid, struct., investigation using neutron diff. meas. 9-23514
Ge₂Se_{1-x}, amorphous film, photocrystallisation, elec. cond. meas. 9-32911
Ge₂Se_{1-x} chalcogenide glasses, trap-controlled carrier mobility, time of flight meas. 9-4557
Ge₂Se_{1-x} chalcogenide glasses, drift mobility of optically injected carriers 9-19627
GeTe, crystal binding energy 9-37650
GeTe, degenerate semiconductor, EPR experiments on Mn²⁺ 9-11339
GeTe film 9-43055
GeTe-MnTe-SnTe system, compds., GeTe phase transition temp., elec. props., thermal cond. 9-43220
Ge_{1-x}Te_x, elec. cond., Hall effect in phase transition region 9-11113
Pb₂Ge₃O₁₁, pyroelectric radiation detector appl. (*Czech*) 9-40611
Pb_{1-x}Ge_xTe epitaxial layers, phase transition obs. by far IR reflectivity spectroscopy 9-33691
Sb-Ge-Se system glasses, thermal capacity, 80 to 300K 9-42272
Se-Ge-As, chalcogenide glass, self-diffusion, investigation using radioactive tracers 9-23770
Se_{1-x}Ge_x, amorphous, AC cond. magnitude and variation (*French*) 9-47095
Se_{1-x}Ge_x, amorphous film, photocontraction effect 9-46975
Si-Ge-Br, heterogeneous system, equilib. gas phase composition, Si-Ge cryst. growth appl. 9-10820
Si₁₂Ge₁₀As₃₀Te₄₈ chalcogenide glass, switching in thin layers with semiconductor electrodes 9-4586
Si₁₂Te₄₈As₃₀Ge₁₀Au, Schottky barrier props. 9-7897
Sn₂Ge_{1-x}Se_x, ¹¹⁹Sn Mossbauer and elec. conductivity study 9-19595
Sn₂Ge_{1-x}Te_x, ferroelec. semicond. structural phase transition, X-ray study 9-37836
SnS-GeS₂, exam. of phase diagram using DTA (*German*) 9-11585
Te-Ge-Sn(Pb), Te rich, structural phase transformation concurrent with glass crystallisation, thermal evidence 9-4965
Te₃₉As₃₆Si₇Ge₇P₁ amorphous film, electroluminescence from on state 9-8188
ZnGeP₂, cond. compensation by electron bombardment 9-15151

getters
see also vacuum techniques
mass spectrometer leak detector, increasing sensitivity by selective gas accumulation 9-6215

GFRP *see glass fibre reinforced plastics*
giant pulsations (earth) *see micropulsations*
giant resonances *see nuclear collective states and giant resonances*
giant stars
see also supergiant stars
accretion of interstellar grains by red giants and C star spectrum 9-21284
angular diameters determ. from lunar occultation obs. 9-30054
angular diameters from lunar occultations 9-44475
asymptotic giant branch stars in globular clusters, spectra 9-8913
 α Aurigae (Capella), extra-atmospheric obs. analysis 9-25647
beat Cepheids, model constraints 9-5831
 α Bootis, He I 10830 Å emission obs., high-temp. chromosphere 9-48792
 η Bootis, soft X-rays detect. with imaging X-ray telescope 9-48953
 α Bootis (Arcturus), line identifications in UV spectrum 9-25598
 α Canis Majoris B (Sirius B), coronal model constraints from historical pseudo red giant phase 9-2543
 ω Centauri, anomalous giant branch rel. to abundance vars. in dwarf spheroidal galaxies 9-5904
V748 Centauri (Centaurus X-4?), high-latit. eclipsing system, VBLUW photometry 9-44529
U Cephei, chem. comp. of secondary component of close binary system 9-35308
Cepheid masses from observations and pulsation theory 9-48802
 σ Ceti, vars. in spatial distrib. of 11 micron radiation 9-5828
 σ Ceti (Mira), mass loss rate determ. 9-48831
 σ Ceti (Mira), spectropolarimetry 9-21302
cool stars, effective temps; ang. dias. and reddening determ. from 1 to 5 μ m flux curves 9-44458
cool stars, local interstellar H and D Lyman α towards four objects 9-5886
cool stars, supersonic stellar winds and rapid mass loss 9-21268
G- and K-type, theoretical colours, model atms. 9-12474
G-K giants, low ¹²C/¹³C ratio explanation constraints 9-5817
GL 3068, IR spectrum of C star 9-12469
HD 155989, spectroscopic binary, orbit from photoelectric radial vels. 9-21355
HD 175305, red horizontal branch star in general field, spectroscopic and photometric anal. 9-40189
HD 18474, G-type giant, rare earth's abundance (*Spanish*) 9-25605
HD 199892, spectrographic binary, spectrograms and orbital elements 9-21359
HD 52788, freq. anal. of δ Delphini star 9-35276
 β Hydri, nearby subgiant star, XUV radiation upper limit 9-12471
IR stars, survey for circumstellar OH emission 9-48787

giant stars continued
IRC+10216, C star, NH₃ obs. in circumstellar envelope 9-48793
K-type, ¹²C/¹³C ratio correl. with Fe/H ratio 9-48798
K-type, colour excesses, interstellar dust grains distrib. determ. 9-40251
K-type, upper photospheric temp. models, super-metal-rich and normal giants 9-21278
K-type spectra, metallicity determ. problems 9-44474
L973, red giant in globular cluster M13, curve of growth anal. 9-48796
late-type giant stars O 1 7773 Å triplet obs. 9-35250
late-type giants, semi-theoretical density profiles along galactic radius through Sun 9-35253
87 Leonis, lunar occultation ang. diameter 9-25599
M71, globular cluster, giants IR colours, CO band strengths and physical parameters 9-25650
M-type, atmosphere mass estimate (*Russian*) 9-21292
M-type, circumstellar gas and dust shells, optical and IR obs. 9-21281
M-type, spectral type and luminosity classification from near IR spectrograms 9-16952
mass flow models for cool, luminous objects 9-5813
mass loss by cool stars, review (*German*) 9-16957
massive single stars, main sequence evolution with and without stellar wind 9-16936
Mira variables, supersonic mass flow theory 9-35270
U Orionis, stellar OH maser VLBi obs. rel. to mag. field 9-25742
 δ Orionis A, UV spectrophotometry and optical polarimetry, stellar wind variability 9-21277
57 Pegasi, long-period pulsating variable, spectrographic and photometric obs. 9-21305
photometry in southern open clusters 9-12468
planetary nebulae formation models, implications for. Fe condensation 9-40238
red giant stars, meridional circulation and CNO anomalies 9-48786
red giant stars in globular clusters M92 and NGC 6397, C abundances 9-48785
red giants, in Draco dwarf galaxy, metal abundance determ. 9-17078
red giants in halo globular clusters, abundances 9-5898
HM Sagittae, eruptive variable, IR variability rel. to symbiotic binary model 9-25614
Sculptor dwarf spheroidal galaxy, abundance vars. on giant branch rel. to ω Centauri anomaly 9-5904
V367 Scuti, double-mode Cepheid in NGC 6649, anomalous open cluster 9-5866
 δ Scuti subgiants, possible model 9-48809
Scutum Cloud direction, giant stars density functions from RGU photometry 9-35242
spectral energy distrib. of eight stars used as spectrophotometric standards 9-35147
T626, red giant in open cluster M67, curve of growth anal. 9-48797
 α Tauri (Aldebaran), angular diameter from lunar occultation 9-40185
47 Tucanae asymptotic giant branch stars, N anomaly anal. 9-48867
undersize subgiant components in close binaries 9-44528
Ursa Minor dwarf spheroidal galaxy, abundance vars. on giant branch rel. to ω Centauri anomaly 9-5904
variable emission-line star in core of M15, spectrum, photometry and position 9-5840
 ϵ Virginis, Fe spectrum, differential model atmosphere analysis 9-25604
weak G-band stars, CH and NH band strengths, atm. material from CNO cycle 9-8917
Ba stars, DDO system photometry, luminosity anomaly 9-35246
C IV in stars hotter than B 1, Copernicus obs. 9-44463
C stars, ¹²C/¹³C ratios 9-35257
Fe abundances in G and K giants from near-IR spectra 9-16944
He core flash, convection efficiency and mixing possibilities 9-48774

Gibbs free energy *see free energy*
Gibbs function *see free energy*

Ginzburg-Landau theory
amorphous superconductor, high- κ , upper and lower crit. fields 9-4629
dynamic renormalisation group anal. for Ginzburg-Landau model, in large n limit 9-9193
dynamical symmetry breakdown at the two-dressed-loop level and beyond 9-294
ferromagnet, critical dynamics under quenched random magnetic fields 9-4681
first-order phase transition, nonlinear relaxation, Ginzburg-Landau theory including fluctuations 9-35658
Landau-Ginzberg ferromagnet, static and dynamic correl. functions near magnetization curve 9-15318
magnetic superconductors, Ginzburg-Landau theory of two antagonistic order parameters 9-38242
mode propagation in superconductors near T_c 9-19682
non-equilib. instability, $k=0$ hard mode transition, appl. of dynamic renormalisation group 9-21686
nonequilibrium superconductivity, oscill. of order parameter caused by quasiparticle injection 9-42697
superconducting order parameter fluctuations, pair tunnelling, review 9-1642
time dependent superconductivity, one-dimensional, relax. oscills. of order parameter 9-28475
triplet superconductivity, incomplete Meissner effect 9-15255
TTF-TCNQ, crit. behaviour near 53K phase transition, Ginzburg-Landau theory 9-33249
type II superconductor, clean cubic, anisotropy of generalised Ginzburg-Landau parameters 9-4630
vacuum manifolds, gauge groups and topological invariants 9-237
Al strips, supercond., order-parameter relaxation meas. 9-47207
Nb films, supercond. props. and electronic density of states (*Russian*) 9-28439
V₃Si, thermodynamic study, intrinsic type II superconductivity 9-47193

glaciology
Baltic Ice Lake levels, dating rel. to S.Finland Salpausselka moraines 9-20872
Barents Ice Sheet as a relay regulator of glacial-interglacial alternation 9-2309
Bolivia, evidence for glaciation 3.27 Myr BP 9-34865
climatic warming effect on W.Antarctic ice sheet 9-34864
cold ice sheet, creep rupture obs. at depth 9-2306
continental ice sheet model, spectral response to insolation vars. 9-2300
continental ice sheets, erosion 9-25276
Devon Island ice cap, Canada, theoretical and observed temp. profiles comparison 9-16524

glaciology continued

- Eemian interglacial and deep sea O isotope stratigraphy 9-29770
erosion, effect on terrestrial heat flow palaeoclimatic and topographic corrections 9-34767
glacial ice melting effects on Antarctic surface water 9-34866
glacier, sliding on plane strewn with hemispherical obstacles (*French*) 9-8640
glacier friction law, shadowing function of Gaussian probability curve (*French*) 9-8641
Glacier Peak tephra in North Cascade Range, stratigraphy, distrib., rel. to glacial events 9-25247
glaciers structure, obs. by Forbes and Agassiz and dispute over priority 9-17181
glaciers thickness measurement, appl. to gravity surveys in glacier-covered regions 9-16697
Ice Ages, causes 9-20961
ice ages, prod. by Earth albedo sudden change 9-44241
ice ages and continental drift, theory 9-44209
inland ice sheet thinning due to Holocene warmth 9-34873
isostatic adjustment and sea level, global finite element model 9-20800
Japan, late glacial age chronology from morainic features and Lake Biwa sedimentary sequence 9-34872
last Glaciation, glacial inception and disintegration 9-5534
Late Wisconsin flood into Gulf of Mexico 9-29775
Mediterranean Sea, glacial palaeo-oceanography 9-16505
meltwater from ice sheets, global changes in postglacial sea level: a numerical calculation 9-2289
meteorite impact crater, central Alaska, possible glacial origin 9-25249
palaeoclimatic inferences from former glaciers in Scotland and the Lake District 9-44243
palaeoclimatology and vegetation changes during 2000 years BP, from anal. of varved lake sediments 9-25279
palaeoglaciation due to solar radiation reduction (*French*) 9-34857
Pleistocene deglaciation, influence on true polar wandering 9-44079
polygonal patterned ground in central New Jersey, origin during Wisconsin glaciation 9-25248
quartz grains, from sub-glacial and assoc. environments, characterisation using SEM 9-25238
rock glacier types and their drainage systems, Grizzly Creek, Yukon Territory 9-25271
Salpausselka moraines, S.Finland, dating rel. to Baltic Ice Lake levels 9-20872
steady flow of viscous nonlinear fluid (Glen body) around perfectly smooth sphere (*French*) 9-7387
sub-pingo water lenses, Tuktoyaktuk Peninsula, Northwest Territories, obs. 9-20873
subglacial lake, Antarctica, radar sounding 9-29798
subglacially precipitated calcite, $^{18}\text{O}/^{16}\text{O}$ palaeoclimatic implications 9-20897
Wenchemna Glacier, ablation complex and rock glacier, Canadian Rocky Mountains 9-5514
Wurm glacier of Val Tresa, melting rel. to Quaternary glaciolacustrine sediments dislocations (*Italian*) 9-8647
 CaCO_3 dissolution in deep sea sediments, rel. to palaeoceanographic reconstruction 9-25269

glass

for semiconductor glasses see *amorphous semiconductors and chalcogenide glasses*

see also *aluminosilicate glasses; amorphous semiconductors; borate glasses; borosilicate glasses; chalcogenide glasses; germanate glasses; glass fibre reinforced plastics; glass fibres; glass-metal seals; optical glass; phosphate glasses; phosphosilicate glasses; vitreous state; vitrification*

- β -eucryptite, glass-ceramics, internal stresses 9-15770
additions to piezoceramics, effect on props. during hot pressing 9-24475
alkali and non-alkali, working props. during microfibre and ultrafine fibre prod. 9-24486
alkali silicate, γ -irrad., paramag. SO_2^- radicals 9-42838
alkali silicate glass, appl. of XPS, chemical shift (*Japanese*) 9-34416
alkali-alkaline earth nitrates, Raman spectra, vibr. perturbations effect 9-8132
annealed and tempered, contact induced static fatigue 9-8376
aqueous glass, laser excitation, bleaching of trapped electron absorpt. bands 9-43606
atomic absorption determ. of MgO , CaO and BaO (*Polish*) 9-24872
bead filled polymers; crazing charactrs., slope-discontinuity method 9-1712
bioceramic, SnO_2 coated, for artificial heart valves, mech. props. (*German*) 9-12028
bonded, electrets obs., under corona discharge and electron irradiation conditions (*Russian*) 9-4759
calibo glass, quantum efficiency of non-radiative energy transfer 9-33832
 β -carotene glass, photoconductivity mechanism 9-28368
ceramic, AE meas. under maintained load (*German*) 9-43315
ceramic, fracture stress rel. to flaw and fracture mirror sizes 9-11689
ceramic, nucleation and growth studies by small angle neutron scatt. 9-32913
composition, patent information, automated retrieval system 9-24715
containers, exam. of fragmentation 9-20148
Corning 7070 glass, relative permittivity at 3 GHz 9-33591
crack front curvature and slow fracture in liquid decane 9-8375
cutting with conc. energy sources (*Russian*) 9-38994
defects, EPR characterisation 9-38379
enamel coatings, effect of firing method on adhesion 9-24647
engineering, type 13v, strength under static and cyclic loads 9-43356
film on plumbite-treated cotton, form. of coating at interface 9-15058
Fourcault sheet glass, internal and surface temp. during heating (*Czech*) 9-42285
fragments, discrimination between window, container glass fragments by EPR, forensic science appl. 9-11841
gamma-irradiated, trapped electron form., dose effect on conc., empirical eqn. 9-34325
glass: Eu^{3+} , spectroscopic props. of excited states of ions, laser induced fluorescence line narrowing meas. 9-38641
glass: Nd^{3+} , line narrowed fluorescence spectra and site dependent transition probabilities 9-38640
glass-ceramic/bone histological and mechanical bonding (*German*) 9-8569
homogeneity measurement by improved Shelyubskii method using press. 9-29302

glass continued

- inorganic, calc. of microhardness and glass transition temp. 9-5059
inorganic, protective coating for anodized Al, solution deposited 9-34205
light scattering by glass undergoing phase separation and homogenisation 9-24326
luminescence, glass with nonequivalent optical centres, decay rate averaging 9-8178
melt, unified theory of chem. relaxation using light scattering or US absorption 9-16028
melts, glass forming, exam. of isobaric-isothermal pots. in glass transition interval 9-7681
methylcyclohexane glass, γ -radiolysis, electron tunnelling from matrix trapped biphenyl ions 9-29379
3-methylpentane glass, γ -radiolysis, electron tunnelling from matrix trapped biphenyl ions 9-29379
microbrittleness and strength depend. on chem. comp. 9-38937
molten, design of level measuring gauge 9-29304
neutron scintillating glasses activated by Ce^{3+} , luminesc. 9-38668
nonuniformities and basic principles of struct. 9-41970
nuclear spin lattice relax. in amorphous state, review 9-11354
one-dimensional disordered harmonic system, heat capacity from spectral moments 9-28107
organic, shear strength behind the front of a plane shock wave 9-15752
organic glasses, hole burning, fluoresc., struct. 9-31588
organic matrices, electron spin-lattice relax. of radiation-produced Ag atoms, temp. depend., tunnelling relax. 9-34331
particle size influence on force moving particle in inhomogeneous elec. field, influence of field frequency 9-11795
permeability of He (*Japanese*) 9-7715
phase diagrams, user needs for materials processing 9-11594
plastic AG-4c, fatigue resistance under bending in H_2SO_4 (*Russian*) 9-34163
plastic coating, thick-walled, compressive strength evaluation method 9-15897
polyisobutylene-glass adhesion bond, macroscopic contact form. 9-39113
polymer bound glass article, rapid kinematic corrosion test, method and apparatus 9-39063
porous, catalytic activity in radiative thermal cracking of propane (*Russian*) 9-39205
porous, disoc. adsorption of ethanol, IR obs. 9-23830
porous, free molecule flow and interdiffusion 9-32658
Pyrex, indentation recovery, defect struct. produced by deformation 9-43275
Pyrex, near-surface H embrittlement, effect on deform. and fracture props. 9-29180
Pyrex, stress intensity factors of surface cracks and fracture stress, acoustic meas. 9-47845
Pyroceram, enhanced failure by combined pulse and CW laser 9-29182
pyroxene slag glass ceramics, exam. of synthesis conditions, influence of catalysts 9-4942
quartz:Ag glasses, EPR of atomic Ag centres 9-15349
quartz, hardened plate, internal stress and birefringence microanal. using optical phase microscope interference-polarisation 9-39109
quartz glass-ceramics, atm. influence on sintering rate 9-38784
quartz glass-water suspensions, electrolytes effect on viscosity, pH and zeta pot. props. 9-34365
rain erosion mechanisms of brittle materials 9-34154
reaction cured glass insulation coating, space shuttle, combined load testing at 1100°C 9-34261
redox number 9-29392
sheets, large scale, exam. of bending strength under uniformly distributed load 9-29135
silicate glasses, fused, cone cracks around Vickers indentations 9-29189
silicate glasses, stress corrosion cracking in N_2 , CO_2 , Ar, HCl, H_2SO_4 9-34171
silicate triplex glass, produced by polymerisation, effect of monomer purity 9-24485
SIMS quantitative analysis, accuracy 9-39266
single-component, structure, crystallite and disordered-network hypotheses, review 9-41964
soda-lime glass track detector etching in NH_4HF_2 , NaOH and KOH aq. solns. 9-26816
space flight applications in materials science 9-47885
spectral behaviour under narrow-line excitation, of Nd^{3+} doped ED-2 glass 9-33747
spreading of high-pressure polyethylene melt, index 9-37902
strain interactions, low-temp. props. 9-42269
stress-strain diagrams, anal. and classification of low deforming materials by their behaviour under stress 9-15753
substrate, adhesion and hydrophilicity of glow-discharge-polymerised propylene coating 9-15829
symmetry and topology concepts for spin glasses and other glasses 9-28541
tank furnaces, physical models, selection criteria for liquids to simulate melted glass 9-8263
technical, STL10, A-1, A-3, A-6, 13V, statistical features of strength charactrs. 9-43353
tellurite glass: Nd^{3+} , spectral behaviour under narrow-line excitation 9-33747
tellurite glasses, binary, struct. and props. (*Japanese*) 9-32917
thermal conductivity and diffusivity, temp. depend., glass microscopic bead struct. material (*Russian*) 9-37885
thin-film geometry, harmonic generation of surface-plasmon nature, off-synchronous treatment 9-18475
toughened, stress relaxation, at temp. below annealing range (*Czech*) 9-43305
tunnelling system, broadening mechanism 9-28701
two dimensional steady flow problems, numerical soln., finite element method 9-23296
viscosity, as function of temp., computer calc. 9-29100
Zachariasen's rules, Madelung constant, and network topology 9-27926
AgI-Ag₂O xysalt high cond. glasses, struct. obs. 9-32908
AgI-Ag₂O-MoO₃, superionic conducting glass, IR spectra and struct. 9-10804
BaO-SiO₂-Fe₂O₃ permanent mag. ceramics, exam. of phase diagram, using X-ray analysis, optical microscopy, electron probe anal., and thermal analysis (*German*) 9-29012
Bi₂O₃ based glasses, IR transmitting materials, appl. in 1 to 6 μm range, mech. props., review 9-4250
CaO-Fe₂O₃-SiO₂ glass, struct. behaviour at melting, Mossbauer exam. 9-10802

glass continued
Cs₂O-MgO-SiO₂ system, glasses, crystn. prods., composition, props. 9-41961
Eu_{0.14}Si_{0.31}O_{0.55} glass, optical, magnetic, and magneto-optical props., chemical clustering 9-42951
KNO₃ glass, quenched, ionic cond., appl. as solid electrolyte 9-1522
K₂O-CaO-BaO-SiO₂, calc. of network refraction and exam. of glass structure 9-4783
K₂O-SiO₂, AES obs. of K⁺ electromigration to surface under electron bombardment (*French*) 9-33869
KTAO₃ glass, quenched, ionic cond., appl. as solid electrolyte 9-1522
La₂O₃-SiO₂ glass synthesis by hot pressing of gels 9-15637
LiCl, deuterated aq. glasses, pulse radiolysis, trapped electron reactions 9-24804
LiCl, deuterated aqueous glasses, pulse irradi., trapped electron yield 9-20385
LiNbO₃ glass, quenched, ionic cond., appl. as solid electrolyte 9-1522
Li₂O-2SiO₂ glass, ionic cond. under DC potential 9-28134
Li₂O-SiO₂ glass, crystallisation and phase separation 9-10803
LiTAO₃ glass, quenched, ionic cond., appl. as solid electrolyte 9-1522
⁶Li glass scintillators, appl. as neutron detector, problems and consequences 9-9968
NaO-CaO glass, melting speed, effect of struct. and grain shape (*Polish*) 9-29002
Na₂O-2SiO₂ glass, numerical optimisation of ESR V⁴⁺ spectra 9-38370
Na₂O-CaO, enhanced failure by combined pulse and CW laser 9-29182
Na₂O-CaO glass, atomic absorption spectroscopy 9-43656
Na₂O-CaO-Bi₂O₃-SiO₂, electro-conducting glass-ceramic production by ion-exchange and reduction treatment 9-1616
Na₂O-CaO-SiO₂, dynamic hardness testing, pendulum attenuation, yield stress obs. 9-24699
Na₂O-CaO-SiO₂, glass, surface charge in aqueous electrolyte soln. 9-29245
Na₂O-CaO-SiO₂, rain erosion mechanisms 9-34154
Na₂O-Fe₂O₃-SiO₂, Mossbauer spectra, crystallisation study (*Russian*) 9-19816
Na₂O-K₂O-CaO-SiO₂, chemical durability, mixed alkali effect 9-8377
Na₂O-SiO₂ glass, vitreous coating, adhesion to Fe-Ni alloy 9-20336
Na₂O-SiO₂/AgNO₃, exam. of ion exchange equilibria 9-5178
Na₂O-SiO₂/AgNO₃, thermodynamic characteristics of ion exchange process 9-8452
Na₂O-TeO₂-H₃⁺(Er³⁺)(Yb³⁺) glass, luminesc. quenching by OH and OD (*Russian*) 9-28839
25Na₂O.75SiO₂ glass, ionic cond. meas. 9-33110
Nd:glass, Fourier-transform photoacoustic spectroscopy 9-9246
PbO cryst., chem., electrochem. corrosion (*French*) 9-20232
PbO glass, thermal focusing of elliptically shaped optical beams 9-18489
PbO-K₂O-SiO₂, O tracer diffusion above transform. temp. 9-28120
PbO-Si-O, general features of reaction 9-11819
PbO-SiO₂ glass on Si, emission mode of SEM 9-28226
PbO-SiO₂ and PbO-SO₃-SiO₂ system glasses, struct. and IR absorpt. spectra 9-41967
PbO-SiO₂ glass, modifier release in acid soln. 9-43450
PbO-SiO₂ glasses and crystal, silicate anion constitution 9-48023
(PbO)_x(SiO₂)_y glass, vibrational spectroscopic exam. 9-11417
PbSiO₃ and Pb₂SiO₄, vitreous, free energy of form. at elevated temps. 9-43195
SiO₂ based glasses, IR transmitting materials, appl. in 1 to 6 μm range, mech. props., review 9-4250
SiO₂, densified, enthalpy variation, heat of dissolution obs. (*French*) 9-34015
SiO₂, E'-centre model, IR absorption spectra 9-37634
SiO₂ glass, AES anal. (*French*) 9-39236
SiO₂ glass, monolithic, low temp. synthesis by SiO₂ gel pyrolysis 9-43194
SiO₂ glass, porous, adsorption of inorganic cations, in distilled water medium 9-24814
SiO₂ glass, Raman spectra of dissolved molecular H₂ and D₂ 9-33707
SiO₂, glass synthesis by hot pressing of gels 9-15637
SiO₂, vitreous, Fe²⁺ absorpt. spectra in polarised light and struct. position 9-43007
SiO₂-CaO-Na₂O-M_mO_n systems, M=Zr, Sn, Ti, Al, La, Ta, P, Mn, Fe, Pb, Cr, water, alkali, acid resist., chem. durability 9-34162
SiO₂-K₂O, thermodynamic approach to ionic conds., statistical model of chem. potential 9-46833
SiO₂-Na₂O, thermodynamic approach to ionic conds., statistical model of chem. potential 9-46833
SiO₂-Na₂O-CaO-MgO, glass hardened plate, internal stress and birefringence microanal. using optical phase microscope interference-polarisation 9-39109
SiO₂-Na₂O-K₂O water glass with polyethylene filler, thermogravimetric and thermomechanical anal. 9-20020
SnO-SiO₂ glass, struct., X-ray density, IR obs. 9-46574
SrO-SiO₂-Fe₂O₃, permanent mag. ceramics, exam. of phase diagram, using X-ray analysis, optical microscopy, electron probe anal., and thermal analysis (*German*) 9-29012
Tb³⁺ ions in silicate glass, photoluminesc. and optical absorption spectra 9-19919
TeO₂-V₂O₅ glass system, X-ray diffr. study 9-10805
TeO₂-Li₂O glass:Nd³⁺, highly doped, spectroscopic props. and CW laser action (*French*) 9-41385
TeO₂-V₂O₅-Li₂O(Na₂O)(K₂O)(Cs₂O)(Ag₂O), glass, IR spectra of crystalline phases 9-38536
TeO₂-WO₃ glass, dipole correlations, capacitances and TSC meas. 9-28670
V₂O₅ containing glass, electronic cond., effect of random glass struct. 9-23972
ZnO-PbO-B₂O₃, exam. of glass formation and its props. 9-8283
ZrF₄-ThF₄-NdF₃(LaF₃), phase equilibrium, vitreous phase struct., charact. temp., optical props. (*French*) 9-11587

glass fibre reinforced plastics
aluminoborosilicate glass fibre reinforced epoxyphe nol and phenolformaldehyde, strength props., binder effects 9-5028
brittle coating analysis of orthotropic materials 9-27606
centrifuged laminate, fracture charact., determ. (*German*) 9-38967
crossply glassfibre, cantilever beams, nonlinear damping for nonsinusoidal strain 9-47762
epoxy matrix, brittle coating stress anal. technique 9-43528
epoxy matrix, internal moisture condition effect on strength 9-15736
epoxy-aniline matrix, laminate, work required to rupture along interfaces 9-43413

glass fibre reinforced plastics continued
epoxy/Al alloy bonded joint, mean strength, moisture effects 9-20106
fatigue and flexural strength 9-8364
fibre orientation, effect of injection speed 9-4944
flexural fatigue props. (*Japanese*) 9-20171
glass fibre reinforced epoxy, exam. of interlaminar shear stress distribution 9-43308
laminate, fatigue strength rel. to test frequency 9-8362
laminate, mixture law of tensile and fracture strength and variation (*Japanese*) 9-43337
mechanical properties measurement, use of electrical resistance strain gauges, effects on props. 9-43541
phenol resin matrix effect of thermal loading on physicomech. props. 9-24622
plastic, thermal cond. meas. rel. to temp., heat cond. problem soln. 9-37887
plate, under vibr. load, strength testing, device 9-29318
polyacetal mouldings, shape testing, projection of optical gratings (*German*) 9-29322
polyamide 6, response function characterization of thermal state in dynamic testing 9-18680
polyamide 6 matrix, fatigue under rotary bending (*German*) 9-15782
polyester matrix, behaviour under bending load (*Japanese*) 9-38904
polyester matrix, filament wound pipe, winding angle effect on failure 9-43379
polyester matrix tube, strength under biaxial loading 9-38892
polyester resin composites, microstructure 9-37625
polyethylene matrix, melt, rheological props. 9-37273
strength, influence of form of reinforcement on spread of data (*Japanese*) 9-11672
structural inhomogeneity and strength 9-43358
thermal conductivity, diffusivity and sp. ht., 80-300K (*German*) 9-10990
thermal conductivity measurement, rel. to temp., heat cond. problem soln. 9-37887
tubular specimen manufacture, apparatus 9-15906
yielding behaviour of plate with circular hole (*Japanese*) 9-8323
C glass fibre hybrid plastics, review of mech. props 9-20107

glass fibres
see also fibre optics; optical fibres
chemical purity in glass fibres for communication appl. 9-41437
drawing from compound glasses, using double-crucible and glass-plastic methods 9-3815
filter paper, macerated, measurement standard for suspended solids in water 9-8454
high-strength, epoxy-acrylate coated, static and dynamic fatigue, tensile strength 9-1906
microbrittleness and strength depend. on chem. comp. 9-38937
microscopic glass fibres and spheres, production and charact. for microanal. 9-24487
optical, fatigue failure probability 9-32045
optical, low-loss, for optical communication, fabrication technologies state of art 9-10420
optical, tensile strength 9-46062
optical communication appl., system components construction and operation (*German*) 9-18553
optical fibres, fatigue failure prediction, appl. of fracture mech. theory 9-998
plastic-coated, fused silica, ageing and static fatigue 9-46067
quartz, internal stress and birefringence microanal. using optical phase microscope interference-polarisation 9-39109
silica optical fibres, ageing polymer-coated fused specimens in pH solns., tensile strength and dynamic fatigue 9-46063
stress in glass fibers induced by the draw force 9-47737
surface composition of E and A fibres, effect of ageing, reduction, exam. using X-ray photoelectron spectroscopy 9-20223
ultrafine and microfibre prod., working props. of alkali and non-alkali glasses 9-24486
SiO₂-Na₂O-CaO-MgO, internal stress and birefringence microanal. using optical phase microscope interference-polarisation 9-39109

glass-metal seals
finite element anal. of stresses, photoelastic meas. 9-29197
soda-lime glass to Fe-Cr seal, field-assisted bonding, SIMS anal. 9-34399
Si-glass IR cell, for ultrahigh vacuum and temp. 9-6134

glass transition
alkaline earth glasses, RO-Al₂O₃, -P₂O₅, R=Mg, Ca, Sr, Ba, exam. of electron beam irradiation effects 9-4253
atom-glasses, hard sphere model of glass transition 9-4399
butadiene acrylonitrile elastomers, props. in glass transition range (*Polish*) 9-42223
cellulose acetate-dimethylphthalate gel, mech. props., substitution effect (*Russian*) 9-23291
elastin, hydrated, dielectric relax. 9-5247
elastomer, relaxation processes, statistical description (*Russian*) 9-23229
epoxy polymer, glass microsphere-filled, glass transition temp. (*Russian*) 9-24489
epoxy-rubber glass transition rel. to filler, cooling rate 9-4403
inorganic glasses, microhardness and glass transition temp. calc. 9-5059
lubricant, glass transition, light scattering study 9-29228
lubricant, glass transition rel. to elastohydrodynamic lubrication 9-29227
lubrication film temp. and traction, rel. to solidification and glass transition temp. 9-28041
melts, glass forming, exam. of isobaric-isothermal pots. in glass transition interval 9-7681
nitrocellulose-nitroglycerine propellant, glass transition temp., thermomech. anal. meas. 9-14917
nylon 6, effect of moisture content on glass transition temp. and Young's modulus 9-4401
PMMA, secondary loss peaks, effect of structural features 9-11649
poly(4-methyl-1-pentene), semicrystalline, bulk and film, glass transition temp. 9-42982
poly-2-hydroxyethyl methacrylate, glass transition temp., water content and tacticity effects 9-37817
poly-tetramethyl-p-silphenylene-dimethylsiloxane block copolymers, crystn., morphology, kinetics 9-14695
polybutadiene, carboxyl-terminated, glass transition temp., thermomech. anal. meas. 9-14917
polycarbonate, rel. to sorption of water and its effect on dielec. behaviour 9-11383
polyelectrolyte, plasticised, effect of ion placement and struct. on props. 9-7679

glass transition continued

- polyesteramides, glass transition temp. determ. by DTA 9-4402
 polyethylene, linear, glass transition temp. upper limit, ^{13}C Fourier transform NMR 9-14918
 polyisobutylene, EPR, correlation with glass transition 9-11348
 polymer, amorphous, under press., glass transition phenomena, model 9-23706
 polymer, glass transition kinetic nature, sp. ht. 9-10929
 polymer, glass transition thermodynamics, fluctuation theory approach (*German*) 9-33078
 polymer, glassy, ageing, scanning calorimeter meas., theoretical prediction 9-10810
 polymer mixtures, compatible, glass-transition temps. 9-46789
 polymers, solid, mech. deform., model 9-20120
 polyolefins, amorphous, compensation temp., thermostimulated creep 9-14919
 polyoxymethylene, low-strain deform., transmission electron microscope exam. 9-5013
 polyoxymethylene copolymers, solid, mol. motions, 4-315K, dynamic-mech. study 9-4258
 polypropylene fibres, EPR during glass transition, γ -irrad. 9-8445
 polystyrene, mol. wt., distrib. rel. to glass transition temp., ESR spin-probe investig. 9-8041
 polystyrene, photon correlation spectroscopy near glass-rubber relaxation 9-47464
 polystyrene, ref. std. material testing, evaluation, glass transition temps., instrumental effects 9-4404
 polystyrene-SiO₂, glass transition rel. to filler, cooling rate 9-4403
 polysulphone, glass and melt, PVT props., glass transition 9-14911
 polyvinyl fluoride, glass transitions, Ar permeability and diffusion obs. 9-32919
 polyvinylidene fluoride, glass transitions, Ar permeability and diffusion obs. 9-32919
 PVC, different stereoregularities, heat treatment effect on glass transition temp. and c_p changes 9-4985
 PVC, tensile and indentation behaviour, durability tests, glass transition 9-5017
 relaxation memory effects, exactly soluble one-dimensional model 9-1398
 sorbitol, relax. processes, optical probe obs. 9-47430
 supercooled liquid-amorphous phase boundary, empirical criterion, Monte Carlo simulation 9-1496
 viscous liquid, glassy state, effect of fictive temp. on dielec. relax. 9-24256
 AgPO₃-Ag₂SO₄, new Ag⁺ and Li⁺ ion glass conductors, glass transition, Raman spectra (*French*) 9-47094
 As₂Se₃-GeSe₃-SnSe_x ($x=1,2$), exam. of Sn valency and physical props. 9-4753
 Fe-B-(Si)-(Ni), amorphous alloy, anelastic relaxation 9-4997
 Fe-Ni-P-B(C), amorphous alloy, anelastic relaxation 9-4997
 Fe-P-Al(Si)(B), amorphous alloy, anelastic relaxation 9-4997
 Ge-Pb-Bi-O glass, photoelasticity, glass transition limits 9-33670
 Li₂O-Al₂O₃-SiO₂ glasses, viscosity, thermal expansion, glass transform. temp., and refr. index 9-42282
 LiPO₃-Li₂SO₄, new Ag⁺ and Li⁺ ion glass conductors, glass transition, Raman spectra (*French*) 9-47094
 Na₂O-B₂O₃-SiO₂ glass, phase separated, HCl leaching rate and microstruct. 9-29242
 Na₂O-CaO-Bi₂O₃-SiO₂, electro-conducting glass-ceramic production by ion-exchange and reduction treatment 9-1616
 Se, amorphous, kinematic transform. study by DTA 9-27921
 Se amorphous films, structural relax., viscosity, creep, heat capacitors, and IR spectra meas. 9-42424
 a-Se, hole form. energy, heating time and cooling rate depend. 9-41958
 Se:As, amorphous, pure and doped, photoelectronic preps. in glass transition region 9-4583

glasses *see glass*glassy state *see vitreous state*glide, dislocation *see slip***globular star clusters**

- AM-1, possible intergalactic globular cluster, description 9-25651
 AM-2, possible faint globular cluster, description 9-25651
 asymptotic giant branch stars in globular clusters, spectra 9-8913
 black hole, stellar distrib. Fokker-Planck eqn. 9-21364
 ω Centauri, anomalous giant branch rel. to abundance vars. in dwarf spheroidal galaxies 9-5904
 ω Centauri, Ca abundance of RR Lyrae variables 9-16962
 ω Centauri, spectroscopic obs. of RR Lyrae variables 9-5824
 close binaries and the evolution of star clusters 9-5863
 close binary systems in globular clusters, possible existence 9-44530
 cores evolution, life and death matters 9-25653
 diffuse object, detect., in galactic centre direction (*French*) 9-8959
 distributions in M31 and Galaxy 9-12513
 dynamical evolution with changing gravit. const. 9-17030
 evolution rel. to three-body gravitational scattering 9-44344
 evolutionary structure of large star clusters 9-48866
 galactic disc clusters, removal by dynamical friction 9-35367
 galactic globular cluster system flattening, interstellar extinction effects 9-48908
 in Galaxy, number of clusters (*Russian*) 9-17036
 gravothermal catastrophe of finite amplitude 9-2476
 halo cluster compositions and galactic halo formation 9-5898
 IC 4499, periods and light curves of RR Lyrae stars 9-44490
 isothermal two-component clusters, equilib. series and secular stability 9-48870
 Kron 3, SMC globular cluster, identification with X-ray source (4U 0026-73) 9-5919
 Liller 1, optical candidate for X-ray burster MXB 1730-335, IR bursts detect. 9-44640
 M13, curve of growth anal. of L973 red giant star 9-48796
 M15 core, H α and continuum obs. 9-17031
 M15 core, variable emission line star obs. 9-5840
 M22, Ca abundance of RR Lyrae variables 9-16962
 M33, identification of star clusters, list of 58 candidates 9-9002
 M3 H-R diagram compared with southern high-velocity stars 9-25600
 M71, giant stars IR colours, CO band strengths and physical parameters 9-25650
 M92, C abundances in red giant stars 9-48785
 Magellanic Clouds, masses determ. for globular clusters 9-5867
 NGC 1851, unsuccessful search for H I 9-5873
 NGC 5986, obs. of variable stars, periods and light curves 9-5868

globular star clusters continued

- NGC 6397, C abundances in red giant stars 9-48785
 NGC 6541, UVB photometry, metallicity and distance 9-35316
 prestellar gas, element separation by gravitational diffusion 9-21386
 radial colour distributions, integrated UVB photoelectric photometry 9-25648
 radiosources detect. in globular cluster fields 9-17114
 SMC, atlas of variable stars, clusters, emission regions and supergiant stars, book 9-44619
 SMC, UVB photometry of open, intermediate and globular clusters 9-17033
 space distribution, rel. to dynamics and galactic struct. 9-2560
 statistical mechanics of gravitating systems 9-35311
 Terzan 2, identification with X-ray burst source XB 1724-31 9-5919
 47 Tucanae, abundance gradients from spectroscopic obs. 9-40228
 47 Tucanae, N anomaly anal. 9-48867
 W Ursae Majoris metal-poor systems, evolution to globular cluster ages 9-25628
 X-ray sources, long-term variability 9-2579
 H₂ mass upper limit from CO 2.6 mm transition obs. 9-17029
 H₂O maser emission search 9-30094
 TiO band strengths in metal-rich clusters, reddening and metallicity determ. 9-40227

glossaries

No entries

glow discharge lamps *see discharge lamps*glow discharge microphones *see microphones***glow discharges**

- Abel's integral eqn., least squares finite element method appl. 9-25830
 abnormal, positive ion kinetics in cathode fall 9-14626
 crossed-field type, electron energy distrib. diagnostics 9-27851
 Earth, electrochemical glow discharge and aerosol anomalies before earthquakes 9-16407
 electron collision rates and distribution functions in O₂ glow discharge 9-10631
 electron gun, cold cathode, for pulsed ionisation of high-pressure CO₂ laser 9-27269
 electron gun, glow-discharge type, with plane-frustrum cold cathode, characts. 9-7495
 ethylene plasma polymerisation by magnetron discharge 9-33995
 externally maintained, by intense electron beam, N₂ oxidation, collective interaction 9-32841
 hollow cathode discharge, with quadrupole mass filter, ion form. and handling 9-12878
 hollow cathode gasdynamic jet carrying excited metal atoms as spectral light source and chemical reactor 9-46493
 hollow sintered cathode spectral lamp (*Rumanian*) 9-17509
 hollow-cathode glow discharge, fast electron current, electrostatic vel. analyzer diagnostics 9-27856
 Inconel 625, surface treatment of plane and hollow components in glow discharges 9-1923
 inert gases in U hollow cathode tube, time resolved optogalvanic effect 9-37564
 lateral spread of short glow discharges 9-46501
 moving striations, phenomenological model including external cct. 9-19113
 periodically pulsed, theoretical model of cataphoresis 9-34313
 plasma, optogalvanic effect analysis using rate eqns. in modified Schottky formalism 9-23421
 plasma etching characts., effect of dark space in RF glow discharge 9-15830
 positive column stability in stationary regimes 9-41893
 positive point to plane discharge, determ. of basic quantities during glow to arc transition 9-32837
 stability, rel. to transition to arc 9-10740
 substrate prep. for film deposition using glow discharge techniques 9-24438
 superheat-ionisation stability, stabilised by RF elec. field 9-19112
 surface treatment, struct. changes in vacuum deposited metal coatings (*Russian*) 9-15852
 Ar, discharge sudden contraction, effect of gas heating 9-27859
 CO, vibr. relax. at glass surface, glow discharge meas. 9-18409
 Co₂-N₂-He, pulsed discharge with temp. and density gradient in cathode sheath 9-41899
 H, penetration of Mo cathode in glow discharge, point defect depend. 9-41903
 He, laser-induced Raman emission source at 569 and 637 Å 9-46024
 He short glow discharge, lateral spread 9-46501
 Kr hollow cathode discharge, multiply charged and mol. ion prod. and loss 9-46499
 KrF excimer laser, water dielec. Blumlein-driven fast elec. discharge pulser 9-10318
 KrF X-ray-preionized high-pressure laser, discharge vol. press. depend. 9-18403
 N₂ glow discharge, semi-self maintained, stability (*Russian*) 9-27845
 N₂-O₂ gas mixtures, highly transient gas discharges, obs. 9-37562
 NH₃ glow discharge, electron energy distrib. and negative ions (*Russian*) 9-7499
 Ne glow discharge plasma, coherent on-resonance self-focusing of optical pulses 9-41427
 Ne, moving striation modes, numerical calc. 9-1365
 Ne, RF discharge, emission modulation due to fast electron distrib. time variation 9-41900
 Ne short glow discharge, lateral spread 9-46501
 P, amorphous film, prepared by chemical transport in glow discharge, electronic props. 9-24011
 Si:B, RF glow discharge sputtering damage centres, barrier formation 9-33329

GO calculations

- alkali halides, electron momentum distrib. and Compton profiles 9-13631
 benzene radical anion, ab initio MO calcs., struct. 9-18113
 diamond, electron density, bulk and surface atoms, from ab initio model calcs. 9-4590
 diatomic molecule nucl. mag. shielding using LCAO MO functions and gaussian expansion 9-36548
 ethylene+H=ethyl radical, pot. energy surface, analytic function 9-11779
 1-fluoro-2-propanol, conformational energies and rot. barrier, ab initio calc. 9-31390
 fluorobenzene radical anion, ab initio MO calcs., struct. 9-18113

PA 1979 - January-June

SUBJECT INDEX
S 495

GO calculations continued
formaldehyde, electronic excited states, GO calcs., $\pi \rightarrow \pi^*$ transition 9-22616
FSGO calculations, tetrahedral Gaussian lobe functions and Cartesian Gaussian basis sets 9-22587
group IV hydrides, pseudopot. FSGO calc. 9-22591
methyl lithium, equilib. geometries and electronic states, FSGO calcs. 9-10019
molecular orbital methods, speed and accuracy, comparison of methods 9-41106
monoelectric operators with modified Gaussian functions, expectation values 9-6820
multi-centre integrals, Racah algebra, Talmi transformation 9-45626
negative ions, electronic structure, stabilisation calcs. using big mol. Gaussian SCF/CI program 9-18121
resonant states, complex basis functions methods 9-6887
tetrahedral Gaussian lobe functions 9-6825
water, NMR shielding constants of ^1H and ^{17}O , paramag. contrib., triple perturbation theory 9-10127
 B_2H_6 , quadratic valence force field, rel. to ethene 9-3382
 $(\text{BHNH})_n$, band structure, ab initio calcs. 9-23895
 $(\text{BH}_2\text{NH}_2)_n$, band structure, ab initio calcs. 9-23895
 H^+ , electronic structure, stabilisation calcs. using big mol. Gaussian SCF/CI program 9-18121
 H_4 , FSGO open-shell calcs. 9-10025
 $(\text{HF})_2$, intermol. pot. function, ab initio 6-31G calc. 9-18254
 H_2O , localised MO, basis set depend. 9-36525
 NO_2 , optimisation of diffuse Gaussian exponents 9-3364
 NO_2^- , optimisation of diffuse Gaussian exponents 9-3364

gold
see also nuclei with
adsorbed on W (100), electron field emission revealing unmasked surface reson. 9-15595
amorphous, bombard. by Au ions, collision cascades, computer simulation 9-46731
amorphous film, getter sputtering at 25K 9-38741
angle resolved XPS, temp. independence 9-19975
anodic dissolution in aqueous alkaline cyanide 9-20375
anodic electrodeposition from liq. NH_3 solns. 9-28957
atom, isolated in mol. matrix, absorption spectra 9-22724
atomic X-ray spectra, parity violation, from electron-nucleus weak currents (*Russian*) 9-22642
biological specimen prep. for SEM 9-5421
Bloch waves, corresponding atomic and mol. orbitals, in HEED 9-27880
chemisorption of O_2 , catalytic effect of Ca, AES study 9-15021
coated Cu, corrosion by thermal degradation products of chloroprene and silicone rubber 9-47801
condensation kinetics on KCl substrate, evolution of size distrib. function 9-28243
contact for n-GaAs, ohmic, planar, formation and props. 9-15223
crowdions, prop. anal. using Frenkel-Kontorova model 9-42056
curvature factor, interpretation of de Haas-van Alphen oscillation amplitudes 9-47000
DC reactive sputtering, glow discharge mass spectrometry and X-ray diffr. 9-38701
decoration of additively coloured $\text{NaCl}:\text{OH}^-$, form. and decay of defect clusters and elec. double layers 9-10850
deposited on alkali metal substrates, calc. binding energy of Au atoms to substrate 9-33208
diffusion through electroplated Pt film, AES obs. 9-14968
dispersed particles in NaCl, age hardening of surface, double decoration obs. 9-11634
drops, VLS growth of TiP whiskers on drops 9-4497
dynamical factors calcs., by multi-slice dynamical diffr. methods 9-23505
electrical resistivity 9-38042
electrode, electrochem. oxidation of N_2H_4 and methylhydrazine, appl. to gas monitoring 9-39248
electrode, emersed, electrorefl. spectra 9-28788
electrode, single cryst., (100), solid and thin-layer differential-pot. capacity curve with NaF aq. soln. (*French*) 9-47932
electrodes, drift and thermal diffusion in amorphous semicond. thin films, α -particle backscatt. meas. 9-4434
electroless plating on GaAs for fast characterisation of epitaxial layers 9-33347
electron backscattering, X-ray prod.,, energy distrib. calc. 9-38698
electron inelastic mean free paths and energy losses, electron gas statistical model 9-46733
electron irradiated, low temp., Frenkel defects, diffuse X-ray scatt. study (*German*) 9-23601
electron microscopic examinations, HV, nearly aberration-free lattice images for single crystals. 9-32865
electroplated, polyphosphate, citrate-phosphate and sulphite baths, comparison w.r.t. internal stress and grain size 9-7756
electroplated layer, dropwise steam condensation, thickness depend. 9-46791
electroreflectance spectra of monocrystals., anisotropic surface effects 9-8123
epitaxial growth and nucleation on NaCl during ion bombardment 9-11024
epitaxial layer, grain boundaries, electron microscope obs. 9-11025
evaporated particle, high resolution electron holography with field emission electron microscope 9-30614
EXAFS at L-edges of heavy elements 9-47543
FCC, stacking fault, antiphase boundary energies, investig. methods, review (*French*) 9-42080
Fermi surface and thermoelec. power, de Haas-van Alphen calc. 9-4503
film, contact reaction with amorphous Si 9-23846
film, discontinuous, degradation under MeV heavy ion bombard., Rutherford scatt. and TEM obs. 9-24397
film, dynamic recoil implantation, in Si 9-14833
film, electrical resistivity, influence of metallic adsorption (*French*) 9-19677
film, electroreflectance effects 9-43055
film, electrotransport-induced failure site, minor constituents effects 9-23763
film, excess (1/f) voltage noise 9-42598
film, influence of target texture on backscatt. yield of 2 MeV ^4He particles 9-4875
film, multiple attenuated total reflection spectroscopy, initial growth process 9-19490

gold continued
film, on Ag(111), thickness and optical constns. using surface plasmon excitation 9-47533
film, on complementary cleavage planes of TGS, morphology, electron microscope obs. 9-15031
film, on Si and CaF_2 substrates, interphase coincidence boundaries 9-1560
film, on W substrate, chemisorbed N_2 effect on crystallite growth, FEM obs. 9-46976
film, surface roughness effects on the energy dispersion of backscattered protons 9-24403
film, thermal phonon radiation into α -quartz substrates 9-42363
film, vac. deposited on V, Au or amorphous C substrates, surface pot. and work function 9-42672
film, vapour deposited, attenuation and phase vel. of SAW interacting with charge carriers 9-46136
film, vapour deposited on polymer, ageing, adhesion, elec. cond., electrochem. pot. (*Russian*) 9-33362
film, very thin, on MgO (001) surface, AES obs. 9-33870
film, void size and number prediction 9-28256
film electrode, electrochem. adsorpt. of O_2 , elec. resist. obs. (*French*) 9-29372
film on Cr adhesion layer, etching, SEM anal. of abnormal undercutting 9-5075
films, on Al, Ni, EUV reflection efficiencies 9-14073
films, thickness meas. standards for Rutherford backscatt. 9-40529
foil, 8 ns laser pulse-target interactions, ion-expansion struct. 9-14575
foil, proton energy straggling determ., at 0.35, 1, and 1.75 MeV, γ -emission reactions 9-4354
Gruneisen parameters, dynamical study using modified Bhatia model 9-37797
immersion plating on Al, adhesion and contact resist. 9-39033
inner electron wavefunction, meas. using Bragg scatt. of 412 keV gamma-radiation 9-14734
interface with dilute ^3He - ^4He mixture interface, Kapitza resist., dynamic meas. 9-28188
ion scattering energy spectra by TOF and electrostatic analyser methods, comparison 9-2895
island film, role in oriented crystallisation of Ag on active a-C 9-7762
island films, forming process, I-V characts., and switching 9-11242
Kambalda (W.Australia) komatiite sequence, Au, Pd, Ir and Ag in inter-lower sedimentary rocks 9-20830
laser, vapour, 627.8 nm UV emission, average output power and efficiency 9-45933
lattice images, obs. with a field emission electron microscope 9-14659
lattice vibrations and ideal elec. resistivity 9-46770
magnetoresistance, of quenched and annealed metal, defect scatt. 9-4981
mean excitation energies from α -particle stopping power meas. 9-13615
metal beam epitaxy, high temp. high purity sources 9-43156
mobility of small crystallites on KBr cleavage planes 9-23857
nucleus formation and growth, effect of intermittent deposition 9-23853
overlayer on GaSb surfaces, adatom interactions, photoemission obs. 9-33898
particles, nucleation centres in polyethylene terephthalate crystn. 9-15658
phonon dispersion, model pseudopotential method 9-23685
phonon-limited elec. and thermal resistivity 9-42517
phononisation and electron impact ionisation relationship, mean free paths 9-22672
photoelectric cross sections, from total absorption cross sections, 5 to 130 keV 9-26947
photoemission, location of transitions in k space along lines of high symmetry 9-47594
photoemission from indirect optical excitations 9-43103
photoemission spectrum for exploding wire radiator source, Boltzmann eqn. soln. 9-26949
photoemission study of bulk and surface electronic struct. 9-4894
photographic emulsion sensitization mechanisms 9-20419
plasma impurity X-ray emission, in H_2 DIVA Tokamak 9-32820
plating assessment for printed circuits 9-43163
proton diffusion, config. and activation energies 9-37878
proton stopping cross sections, 350 to 650 keV backscatt. technique 9-4352
radiation-stimulated dissociative diffusion in Si model 9-23785
range of $^{27}\text{Al}^+$ ions, meas. by (p, γ) reson. broadening 9-46729
secondary ion emission, energy spectra, 0-55 eV, contamination levels 9-15573
sensitivity speck, formation during ripening, nature and role 9-39171
small particles, size effects studied by electron energy loss anal. 9-47567
small particles, transition cluster-solid state 9-33593
solar black, optical props., microstruct. influence 9-42937
spin properties of conduction electrons 9-46999
sputtering, by point defects, time-of-flight spectra 9-47573
sputtering coating in oil-contamination free vacuum for SEM 9-12784
stopping cross section meas., ^4He , 0.5 to 21. MeV 9-4353
stopping powers, low energy, determ. by TOF techniques 9-45594
surface, He, Ne, and Ar ion irradi., 0.05 to 3 MeV, orientation of fast ions excited in surface collisions 9-4876
surface, iodine ion adsorption, depend. on electrode crystallographic orientation 9-15020
surface, sputtering with 15 and 30 keV H^+ , He^+ and Ar^+ ions (*German*) 9-24407
surface (100), disordered, diffuse LEED intensities obs. 9-4462
surface (111), relativistic effects on LEED intensities 9-7737
surface atoms, XPES, core level binding energy, density of states 9-8224
surface plasma waves 9-47151
surfaces, Van der Waals forces computation 9-15204
surface (101), disordered, diffuse LEED intensities, statistical disorder theory 9-4463
thin film, influence of coalescence on growth kinetics 9-46981
thin film bicrystal, annealing twin form. by boundary dissociation 9-47729
thin foil thickness meas. using ^{148}Gd and ^{241}Am alpha-particles 9-30417
thread, pull-off force with respect to Pt thread, in air, influence of elec. charge 9-11196
transmission sputtering by $\text{Ag}^+(\text{Ar}^+)(\text{He}^+)$ ions 9-4885
vapour deposition, improvement of adhesion, line definition, contact resistance and semiconductor properties by sputter-etching 9-43145
VPE on W (110), alignment of (111)FCC-(110)BCC epitaxial metal pairs 9-19488
X-ray cross sections, L-shell, proton induced, 1 to 3 MeV range 9-1799
X-ray Debye-Waller factors, CGW vs. DAF models 9-37794

gold continued

- Ag-Au thin film couples, polycrystalline, low temp. diffusion, resist. obs. 9-4435
 Au, ground and excited states, pot. energy curves, relativistic effects calcs. 9-31416
 Au island epitaxial films, on (111) surface of fluorite, discrimination of twin orientation 9-46983
 Au, photoelectron spectra, occupied surface-state bands in sp gap 9-43094
 Au/(Zn)-phthalocyanine/Al(In), photovoltaic effects, dark elec. props. of rectifying cells 9-4604
 Au/(Zn)-phthalocyanine/Al(In), photovoltaic effects, illuminated thin-film cell props. 9-4605
 Au/Au-Ge/GaAs structure, ohmic contact behaviour, alloying time effect 9-19659
 Au/Cr layered films, microstruct. and interdiffusion during ageing, 423 to 573K 9-46965
 Au/Pb thin film couple, room temp. interdiffusion study 9-28154
 Au/Pt interface, diff. studies of conc. variations 9-42322
 Au/Pt/Cr films, diffusion of Si, depth anal., optical and Rutherford backscatt. meas. 9-10981
 Au/Si interface, X-irradiated, dose profiles 9-24388
 Au/Sn evaporated film, interdiffusion, X-ray diff. and ion backscatt. obs. 9-3121
 Au-Al₂O₃(Al₂O₃-MgO) cermet selective surfaces for evacuated solar collectors 9-43785
 Au-CdF₂ Schottky diodes, degradation 9-23969
 Au-CdS-Al structure, interfacial phenomena, complex impedance meas. (French) 9-42668
 Au-CdS(GaP) Schottky diode, elec. props. under stress 9-15222
 Au-CuO Schottky barrier solar cells, surface anal. using AES 9-43759
 Au-GaAs Schottky barriers, PES and depth profiling obs. 9-42641
 Au-GaSb Schottky barriers, PES and depth profiling obs. 9-42641
 Au-InP Schottky barriers, PES and depth profiling obs. 9-42641
 Au-InS Schottky-barrier diode, tunnelling current due to thermionic-field emission 9-33340
 Au-n-Si-Pi structure with wavelength depend. photocurrent sign, photodetector 9-12849
 Au-Si contact, O determ. by SIMS, nuclear reaction and Rutherford backscatt. anal. 9-4482
 Au-SiO₂-Ge, sandwich structure, exam. of image structure using mirror electron microscopy (German) 9-11019
 Au-WO₃ electrochromic cermet, optical and electrical props. 9-33674
 Au-WO₃ electrochromic cermets, resist. and optical density meas. 9-8201
 Au-ZnSiP₂ Schottky contact, production and props. 9-7901
 Au+⁴He²⁺, L-shell ionis. probability, X-ray prod. 9-18276
 Au+H⁺, atomic K-shell ionis., X-ray emission 9-18280
 Au+H⁺(He⁺) interactions, backscatt. ions energy spectrum, computer simulation of ion motion 9-43088
 Au+He²⁺, high energy ionis. probability, semiclassical approx. with relativistic Hartree-Fock function 9-6998
 Au+Xe, 4.7 MeV, u⁺, meas. of shape and absolute value of 1s σ excitation probability 9-13816
 Au₂, ground state, ab initio effective core pots., relativistic effects calcs. 9-31377
⁷⁹Au+¹⁹F(²⁸Si), target La X-ray prod., projectile charge state depend. 9-47549
¹⁹⁹Au, carrier-free extraction from neutron-irradiated ¹⁹⁸Pt, medical appls. 9-2130
 CdInGaS₂Au, single crystal, thermally stimulated conductivity (Russian) 9-11142
 Ge-Au film, polycryst., struct. props. determ. 9-4494
 He-Au, UV ion laser, dominant transition at 280 nm 9-942
 InP-Au Schottky contacts, interfacial oxide layers used to increase effective barrier height 9-7896
 KCl:Au⁺, absorption band shape in D-mode model 9-47485
 n-Si, diode with Au traps, negative differential conductance 9-11221
 Si-Au, diffusion of Au anal. 9-23786
 Si-Au, IR absorption and elec. resist. meas., impurity centres 9-38580
 Si-Au, thermally stimulated capacitance method fitting anal. 9-47107
 Si/Au interface, X-ray dose enhancement, Monte Carlo calcs. 9-22484
 Si-Au Schottky diodes, role of O in formation mechanics 9-42639
 Si-Au-P system, partition coeff. of P, temp. depend. 9-43158
 Si₃Te₄As₁₀Ge₁₀Au, Schottky barrier props. 9-7897
 Ti-W/Au metallisation on Al, temp. stability, barrier props. 9-23868
 ZnS:Au, phosphor, 'blue' and 'green' centre form. (German) 9-38665

gold alloys

see also gold compounds

- rare earth intermetallics, RAu₂, mag. props., 4.2-300K 9-7972
 Ag-Au, ion irradi., surface segregation and selective sputtering, AES expts. 9-7740
 Ag-Au, liquid, surface tension (Japanese) 9-19431
 Ag-Cu eutectic composite wire, HF conductivity and skin effect 9-33305
 Ag-Sn-Au, dental amalgams, effect of small additions of Au, struct. and corrosion study 9-20718
 Al-Au, liquid alloys, exam. of Si diffusion (Russian) 9-28118
 Al-Au, precipitate plate growth kinetics 9-15679
 Au/Au-Ge/GaAs structure, ohmic contact behaviour, alloying time effect 9-19659
 Au/Zn/InP Schottky barrier diode, fabrication and elec. props. 9-33348
 Au-Al-In solid soln., elastic strain energy depend. of supercond. T_c 9-38229
 Au-Cd, behaviour of Cd d-bands, comparison with Hg and Ag alloys 9-37972
 Au-Cd(Ga)In alloy, UPS exam. of valence bands 9-19511
 Au-Co, electroplated, 'polymer' inclusions, chem. identity obs. 9-37931
 Au-Co electrodeposit, struct. and hardness characts. 9-28245
 Au-Cu-Ni, computer characterisation, exam. of phase equilibria and miscibility gap 9-11561
 β -Au-Cu-Zn, martensitic transformation temps. ageing and quenching effect 9-47687
 Au-Fe, dil. alloys, spin glasses, modified bond model calcs. 9-33489
 Au-Fe, polygonisation, recrystallisation, precipitation microstruct. without external plastic deform. 9-43276
 Au-Fe, spin glass, spin relaxation rates, neutron scatt. study 9-47235
 Au-Fe, spin-glass, characteristic temps. 9-38348
 Au-Fe (1-7 at.%), extraordinary Hall effect, near ferromag. percolation limit 9-19575
 Au-Fe (15 at.%), small angle neutron scatt. study 9-47293

gold alloys continued

- Au-Fe (20 at.%), mag. virtual bound state alloys, XPS of core states 9-47588
 Au-Fe dil. film, mag. susceptibility max. 9-24173
 Au-Ga alloy, alloys, electronic struct. 9-37974
 Au-Ga-In solid soln., elastic strain energy depend. of supercond. T_c 9-38229
 Au-Ge, ohmic contact for n-GaAs, formation and props. 9-15223
 Au-Ho nuclear orientation thermometer for use from 1-30 mK 9-17419
 β -Au-Mg, de Haas-van Alphen effect, relativistic LMTO bandstructure, Fermi surface 9-37959
 Au-Ni, mag. clustering 9-7977
 Au-Ni, magnetisation and sp. ht., ferromag., paramag. and crit.-conc. regions 9-38330
 Au-Ni (30 at.%), singularities of struct. state, diffuse electron and X-ray scatt. (Russian) 9-4945
 Au-Ni bimetallic cluster, segregation and short range order props. at boundaries 9-29071
 Au-Pd, biological specimen prep. for SEM 9-5421
 Au-Pd, He(I) photoelectron spectra, 5d band 9-33892
 Au-Pd-Pt-Ag, composition-property diagrams, mathematical models for diagrams (Russian) 9-11554
 Au-Pd(Pt), elec. resistivity, temp. depend. between 1.6 and 4.2K (German) 9-28337
 Au-Pt (60 at.%), solid soln. neutron small-angle scatt. study of phase decomp. 9-15646
 Au-Si-Mn, amorphous spin glass film, mag. susceptibility 9-42775
 AuCu II, periodic antiphase struct. (French) 9-14937
 AuGa, and AuGa₂, supercond. transition temp. and crit. field 9-38232
 Au₂(Mn₂Z₂), Heusler alloy, (Z=Al, Cu, Ga, In or Zn), magnetic order and coupling 9-38303
 Au₄Mn, fully ordered, microstruct., high resolution electron microscopy 9-1439
 Au₄Mn, high resolution dark field electron microscopy exam. of ordering 9-7615
 Au₅Mn₂, monoclinic, ordering, high resolution electron microscopy 9-43290
 (Au_{1-x}Pd_x)Ga₂, supercond. transition temp. and crit. field 9-38232
 Au₄V, partially disordered, magnetisation distrib., polarised neutron diff. study 9-47244
 Au₂Zn, R₂-phase, long period domains, transmission, scanning and optical microscopy obs. 9-38801
 Au₄Zn, ordered alloy, long-period antiphase boundary struct., growth mechanism 9-19262
 Cr-Au, matrix sensitive and insensitive factors evaluation using quantitative AES 9-24395
 Cu-Au, (0.02-5 at.%), cold worked, internal friction peaks 9-11652
 Cu-Au, calc. of coherent phase diagram, using cluster variation method 9-11564
 Cu-Au, dil., thermal neutron irradiated, isochronal resist. recovery, 30-400K 9-19287
 CuAu, exam. of streaming due to intrinsic fluctuations 9-11602
 CuAu, order-disorder transform., band theory for internal energy 9-19539
 Cu_{1-x}Au, neutron scatt., selection rules for phonon mass operator 9-28065
 Cu₃Au, atomic rearrangements during fast and thermal neutron irradiation 9-42114
 Cu₃Au, Debye-Waller factor measurement in anal. of diffuse scattering data 9-23494
 Cu₃Au, dynamics on transitional ordering process from disordered to ordered state 9-4267
 Cu₃Au, elec. resistivity, temp. depend. 9-47078
 Cu₃Au, meas. of ordering instability 9-38818
 Cu₃Au-Co, single crystal, overaging mechanism 9-20081
 Cu₈₁Ag₁₉S₁₈, meas. of ordering instability 9-38818
 Fe(Pd_{1-x}Au_x)₃ ordering alloys, mag. props., 4.2 to 500K (Russian) 9-47301
 Gd-Co-Au amorphous film, domain wall dynamics near compensation point 9-1696
 Gd-Co-Au film, ferrimag., amorphous, coated with Permalloy films, mag. props. 9-1695
 La-Gd-Au, amorphous spin glasses, mag.-cluster description 9-42776
 La_{100-x}Au_x, amorphous film, stability, supercond. temp. and residual resistivity 9-4636
 MgO-Au cermet films, for selective black absorbers 9-29483
 Nb₃Au, supercond. diffusion layer prep. 9-1834
 NiAu, dil., disordered, virtual bound states, reson. model pot. theory 9-23934
 Pb-In-Au alloy, Josephson junction electrode materials, strain relax. 9-38255
 Pd-Au, low temp. thermoelectric power 9-47084
 Pd-Au film on BaTiO₃ dielectric ceramic substrate, interaction between film and substrate during sintering 9-33958
 Pd-Au-Ag ternary system, isoparametric curves and Wegard's law plots 9-47657
 PdAu, dil., disordered, virtual bound states, reson. model pot. theory 9-23934
 Pt-Au, surface comp. and catalysis, AES and thermal desorption meas. 9-46898
 Si-Au alloys, direct synthesis by implantation of Au⁺ (Japanese) 9-28006
 Si-Au amorphous film, metal-nonmetal transition, elec. cond., thermoelectric power meas. 9-47132
 Si-Au amorphous system, optical absorpt., IR photocond. 9-42582
 TiAu, dil., disordered, virtual bound states, reson. model pot. theory 9-23934
 Ti₃Au, self-consistent LMTO band calcs. 9-37954

gold compounds

see also gold alloys

- tetrachloroaurates, ³⁵Cl NQR freqs., correl. with crystallographic data 9-33559
 Au-Cl system, high temp. vapourisation chemistry incl. form. of vapour complex species 9-47963
 AuAg₃Te₂, petzite, X-ray cryst. struct. refinement 9-46634
 AuI, elec. cond. 9-42302
 Au₂P₃, polyphosphides with weak Au-Au interactions, cryst. struct. determ. by X-ray techniques 9-37674
 Au₂P₁₀I₆, polyphosphides with weak Au-Au interactions, cryst. struct. determ. by X-ray techniques 9-37674

gold compounds continued

Au-S, concentration specks, latent image formation 9-34334
 Au₂S, gas, bond dissociation energy, from high-temp. mass spectra of V-Nb-Mo-Au 9-45860

goniometers

image analyser comparative tests 9-14106
 moiré pattern detection by solid-state dynamic self-scanned photocell array 9-32084
 polishing device, universally adjustable goniometer 9-2755
 ultrahigh vacuum system, for channelling backscattering experiments (*Japanese*) 9-26061
 US, for measurement of surface stress in steel 9-15947
 X-ray goniometer, for producing accurately oriented crystals 9-37591

GP zones see *Guinier-Preston zones***grain boundaries**

for grain boundary diffusion, see *diffusion in solids; for grain boundary segregation, see segregation*
 see also *bicrystals; subboundary structure; twin boundaries*
 alloy, solid solution, grain boundary mobility 9-46676
 anisotropic media, stress fields of dislocation arrays (*German*) 9-23615
 athermal motion 9-14819
 Bauschinger effect, grain boundary contribution 9-47759
 bicrystal, electron diffraction from near coincidence twist boundaries 9-7526
 bicrystals, grain boundary analysis using TEM 9-28003
 α -brass, bicrystal, grain boundary fracture at intermediate temperature (*Japanese*) 9-15774
 α/β brass, grain boundary sliding and intergranular cavitation during superplastic deformation 9-5009
 C GaP on GaAs substrate, heteroepitaxial layers, structural defects (*German*) 9-23865
 cavities, star-shaped unstable growth 9-46679
 cavity nucleation, by plastic deformation, at grain boundaries 9-29127
 coincidence site lattice, differential geometry 9-28000
 computer simulations, of twins and grain boundaries, methods in X-ray topography 9-23484
 creep, diffusional, grain boundaries as point defect sources or sinks 9-37757
 diffusive cavitation of grain interfaces, non-equilibrium models 9-46668
 Duralumin, effect of alloy purity and ageing on fracture mechanism, and resultant toughness 9-5049
 energy and fine structure, surface dislocation model 9-28002
 engineering materials relation between deformation, rupture, power-law creep 9-5020
 FCC/BCC partial coherent, boundaries, computer modelling 9-46669
 ferromagnetic domain wall dynamics and soliton theory, coercive force determined 9-42796
 film systems, grain boundary diffusion, book contribution 9-1526
 fracture mechanism in various temperature and stress intervals (*Russian*) 9-24600
 general theory, microscopic derivation in crystal 9-1441
 groove profile, effects of surface free energy anisotropy 9-7734
 grooving under influence of evaporation or corrosion 9-28179
 ground surface profile, crest and trough height distribution, Monte Carlo simulation (*Japanese*) 9-34180
 ground surface profile power spectrum, Monte Carlo simulations (*Japanese*) 9-34179
 high angle, thermally activated movement 9-33002
 homogeneous material, 2D defects, interface problems 9-46674
 hydrostatically compressed crystals, crack nucleation mechanism 9-10893
 Incoloy 800, degree of sensitisation vs. minimum Cr at grain boundaries 9-47721
 intergranular fracture energy, effects of segregated impurities, to grain boundaries 9-38928
 laser optical simulation of diffraction from distorted lattices 9-23612
 low-angle grain boundary dislocations, periodic clustering, TEM 9-46681
 metal, annealing, structure and grain boundary mobility 9-47728
 metal, fracture under influence of high power US waves (*Russian*) 9-5034
 metal, thermodynamic properties of grain and phase boundaries, review (*German*) 9-34012
 metal film, grain boundary scattering model 9-15234
 metallic epitaxial layer, electron microscope observations 9-11025
 metals, grain boundary structure, description of as polyhedra packing 9-10863
 microscopic derivation of theory of extended objects in crystals 9-37704
 migration, effect of solute atoms 9-28124
 polymers, X-ray diffraction, lateral grain boundaries 9-14700
 pore shrinkage, diffusional mechanisms 9-28131
 quantum field theory of crystals and extended objects, review 9-42164
 recrystallisation nucleation, model for strain induced grain boundary migration 9-46675
 segregation; combined X-ray microanalysis and lattice fringe imaging determined 9-15681
 self limiting discharge propagation over cathode surface 9-41889
 semiconducting ferroelectric glass-ceramics, dielectric dispersion (*Russian*) 9-8097
 semiconductor, Poole-Frenkel effect, grain boundary barriers 9-11137
 semiconductors, polycrystalline, electrical conductivity theories (*Czech*) 9-42537
 semiconductors with grain-boundary barriers, boundary states' energy structure, influence on electronic condition 9-11147
 sintering, final stage, steady state diffusion models, testing of models by numerical simulation 9-4428
 sliding, of grain boundaries containing particles during diffusional creep 9-37712
 slip band theory, model for creep based on dislocation climb at grain boundaries 9-37756
 snow, growth mechanism with specific grain boundary 9-23547
 solid-phase reaction kinetics, intercrystallite diffusion role 9-33106
 steel, austenitic, K_h17N13M3T, activation characteristics of rupture, 630-730°C, Sb and Nb microalloying effects (*Russian*) 9-5033
 steel, austenitic, Mn-V-C, discontinuous precipitation, grain boundary structure, effect 9-29068
 steel, austenitic stainless, type 800, tensile creep properties. relation to intergranular microstructure, at 800°C, TEM study 9-38885
 steel, austenitic stainless, V alloyed, creep inhibition at grain boundaries, dislocation structure, TEM study 9-43346
 steel, C, X-ray line fitting by Gram-Charlier distribution, applied to tension test (*French*) 9-15689

grain boundaries continued

steel, C-Mn-P, intergranular fracture and grain boundary segregation, P, H, Mo effects (*Japanese*) 9-15775
 steel, Cr-Mo (1, 0.5 wt.%), heat treated creep failure, role of stress state 9-5047
 steel, Cr-Mo-V, rupture ductility relation to cavitation, density and SEM observations 9-34142
 steel, Cr-Ni-Mo, 'light spots', fractographic analysis 9-29204
 steel, Cr-Ni-Mo, combined B and rare earth metal additions effect on microstructure, impact strength and hardness 9-38963
 steel, Cr-V (1.5, 0.5 wt.%), ferritic, effect of temperature and microstructure on creep damage 9-5023
 steel, embrittlement by impurity segregation 9-8367
 steel, high-strength, 80 kg/mm² class, effects of metallurgical factors on susceptibility of stress relief testing (*Japanese*) 9-43458
 steel, impact and tensile properties, Si effects 9-24614
 steel, intergranular failure, role of grain boundary composition 9-20155
 steel, low-C, structural, with Zr impurities, grain boundaries, AES 9-24524
 steel, maraging, Hart's model in hydrogen embrittlement 9-24621
 steel, mild, sheet, with low Al content, annealing, AlN recrystallisation, precipitation kinetics (*French*) 9-20083
 steel, Ni-B, B effect on temperability and microstructure 9-15710
 steel, quenched, tempered, intergranular failure during fatigue crack growth 9-8357
 steel, Si, with coating, grain-oriented, domain pattern measurements (*Japanese*) 9-38353
 steel, stainless, 316, creep and rupture, 525 to 900°C, creep rate 9-11678
 steel, stainless, 316, creep and rupture, 525 to 900°C, rupture and ductility 9-8327
 steel, stainless, ferritic, Ti stabilised, examination of grain boundary structure (*Russian*) 9-15662
 steel, stainless, grain boundaries, electron microscope observations (*Russian*) 9-4311
 steels, martensitic-ferritic, austenitic, microdefect accumulation during creep, effects of heat treatment, hardening 9-24550
 surface discontinuity, annealing by surface diffusion 9-23812
 surface science in metallurgy, review 9-42388
 surface waves, derivation from general boundary theory 9-1442
 thermoelectric materials, extruded materials with tetradymite structure, primary and in situ recrystallisation, electronic properties 9-43266
 twist disclinations, differential geometry 9-14805
 unified theory of grain boundaries 9-7616
 X-ray diffraction line broadening, of crystals containing small angle boundaries, Warren-Averbach analysis 9-37578
 Zircaloy-4/stainless steel, diffusion bonding in presence of Fe intermediate layer 9-10987
 Ag-Cu (6.2 at.%), tricrystalline specimen, discontinuous precipitation, thermodynamics (*German*) 9-34043
 Al, bicrystal, faceting of migrating {110} coincidence boundaries 9-46680
 Al bicrystal, migration of special {110} tilt boundary 9-46670
 Al, computer simulation, of {110} tilt boundaries, structure and symmetry 9-37713
 Al, diffusion in migrating interfaces 9-19390
 Al film on single crystal, Si slices, long-term tests 9-33346
 Al, plastic deformation of poly- and single-crystals, AE study 9-24579
 Al, polycrystalline, in annealed and creep conditions, dislocation interactions with grain boundaries 9-42067
 Al, single crystals, misfit recrystallisation dislocations formation study during recrystallisation by X-ray synchrotron topography 9-38849
 Al-Cu, effect of alloy purity and ageing on fracture mechanism, and resultant toughness 9-5049
 Al-Fe dil. alloy, bamboo structure, grain boundary internal friction peak 9-43306
 Al-Mg₂Si (1 wt.%) secondary recrystallisation by grain boundary unsewing 9-1886
 Al₂Be₄(Si₆O₁₈), beryl single crystals, growth defects study using X-ray topography (*French*) 9-37710
 AlGe (4 wt.%), structural peculiarities of superplastic behaviour due to porosity 9-34111
 β -Al₂O₃-Na₂O, grain boundaries and ionic conduction 9-23620
 Au-Fe, polygonisation, recrystallisation, precipitation microstructure without external plastic deformation 9-43276
 Bi₂Sb₂Te₃ film, effect of structure on thermal conduction 9-28257
 Bi₂Te₃ film, effect of structure on thermal conduction 9-28257
 Cd, polycrystalline, annealed, effect of hydrostatic pressure on grain size, growth and boundary mobility 9-37717
 Cd,Hg_{1-x}Te, X-ray topographic assessment 9-37716
 CdS-CuInSe₂ solar cells, grain boundary and interface recombination effects 9-39311
 Co film, low-angle grain boundary structure (*Russian*) 9-42807
 Cu, grain boundaries, nuclear gamma resonance (*Russian*) 9-8080
 Cu, grain boundary character, revealed by etching and slip line continuity 9-33001
 Cu high purity, grain boundaries as dislocation sources in premacroyield strain region 9-34096
 Cu, single crystals, temperature dependence on grain boundaries energy and structure 9-37718
 Cu spheres, rotation and translation during sintering onto a substrate, grain boundary energy SEM study 9-38759
 Cu, structure of high-angle {001} CSL twist boundaries 9-46677
 Cu-Bi (0.0115 wt.%), embrittled, grain boundary faceting, TEM study 9-27998
 α -Cu-Ni-Zn-Pb, fire cracking, effect of pores and impurities 9-29207
 Cu-Sb solid solution, dil., FCC, intergranular solid shortness mechanism (*Russian*) 9-5032
 α -Cu-Zn(Al) fracture behaviour, effect of deformation temperature and alloying content (*Japanese*) 9-20159
 Er₂O₃, of Hf, volume and grain boundary diffusion coefficients, tracer sectioning technique 9-7712
 Fe film, low-angle grain boundary structure (*Russian*) 9-42807
 Fe, grain boundaries, electron microscope observations (*Russian*) 9-4311
 γ -Fe, grain boundary diffusion of Ni 9-23787
 Fe, gray, Mg bearing, high strength, eutectic grain determined by Si reverse liquation 9-15886
 Fe, oxidation and domain structure, electron microscope examination (*Russian*) 9-1437
 Fe-Co (33 wt.%), oxidation and domain structure, electron microscope examination (*Russian*) 9-1437

grain boundaries continued

- Fe-Cr (28 wt.%), intergranular corrosion and anodic polarization at grain boundary groove (*Japanese*) 9-15869
- γ -Fe-Cu, lattice and grain boundary diffusion of Cu 9-23765
- α -Fe-Mn(Ni), fracture mechanism in various temperature and stress intervals (*Russian*) 9-24600
- Fe-Mo (4.1 wt.%), substructs. developed during steady state creep at 1100-1200K, TEM obs. (*Japanese*) 9-38900
- Fe-Ni-C (31.9, 0.02 wt.%), metallographic study of austenite grain size effect on martensite kinetics 9-1863
- Fe-P, P equilib. grain boundary segregation 9-38835
- Fe-Si, (3wt.%) alloys, grain boundary anal., scanning AES 9-43256
- Fe-Si, internal friction, domain boundary area (*Russian*) 9-24562
- Fe-Si (3 wt.%), hysteretic losses, domain struct. and cryst. defects 9-19747
- Fe-Si (3 wt.%), temp. depend. of migration rate of secondary recrystallisation grain boundaries (*Russian*) 9-1436
- Fe-Si alloy, deformed by slip, polygonal boundary form. (*Russian*) 9-24534
- Fe-Ti alloys, kinetic trapping model for H₂-induced grain boundary cracking 9-29164
- GaAs, film, selective anodisation, grain boundary edge passivation 9-11711
- (Hf,Zr)_{1-x}80Nb₂₀, β -decomposition, effect of Hf additions 9-8304
- n-Hg_{0.61}Cd_{0.39}Te single crystals, flicker noise due to grain boundaries, meas. 9-1611
- InBi, single cryst. zone melting growth and etching 9-34189
- InP, large size single crystals, synthesis, solute diffusion technique, low-angle boundaries obs. 9-33917
- MgO, defect aggregation and thermal-electric breakdown, TEM obs. 9-42069
- MgO single crystal, cathodolum. in SEM 9-1440
- MgO, ultrafine grained Fe doped, high temp. creep 9-15727
- Mg₂SiO₄, etch pits in cleaved faces, revealing low angle boundaries 9-14818
- MnZn ferrites, doped; determ. of grain boundary composition, using Auger spectroscopy (*German*) 9-23618
- Mo, atomic structure of grain boundaries 9-33003
- Mo, grain boundaries, electron microscope obs. (*Russian*) 9-4311
- Nb alloy, VN₂AE, influence of nitriding on heat resist. and brittleness (*Russian*) 9-8380
- Nb, bicrystal, flux pinning by grain boundaries 9-24114
- Nb-Zr-C, structural depend. of elasticity limit fracture features (*Russian*) 9-29171
- Nb₃Ge films, magnetron sputtered preps. and microstruct. 9-38276
- Ni film, low-angle grain boundary struct. (*Russian*) 9-42807
- Ni, structure of high-angle (001) CSL twist boundaries 9-46677
- Ni/Fe layers, interdiffusion, Auger sputter profiling obs. 9-46848
- Ni-Al, grain boundary diffusion in migrating boundaries 9-46830
- Ni-Co-Cr-Mo-Al, Astroloy, extruded powder metallurgy superalloy, recrystallisation study 9-4976
- Ni-Cr, wrought, fatigue at high temp., microstruct. assessment 9-29208
- Ni-Cr (2 wt.%), role of hydrostatic pressure on sintering of creep cavities 9-28980
- Ni-Cr-Mg alloy, KhN70VMTyU, Mg effect on grain boundary struct., props. 9-19261
- Ni-In, FCC crystals, exam. of volume transform. kinetics of cellular precipitation 9-11625
- Ni-Si, intergranular segregation of Si, electron energy loss spectrometers, X-ray anal. (*French*) 9-8388
- NiO, single crystals, annealed, dislocation arrays in low angle tilt boundaries, TEM study 9-37707
- Pb film, thermal strain, strain relax. mech. 9-42427
- Pb-In-Au alloy, Josephson junction electrode materials, rel. to strain relax. 9-38255
- Pb-Sn (62 wt.%), intercrystalline and interface boundary sliding, tensile tests, SEM obs. 9-38886
- PbTe film, elec. transport props., grain boundary pot. 9-42679
- PbTe films, thermal cond. and elec. props., 4.2 to 300K 9-28162
- Sb₂S₃, film, defect struct., electron microscope 9-28224
- Si, CVD film, transport props. 9-24089
- Si, epitaxial layers on metallurgical-grade polycryst. substrates, characteris. 9-28967
- Si, orientation anal. of polycrystalline samples 9-1438
- Si, polycrystalline, grain boundary effects on minority-carrier diffusion length and solar-cell efficiency 9-48124
- Si, polycrystalline, neutron transmutation doped, grain boundary zero-bias resistance 9-15153
- Si resistors, polycryst., elec. props. in nonlinear regime, grain boundary trapping model 9-38204
- Si₃N₄, hot-pressed, impurity phases, TEM obs. 9-8260
- Si₃N₄, reaction-bonded and hot pressed, deform. and fracture during creep 9-38916
- Si₃N₄ with Y₂O₃ and Al₂O₃ additions, hot pressed, exam. of mech. props., grain boundary crystallization 9-20009
- Si₃N₄, hot pressed, MgO fluxed, grain boundary phases, lattice fringe imaging obs. 9-11540
- Te, screw dislocation substruct. studied by torsion expt. 9-10859
- Ti, surface and grain boundary free energy, zero-creep determ. 9-4313
- Ti-Al (14.4 at.%), void form. and solute segregation under Ni ion irradiation 9-42122
- Ti-Al-V (6.4 wt.%), surface and grain boundary free energy, zero-creep determ. 9-4313
- Ti-V-Si (30, 1 at%), quenched and aged, hardness, tensile behaviour and phase transform. 9-11646
- UO₂ irradiated, grain edge porosity growth 9-19285
- UO₂, surface energy (*German*) 9-7742
- W, texture and grain boundary struct., primary misorientation function 9-1877
- W, texture and grain boundary struct., primary misorientation function 9-1875
- W, texture and grain boundary struct., primary misorientation function, expt. deform. 9-1876
- W-Ti, atomic structure of grain boundaries 9-33003
- Zn bicrystal, diffusionless motion of grain boundaries, 200-405°C 9-19264
- Zn film, RF sputtered, carrier reflection coefficient determination 9-42674
- Zn-Al, dislocation slip peculiarities during superplastic deform. 9-20102
- Zn-Al (22 wt.%), superplastic, of very high purity, cavitation 9-24586

grain boundaries continued

- ZnO ceramic varistors, I-V charactrs., single grain junction meas. 9-15225
- ZnSe, single crystals, grown from melt under Ar pressure, defects form. 9-4312
- ZrC_x, micro X-ray spectral anal. of boundary zones 9-8301
- grain boundary diffusion *see diffusion in solids*
- grain growth
- alloy, coarsening by temp. cycling 9-29111
- alloy, solid state reactions, effect on microstruct. 9-29015
- alloy, two-phase, recrystallisation mechanisms 9-47708
- Astroloy, grain coarsening by critical strain annealing 9-47711
- Babbitt grade Bk-2Sh, improvement in antifriction layer props. by impulse discharge (*Russian*) 9-1917
- coarsening kinetics by ledge mechanism 9-46805
- computer simulation, of steady-state and dynamic grain growth and grain size distrib. 9-38836
- computer simulation of normal grain growth 9-11546
- grain boundary cavities, star-shaped unstable growth 9-46679
- recrystallisation, conf., Leeds, England (April 1978) 9-47706
- steady state grain growth, concept of sweep constant 9-38837
- steel, austenitic, high-speed, austenite grain growth, W addition effects 9-20085
- steel, C, austenitic, recrystallisation and grain growth obs. with photoelectron microscope 9-47730
- steel, low C, Mn, recrystallisation and grain growth in hot rolling 9-47714
- steel, low-C, structural, with Zr impurities, grain boundaries, AES 9-24524
- steel, mild, sheet, with low Al content, annealing, AlN recrystn., precipitation kinetics (*French*) 9-20083
- steels, low alloy, grain boundary anal., H₂ embrittlement, scanning AES 9-43256
- superalloy, hot consolidation of rapidly solidified powders, review 9-33965
- Al-Mg₂Si (1 wt.%) secondary recrystallisation by grain boundary unsewing 9-1886
- Al-Ti-C, grain refinements study using centrifugal force (*Japanese*) 9-20035
- Al₂O₃-MgO-Cr₂O₃, effect of Cr₂O₃ on surface grain growth 9-23815
- BaO.n Fe₂O₃, magnet, effect of SiO₂ on texture and densification behaviour (*German*) 9-24631
- BaTiO₃-PbO-B₂O₃, liquid phase sintering, effect on props. (*German*) 9-33980
- Cd, polycrystn., annealed, effect of hydrostatic pressure on grain size, growth and boundary mobility 9-37717
- Cu-In eutectoid, coarsening at 829K 9-1885
- Fe, pure, grain growth, abnormal, kinetics 9-24537
- Fe-Si, (3wt.%) alloys, grain boundary anal., scanning AES 9-43256
- Fe-Si-B-S, grain-oriented, high induction, B and S addition effect on magnetic props. (*Slovak*) 9-4697
- MnZn ferrites, doped; determ. of grain boundary composition, using Auger spectroscopy (*German*) 9-23618
- MnZnFe₂O₈, duplex struct. formation during sintering, grain growth study 9-11541
- Ni-Co-Cr-Mo-Al, Astroloy, extruded powder metallurgy superalloy, recrystallisation study 9-4976
- PLZT, exam. of grain growth in hot pressing, and liquid phase sintering 9-33981
- Pb-Sb, improvement in antifriction layer props. by impulse discharge, impulse discharge treatment (*Russian*) 9-1917
- Si:P, heavily ion implanted, polycrystalline, grain growth 9-19477
- SrFe₁₂O₁₉, ferrite, powder effect of SiO₂ during sintering, exam. of grain growth and phase diagram (*German*) 9-24473
- W-Ni system, grain growth and densification during liquid phase sintering 9-38760
- grain refinement
- steel, C, bainitic hardenability, overheating effect 9-38866
- steel, C, type 25KhN3MFA, forgings, austenite grain refining 9-38864
- steel, low-C and low-alloy types, Nb effect on cold resist. 9-38954
- Be, containerless grain refinement using BeO in space environment, melting and solidification 9-47673
- Cu-In, thermally cycled, effect on mech. props. and microstruct. 9-4987
- Cu-Si-Ni, undercooled, grain refinement 9-34079
- grain size
- see also grain growth; grain refinement*
- α -brass, acoustic harmonic generation by long-range dislocation motion 9-42150
- C2, C3 carbonaceous chondrites, grain size and petrography 9-2529
- calculation, in space filling geometries from measurable 2D parameters, computer simulated model verification 9-38838
- ceramics, crack propagation, microstructural aspects 9-15771
- crystallisation in capillary tubes, grain diameter distrib. 9-41999
- exploding wire, structural inhomogeneity and MHD sausage instability, arc chains, grain size and annealing 9-41904
- grain growth, steady-state and dynamic, computer simulation 9-38836
- metal, cold worked, grain size depend. of dislocation density 9-7614
- metal, weld pool solidification under EM agitation 9-24510
- multiphase alloy deposits, microstruct. effects 9-28254
- nondestructive measurement of grain size and anisotropy, model 170 instrument 9-11753
- Ostwald ripening kinetics, depend. on particle vol. fraction 9-46806
- oxide ceramics, dependence of props. on raw materials, exam. using ceramic magnets as model (*German*) 9-4936
- photographic film, fogging effects diagnosis, use of granularity meas. 9-47952
- steel, austenite decomposition, controlled rolling rel. to substruct., props. 9-29014
- steel, austenitic, 30KhGSA, grain size before quenching rel. to mech. props. 9-24553
- steel, austenitic, Kh17N13M3T, activation charactrs. of rupture, 630-730°C, Sb and Nb microalloying effects (*Russian*) 9-5033
- steel, austenitic 18KhGT, carburising in vac., rate, austenite grain size, C distrib. 9-20277
- steel, C, martensites, fractography, facets classification (*Slovak*) 9-20173
- steel, C, type 25KhN3MFA, forgings, austenite grain refining 9-38864
- steel, C, yield point determ. rel. to grain size, deform., ageing and temp., dislocation theory (*Serbian*) 9-34120
- steel, Cr-Mo, grain size effect on ductile brittle transition 9-24615

grain size continued
steel, high-strength, 80 kg/mm² class, effects of metallurgical factors on susceptibility of stress relief testing (*Japanese*) 9-43458
steel, low C, notched specimens, brittle fracture stress, effect of ferrite grain size, notch acuity and notch length 9-20187
steel, mild, grain size depend. of cleavage fracture toughness 9-8359
steel, mild, microstructure effect on cleavage fracture stress 9-8358
steel, pearlitic/ferritic, pearlite interlamellar spacing and grain size effect on US attenuation 9-34230
steel, stainless recrystallisation of thin bands, heating time investig. 9-38848
steel, structural, brittleness susceptibility rel. to heat treatment 9-24620
steel, white layers forming at high rates of friction, struct. props. (*Russian*) 9-15800
steel austenite, recrystallisation diagrams, heating, plastic deform. rel. to struct. 9-20067
steel low C, effect of grain size on transition behaviour and bending speed correl. (*Japanese*) 9-8345
steels, tool, cold hydrostatic extrusion rel. to struct., props. 9-20068
Ag, annealing twins rel. to stacking fault energy 9-33006
Ag, graining, comparison with colour image (*German*) 9-29380
Ag-Mn, annealing twins rel. to stacking fault energy 9-33006
AgBr homogeneous emulsions, iodide influence on photographic props. 9-44959
Al attenuation-equalising filters, diffr. phenomena in diagnostic radiography 9-39486
Al, plastic deform. of poly- and single-crystals, AE study 9-24579
Al/Ge multilayered superconducting films, crit. fields and crit. temps. 9-7945
Al₂O₃, sintering behaviour and props. of 24 aluminas (*German*) 9-4932
Al₂TiO₅, grain size pseudobrookite oxide, microcracking relations 9-29194
Au, electroplated, polyphosphate, citrate-phosphate and sulphite baths comparison 9-7756
BaFe₂O₁₉, effect of impurity concentrations, and sintering conditions on grain size (*German*) 9-23630
Be, grain size effect on mech. props. (*Russian*) 9-47749
Bi, film, evaporated, elect. and elastoresistance props. 9-33367
Cd, polycrystn., annealed, effect of hydrostatic pressure on grain size, growth and boundary mobility 9-37717
Cd-Zn (1.5 wt.%), warm worked, effect of grain size, texture, on mech. props. 9-4988
Co-Mo alloy electrodeposits, codeposited impurities rel. to H₂ permeation, props. 9-19493
Cu, cementation, characterisation of nucleation and growth from aq. soln., TEM and SEM study 9-28972
Cu-In, thermally cycled, effect on mech. props. and microstruct. 9-4987
Cu-Si-Ni, undercooled, grain refinement 9-34079
α-Cu-Zn(Al), solid soln., intermediate temp. embrittlement (*Japanese*) 9-20158
Fe-Ni-C (31.9, 0.02 wt.%), metallographic study of austenite grain size effect on martensite kinetics 9-1863
Fe₂TiO₅, grain size pseudobrookite oxide, microcracking relations 9-29194
GaAs LPE on polycrystalline Mo 9-43157
GaAs large-grained solar cell film recrystallisation 9-38737
GaAs polycrystalline film growth for solar cells 9-33941
Ge-metal film, polycryst., struct. props. determ. 9-4494
InAs, thin film prep. and elec. props. 9-1633
LiF:Mg, effects of grain size on thermolum. and thermally stimulated exoelectron emission 9-15536
MgO, hot pressed, microstruct. influence on microhardness 9-38971
MgTi₂O₆, grain size pseudobrookite oxide, microcracking relations 9-29194
Mo, shock deformation twinning, shock press., pulse duration and grain size effects 9-5021
Mo-C-Zr-B (0.004, 0.12, 0.002 wt.%) effect of grain size, cellular dislocation structure, on mech. props. (*Russian*) 9-34105
(NH₄)₁₀[W₁₂O₄₀(OH)₂].H₂O, thermal polycondensation 9-14924
Nb₂Ge CVD supercond. tape critical current anisotropy obs. 9-33372
Nb₃Sn, superconducting, formed from Cu-Sn alloy, props. 9-42709
Ni-Mo alloy electrodeposits, codeposited impurities rel. to H₂ permeation, props. 9-19493
Ni-P, electrodeposited films, amorphous and crystalline, electron microscopy, in-situ crystallisation 9-11043
PdGe, Pd₂Ge, growth kinetics and structure on Ge substrate 9-11514
Si, orientation anal. of polycrystalline samples 9-1438
Si, polycrystalline, grain boundary effects on minority-carrier diffusion length and solar-cell efficiency 9-48124
Si powder, effect on microstructure and mechanical props. of Si₃N₄ (*German*) 9-4998
Si, solar grade, directionally solidified using C crucibles, TEM study 9-47617
SrFe₂O₁₉, exam. of factors affecting reaction kinetics, thermal analysis (*German*) 9-24471
Ti, acoustic harmonic generation by long-range dislocation motion 9-42150
TiC, deposited by activated reactive evaporation, TEM and hardness 9-23872
UO₂ microspheres, prep. from UO₃ (NH₃)₂, exam. of mech. and physical props. 9-6758
VC-TiC, deposited by activated reactive evaporation, TEM and hardness 9-23872
W fibres, dependence of fine struct., on processing parameters 9-34082
W, metal-ceramic, mech. props. and structural nonuniformity 9-15705
Y₂O₃, grain size depend. of fracture energy, SEM study 9-34130
Zn, phosphate coating, effect of grain size on film formation kinetics 9-34203
ZnFe₂O₄, duplex struct. formation during sintering, grain growth study 9-11541
Zr-Nb (2.5 wt.%), annealed, irradiation growth at 353K 9-46710
ZrO₂, crystallisation from Zr(OH)₄, effect of water vapour, heat treatment and grain size (*Japanese*) 9-19170
ZrO₂, destabilisation by phosphoric acid, cubic to monoclinic transition, effect of temp., grain size, chemical composition 9-20037

grain structure *see crystal microstructure*
grain subboundaries *see subboundary structure*
grammars
multilevel syntax analysis for geological data compression 9-48569

gramophones
No entries
Granato-Lucke theory *see dislocation damping*
granular materials
see also granular structure
compacting of density hardening granular materials 9-32283
detective quantum efficiency and granularity rel. to quantum noise 9-21829
dilatant granular materials, initial planar deformation 9-41591
flow, micropolar continuum theory 9-35565
granular layer on elastic foundation, axisymmetric contact problem 9-27600
shear modulus, rel. to void ratio (*Japanese*) 9-32401
stress and strain cells 9-32416
stress-strain relations, no intergran slip, elastic zone 9-34087
thermal insulation for buildings, heat conduction in disperse media (*Hungarian*) 9-1056
thin film, optical characterisation (*French*) 9-11402
Ag granular film, plasma reson. absorpt. by incident light 9-28850
granular metallic thin films *see discontinuous metallic thin films*
granular structure
see also granular materials
speed-granularity relations for X-ray and γ-ray exposures 9-21828
graph theory
see also directed graphs; trees (mathematics)
carbocations, degenerate (CH)_N⁺ type, permutation description (*German*) 9-45658
degenerate energy levels, adiabatic and time-independ. perturbation theory diagrammatic anal. 9-2642
finite chemical graphs, characterisation by isomorphism invariant 9-13623
Gaussian polymer molecule config., large mol. Kirchhoff matrix reduction 9-13850
Gaussian polymer molecule config., stars and random regular nets, distrib. functions 9-13849
ionised system theory, general Mayer graph estimates, long range behaviour 9-46424
low-temperature series expansions, algebraic techniques 9-17352
mode-coupled multimode fibre transfer function 9-10409
molecular structure-property and structure-activity correlations, graph theoretical anal. 9-26868
molecules, axially symmetric, graphic study, no atom on symmetry axis (*Chinese*) 9-36792
numbered complete graphs, unusual rulers, and assorted applications 9-9074
permutation matrices using graphical methods of spin algebras, Serber coupling 9-6833
polar fluids, fluctuations and inequalities 9-7538
quantum chemistry, spin-free, alternacy, quantum no. assignment 9-9988
Temperley-Nagle identity for graph embeddings 9-147
graphic equipment, computer *see computer graphic equipment*
graphics, computer *see computer graphics*
graphite
ablating Jovian probe heat shield, C vaporisation into nonequilib. stagnation point boundary layer 9-1264
adsorbed Kr mono- and bilayers on graphite, two-dimens. struct., neutron diffr. study 9-42393
adsorbed benzene, diffusive motion on basal planes, neutron scatt. study 9-42385
adsorbed methane submonolayer, two types of two-dimens. fluid, diffusion coeff. 9-37920
adsorption, of first layer of Ar 55 to 62K 9-28197
adsorption and dissociation of O₂, CNDO/2 calcs. 9-28206
adsorption and migration of O₂, CNDO/2 calcs. 9-28205
adsorption of Xe, Kr, finite size effect and temp. depend., multicritical phase diagrams 9-42372
atomic thermal motions, comparisons at 300K based on X-ray neutron and phonon spectrum data 9-7657
body, heating in high-temp. gas flow, numerical soln. 9-37318
carbon fibres, graphitised, Br₂ and ICl intercalation and its removal 9-43561
chemisorption of N periodic overlayers, CO-NDO calcs. 9-7745
cloth erosion by 20 keV H₂⁺ and He⁺ ions 9-46725
coated with W, substrate for CVD of GaAs, film prep., props. and solar cell characts. 9-28930
colloidal suspension in water, dichroism in homogeneous elec. field 9-8122
contact interaction with Ni and Fe at high press. and temp. (*Russian*) 9-11722
contact interaction with WO₃ film on W, interference effect (*Russian*) 9-11721
CVD anisotropic thick hollow cylinder, residual stress due to uniform cooldown 9-42423
desorption of Li permeating graphite membrane, identification of CLi₃ 9-34392
diffraction of He atoms by (0001) basal face, bound state resonances 9-47575
diffusion coeffs. of Br₂, HNO₃, and PdCl₂ 9-42310
EBR-II fission product control, cover-gas cleanup system and graphite trap 9-9791
electrical conduction in c-direction, rel. to struct. perfection 9-38069
electron energy loss spectra, extended fine struct. in K-ionis. edge 9-47566
electron microscope, imaging of isolated individual sheets 9-2890
electrothermal atomiser using graphite braid, for at. absorpt. spectrosc. 9-34377
emulsion chamber, cosmic gamma-ray prod. spectra 9-29959
exfoliated, adsorption of benzene, -70 to -5°C (*French*) 9-33177
exfoliated, adsorption of cyclohexane, -25 to -70°C (*French*) 9-33178
femoral cement-free implant, mechanical strength tests (*German*) 9-8570
formation on C-Ni(Co)(Fe) solid solns., high-temp. metallography invest. 9-29306
galvanomagnetic properties, in strong mag. field 9-23986
Grafoil, absence of substrate nucleation of BCC ³He, 30-320 mK 9-19422
Grafoil surface with adsorbed ³He, ground state, thermodynamic anal. 9-19421
graphite, US inspection apparatus for complex profiles 9-5109
graphite nitrate, charge transfer, ionic salt model 9-11780

graphite continued

graphite-Br₂, in-plane intercalate lattice modes, Raman scatt. 9-42163
 growth shape in Fe-C melts, S and Mg effects 9-38817
 heat strength calc. for power reactors 9-36331
 -high temperature behaviour, over 2600K, polymorphic carbyne forms 9-7575
 highly oriented, pyrolytic surface, polarised reflectivity spectra at near normal incidence, surface prop. effects 9-15481
 HTGR fuel elements, neutron irradiation behaviour of graphitic matrix materials 9-19283
 intercalated with AsF₅, mag. spin susceptibility, density of states at Fermi energy 9-7966
 intercalated with Cs, melting and staging, X-ray scatt. obs. 9-19180
 intercalated with DNO₃, mol. dynamics, NMR line shape and spin-lattice relax. 9-28631
 intercalated with FeCl₃, vibrational excitations, polarised Raman spectra 9-19888
 intercalated with PdCl₂, RuCl₃ and OsCl₃, synthesis and cryst. struct. 9-8253
 intercalation by HNO₃, chemistry 9-43564
 intercalation compound, RbC₈, first stage intercalation cpd., X-ray crystallographic obs. (French) 9-32966
 intercalation compound LiC₆, synthesis method and reflectivity spectrum 9-15600
 intercalation compound with K, KC₂₄, anisotropic mag. susceptibility and phase transitions 9-19370
 intercalation compounds with HNO₃, differential scanning calorimetry investigation 9-42234
 intercalation compounds with ICl, anomalous sp. ht. due to order-disorder transform. 9-42235
 intercalation of Br₂, oxidation and residual Br effects 9-43565
 intercalation of FeCl₃, form. kinetics and microstruct. (German) 9-43560
 intercalation with TiBr₃ (German) 9-43563
 intercalation with TiCl₃ (German) 9-43562
 interstellar graphite grains, H₂ form. on surfaces 9-21367
 ion irradiated, MeV He ions, exptl. study of effects 9-4341
 irradiated, thermal cond. at elevated temps. 9-28163
 isotropic, nonlinear stress/strain relationship effect on band strength 9-20119
 laser pyrolysis in He or H₂, products exam. 9-20356
 lonsdalite—graphite phase transform. mechanism, electron diffr. expts. 9-28099
 low energy ion sputtering, theory 9-28880
 material properties, neutron irradiat. effects, model 9-10880
 mechanical props., high temp., review 9-38897
 moderator, neutron small angle scatt., thermal and radiolytic oxidation effect, porosity size distrib. 9-17977
 neutron irradiated, annealing of radiation damage 9-1465
 neutron irradiated, polycryst., low temp. sp. ht. anomalies, spin-spin interactions 9-15307
 nodule form. in cast Fe, graphite nodule form., ion microprobe mass anal. appl. 9-43295
 nuclear, change in ratio of thermal expansion coeffs. at elevated temps. 9-42283
 nuclear reactor materials, radiational size stability, effect of technological factors 9-26527
 piezorefectivity, 3 to 6 eV 9-47472
 pressure effects on structure, polymorphic transitions, X-ray diffr. anal. 9-1859
 pyrographite, surface struct., amorphisation, secondary electron spectra and AES 9-43077
 pyrolytic, N₂⁺ active ion bombardment, SIMS obs. 9-16034
 pyrolytic C coating within pores 9-41035
 radiation absorption cone, for laser energy meas. by optical calorimetry (Slovak) 9-40572
 radiation damage and its relevance to reactor design 9-33016
 Raman spectra of ground natural graphite, grinding influence 9-42956
 reactive diffusion in Zr, interaction kinetics 9-42318
 reactor, strength and deformation under conditions of cyclic variations in load and temp. 9-43355
 reactor material, stress and strain determ. depend. of mech. characts. on temp. and fluence 9-40998
 reactor material, ultrasonic nondestructive testing (Japanese) 9-43520
 reactor materials, determ. of macro and mesoporosity by stereometric anal. (German) 9-3205
 reinforced organic composite, graphite, or C-C, ablation, mathematical modelling 9-41564
 solar selective absorbers, graphite on Cu, interf. films deposited on diffr. gratings 9-14103
 specific heat anomalies around 1.45K in 13.7 T mag. fields 9-42270
 spheroidization in cast Fe, Mg residue effects (Korean) 9-43286
 standard reference material for thermal conductivity measurement 9-27496
 stress-strain diagrams, anal. and classification of low deforming materials by their behaviour under stress 9-15753
 stressed materials, mech. characts. analysis using acoustic emission (German) 9-15881
 surface, He scattering, bound state reson. and inelastic effects 9-28876
 surface, laser-induced impulse 9-43071
 surface, wettability, surface tension, contact angles of liqs. 9-37901
 thermionic cathode, Cs-coated 9-11494
 tritium effects, first wall controlled thermonuclear reactor conditions, simulation 9-647
 unipolar arc damage in hot, dense D plasma 9-3235
 urban aerosols, optically absorbing component identification as graphitic C 9-34939
 wall and limiter material for Tokamaks, induced desorption diffusion and gas production by 100 eV electrons and ions 9-675
 wetting, by molten Al, effects of US 9-15629
 X-ray attenuation coefficients, in range 0.40 to 1.54 Å 9-32855
 X-ray photoelectron diffraction, influence of radiation damage 9-19970
 Al-graphite two-dimensional shield, neutron penetration meas. 9-3245
 C black, graphitised, adsorbed methane, rot. tunnelling, neutron scatt. obs. 9-15000
 C-graphite materials, fluidised bed, carburising of metals, diffusion saturation 9-20276
 C⁺AsF₆⁻, synthesis of first stage graphite salt, relationship to first stage graphite/AsF₅ intercalate 9-24738
 C₆FeCl₃, behaviour with H₂ and CO, effect of activation 9-43623
 CsC₈ intercalation compound, cryst. atomic struct. study (French) 9-42021

graphite continued

Cu-graphite, brushes, friction and wear under severe sliding conditions against steel 9-38991
 Fe, exam. of graphite and cast Fe dissolution during sintering 9-33969
 FeCl₃-intercalated graphite, plasmon spectra 9-38011
 KC₈ intercalation compound, H₂ chemisorption (French) 9-43624
 Pt-graphite catalyst, H adsorption, ESR obs. 9-24818
 SiC-B eutectic alloys, struct. of crystallising graphite 9-38829

graphitisation
 C cathode in Al reduction cell, intercalation props. 9-43559
 C fibre reinforced glassy C composite, graphitisation 9-15643
 C films, surface struct., graphitisation, secondary electron spectra and AES 9-43077

graphitising
 steel, hypereutectoid, form. of surface graphitisation centres (Russian) 9-11720
 Fe, cast, unalloyed and alloyed, addition effects on struct., thermodynamics of microsegregation 9-8305

graphs
 see also nomograms
 selective information distribution system for international scientific co-operation (Russian) 9-179
 tube bank efficiency in cross-flow, graphoanalytic method (Russian) 9-7365

gratings (diffraction) see diffraction gratings
gratings (optical) see diffraction gratings
gratings (spectra) see diffraction gratings

gravimeters
 see also geodesy
 automated GMY-K gravity meters, marine testing (Russian) 9-39953
 haemofiltration control system (German) 9-5403
 marine digital gravity meter, computing unit design (Russian) 9-39936
 networks, adjustment (German) 9-44084
 superconducting gravimeter, general struct., detection system and precision (Chinese) 9-34995
 superconducting gravity gradiometers 9-29868

gravimetric instruments see gravimeters

gravimetry see density measurement; weighing

gravitation
 see also general relativity; gravitational collapse; gravitational red shift; gravitational waves; quantum field theory of gravitation; Schwarzschild metric; unified field theories
 analogue of electromagnetic induction (Russian) 9-21609
 anholonomic coords. and tidal gravitational field of planet 9-34723
 anisotropic Bianchi II cosmological models with matter and electromagnetic fields 9-48976
 Backlund transformations of axially symmetric stationary gravitational fields 9-40421
 bi-metric theory rel. to gravitational red shifts 9-35119
 bimetric theory, degenerate stellar mass (Russian) 9-12466
 bimetric theory of gravitation, viability, gravitational radiation from neutron star binaries 9-35611
 brachistochrones, tautochrones, evolutes, and tessellations, for teaching 9-25798
 Brans-Dicke and Sen-Dunn theories of gravitation, spherically symm. static conformally flat solns. 9-44825
 Brans-Dicke fields generated from Einstein's vac. fields 9-30308
 Cartan's theory, generalisation of spin-spin interaction 9-9169
 Cartan spacetime, pseudoscalar action 9-12691
 cartesian operator algebra for expansion of tensor quantities and equations in a spherically symmetric background 9-44821
 charged black hole, evolution of scalar perturbations near Cauchy horizon 9-35608
 charged dust equilibrium distrib., classical Brans-Dicke theory 9-12694
 conformal flatness and the Schwarzschild interior solution 9-30333
 corpuscular model of gravitation and inertia, geophysical consequences (Russian) 9-40439
 cosmological models, homogeneous, using Einstein's theory of gravitation 9-12547
 covariant 'in-out' formalism for creation by external fields 9-107
 covariant gravitational theory using Yang-Mills fields (German) 9-21615
 cylindrical wave solutions of a scalar-tensor theory of gravitation in a Lyra manifold 9-21633
 differential constants of motion for free gravitating particle systems, Newtons theory 9-9166
 differential forms in general relativity 9-44818
 Earth, external gravitational field, determinative and stochastic descriptions 9-34730
 Earth-Moon system origin determ. and lunar palaeotides 9-40098
 Einstein's field theory with teleparallelism and Dirac's electrodynamics (German) 9-40418
 Einstein field equations, covariant splitting, spherical symmetry models (German) 9-21616
 Einstein gravitational eqns., integration by inverse scatt. method, soliton solns. (Russian) 9-25940
 Einstein-Cartan generalised theory, field eqns. and contracted Bianchi identities 9-12681
 Einstein-Cartan theory, charged fluid spheres, exact solns. 9-2687
 Einstein-Cartan theory, static fluid spheres, field eqn. analytic solns., neutron stars 9-2688
 Einstein-Maxwell, homogeneous fields admitting transitive group of motions 9-40437
 Einstein-Maxwell eqns., exterior stationary axisymmetric solns. 9-21622
 Einstein-Maxwell equations, axisymmetric stationary exact solns. 9-25952
 Einstein-Maxwell equations, solns., causality violation in rotating universe 9-44828
 Einsteins assembly of test particles, reconstruction in Minkowski spacetime 9-30303
 Einsteins gravitation theory as a gauge field 9-26209
 electron-ion plasma, equilib. and stratification in gravit. field (Russian) 9-29988
 electrostatic potential in Reisser-Nordstrom gravitational field 9-30335
 EM waves, gravit. deflection and polarisation plane rot. in non-Minkowskian spacetime 9-35115
 equivalence, massive bodies of electromag. struct. (Russian) 9-21610
 equivalence principle according to Mach 9-44823
 expanding universe, galaxy correls. time evolution, gravit. instability, model 9-17145
 external torsion and the electromagnetic force 9-17306

gravitation continued

f-g gravity theory, exact spherically symmetric solns. 9-319
 fields whose brachistochrones and isochrones are identical curves, for teaching 9-25807
 fifteen parameter conformal group, geometry and isomorphism 9-9154
 Finsler space, second curvature tensor 9-17318
 general covariant group, nonlinear realisation, invariant theoretical consideration 9-35612
 general physics and heat, book 9-25814
 geocentric gravitational constant determ. from near-Earth satellite laser ranging 9-34724
 geometrised gravitational theory, energy-momentum tensor 9-25958
 geometrized theories of gravitation 9-21636
 gravi-magnetic hypothesis reconsidered 9-44362
 gravitational acceleration meas. using phonograph turntable 9-44687
 gravitational solitons 9-44838
 gravitational theories generated by groups of transformation and Dirac's large number hypothesis 9-12677
 gravitational theory of matter 9-21627
 gravitism and new astrophysical school of thermodynamics 9-29986
 incompressible flow influenced by gravitation, hydrodynamic soln. 9-41648
 indistinguishability of neutrino field and stokesian fluids 9-30159
 interacting gravitational and electron fields, Hamiltonian formulation, canonical form 9-17301
 interaction energy of ellipsoidal bodies 9-44355
 interplanetary submicron grain orbits, gravit. attraction, radiation press. and electrodynamics 9-8879
 Jacobi's virial eqn. soln. for celestial bodies 9-8832
 Johann Georg von Soldner and the gravitational bending of light, with an english translation of his essay on it published in 1801 9-17176
 large numbers hypothesis and the Einstein theory of gravitation 9-21477
 lens effect, high-intensification regions 9-25463
 linearized Einstein theory, twistors, plane fronted impulse wave backgrounds 9-30329
 local conserved currents in unified field theory 9-17307
 locally rotationally symmetric cosmological model containing a nonrotationally symmetric electromagnetic field 9-30161
 Machian framework, purely geometrical, for describing gravity and inertia 9-44651
 mass attraction of sphere and circular plane (*Hungarian*) 9-17206
 massive Thirring model connection 9-12624
 matter terms in gravit. theory, minimal prescription method 9-25916
 metric-affine gravit. theory, vol. preserving and canonical transform. 9-44826
 microscopic, as Yang-Mills field 9-44829
 neutron optics, gravitational effects and applicability of Fermat's principle (*Russian*) 9-13376
 neutron star, cold, binding energy and stability 9-17006
 Newton's law, linear depend. of mass (*Italian*) 9-12706
 Newtonian cosmology, extension to whole of space (*Italian*) 9-21475
 Newtonian cosmology, universe energy conjecture (*Italian*) 9-21474
 Newtonian cosmology and universal gravitation constant (*Italian*) 9-21473
 Newtonian gravitational theory, continua and particle dynamics 9-6038
 Newtonian mechanics and expansion of the universe (*Italian*) 9-21472
 non-gravitational foci and apexes, of paths with common launching point and common apsidal distances 9-16804
 nonlinear EM effects induced in vacuum by gravitational interaction 9-44827
 nonsymmetric unified field theory, physical interpretation and light propag. 9-21618
 oscillations of a gravitating and rotating uniform liquid sphere 9-44082
 particle-classical field interaction, appl. to linearised gravitation and symmetric electrodynamics 9-5992
 perfect fluid cosmology with geodesic world lines 9-25775
 photon decay in curved space-time, Hubble red shift and solar limb effect explanation 9-35606
 photon energy shift, possible antigravity in gravitational red shift 9-12673
 photon motion in gravitational field of rotating cylinder 9-25937
 planets, differential rotation, gravitational effects 9-8862
 Poisson's eqn. numerical soln. for flattened centrally condensed objects, stellar models 9-35110
 post-Newtonian n-body problem in gravitation with PPN parameters γ and β , centre of inertia 9-17325
 potential theory, time varying, comparison with general theory of relativity 9-30305
 predictive relativistic mechanics of gravitating masses 9-25914
 prestellar gas, element separation by gravitational diffusion 9-21386
 projection tensor formalism for stationary axisymmetric gravitational fields 9-25947
 propagating torsion and gravitation 9-35615
 quadratic density distrib., figure theory, fifth approx. eqns. soln. 9-25470
 quantisation method for gravitational field (*French*) 9-30341
 radiating cylinder, gravitational field anal. 9-30332
 radiating non-twisting charged systems, gravitational field 9-40430
 reduced gravitational field eqns., on algebraically special space times with twisting rays 9-30302
 Reissner Nordstrom singularity, spherically symmetric clusters of charged particles 9-12672
 Reissner-Nordstrom gravitational field, electric dipole (*Russian*) 9-21611
 Reissner-Nordstrom-de Sitter metric, the third law, and cosmic censorship 9-35609
 Riemann gravitational theory, cosmic time asymmetry (*German*) 9-35610
 Ross theory, vacuum field solns. 9-128
 rotating cylinder gravitational field, equations of motion of material particles and photons 9-9157
 rotating stratified ellipsoids of revolution, effects on inertial frame dragging 9-2573
 Sakharov's theory of gravitation 9-25950
 Saturn, external gravit. field, tidal perturb. due to rings, mass of rings calc. 9-35189
 scalar fields, non-null eigenvalues 9-21623
 scalar metric torsion gravitational theories, comment 9-21632
 scalar-tensor theory, naked singularity 9-8826
 self-gravitating gas-particle suspension, magneto-gravitational instability, with conduction 9-29989
 Sen-Dunn theory, vacuum field solns. 9-128
 singularities, effect of self-induced torsion of Dirac sources 9-21626
 spatially homothetic cosmological models 9-25771

gravitation continued

spherically symmetric accretion of gas with self-gravitation 9-8834
 spherically symmetric charged dust distrib., Brans-Dicke theory, Schrödinger eqn. soln. 9-12693
 spherically symmetric charged dust distrib., Einsteins theory generalised to Brans-Dicke theory 9-2694
 spinning particles, eqn. of motion in post-Newtonian approx. of Einstein-Cartan theory 9-25954
 spinor-type fields with linear, affine and general coordinate transformations 9-25949
 static fluid spheres in Einstein-Cartan theory 9-35604
 static plasma polarisation in Schwarzschild gravitation field (*Russian*) 9-16825
 telescopic principles in the theory of gravitation (*German*) 9-40416
 torsion gravitational theories, spinning particle motion, Lagrangian theory 9-12692
 torsion potentials, self consistent in Einstein-Cartan theory 9-12690
 unified actions for gauge fields and gravitation (*Chinese*) 9-17305
 vacuum with spin in the ECKS-theory of gravitation 9-44830
 variable quasars and active galactic nuclei, strong gravity effect on light curve 9-16812
 Yang's gravitation theory, homogeneous cosmological models 9-17304
gravitational acceleration *see* gravitation
gravitational collapse
see also black holes; cosmology
 aspherical, matter associated perturbations, linear Einstein field and conservation eqns. 9-5843
 axion production, astrophys. implications of new light Higgs boson 9-22007
 black holes, existence of gravit. field outside black hole 9-9158
 dense stellar systems, fates 9-25652
 dust cloud in Corona Austrina, mm wavelength obs., nonhomologous collapse, rel. to star form. 9-30102
 equivalence principle, gravitational collapse, and the classical particle problem 9-25927
 galaxy formation, dynamical development and struct. of six collapsing models 9-25710
 gaseous sphere contraction vel., virial-based soln. 9-48665
 globular cluster cores evolution, life and death matters 9-25653
 gravothermal catastrophe of finite amplitude 9-2476
 homogeneous collapsing star, orthogonal vector and tensor harmonics, matter and field asymmetries 9-5841
 interstellar cylindrical clouds, two-dimensional collapse calcs. 9-40247
 Kerr black hole, gravitational perturbations 9-44819
 Klein Gordon equation, massless, bound states in Kerr metric 9-35600
 massless scalar field in a de Sitter universe and its thermal flux 9-127
 massless scalar particle creation, classical and quantum gravit. collapse (*Russian*) 9-9039
 nonrelativistic para-Fermi gas, thermodynamic and mag. props. 9-25974
 nonsingular gravitational collapse, Yang-Mills cosmos 9-21621
 perturbed spherically symmetric collapsing star, initial value problem in quasi-Newtonian background 9-5842
 protogalaxies, rot. and star form. rate 9-35374
 relativistic non-ideal hadron gas universe, gravit. collapse (*Russian*) 9-44650
 rotating axisymmetric collapsing source, soln. of Einstein's field equation for enveloping radiating zone 9-2682
 rotating black hole formation by dust cloud gravitational collapse 9-2557
 Schwarzschild geometry, nonlinear scalar field dynamics 9-275
 stable heavy neutrinos, dynamical interactions and astrophys. effects 9-5743
 stellar collapse, effects of nuclear forces, partition function and dissoc. 9-48833
 stellar collapse and the black hole limit from a dynamical view 9-30081
 stellar collapsed core, neutrino prod. of bypassed isotopes, neutrinos role in nucleosynthesis 9-40182
 tachyonic matter in the gravitational collapse, book contrib. 9-44822
gravitational constant
 cosmological parameters rel. to gravitational const. 9-48974
 fundamental constants, self-consistent values (*German*) 9-12758
 gauge field theory of gravitation, cosmological implications 9-44839
 Gaussian gravitational constant variation, determ. from visual binary stars obs. (*Russian*) 9-44537
 geocentric gravitational constant determ. from near-Earth satellite laser ranging 9-34724
 Moon tidal acceleration, no evidence for changing gravit. const. 9-16849
 nonrelationalisational, and fermion pair creation in nonstationary gravit. field (*Russian*) 9-17323
 Sakharov's theory of gravitation 9-25950
 stellar evolution with variable gravitational constant, Universe age effects 9-30052
 value, constraints from obs. of white dwarfs 9-25464
 variation, Dirac's Large Numbers Hypothesis 9-16819
 variation, effects on star clusters dynamical evolution 9-17030
 variation, implications of cosmic large numbers coincidences 9-48969
 variation, rel. to Sun and Moon accels. and origin of mountains 9-8592
 variation, summary of obs. evidence 9-12759
gravitational experiments
 Earth artificial satellites motion, relativistic effects 9-2465
 Einstein's theory verification, expts. in space, review 9-6042
 EM detector, two-level, parametric, anal. of operation 9-6041
 EM tunable gravitational wave detector 9-137
 microwave cavity gravitational radiation detectors 9-21647
 Munich-Frascati expt., final negative results 9-8830
 prototype Nb gravitational radiation antenna, microwave parametric accelerometers 9-44841
 quadrupole mass-detector, in field of weak plane gravitational waves (*Russian*) 9-21645
 quartz antenna, Q-factor 9-35623
 radiation detection by Doppler tracking of spacecraft 9-30345
 radiation detectors, and waves, review 9-126
 small cryogenic gravitational-wave antenna, meas. at 1.5K 9-21646
 star clusters, dynamical evolution as test for gravit. const. change 9-17030
 wave detection prospects, instrumental aspects 9-138
 white dwarfs mass-radius relation, constraints on gravit. const. 9-25464
gravitational radiation *see* gravitational waves
gravitational red shift
see also cosmology
 bi-metric theory of gravitation 9-35119

gravitational red shift continued

- Newtonian non rotating cosmological model (*Spanish*) 9-48978
- photon energy shift, possible antigravity in gravitational red shift 9-12673
- QSO absorption redshift systems, central gravitational redshift model 9-25753
- space-time experiments, potential of an orbiting interferometer 9-35624

gravitational waves

see also gravitons

- antenna, active resonant, for gravitational radiation, sensitivity and noise 9-30346
- asymptotic de Sitter space, grav. field eqn. solns. 9-9163
- Bianchi type-I universe, tensor perturbation equations, derivation 9-124
- bitmetric theory of gravitation, viability, gravitational radiation from neutron star binaries 9-35611
- black hole interactions, gravitational radiation emission 9-125
- colliding plane gravitational waves 9-40431
- conformal two-structure as the gravitational degrees of freedom in general relativity 9-17292
- conservation equations and the gravitational symplectic form 9-2679
- cosmological particle creation classical analogue, WKB approx. 9-30160
- cryogenic gravitational wave antennae, sensitivity 9-12705
- curvature collineation for the field of total radiation 9-21606
- cylindrical wave solutions of a scalar-tensor theory of gravitation in a Lyra manifold 9-21633
- detectability of advanced gravitational radiation, emission mechanisms 9-6033
- detection by Doppler tracking of spacecraft 9-30345
- detection by resonant antennae, theory 9-44840
- detection prospects, instrumental aspects 9-138
- electromagnetic fields conformal to non-empty space-times 9-30331
- EM detector, two-level, parametric, anal. of operation 9-6041
- EM tunable gravitational wave detector 9-137
- energy momentum in general relativity 9-21607
- geometrical spacetime perturbation theory: regular first-order structures 9-2678
- geometrized gravitational theory, energy-momentum tensor 9-25958
- geometrized theories of gravitation 9-21636
- gravitational field stochastic fluctuations 9-44837
- gravitoelectric antennas, direction sensitive, using uniformly moving charged particle beam 9-9164
- Hawking radiation of scalar and Dirac quanta from a Kerr black hole 9-30334
- high frequency waves in dissipative fluid 9-12671
- Kerr black hole, gravitational perturbations 9-44819
- laser detector for possible gravitational wave recording 9-40442
- linearized Einstein theory, twistors, plane fronted impulse wave backgrounds 9-30329
- magnetisable liquid, thin layer instability 9-41762
- measurement at 1.5K, with small cryogenic gravit. wave antenna 9-21646
- microwave cavity gravitational radiation detectors 9-21647
- Munich-Frascati expt., final negative results 9-8830
- neutron star binaries formation rel. to gravit. radiation 9-35291
- neutron stars, gravitational wave amplitudes and asymptotic eigenfrequencies distrib. for even modes 9-17300
- Newman-Penrose formalism and its application in general relativity, review (*Russian*) 9-21595
- noise, from spontaneous prod. of gravitons, energy density distrib. (*Russian*) 9-12551
- particles in circular orbits around rot. black hole, gravit. waves emission 9-17009
- periodic gravitational waves, focusing effects (*Russian*) 9-6032
- plane electromag. waves interaction, general relativity soln. (*Russian*) 9-21605
- prototype Nb gravitational radiation antenna, microwave parametric accelerometers 9-44841
- quadrupole mass-detector, in field of weak plane gravitational waves (*Russian*) 9-21645
- quantum nondemolition meas. for gravitational radiation anal., oscillator-apparatus coupling 9-2711
- radiation detectors, and waves, review 9-126
- Reissner-Nordstrom black hole, reflection and absorpt. of EM and gravit. waves 9-44820
- Sakharov's theory of gravitation 9-25950
- source energy change for gravitational wave emission in Einstein theory 9-21608
- space-matter tensor algebra in general relativity 9-12656
- spectrum at low freqs., theory 9-44350
- spherically symmetric scalar waves, gravitational self-interaction (*Russian*) 9-9165
- SQUID application to measurements in fundamental physics 9-26087
- ultralong waves from binary stars, detection opportunities 9-5746
- ultrarelativistic black-hole encounters 9-30330
- wave propagation in prestressed nonlinear elastic solids, relativistic theory, gravit. wave detectors 9-1124

gravitons

- Brownian motion theory of quantum mechanics 9-12699
- complex pp waves and the nonlinear graviton construction 9-130
- composite model of the graviton 9-35621
- duality of gravitation in the quantization problem 9-30344
- gravitational solitons 9-44838
- massless spin 3/2 field, irreducibility 9-35620
- noise, from spontaneous prod. of gravitons, energy density distrib. (*Russian*) 9-12551
- nonlinear graviton-photon interaction in Einstein-Maxwell space-time 9-30338
- pregeometry, gravity with composite metric 9-35619
- rest mass, lunar ranging data anal. by Seelinger's theory 9-6040
- rest massless, gravitational field equations of fourth order and supersymmetry 9-12674
- self-energy, general gauge calc. 9-133
- supergravity, S-matrix difficulties, graviton elastic scatt. amplitude 9-135
- trace anomaly for 4- and 6-dimensions integrated energy momentum tensor, single loop divergences 9-2709

gravity

see also gravitation

- E.Alps crustal struct., gravimetric model for HD-profile (Vicenza to Innsbruck) 9-34765
- anholonomic coords. and tidal gravitational field of planet 9-34723

gravity continued

- anomalies, conformal deform. method for singular points determ. (*Russian*) 9-39934
- anomalies, magnetic and gravitational equivalence of extrapolation (*Russian*) 9-39926
- anomalies, stratified bodies, separation technique (*Russian*) 9-39933
- anomalies extrapolation in structural gravity prospecting (*Russian*) 9-39951
- anomalies in NW Indian Ocean, appl. to oceanic crust density section construction (*Russian*) 9-48431
- anomalies interpretation, NW Black Sea 9-39633
- anomalies of two idealised bodies, theoretical transforms 9-5441
- anomalous fields, stochastic harmonic analysis 9-35003
- anomalous gravity fields interpretation, computer modelling 9-34971
- anomaly interpretation, direct and inverse problems soln. for hemispherical bodies (*Russian*) 9-35012
- anomaly interpretation, pot. fields linear anal. (*Russian*) 9-35011
- anomaly source models, statistical parameters rel. to pot. fields obtained by superposition (*German*) 9-34783
- Arctic regions, free-air gravity anomalies from 60°N to North Pole 9-48391
- N.Atlantic region, gravity anomalies, regional elevation and deep struct. 9-16421
- Badra area of Iraq, gravity investigation 9-34729
- borehole gravity date, accuracy 9-5632
- Bouguer formula of 1749, appl. to gravity corrections derivation 9-29692
- Cainozoic volcanic centres of N.Africa, gravity links rel. to E.African Rift 9-34722
- collocation and least squares methods for data handling 9-29870
- complex fields interpretation via minimisation method, automated system appl. (*Russian*) 9-35006
- contacting surface depth and shape determ., random and systematic errors (*Russian*) 9-39935
- Earth, gravity field fine struct. via. twin probes method 9-25443
- Earth, GRIM 2 gravit. pot. model determ. and evaluation (*French*) 9-8587
- Earth anomalous gravity effects during 1976 April 29 annular eclipse (*Chinese*) 9-2174
- Earth figure and gravit. field determ., least-squares collocation method 9-48392
- Earth gravity field anomalies sources, depths determ. 9-16366
- Earth tidal potential, multiple expansion 9-12062
- East Africa, isostatic compensation 9-8623
- estimation technique using FFT, inertial navigation systems appls. 9-25376
- euritic parent body, gravity and size from melt/solid segregation 9-40144
- external gravitational field, determinative and stochastic descriptions 9-34730
- geopotential, evaluation of 14th order harmonics 9-29694
- geopotential, harmonic coeffs., determ. error (*Russian*) 9-5439
- geopotential, simple layer model and resonant effects on satellite orbits 9-16364
- geopotential field, 28th degree and 27 th order terms from mean elements of US Navy navigation satellites 9-48642
- geopotential models, accuracy 9-25183
- glacier-covered regions, gravity surveys 9-16697
- gravimeter network adjustment, equiprobable interval method of sample classification 9-29889
- gravimetric and deep seismic sounding, data interpretation (*Russian*) 9-39937
- ground relief gravity effect, computer calc. (*Russian*) 9-39952
- Hawaiian-Emperor seamount chain, gravity and bathymetry rel. to oceanic lithosphere isostasy 9-39688
- Indian Ocean, 1°x1° gravimetric geoid compared with GEOS-3 radar altimeter geoid profiles 9-16365
- inverse gravitational edge effect problem, non-uniqueness resolution via a priori data appl. 9-44261
- inverse problem, non-linearity effects 9-8704
- inverse problem of gravit. and mag. prospecting, approximate soln. (*Russian*) 9-39927
- central Israel, gravity evidence for pre-Late Jurassic east-west fossil continental margin 9-34766
- local changes resulting from deformation 9-48389
- low-amplitude structure with oil (gas) deposits, parameters from gravity test data (*Russian*) 9-44271
- lunar surface gravimetric surveying process optimization 9-8846
- mantle two-dimensional flow beneath accreting lithosphere, effects on gravity field 9-12102
- Michigan Basin deep borehole, gravimeter survey 9-39634
- microseisms influence on terrestrial quartz gravity meters, mechanism (*Russian*) 9-39967
- mutual gravitational potential of N solid bodies, harmonic coeffs. expansion 9-12390
- Newcastle upon Tyne University, England, new gravity base 9-29693
- nonlinear analytical prolongation method, survey inverse problem appl. (*Russian*) 9-21037
- nontidal variations as exemplified by Hungarian depression nature (*Russian*) 9-8621
- normal ellipsoid three-dimens. field, numerical computation 9-8590
- planetary gravity field modeling from spacecraft tracking data 9-21132
- potential field anomalies geodynamic interpretation, physically based source models (*German*) 9-34782
- potential fields, two-dimensional, singular points determ. (*Russian*) 9-39925
- potential fields due to vertical circular cylinder and dike, statistical anal. 9-34972
- potential fields from arbitrary 2-, 2^{1/2}- and 3-dimensional bodies, wave-number domain expressions 9-5634
- potential on mobile base, second derivatives determ. (*Russian*) 9-39954
- prospecting, accuracy, meas. spacings and contour intervals calc. techniques (*Russian*) 9-44272
- recurrence relations for integrals of associated Legendre functions 9-29690
- residual Bouguer anomalies, line masses depth estimation via Backus-Gilbert min. distance criterion 9-44257
- Saturn, external gravit. field, tidal perturb. due to rings, mass of rings calc. 9-35189
- sounding data, upward and downward continuation as inverse problems 9-44262
- statistical geodesy, mathematical struct. and appls. 9-29696

gravity continued

three-dimensional body, external gravit. field analytic continuation into interior (*Russian*) 9-34731
Ukrainian Precambrian Shield, deep fractures analysis (*Russian*) 9-20773
 $V_{\Sigma}(V_{\Delta}, Z_{\Delta})$ anomalies over stratified bodies, interpretation analytic method (*Russian*) 9-39968
variations, rel. to gravitation and inertia corpuscular model (*Russian*) 9-40439
vector gravity survey, inertial navigation system appl. 9-29914
vertical gradient calc. methods 9-16689

gravity meters see gravimeters

gravity waves

accelerating shear flow, internal gravity waves 9-32628
atmosphere, circulation associated with cold front, moist case 9-2334
atmosphere, internal solitary waves, obs. 9-8656
atmosphere, internal waves momentum flux and orographic scatt. 9-8663
atmosphere, MHD wave propag. in presence of rot. and variable mag. field 9-40024
atmosphere, nonlinear gravity wave-critical level interaction 9-1205
billows, gravity and geostrophic waves, exact solns. 9-34908
buoyant flow, thermally driven, equations of motion 9-23334
capillary-gravity waves in two-layer fluid (*Russian*) 9-39733
Cauchy integral-equation method, steady water wave problem numerical soln. 9-10574
density wave theory of spiral galaxies 9-48939
double boundary-layer model of mass transport in progressive interfacial waves 9-10573
 F_2 -layer, travelling disturbances prod. by gravity waves, Hooke perturbation formula testing 9-40005
F-region, high latit., gravity waves obs. using fixed freq. sounding 9-25390
F-region, travelling disturbances, frequency of occurrence over Waltair, India 9-40011
fluid wave propag., gravit. instability, rot. and streaming effects 9-37293
Green-Naghdi model for water of var. depth 9-48514
hydromagnetic stability of compressible fluid 9-32689
internal, propag. in shear layer, discontinuity form. 9-32543
internal gravity waves, long, large amplitude, propagation in stratified fluid 9-37333
ionosphere, E_s -layers form. by gravity waves generated in region of solar terminator 9-12337
ionosphere, gravity waves rel. to radio waves phase path changes 9-35043
ionosphere, height depend. of travelling disturbances wave-normal depression and amplitude 9-40006
ionosphere, S. hemisphere gravity wave obs. using total electron content technique 9-21096
ionosphere, spatial resonance mechanism for equatorial spread-F irregularities drifting patches 9-21095
ionosphere, travelling disturbances determ. by Faraday rot. modulation 9-21101
ionosphere F_2 -region, meteorological perturbations due to gravity waves at sunspot minimum (*Italian*) 9-29922
ionospheric acoustic-gravity waves, Doppler sounding, rel. to storm detection and prediction 9-2326
mesopause, energy characts. of internal gravity waves obs. by OH emission (*Russian*) 9-12324
mesosphere, Arctic, vertical temp. and density patterns anal. as gravity waves 9-16622
mesosphere, gravity waves obs. from vertical vels. radar obs. at temperate latits. 9-16572
mesosphere internal gravity waves, propag. range (*Russian*) 9-16575
neutral atmospheric motions effects on two-stream irregularities in equatorial electrojet 9-16742
non-stationary capillary-gravity waves in a shear flow (*Russian*) 9-34849
nonlinear Schrödinger eqn., Fermi-Pasta-Ulam recurrence 9-10579
normal mode initialisation technique, variational nonlinear, atm. gravity waves appl. 9-5584
ocean, equatorial, zonal internal waves, math. model (*Russian*) 9-12119
ocean, gravity and Rossby waves dispersion relations 9-2280
ocean, influence of rot. on surface gravity and internal waves 9-2281
ocean, long gravity wave forcing by finite depth effect on nonlinear wave packet 9-48510
ocean, nonlinear gravity wave-critical level interaction 9-1205
ocean inertial oscills. radiation damping, wind mixed layer turbulence 9-39730
ocean internal short-period waves generation by shear flow instability 9-2273
ocean surface gravity waves during Tropical Storm Delia, directional spectra and kinematics 9-48506
one-dimensional, finite-element and finite-difference techniques comparison 9-18902
over-reflection of horiz. propag. gravity waves by vertical shear layer 9-10577
permanent wave structures and resonant triads in a layered fluid 9-37377
propagation in random media, oceanic appls. 9-5987
running stream, capillary-gravity wave problem 9-23333
solar atmospheric oscillations, power, phase and coherence spectra 9-8897
solitary wave evolution for very weak nonlinearity 9-10575
spiral density waves in galaxies, response of stellar orbits 9-44570
steep surface wave deformation, growth of normal mode instabilities 9-1206
Stokes' coeff., new relns. 9-41698
stratified ocean, vertical struct. of oscills., numerical calc. 9-39751
surface gravity wave packet development when moving over an uneven bottom 9-41700
thermosphere, gravity wave generation, propag. and dissipation 9-2405
thermosphere medium scale gravity waves, sources in meteorological jet stream, exptl. study 9-21088
trapped coastal waves on equatorial beta plane 9-20846
two-dimensional, finite-element and finite-difference techniques comparison 9-18903
upper atmosphere, gravity waves interaction with $O_2(^1\Sigma)$ airglow 9-29918
Venus atmosphere, internal gravity waves 9-5770

greasing see lubrication

Green's function methods

see also CPA calculations; KKR calculations
1f-shell nuclides, optical pot. imag. part, isotopic features 9-9535

Green's function methods continued

ϕ^4 model, Altman's contractor techniques, appl. to nonlinear integral eqns. for Green's functions 9-45005
adatoms, anisotropic long range elastic interaction between adatoms 9-33185
adatoms, electron state at high coverages 9-28400
adsorption, coherent potential approximation 9-33193
alkali iodides, U-centres 9-46775
alloy band structure, two-band alloy, multiband theory 9-37952
amorphous magnetic materials, spectral density functions 9-47269
analytic regularization in an arbitrary number of dimensions 9-26215
anharmonic oscillator, analytic theory of continued fractions, Green's function 9-6019
antiferromagnet, one-magnon light scatt., effect of anisotropy 9-33676
antiferromagnet, one-magnon light scatt. from spin-flop and paramag. regions, effect of anisotropy 9-33677
asymptotic estimates in perturbation theory and complex instantons 9-6273
asymptotic estimates in quantum field theory, Lipatov method 9-21895
atomic electron scattering, in laser field, many-body problem 9-31679
atomic hyperfine interactions, modified delta-function pot. 9-3378
atoms, electron coincidence ionisation spectra, Green's function anal. 9-31714
backward potential scattering at high energies (*Chinese*) 9-9143
band structure, deformation potentials calc. 9-1568
beam, homogeneous, initial boundary value problem of transverse vibr. 9-41601
Bloch electrons, weak magnetism, spin and spin-orbit interactions (*Russian*) 9-33443
Borel transform and the renormalization group, review 9-26238
branched cracks in 2-D, numerical soln. 9-46269
Brueckner expansion, embedding in Green's function theory for nuclear matter binding energy 9-22220
 C_n method in spherical geometry, appl. to transport problems 9-22362
Cauchy problem, linear eqns. with const. coeffs., absolute instability, 3-dimens. 9-12622
cavity, scalar Green's function, numerical calcs. using integral eqn. (*French*) 9-32110
cavity normal modes and normal freqs., Green's function numerical study (*French*) 9-32111
charged particle in field of quantised plane wave (*Russian*) 9-890
charged particle scattering in homogeneous mag. field, transition amplitude 9-10218
charged scalar particle in field of running electric wave (*Russian*) 9-889
chemical kinetics sensitivity anal. 9-20343
chemisorbed layer, depend. of work function in order-disorder phase transition 9-19460
chemisorption on real infinite systems, Green's function formalism 9-19461
classical motion of extended charges, eqn. of motion energy balance determ. 9-10250
Coulomb Green function for extended, uniformly charged nucleus 9-13199
Coulomb T-matrix, modified integral eqn. using Green's functions 9-35976
crystal surface states, calc. by relativistic Green matrix method 9-47139
DC resistivity as functional of generalised dynamical susceptibilities, solid state model 9-28330
diatomic molecule in strongly interacting solvent, IR band shape, field theoretic methods appl. 9-27038
dilute alloy, method of orthogonal operators 9-33254
dislocation, thermal vibrs., mean-square displacement, double-time Green function technique 9-19345
dislocation anisotropic theory, isotropic limit, cryst. with dislocation pile-up 9-46656
disordered alloy, self-consistent boundary site approx. in cluster theories 9-19500
disordered semiconductors, resonance Raman scatt. 9-11419
disordered substitutional alloy, mag. props., Heisenberg model 9-38342
dwarf stars, scaling hypothesis, relativistic statistics and critical mass 9-16960
Earth crust viscoelastic deform. by finite quasi-static sources, Green functions 9-39686
earthquake modelling in homogeneous half-space 9-12078
effective electron-electron interaction in a group-theoretical diagram technique 9-28303
effective fields on nucleus allowing 2p2h config., Green's function method eqns. 9-6361
elastic fracture mechanics problem, two-dimensional, anal. 9-23272
elastic plate of epitrochoid shape, transverse displacement 9-17220
elastically bent crystal, dynamical Bragg diff. of X-rays 9-14639
electrostatic, boundary value problem of four strips inside grounded cylinder 9-13862
EM exploration, target near dipping contact, response modelling 9-8595
EM wave direct scattering from one-dimensional inhomogeneous media, anal. 9-10244
energy deposition of fast ions in plasma, Green's function calc. methods 9-14559
equilibrium characteristics in the condensed state with the nearest-neighbours interaction (*Russian*) 9-12726
ethylene, ionis. pot., Green's function method and CI calcs. 9-13839
Euclidean Green functions, quantum fluctuations of instantons 9-26220
excitons in electron-hole plasma, dynamical screening and self-energy 9-15093
fermion Green's functions, functional integral representation construction 9-21941
ferroelectric spontaneous coherent state transition, chaotic phases approx. (*Russian*) 9-4776
ferromagnetic degenerate semiconductor, magnon spectrum near instability of homogeneous state 9-28516
free particle Green's function, Gaussian matrix elements 9-2667
gauge supersymmetry, spontaneously broken, quantum loops UV finiteness 9-21919
gauge theories, U-gauge Green's functions construction, with spontaneous symmetry breaking and Slavnov identities 9-235
HCP lattice with substitutional impurity, defect Green's function and T matrix 9-42191
heat conduction in axisymmetric body-duct configuration 9-32185
heat conductors with randomly varying boundaries, Green's functions (*German*) 9-32188

Green's function methods continued

- heavily doped semicond., electronic sp. ht. and transport coeff., influence of band-tail parameters 9-14941
- Heisenberg, ferromagnet, nearly two-dimensional and nearly one-dimensional thermodynamic props., Green's function investigation 9-15275
- Heisenberg anisotropic antiferromag., spectrum and correlation functions 9-28499
- Heisenberg ferromagnet, consistent linearised Green's function theory for $s=1/2$ 9-4685
- Heisenberg ferromagnet, spin waves at low temp., method of variational derivatives 9-24152
- Heisenberg ferromagnet with biquadratic exchange 9-38338
- Helmholtz eqn. within wedge 9-9130
- Hubbard model, quasi-particle energy in weak correlation regime 9-28305
- hybrid integral eqn. method, appl. to ship waves 9-32540
- impure crystals, vibr. in average local information transfer approx. 9-46774
- impurity cluster pairs, lattice localised modes 9-33058
- impurity states, calc. using Green's function method, non-orthogonal basis set (*Russian*) 9-15119
- infrared behaviour of electron Green's function, renormalisation group use 9-35977
- instanton calculations using dimensional regularisation 9-2908
- Ising field theory, 2-D, $T < T_c$ three point function string structure 9-270
- Ising field theory 2-D, $T < T_c$ Green's function strings in n-point functions 9-271
- Ising field theory in mag. field, cut breakup in two point function 9-272
- isotropic elastic strip, vibration excitation by surface and volume forces 9-32355
- junction growth mechanism during friction (*Japanese*) 9-32391
- Klauder augmented quantum field theory, Green's function formalism, Yukawa model, σ -model 9-6277
- Lehmann-Symanzik-Zimmermann formulas in a gauge-independent path-dependent formalism 9-21942
- light diffraction, Ewald extinction theorem and Green function method for semi-infinite dipole cryst. 9-23683
- linear physical field, propagator expansion in power series of coupling constant 9-30647
- linear second order systems 9-12578
- Liouville-Green approximation, general connection formulae in complex plane 9-9083
- localised crystal, quantum theory, causal Green's functions 9-42338
- Love waves, dispersion eqns. in transversely isotropic layer on isotropic elastic material 9-14308
- massless QCD, instanton contribs. to fermion Green's functions 9-22037
- massless Thirring model, saturating field configurations for two point Green's function 9-35923
- matrix Padé approximants, applics. in pot. theory 9-78
- mechanical response and the initial value problem 9-2620
- metal-insulator transition, Ising model, for transition temp., Green's function calc. 9-15084
- metals, CFC, frequency spectra, and correlated spectral density between bulk atoms 9-19330
- micropolar thermoelasticity, Green formula for infinite domain with cavity 9-30241
- molecular crystal, dipole plasma oscillations, scattering of light 9-33723
- molecular vibrational analysis, Green's function method, mixing parameter matrix determ. 9-31494
- molecule, one-particle Green's function with multiconfiguration reference states 9-31363
- molecules, electron coincidence ionisation spectra, Green's function anal. 9-31714
- monotony properties and inequalities for Green's functions for multipoint boundary value problems 9-30202
- neutron diffusion theory, angular effects in toroidal diffusion, one-group homogeneous diffusion model 9-22351
- neutron total cross section fluctuations, shell model approach using Greens function, resonances 9-22283
- non-standard perturbation theory for Green functions, nuclear spin eqns. appl. (*Russian*) 9-45
- nonpolar molecular crystal phonon sidebands, Green's function mol. model 9-37779
- nonrenormalisable model, non-cutoff Euclidean Green's function in four dims. space-time 9-21898
- nonrenormalizable quantum field models in four-dimensional space-time 9-110
- nuclear relaxation, low temp. stimulated by paramagnetic impurity 9-33563
- one-dimensional antiferromagnet, with antisymmetric exchange, Green's function theory 9-15290
- ordered adlayers, electronic struct. 9-38142
- path integral quantisation in nonrelativistic quantum mechanics (*Japanese*) 9-9138
- perovskites, d-band, surface electronic props., π -bands exam. 9-38145
- phonon scattering at multilevel impurities, dispersion, damping, Green's function calc. 9-14892
- photoelectrons in crystals, scatt. by impurity centre, multipole wavefunctions 9-42490
- photon propagator and pair production in steady electric field (*Russian*) 9-9320
- piezosemiconductor film, surface-mode acoustic wave amplification 9-46907
- plasticity equations, new functions framework (*French*) 9-21549
- preequilibrium decay models and quantum Green's functions 9-9542
- proximity-effect sandwiches, exact double-layer Green's function 9-1646
- QCD vacuum, effects on hadronic currents, instantons, e^+e^- annihilation and precocious scaling 9-332
- quadrupolar-coupled quasi-Heisenberg system, Green's function theory of phase transitions 9-38340
- quantum chemistry, electronic struct. calc., improving Σ perturbation approach 9-13642
- quantum fluctuations and particle struct. in field theory model 9-30659
- quantum mechanical eqn. of Kadanoff and Baym, time reversal noninvariance 9-17332
- quantum system, intermediate states spectrum, Sturm expansions of Green's functions 9-9132
- reaction-diffusion problem, nth order, asymptotic anal. 9-11764

Green's function methods continued

- Rindler, de Sitter and Schwarzschild spaces, Greens function thermal props., renormalisation 9-2686
- rotating fluid, waves due to sources and internal boundaries 9-37323
- scattering theory with different state spaces of perturbed and free system 9-40406
- semi-infinite transversely isotropic materials, Green's function solutions 9-46205
- semiconductor, tetrahedral, electronic struct. of point defects, surfaces and interfaces, Green's function scatt. theoretic method 9-33258
- semiconductor under intense laser field, scatt. theory, extension to non-equilibrium state of thermodynamic double time Green functions 9-43040
- Signorini's problems, reciprocal variational inequalities soln. 9-41585
- simple liquid, dynamical structure factor and Green's functions 9-4228
- SO(3) gauge invariant theory, quantisation, spontaneous broken gauge theory, S-matrix gauge independ. 9-269
- solid state systems, electron localisation and spectra 9-15110
- spin-systems, double-time Green functions method, thermodynamics 9-15313
- spinor fields in an Einstein universe, finite temp. effects 9-21614
- spontaneously broken supersymmetric model at high temperature, Green's function props. 9-26257
- stratified ocean of finite depth, water wave problem, Green's function soln. 9-48489
- streaming, uniform, past fixed semicirc. infinite strip 9-23299
- stress singularity at the corner of a wedge-shaped crack or inclusion 9-46268
- strong simple harmonic motion in isotropic layer over isotropic elastic material 9-23239
- strongly interacting solvents, IR band shapes, solvent-induced chirality, field theoretic Green's function method 9-27037
- superconductor-normal metal interface in a finite geometry 9-33404
- surface waves, finite depth rotating fluid, Green's function anal. 9-37324
- susceptibility relationship to correlation length, renormalisation group calc., anomalous-dimension crossover function 9-42780
- temperature Green's function for tunnelling model, new contraction method 9-35635
- thermoelastic dielectrics, reciprocity theorem for dynamic problems 9-37165
- thermoelasticity in solid symmetrical bodies of revolution, thermal transients, finite element analysis (*Spanish*) 9-23208
- thermosphere, structure and dynamics rel. to tides and diffusion waves 9-35026
- Thirring model with SU_n symmetry, scale invariance 9-9288
- Thomas-Fermi eqn. solns., iterative method 9-9185
- time-dependent Onsager problems, soln. 9-20457
- transient and time-harmonic dyadic Green's functions for perfectly conducting cone 9-18334
- transition metal, chemisorption of ordered overlayers with $C(2 \times 2)$ and (2×1) structs. 9-46925
- turbulent convection of scalar fields, probability density functions relax. 9-27622
- unitary groups, functional integral representation (*Russian*) 9-9309
- variation-interaction soln. of Hartree Fock eqns., Green's integral operator, SCF formalism 9-6842
- vibrating piezoelectric solid, perturbation theory for linear electroelastic eqns. 9-1739
- vibronic theory of ferroelectricity 9-19854
- Ward Takahashi identities soln. 9-241
- Wick's theorem, relation between canonical and Fokker-Planck dynamics 9-17329
- X-ray projection topographs, calc. method, intensity profiles for dislocation images 9-14638
- zincblende (110), surface relaxation 9-38143
- Ag, deformation potentials for isotropic strains 9-42506
- CS_2 , photoelectron spectra (He II), Green's function anal. 9-27031
- $CoPd_3$, mixed valence cpd., theory of inelastic mag. neutron scatt. 9-15284
- Cu, deformation potentials for isotropic strains 9-42506
- p- D_2 , order parameter temp. depend. 9-42242
- GaP:N, electronic energy levels calc., optimisation 9-28315
- Ge, impurity modes due to point defects, comparison with IR and Raman meas. 9-4386
- H, dipole static polarizability for any state, modified Coulombic Green's function Sturm expansion 9-7031
- H_2 , liq. metal, electron kinetic eqn. with exchange, elec. resist. 9-15131
- $o-H_2$, order parameter temp. depend. 9-42242
- He, isoelectronic series 9-3358
- $K(H_{1-x}D_x)_2PO_4$, polar mode softening and elastic anomaly temps. 9-28067
- KH_2PO_4 , and isomorphs, ferroelectric transition and Curie temp., soft mode effect, Green's function anal. 9-24269
- N_2 , solid, gamma-phase, anharmonic lattice vibr. 9-33705
- N_2O_4 , photoelectron spectrum interpretation 9-22761
- Nb, band struct., deformation potentials calc. by Green's function method 9-1568
- Si, energy spectrum of Fe group impurities 9-23932
- Si vacancy, defect electronic energy levels calc., optimisation 9-28315
- SiO_x system, cluster plus effective medium tight-binding study 9-33216
- VO, energy band spectrum, APW and Green's function method calcs. 9-7783
- grinding**
- ball mill grinding rate constant, under size increase feed rate effect (*Japanese*) 9-28974
- camera optical component fine diamond grinding on modernised equipment 9-46092
- control of diameter, laser-based noncontact gauging systems appl. 9-2745
- corundum, grinding, effect of grinding wheel material, particle size, temp. (*German*) 9-43173
- crystal, single, jig for precise orient. and grinding (*Czech*) 9-26047
- fibre optic elements, damaged layer struct. after diamond grinding and polishing 9-7220
- fracture and deform. mech., SEM obs. (*Japanese*) 9-15620
- glass, strength under linear tension, bending, torsion and compression of type K8 9-14062
- graphite, ground natural, Raman spectra, grinding influence 9-42956
- metals, submicroscopic surface relief after finishing 9-29276
- minerals, industrial, finest grinding methods (*German*) 9-8256

grinding continued

optical glass, kinematic relationships in automatic glass grinding and polishing machines (*Czech*) 9-32096
 optical glass ceramic, (sital) surface operation parameters, selection using bending strength tests 9-32101
 quartz, mechanically activated, reactivity (*German*) 9-29395
 rare earth-Co alloys, powdered, fine grinding in gastight attrition mill 9-33967
 residual stresses determ., ground and lapped metal surfaces 9-34211
 spherical optical component, cutting process for coarse grinding, optimisation 9-32103
 steel, grinding, effect of hardness, texture, and bond of grinding wheel, temp. effect (*German*) 9-43459
 steel, high speed, wheel loading meas. using neutron-activated workpieces 9-5070
 steel, stainless, 316, surface finish effect on low-cycle fatigue at 400°C 9-29277
 surface profile, crest and trough height distrib., Monte Carlo simulation (*Japanese*) 9-34180
 surface profile power spectrum, Monte Carlo simulations (*Japanese*) 9-34179
 Al, wheel loading meas. using neutron-activated workpieces 9-5070
 Al_2O_3 , crystallite size and lattice distortion, determination using X-ray line broadening analysis, appl. to ceramic powders 9-8261
 Al_2O_3 suspensions, grinding method influence on rheology and suitability for high-density sintering 9-29001
 C, dense hard-type solids prep. from petroleum coke powder by grinding 9-20002
 $CaSO_4:Dy$ phosphor powder, effect of grinding on thermoluminescent sensitivity 9-33852
 MgO , anisotropy of grinding damage, chem. polishing and etching 9-47793
 SiC , grinding, effect of grinding wheel material, particle size, temp. (*German*) 9-43173
 $Ti-Al-V-(Sn)$, surface finishing effect on internal stresses, X-ray study (*German*) 9-34210
 $WC-Co$, quantitative charact. of surface damage by electrochemical grinding 9-47836
 Zn ferrite, production by mechanochemical reactions by grinding in ball mill 9-20014
 ZrO_2 , wet vibro-grinding with surfactants, superhigh density sintering suitability 9-33989

grinding mills see *grinding*

ground services, aerospace see *ground support systems*

ground support equipment

see also *aircraft communication; navigation; telemetering equipment*
 Seasat-A satellite synthetic-aperture-radar processor, England (Oak-hanger) sited 9-21128
 space science instrument testing, modular, CAMAC based computer controlled ground support equipment 9-25434

ground support systems

see also *aircraft communication; navigation; telemetering systems*
 Ionosphere Sounding Satellite appl., operation planning and data anal. (*Japanese*) 9-16799
 Spacelab, high rate data handling in space and on ground, multiplexing system 9-21138
 Spacelab, payload data path from user input (on-board) to user output (laboratory) 9-21137
 UK-6 satellite, computer command system 9-25440

grounding see *earthing*

groundwater

aquifer recharge from ephemeral streams in arid regions 9-5521
 aquifer vars. rel. to transmissivity and storage, models 9-16537
 aquifers, convection, effect of temp. depend. viscosity and thermal expansion 9-32662
 Boisson spring waters, physiological props. of dissolved ^{222}Rn 9-48292
 boundary integral eqn. method for two-dimens. steady groundwater problems 9-16718
 bounding wells to counteract preexisting groundwater movement effects 9-2324
 calcite-depositing spring, chemical vars. and calcite precipitation 9-44202
 casing depths and solute travel times to wells 9-2321
 contaminant arrival distrib. as general evaluation requirements 9-16533
 contaminant arrival distrib. for steady flow in heterogeneous systems 9-16535
 contaminant arrival distrib. in transient flow systems 9-16536
 contaminant location/arrival time/outflow distrib. for steady flow 9-16534
 contaminated groundwater zone control by underground impermeable wall, radioactive waste site (*Japanese*) 9-34446
 convective dispersion, finite element. anal., book contrib. 9-34877
 cooling of infinite sill (igneous intrusion) 9-20787
 drainage basin parameters, patterns of variability, India 9-39769
 drainage runoff hydrograph calc. for loamy soils in Lithuanian SSR 9-39781
 dynamic aquifers with stochastic forcing function, analysis 9-2319
 emulsion containing water from crack detection processes using penetrating agents, purification (*German*) 9-5517
 fingero-imbibition phenomena with varying phase density, two parameter singular perturb. soln. 9-29789
 fissured aquifer with free surface level, unsteady flow to pumped well 9-16547
 flow, one-dimens. unsaturated-saturated problem, two-dimens. view 9-5525
 flow in deformable porous media, algorithm 9-2323
 flow in unconfined aquifers, integro-differential eqns. 9-5522
 flow pathways determ. from satellite altitudes, apparent radiance data appl. 9-16522
 flow rear lakes, numerical simulation 9-2322
 fracture water radioisotope abundances for earthquake prediction 9-44124
 fracture water radioisotope vars. and earthquake prediction 9-44204
 geothermal energy, review 9-29447
 geothermal fluid buoyancy, CO_2 effect 9-44203
 geothermal systems, natural convection in porous media, review 9-1194
 geothermal water, possible presence of superheavy elements (*Russian*) 9-13358
 Great Lakes, water table fluctuations rel. to W. Lake Michigan shoreline erosion 9-5542

groundwater continued

head gradient control in aquifers for fluid storage, comments and reply 9-5533
 Heidelberg, groundwater U conc. rel. to world rivers natural U content 9-44208
 hydraulic conductivity, numerical calc. from suction press.-moisture retention relation (*German*) 9-2297
 hydrothermal alteration in active geothermal fields 9-5535
 hydrothermal alteration mapping, airborne spectroradiometric data anal. and LANDSAT data appl. 9-34973
 imbibition in 2-phase flow through porous medium with capillary pressure 9-20884
 Indian radioactive thermal spring water D content, mass spectrometric anal. 9-39765
 karst depressions, areal growth rates, ages 9-48484
 Massif Central hot springs, France, alkaline earth ions acquisition, rel. to geothermometry (*French*) 9-29788
 motion into dilatant zone, electrokinetic and mag. anomalies prod. 9-39658
 Nasu hot spring, F content (*Japanese*) 9-8648
 occurrence in trapezoid terrain of Sholapur district, Maharashtra, influence of groundwater divide 9-8649
 Palmdale, California, groundwater rel. to crustal resist. changes 9-16373
 permafrost, effect of seepage flow on thawing and freezing 9-1241
 phosphate fertilizers, leaching from agricultural soils to groundwater 9-20901
 phreatic flow over sloping semipervious layer 9-16532
 pixe analysis of water with detection limits in the ppb range 9-48005
 radioactive liquid waste disposal in deep aquifers in USSR 9-29489
 radionuclide migration in groundwater from accelerator earth shields 9-48194
 radiotracer studies at Mangi for subsoil hydrological investigations 9-34869
 N.Upper Rhine Graben, negative height change causes (*German*) 9-34727
 seepage flow, Boussinesq eqn. solns. 9-2320
 stochastic analysis of one- and three-dimens. subsurface flows 9-5520
 sub-pingo water lenses, Tuktoyaktuk Peninsula, Northwest Territories, obs. 9-20873
 thermal fluids of Abano region, N.Italy, sources and circulation paths 9-20883
 two-phase interface and free surface equations in groundwater flow 9-48527
 unconfined aquifer on sloping bed, steady state flow, finite element study 9-16531
 Venice, subsidence rel. to groundwater withdrawal, model 9-5519
 water table lowering rel. to releveling in Rhine Graben (*German*) 9-34726
 water table var. on Gdansk coast rel. to precipitation (*Polish*) 9-25281
 waterbearing strata, hydrodynamic parameters (*Russian*) 9-16526
 well in confined aquifer of variable thickness, flow problem, soln. 9-20888
 ^{14}C dating, mass transfer and isotope evolution theory 9-20882
 ^{226}Ra leaching from contaminated soils, investigation of Ra bearing soils from Port Hope, Ontario 9-20900
 Rn concentration continuous monitoring using ionisation chamber 9-21068

group theoretical schemes

finite isospin groups for hadron classification, expt. consequences 9-360
 homogeneous 16-vertex model, symm. group Lorentz similarity transformation interpretation 9-9300
 $SO(4,1)$ sourceless gauge field eqns., classical solns. 9-2921

group theory

see also *Clebsch-Gordan coefficients; crystal symmetry; elementary particle theory; group theoretical schemes; Lie groups; renormalisation; SU_n theory*
 Abelian groups, Cauchy sequences 9-35519
 adamantane, deuterated single plastic cryst., normal modes and librations, group-theoretical anal. (*French*) 9-14905
 affine algebraic groups, automorphisms 9-17269
 allowable representations of appropriate small groups, calc. of system coords. and physical props. 9-2595
 analytic continuation of a group of eigenvalues 9-6010
 classical groups, invariant operators 9-21585
 completely integrable systems and symplectic actions 9-44712
 conformal invariance of relativistic equations for arbitrary spin particles 9-30649
 conformal transformations, unitary implementability 9-21965
 conformal transformations in spinor space-time 9-30674
 conformally covariant spinor field equations 9-22004
 crystal point groups, basis functions for irreducible representation, appl. to morphic effects on IR and Raman spectra (*Japanese*) 9-4265
 crystal tensor components, unitary groups appl., and phase transition selection principles 9-46589
 defect dynamics, closure of governing eqns., plastic state theory 9-37702
 dilations as propagators of Hilbertian varieties 9-9189
 education, plane rotator, degenerate perturbation theory, Zeeman and Stark effects 9-9059
 effective electron-electron interaction in a group-theoretical diagram technique 9-28303
 empirical data tables, equivalent transformation (*Russian*) 9-9208
 exotic spinors in supercond., charge depend. of quantised flux and Josephson current 9-33400
 extended integrity bases of finite groups 9-40349
 ferroelastic second-order transitions, cryst. unit cell modification, group theoretical anal. 9-37830
 ferromagnets, uniaxial, US attenuation and kinetic coeffs. near crit. point, renormalisation group theory 9-4715
 fibre bundles, Poincare group canonical representation, Lagrangian formalism 9-30678
 fifteen parameter conformal group, geometry and isomorphism 9-9154
 $GL(4,R)$ unitary representations 9-44
 gauge group and p-wave phases of superfluid 3He 9-23798
 gauge-covariant conformal transformations 9-12946
 generalised symmetry algebras for para-Fermi fields 9-30676
 generalized Galilei groups in classical dynamics 9-30221
 HCP lattice with substitutional impurity, defect Green's function and T matrix 9-42191
 heat storage, periodic, heat-carrying fluid and storage material transport kinetics 9-3901

group theory continued

- inhomogeneous symplectic group, role in framework of Wigner isomorphism (*French*) 9-12589
- interfacial roughening transition, renormalisation group theory 9-2734
- irreducible tensor operator methods in strong-field coupling 9-7811
- $U(n)$ and $IO(n)$ invariant operators and their eigenvalues 9-30194
- kerr-Schild geometry, spinors, and instantons 9-35601
- laminar boundary layer, optimal control, group theoretic approach 9-32452
- linear semi-group stability and stabilisation problems (*Chinese*) 9-35521
- liquid crystals, continuous symmetry groups 9-32902
- local class field theory generalisation using K-groups, Abelian extensions 9-44799
- local symmetry groups and fermion families 9-13030
- magnetic structures, neutron diffraction, group theory approach, magnetic determ. (*Russian*) 9-47236
- molecular CI matrix elements eval. for canonically ordered basis 9-31420
- molecular symmetry adaption, diagonalisation of overlap matrix 9-26877
- molecular symmetry adaption, force const. matrix of symmetric mols. 9-26878
- molecular symmetry adaption, representations on symmetric polyhedra 9-31368
- molecules, interacting, rigid, HF, self-consistent nonorthogonal group function approx. 9-31430
- molecules, relations between matrix elements in relativistic Hartree-Fock-Roothaan theory 9-36521
- $O(3)$ shift operators, general anal. 9-94
- $O(4) \otimes O(2,2)$ representations in quantum mechanics two centre problem (*Russian*) 9-21590
- permutation matrices using graphical methods of spin algebras, Serber coupling 9-6833
- phase transition classification scheme, equitranslational transitions 9-17374
- Poincare group $P(1,3)$, translation operator matrix elements for relativistic particles (*Russian*) 9-40696
- Poincare invariance without Poincare group 9-12992
- point groups, character formulae for isoscalar factors 9-22858
- polymer molecules, irreducible representations of symmetry groups 9-3603
- polynomial irreducible tensors for point groups 9-2593
- polynomial tensors for double point groups 9-40681
- primitive spinor model (*Russian*) 9-21522
- QFT, asymptotically free models with Yang-Mills fields, symplectic groups framework 9-2940
- quantum chemistry, spin-free, alternacy, quantum no. assignment 9-9988
- quantum chemistry, spin-free, particle-hole and pairing symmetries 9-6812
- quantum mechanics, group representation theory, intuitive approach for teaching 9-25804
- quasifree completely positive semi-group generator for nonequilibrium statistical mechanics 9-25963
- quaternions and subluminal and superluminal Lorentz transformations, book contrib. 9-44724
- Riemannian spaces, connections and spinor connections associated with finite groups of transformations 9-44842
- $SL(3, R)$, linear representation on Banach space 9-2592
- scattering cylinder of finite conductivity, symmetry group and natural resonances 9-45888
- Shubnikov space groups, selection rules 9-9075
- $SL(2, C)$ unitary representation decomposition induced by $SU(1,1)$ discrete series 9-21967
- $SO(2,1)$, plane waves on the impact parameter group (*Russian*) 9-2668
- $SO(n-1,1)$ representation matrix elements, computation formulas 9-43
- $SO(r,s)$, symmetry properties of embedded space-times 9-44814
- spinor electrodynamics, anomaly free and axially coupled, bilinear gauge renormalisation 9-307
- spinor functional determinate in Yang-Mills potential, upper bound of 1 9-311
- spinor space, quantum phenomena 9-17192
- spinor-type fields with linear, affine and general coordinate transformations 9-25949
- stationary states of quantum dynamical semigroups 9-12632
- structure, extension characs. 9-35522
- structure, extension cubic automorphism 9-35523
- superconformal algebra for Thirring and scalar superfields 9-40682
- superconformal transformations group 9-2953
- supergravity group structure 9-21619
- supergravity groups, struct., complex conjugated superspace general covariance groups 9-6036
- supergroup transformation, paraGrassmann algebra of relativistic fields 9-45029
- symmetry groups of field equations for spin 1/2 9-21568
- symplectic groups, explicit decomp. of tensor products 9-17191
- tensor fields invariant under subgroups of the conformal group of space-time 9-2603
- three pion states, permutation group S_3 irreducible representation 9-17635
- time evolution in equilibrium states without time automorphism 9-12722
- transition metal symmetric clusters, exchange multiplets and operators, group theoretic method 9-7955
- triviality of continuous multipliers for the real line 9-44767
- twistors and geometric quantisation theory 9-104
- unitary group representations, appl. book 9-30198
- unitary groups, functional integral representation (*Russian*) 9-9309
- universal metaplectic structures and geometric quantization 9-25881
- unrestricted Hartree Fock equation, in mol. systems, group theoretical classification of solns. 9-36522
- vector constants and their algebras for classical Hamiltonians 9-56
- vector groups, multiplier representation, translation-invariant traces, Fourier anal. 9-6023
- ³He, superfluid, topological classification of line singularities in cylindrical pore 9-4447

Gruneisen coefficient

- acoustic Gruneisen parameter for high-temps. in Earth's interior 9-39691
- alkali halide, dielec. const., press. depend. from Szigeti relations, Gruneisen const. of transverse optical mode 9-19828
- alkali halide high-pressure submillimetric-wave spectra 9-33694
- alkali metal, thermal expansion, elastic constants, phonon freq. anisotropy (*Russian*) 9-1516

Gruneisen coefficient continued

- alkaline earth chalcogenides, crystal parameters calcs. using repulsive interaction pot. 9-37795
- α -brass, Gruneisen parameter determ. using thermoelastic effect 9-28068
- Earth core Gruneisen parameter, reevaluation 9-39685
- globular hydrocarbons, cohesive energy and Gruneisen parameter calcs. 9-19183
- Landau theory for pressure-induced phase transitions 9-34807
- Mode-Gruneisen parameter dispersion curves CC ⁴He, FCC high-density crystal, lattice dynamics by inelastic neutron scatt. 9-1539
- naphthalene-D, press. depend. of lattice freqs. at 100K 9-46768
- polymers, glassy, Gruneisen const. calc. from thermoelastic meas. 9-14945
- pressure induced phase transitions, influence on Gruneisen parameter 9-1497
- quartz, fused, vol. depend. of Gruneisen const. 9-23670
- steel, martensitic, Gruneisen parameter determ. using thermoelastic effect 9-28068
- Ag, Gruneisen parameters, dynamical study using modified Bhatia model 9-37797
- Ag halides, dielectric behaviour and optic mode Gruneisen parameters 9-10907
- Al, Gruneisen parameter determ. using thermoelastic effect 9-28068
- Al, Gruneisen parameters, dynamical study using modified Bhatia model 9-37797
- Al, low temp., coeff. of linear thermal expansion 9-23694
- Au, Gruneisen parameters, dynamical study using modified Bhatia model 9-37797
- BN, Raman scatt. exam. of high press. effects on force const. anisotropy 9-38542
- Ba(NO₃)₂, Born-Mayer interaction pot. and lattice props. 9-37858
- BaTiO₃, X-ray diffraction intensities, anomalous temp. depend. (*Russian*) 9-1484
- Cd, resistivity, existence of Einstein type phonon mode 9-42519
- Co, Anderson-Gruneisen parameter, temp. depend., third-order elastic const. calc. 9-46776
- Cu, Gruneisen parameter determ. using thermoelastic effect 9-28068
- Cu, Gruneisen parameters, dynamical study using modified Bhatia model 9-37797
- CuBr, specific heat and lattice dynamics 9-37798
- CuI, specific heat and lattice dynamics 9-37798
- D₂, solid, equation of state, at high pressure 9-46781
- Dy, paramag., rel. to anomalous thermal expansion, up to 273K 9-7967
- Er, Anderson-Gruneisen parameter, temp. depend., third-order elastic const. calc. 9-46776
- Ge, thermal expansion coeff., optical mode Gruneisen const. 9-46820
- H₂, solid equation of state, at high pressure 9-46781
- ⁴He, HCP, lattice dynamics, neutron-inelastic-scattering obs. 9-33154
- K, phonon frequencies, normal mode Gruneisen parameters, pseudopot. calcs. 9-42184
- KBr, mode-Gruneisen parameters, acoustic phonon dispersion relations 9-42201
- K₂Pt(CN)₄Br_{0.3}·2.7D₂O, under hydrostatic press., compressibility, neutron diffraction 9-46742
- α -N₂, solid, thermal expansion and Gruneisen coeff. (*Russian*) 9-10969
- Ne, phonon dispersion relation, Gruneisen parameters at high press. 9-42179
- Ni, low temp., coeff. of linear thermal expansion 9-23694
- Pb, Gruneisen parameters and thermal expansion coeff. 9-33103
- Pd, electronic Gruneisen parameter calc. 9-11055
- RbMnF₃, antiferromag., mag. props. 9-8032
- Ru, Anderson-Gruneisen parameter, temp. depend., third-order elastic const. calc. 9-46776
- Si, thermal expansion coeff., optical mode Gruneisen const. 9-46820
- Sr(NO₃)₂, Born-Mayer interaction pot. and lattice props. 9-37858
- TaSe₂ (2H), thermal and elastic props., X-ray diffraction exam. 9-37754
- V₂Ge, Anderson-Gruneisen parameter, from 3rd order elastic const. data 9-33059
- V₂Si, Anderson-Gruneisen parameter, from 3rd order elastic const. data 9-33059
- Y, thermal and elastic props. 9-33027

GTO calculations

- acetylene, near HF dipole polarizability, using EFV GTOs 9-31395
- atomic collisions, momentum transfer phase factors, mol. integral evaluation with travelling GTO basis set 9-22778
- atomic integral calculations, permutational approach using spatial symmetry 9-36515
- benzene, monosubstituted, ring protonation and C_{1s} binding energies, STO-3G calc. 9-29336
- cusp conditions, for props. at nucleus 9-3351
- ethylene, near HF dipole polarizability, using EFV GTOs 9-31395
- Gaussian-lobe orbitals, ang. depend., anal. of standard p- and d-orbitals 9-6851
- Gaussian-lobe orbitals, ang. depend., axial GLO sets, theory 9-6852
- Gaussian-lobe orbitals, ang. depend., polyhedric lobe edifices 9-6853
- molecular electrostatic potentials influence of polarisation functions 9-839
- molecular ionisation potential, quark influence, ab initio SCF calcs., appl. to H₂O and SO₂ 9-10058
- roughening transition, self-consistent calc. of statics and dynamics 9-27939
- Z-depend. of optimum gaussian orbital exponents, gaussian exponent rule 9-3361
- H₃⁺, pot. surface, GTO config. expansion 9-26907
- LiH, correlation energy, perturbation calc. using Gaussian-type geminals 9-10042
- N₃⁻, low-lying excited states 9-31425

Gudden-Pohl effect *see electroluminescence***guided electromagnetic wave propagation**

- see also guided light propagation; waveguides*
- localised RF fields, duct propag. along inhomogeneous magnetoplasma column 9-46453
- microwave ducting in inhomogeneous troposphere, anal. 9-39818
- semiconductor, EM beam self-focusing 9-18488
- two-dimensionally inhomogeneous media, Maxwell eqns. decoupling 9-41302
- wave retardation by large diameter helices, theory, expt. 9-32787

guided light propagation

see also *optical waveguides*

- caustic patterns for melt zones in solidified glass samples, symmetric cases 9-22892
caustic patterns for melt zones in solidified glass samples, asymmetric cases 9-22893
fibre, with coherent dielectric core cladding, transverse and hybrid modes structure 9-14091
gain-guiding stripe-geometry DH semiconductor laser oscillation characteristics 9-45945
gain-guiding stripe-geometry DH semiconductor laser small-signal modulation characteristics 9-45946
lipid bilayer, planar, light guide effect, bilayer spectrosc. appls. 9-29509
plastic calorimeters, light guides containing fluorescent radiation converter 9-740
retinal receptors, human, modal pattern stability, with wavelength, inhomogeneous waveguide model 9-8504
rod outer segment and interstitial matrix of rat, refr. index difference determ. using waveguide parameter 9-5277
very narrow conducting stripe lasers, symm. and asymm. waveguiding 9-36896
LiF film, guided wave excitation by fast electrons 9-24384
LiNbO₃ film on Al₂O₃, optical guided wave mode conversion by Love waves 9-46055
LiNbO₃ laser beam/SAW mode conversion 9-46056

Guinier-Preston zones

- glass ceramic, nucleation and growth studies by small angle neutron scatt. 9-32913
X-ray small-angle scattering, rel. to elec. resist. 9-19125
Al-Cu, elastic interaction energy calcs. for Guinier-Preston zones 9-11617
Al-Cu-Mg (1.3, 1.3 at.%) alloy, natural ageing, meas. of quenching vacancy dislocation loops 9-15704
Al-Cu-Mg alloy, struct. of Guinier-Preston zones (*Russian*) 9-1870
Al-Mg, elastic and anelastic props. in relation to Guinier-Preston zones, US investigation (*French*) 9-38833
Al-Mg-Si, Guinier-Preston zones, inception and effect on ageing, review (*Hungarian*) 9-11627
Al-Zn, Guinier-Preston zone reversion, thermoelectric power meas. (*French*) 9-20058
Al-Zn (10 wt.%), ageing at low temp., solute conc. fluctuation effects (*Japanese*) 9-4969
Al-Zn (2 and 4 wt.%), ageing and elec. cond. reversion (*Japanese*) 9-4983
Al-Zn alloy, resist. and X-ray small angle scatt. during GP zone form., theory (*French*) 9-29070
Al-Zn-Mg, solid soln. decomp., 20 to 200°C 9-38830
Al-Zn-Mg, zone composition change during ageing 9-29110
Ti-Nb-Ta-Ge (40,20,0.8 wt.%) foil, dispersion hardening, TEM and electron diffraction obs. (*Russian*) 9-1873

Gunn devices

see also *Gunn diodes*

No entries

Gunn diodes

- domain instabilities in transverse mag. field 9-23981
domain instability at near-critical dopant conc. 9-23980
two-dimensional, cathode-slanted planar, domain dynamics, study using stroboscopic SEM 9-23978

Gunn effect

see also *limited space charge accumulation; negative resistance effects*
higher polymer films, steady Gunn type oscillations, origins (*French*) 9-28351
GaAs, carrier generation-recomb. processes 9-38080

Gunn effect devices see *Gunn devices***Gunn oscillators**

InP, ohmic contacts by thin film epitaxy 9-38159

guns, plasma see *plasma guns***gyration** see *rotation***gyromagnetic effect**

see also *gyromagnetic ratio; magnetic resonance*
rare earth compounds, gyromagnetic resonance, study of magnetism (*Danish*) 9-15359

gyromagnetic ratio

see also *g-factor; magnetic resonance*
proton in strong mag. field in water, meas. method 9-40527
YIG: Ca₂(Mg), films, microwave losses induced by Fe⁴⁺ ions, ferromag. reson. study 9-1715

gyroscopes

see also *navigation*

- control moment, single-gimbal, geometric theory 9-21738
corrected gyrocompass asymptotic stability (*Russian*) 9-10457
cryogenic, rotor suspension conditions (*Russian*) 9-30459
drift velocity for gyro in gimbaled support (*Russian*) 9-32230
dry-friction periodic relay system analysis (*Russian*) 9-10455
education, gyroscopes, rolling and suspended, ang. momentum demonstration 9-9061
fibre optic laser gyro signal detection and processing technique 9-37037
gyrostat with fixed point, lateral inertial imbalance effect on spin stability 9-32229
gyrotron, freq. characts. determ. (*Russian*) 9-14241
Hooke's joint, dynamics with non-orthogonal flexure axes 9-182
laser gyroscope, accuracy limit (*Russian*) 9-10343
laser gyroscope, operation principle 9-23007
laser gyroscope, structure and basic characts. 9-23006
laser gyroscope applications 9-23008
motion of a gyroscope with a cavity filled with a viscous liquid (*Russian*) 9-18696
motion rigidity (*Russian*) 9-9099
optical fibre ring interferometer, Fresnel drag in single-mode fibres 9-37035
optimal control of moving bodies, use of Bulgakov normal coords. method (*Russian*) 9-9104
phase-nulling fibre-optical laser gyro 9-36949
precessional equations, admissibility of passage (*Russian*) 9-30219
principle resonance of gyroscope on elastic suspension (*Russian*) 9-30461
resonance motion in free suspension (*Russian*) 9-10460
Sagnac fibre-ring interferometer gyro with electronic phase sensing 9-17472

gyroscopes continued

- single-rotor corrected gyrocompass motion subject to random parametric disturbance (*Russian*) 9-10456
speed-optimal EM correction of magnetised rotor (*Russian*) 9-9227
superconducting gyroscope, development of London moment readout 9-26090
two-rotor gyrocompass intercardinal error anal. (*Russian*) 9-30460
two-stage force gyroscopes, artificial satellite altitude control (*Russian*) 9-30458
vibrating rotor gyroscope, sensitivity increase (*Russian*) 9-27503

H-centres

- halides, vacancy-interstitial pair prod. by electron-hole recomb. 9-4530
KBr:Li(Na), low temp. radiation hardening mechanism, single halogen interstitials as hardening agent, Ha annealing 9-23634
MgF₂, pulse electron irradi., H-centre migration 9-7601

H I regions

- absorption column density rel. to ¹²CO emission intensity, EHF meas. 9-35319
cool clouds, kinematics and distrib. from 21 cm. obs. towards H II regions 9-44577
galactic 21 cm emission-absorpt. survey, two component interstellar medium model 9-40256
galactic centre, H I distrib. and kinematics, model 9-17079
galactic H I, high angular resolution emission spectra, self absorpt. and other characts. 9-35350
galactic H I between 1~294° and 331°, kinematics rel. to Cepheids 9-48910
galactic H I cloud struct. in interarm region 9-21445
galactic H I distrib. outside spiral circle 9-21421
galactic H I spectra analysis 9-44605
galactic nucleus, H I contour maps 9-35386
galactic structure from H I 21 cm surveys 9-44611
galaxies, H I 21 cm line widths correl. with absolute magnitude and type 9-5900
galaxies, lenticular, photographic obs., morphology and H I content (*French*) 9-2570
Galaxy, 21 cm obs. rel. to rot. curve accounting for interstellar gas expansion (*Russian*) 9-48938
giant molecular cloud near M17, H I abundance, 21 cm obs., chem. evolution 9-21383
high-velocity clouds, fine struct., H I 21 cm obs. 9-30113
high-velocity H I, implications of interstellar absorpt. features 9-48891
interarm region and gas layer parameters, 21 cm line obs. 9-9007
intermediate latitude H I absorption, aperture synthesis obs. 9-12503
Leo galaxy triplet (NGC 3623/7/8), H I distrib., 21 cm line obs. 9-44623
M101, H I distrib. and motions in giant spiral galaxy 9-44613
in M31, gravit. effects of M32 on H I disc and spiral arm pattern 9-21408
M82, irregular galaxy, aperture synthesis obs. of H I emission 9-17077
Magellanic Stream, high sensitivity obs., small-scale struct. 9-35385
NGC 1851, globular cluster, unsuccessful search for H I 9-5873
NGC 2623, interacting galaxy, H I absorpt. and emission obs. 9-17087
NGC 4038/39, interacting galaxy pair, H I kinematics and distrib. 9-35365
open clusters, H I upper limits 9-30095
QSOs, absorption lines shortward of L α emission, redshifts, origin in moving H I clouds 9-9025
in ring galaxies, H I survey 9-5901
in Seyfert galaxies, H I spectra and distrib. survey 9-8988
in small galaxies, accurate 21 cm H I spectra 9-35382
solar vicinity, H I clouds, kinematics from Nancy 21 cm absorpt. survey 9-8971
spiral galaxies, in Virgo cluster, H I deficiency (*Russian*) 9-21438
Stephan's Quintet, H I emission search 9-30136
velocity field in galactic centre region, axisymmetric kinematic model 9-17101
H to H₂ transition region in interstellar clouds, H₂ photodissoc. 9-25672

H II regions

- AFGL IR sources in revised catalogue, identifications from 3.5-12.5 μ m obs. 9-25659
Allen's obscured IR source in NGC 2264, spectrophotometric anal. 9-21370
binary H II region in galaxy VV 8, obs. rel. to galaxy rot., mass and surface brightness obs. (*Russian*) 9-48937
Carina I and II H II regions, far IR obs. 9-25657
Champagne model of gas dynamics 9-35331
compact H II regions near type I OH masers, obs. 9-25671
diameters of giant regions rel. to luminosity of parent galaxies 9-8973
30 Doradus, in LMC, Wolf-Rayet stars discovery 9-16980
double-charge transfer processes in gaseous nebulae 9-30112
DR 21 (W75), continuum obs. at 3.9 mm 9-35333
dust distrib. in giant extragalactic H II regions 9-35320
dust grain props. (*Italian*) 9-48897
effects on molecular clouds 9-5880
electron temperatures, determ. from radio recomb. line obs. at 22 GHz 9-35334
electron temps. and He abundance 9-21389
extragalactic distance indicators, obs., struct. considerations 9-40231
fluxes and parent galaxy diameters rel. to extragalactic distance scale 9-44576
G316.8-0.1, CO obs. at 115 GHz, star form. region 9-35353
G49.5-0.4, giant H II region, ³He⁺, probable detect. and significance 9-25689
galactic, H I and He I ratio recomb. line survey at 10.2 GHz 9-48874
galactic, O III 51.8 μ m forbidden emission line obs. 9-25685
galactic and extragalactic, mid IR and radio continuum flux density relation 9-21382
galactic centre, H II regions rel. to cosmic ray positrons annihilation 9-44309
galactic centre region, compact radio continuum sources obs. 9-21430
galactic extended low-density H II region, rel. to star form. and diffuse IR emission 9-17047
gas properties from spectral line surveys 9-5879
giant extragalactic H II regions, vel. dispersion meas. 9-44606
IC 1848 A, bright-rimmed mol. cloud, IR source obs. rel. to star form. 9-5810
IR obs. at 10 μ m using ESO 3.6 m telescope 9-35337
isophotal diameters rel. to extragalactic distance scale 9-44575
M16, O III 5007 Å forbidden line profiles from core 9-8976

H II regions continued

- M17, aperture synthesis obs. at 5 GHz 9-35342
 M17 (Omega Nebula), O III 51.8 μm forbidden emission line obs. 9-25685
 M17 SW, obscured IR point source spectroscopic anal. 9-48878
 in M82 nucleus, Brackett-line obs. 9-25704
 M8, large-beam near IR and 24 GHz obs. 9-48882
 N 59, nebular complex in LCM, filter photography 9-17052
 NGC 1499, nebula parameters determ. from decametre wavelength obs. (Ukrainian) 9-40243
 NGC 1977/Orion molecular cloud interface, radio recombination line obs. 9-25658
 NGC 281, obs. of shock in region of shock-induced star form. 9-25688
 NGC 346 in SMC, very early O-type star discovery 9-5820
 NGC 6334, nearby H₂O maser discovery 9-21369
 NGC 6334 complex, 1 mm continuum map of cool IR sources 9-21390
 NGC 6357A, O III 51.8 μm forbidden emission line obs. 9-25685
 Omega Nebula (M17), O I 63 μm forbidden emission line obs. 9-25684
 Orion Nebula, Fabry-Perot high-resolution O I 8446 Å mapping 9-35344
 Orion Nebula, forbidden line and optical continuum electron temps. comparison 9-30105
 Orion Nebula, gaseous depletion (Italian) 9-21396
 Orion Nebula, H₂ emission interstellar extinction meas. 9-25668
 Orion Nebula, high-vel. features driven by stellar wind from θ^2 Orionis A 9-8978
 Orion Nebula, near IR Fourier spectroscopy of weak lines 9-35328
 Orion Nebula, O I 63 μm forbidden emission line obs. 9-25684
 Orion Nebula, O III 51.8 μm forbidden emission line obs. 9-25685
 Orion Nebula, search for H₂ ground state S(2) line 9-8961
 Orion Nebula, struct., radio obs., partially ionized gas 9-21379
 photoionization models for gaseous nebulae 9-21392
 radio recombination lines, narrow, prod. around X-ray source 9-8972
 radio sources, ang. dias. meas. errors 9-12534
 RCW 122, CO obs. at 115 GHz, star form. region 9-35353
 RCW 38, CO obs. at 115 GHz, star form. region 9-35353
 relationship to CO clouds, blister model 9-25681
 S132, radio continuum emission from giant H II region 9-8974
 S187, H109 α recomb. line obs., core envelope type struct. 9-8965
 Sh 2-158 (NGC 7538), bright high excitation galactic nebula, morphology, excitation and kinematics 9-40241
 Sharpless 106, assoc. Trapezium system 9-44566
 Sharpless 106, excitation and nature of bipolar nebula from IR obs. 9-48888
 Sharpless 88A-B and 106, compact H II regions, optical obs. 9-8969
 SMC, atlas of variable stars, clusters, emission regions and supergiant stars, book 9-44619
 southern H II regions, 1 mm continuum obs. 9-8968
 spectrophotometry of compact H II regions from 4 to 8 microns 9-35321
 volatile dust effects (Italian) 9-21394
 W3(OH), rapid time vars. of H₂O maser source, models 9-17058
 W3-W4-W5 complex, CO emission mapping 9-17059
 W51, O III 51.8 μm forbidden emission line obs. 9-25685
 W51A, W3 (Main), W49A, continuum obs. at 3.9 mm 9-35333
 W75 maser sources, 1667 MHz line profile features 9-5914
 Cl chemistry, as H ionisation source 9-40245
 H I absorption profiles, kinematics and distrib. 9-44577
 H I absorption profiles towards 11 galactic H II regions 9-12499
 H radio recombination line obs. from Arco 9-48880
 H α /[N II] ratio in H II regions (Italian) 9-21395
 OH main line masers in compact regions, magnetic field and inversion mechanism 9-48884

hadron classification schemes

- anisotropic superfluidity of hadronic matter 9-13090
 baryon classification in straton model (Chinese) 9-22075
 charm baryons, mass splitting and weight diagrams 9-26314
 filling U(4) multiplets by hadrons (Russian) 9-22076
 finite isospin groups for hadron classification, expt. consequences 9-360
 hadronic structure functions and form factors in low-order QCD with Migdal regularization 9-30720
 quark-line rule for hadron nonets, review 9-26304
 SU(5) symmetry with beauty quark, baryon and meson mass spectra 9-45079
 NN, baryonium, internal struct. (Norwegian) 9-36032

hadron current

- see also current algebra
 chiral solutions and current algebra 9-40680
 neutrino reactions at high energy, weak interaction props. and hadron struct. investigation, book contrib. 9-30727
 QCD vacuum, effects on hadronic currents, instantons, e^+e^- annihilation and precocious scaling 9-332
 weak neutral currents, light-cone algebra anal. 9-6311
 ed inelastic scatt., electrodisintegration at high energy and momentum transfer, exchange currents 9-6342
 K nonleptonic decays, without dynamics enhancement (Russian) 9-30733

hadron decay

- see also baryon decay; meson decay
 diquonium decay into mesons, exact selection rules for chromo-harmonic potl. 9-13054
 meson and quark distribution functions, quark cascade model 9-36033
 neutrino decay and quantum number conservation laws (Russian) 9-348
 SU₃×U₁ calibrating theory, weak and EM interactions appl. (Russian) 9-35964
 pp→ $\Delta^++\Delta^{++}$, 3.6-12 GeV/c, cross sections and decay, parity exchange contribs. from quark model 9-13146

hadron-deuteron interactions

- see also hadron-deuteron scattering; hyperon-deuteron interactions; meson-deuteron interactions; proton-deuteron interactions
 multiparticle reactions on deuterons, multiperipheral parton model anal. to rescatt. 9-22154
 triple-Pomeron coupling and high-energy deuteron break-up 9-22153
 dd→ $\pi^0\pi^0$, large transverse momentum, π^0 prod. cross section, ISR energies 9-3055
 nd→($\pi^+\pi^-$)d, 26.6 GeV/c coherent interaction, peripherality of nucleon diff. dissoc. 9-45108
 nd→($\pi^+\pi^-$)d, diff. dissoc. and interactions of diffractive produced systems 9-45107
 Nd disintegration cross-section, variable cut-off radius in impulse approx. type models (Russian) 9-22276

hadron-deuteron scattering

- see also hadron-deuteron interactions; hyperon-deuteron scattering; meson-deuteron scattering; proton-deuteron scattering
 No entries

hadron electroproduction

- an asymptotic connection between processes of deep inelastic scattering and inclusive annihilation 9-22105
 Bjorken scaling violation models with new scaling rule 9-26305
 charge correlations from residual hadrons using electroprod. data 9-3032
 deep inelastic hadron electroproduction, charge retention, quark-parton and jet models 9-45090
 inclusive prod. in current fragmentation region 9-30741
 jet production by a gluon source in QCD 9-22056
 jets in high energy collisions 9-45114
 proton electroproduction struct. function, elastic form factor, scaling function, causal representation 9-13138
 pseudomesonons, spectroscopy, prod. and decay props. 9-45058
 QCD jet dynamics, hadron and photon prod. at large transverse momentum 9-45077
 Sterman-Weinberg jet formula corrections for e^+e^- annihilation from QCD perturbation theory 9-36086
 e^+e^- →hadrons, finite energy sum rules in QCD 9-40754
 e^+e^- annihilation, hadron jets transverse momentum and ang. distrib. from QCD 9-40793
 e^+e^- annihilation, meas. of gluon spin 9-30701
 e^+e^- annihilation, prod. of orbitally charmed hadrons, free quark model anal. 9-22120
 e^+e^- annihilation and quark fragmentation functions, Monte Carlo quark-parton model 9-22119
 e^+e^- annihilation to hadrons, overlapping resonances with variable channel struct., ψ prod. 9-22118
 e^+e^- annihilation with polarised beams 9-36111
 e^+e^- → e^+e^- +hadrons, double equivalent-photon approx. (Russian) 9-403
 e^+e^- → h^+h^-X , violation Bjorken scaling, momentum fluctuation, range of timelike photon 9-3033
 e^+e^- →hadron jets, test for planar events in QCD 9-40794
 e^+e^- hadron production at 13, 17 GeV CMS, first observation with PLUTO detector 9-36088
 e^+e^- →hadrons, total cross sections, c.m. energy range 1.92 to 3.09 GeV 9-45094
 e^+e^- →qq γ , IR and collinear divergences, cancellation in one-loop corrections to QCD cross sections 9-40730
 e^+e^- →T(9.46), electronic width determ., energy spectra for hadron inclusive production 9-26339
 eN → $e\pi^+X$, test of soft-pion theorem in inclusive pion electroprod. 9-17739
 ep → $e\Delta X$, electroprod. of forward Δ baryon near/along virtual photon direction 9-22116
 ep → e^+ hadron+ X , parton picture from QFT, structure function scaling behaviour 9-402
 eq parity violating neutral current couplings, model independent anal. 9-17737
 π^+ , electroproduction at threshold, weak form factor 9-22107
 π^+ , quark-parton model, fragmentation functions 9-13136
 ep → $e\pi^+$, forward π^+ electroprod. in $\Delta(1232)$ resonance region 9-22115

hadron-hadron interactions

- see also baryon-baryon interactions; hadron-hadron scattering; meson-baryon interactions; meson-meson interactions
 charge transfer in the uncorrelated cluster production model (Russian) 9-40755
 charmed meson productions in hadronic and EM hadron interactions 9-13143
 diffractive bumps, gluonic excitation Regge trajectories from bag and dual models 9-2978
 dilepton prod. during hadronic collision space-time evolution, quark-parton model 9-2980
 Drell-Yan conjecture in asymptotically free theories 9-17689
 electromagnetic pair prod., equivalent-photon method (Russian) 9-26353
 EM corrections to hadron charge exchange and backward scatt. (Russian) 9-3028
 fireball dimension determ. in hadron collisions, Bose-Einstein correlations 9-22069
 four-hadron isobar model 9-26263
 hadron collective interaction, particle inclusive spectrum properties space-time model 9-40808
 hadron-nucleon forward amplitudes, Reggeon exchange absorptive corrections 9-40765
 hadronic large p_T reactions, K^+ and K^- prod. as model test, hard quark scatt. 9-40735
 hard collisions, calorimeter trigger, Ochs-Stodolsky scaling law derivation, parton model 9-17775
 high-mass diffraction in the supercritical region 9-22081
 inclusive lepton pair prod., invaried helicity struct. functions anal. 9-13172
 isobar model, angular crossing relations, Euclidean approx., meson+nucleon inelastic scatt. 9-13019
 jet and lepton-pair production in high-energy lepton-hadron and hadron-hadron scattering 9-17729
 jet studies and large transverse momentum collisions, review 9-22143
 large p_T proton inclusive prod., quark-quark elastic scatt. 9-17773
 large transverse momentum particle and jet prod., QCD approach 9-17761
 large transverse momentum processes, high energy collisions, review (Russian) 9-26351
 large- p_T reactions, transverse quark polaris., quantum chromodynamics test 9-17741
 lepton and photon production in hadron collisions, review 9-405
 lepton pair prod., thermal parton model 9-13075
 massive lepton pair transverse momentum distrib. in hadron collisions, QCD predictions 9-9391
 mean charged multiplicity, energy depend., modified Heisenberg calcs. 9-40806
 Monte Carlo quark-parton model for multiparticle and low mass dimuon prod. 9-30697
 multi-particle and inclusive reaction at high energies, review 9-17777
 photon and lepton hadroproduction, QCD test 9-17745
 QCD, hadronic charm production, cross section and charmed quark mass 9-36017

hadron-hadron interactions continued

QCD analysis of jets recoiling against large transverse momentum muon pairs 9-9416
 QCD and Feynman-x depend. of lepton pairs produced in hadron collisions 9-36036
 QCD appl. to meson and jet prod. 9-45076
 QCD prediction for ang. distrib. of dileptons in hadron collisions 9-26300
 s-channel unitarity correl. of elastic scatt. and inclusive k_T^2 distrib. 9-26258
 small p_T hadronic collisions, jets, quark, fragmentation universality and rising rapidity plateaus 9-40734
 soft hadronic collisions and fragmentation on nucl. targets, quark dynamics 9-22063
 soft hadronic processes, quark-parton model test for inclusive cross sections 9-17776
 soft photon expansion and theorem, bremsstrahlung cross section 9-17728
 transverse momentum behaviour of hadrons, multihadron systems, and lepton pairs 9-45121
 transverse momentum distrib., small and large p_T behaviour, new particle-wave duality 9-45081
 wave packets and the space-time structure of production processes 9-36048
 weak interactions, right handed currents effects in QCD 9-13016
 DD production in large p_T hadronic collisions, $e\mu$ and eK correlation study 9-40772
 e^+e^- pair prod. calc., high energy internal conversion of bremsstrahlung photons 9-420
 $hh \rightarrow \mu^+\mu^- + \text{jet} + X$, QCD anal. of recoiling jets and angular effects in large q_T pair prod. 9-45078

hadron-hadron scattering

see also *baryon-baryon scattering; hadron-hadron interactions; meson-baryon scattering; meson-meson scattering*
 diffraction scattering, convergent polynomial expansion, scaling 9-45096
 eikonal model of hadronic matter distribution of particles and nuclei 9-26317
 EM corrections to hadron charge exchange and backward scatt. (Russian) 9-3028
 radiative corrections in charge-exchange and backward hadron scattering 9-17727
 s-channel unitarity correl. of elastic scatt. and inclusive k_T^2 distrib. 9-26258
 supersymmetry, field theory, fermion (meson)-meson scatt., high energy behaviour 9-295
 t-channel diffractive scatt., elastic peak and hadron size 9-45083
 two-component Pomeron and hadron total cross-sections 9-17697

hadron interactions see *hadron-deuteron interactions; hadron-hadron interactions; lepton-hadron interactions; photon-hadron interactions*

hadron leptonproduction

see also *baryon production; hadron electroproduction; meson production*
 anomalous current fragmentation in high- p_T leptonproduction 9-13134
 fragmentation functions of heavy quarks into hadrons, ν reactions, e^+e^- annihilation appls. 9-3013
 inclusive leptonproductions, scaling violation, colour-octet model effect 9-13077
 large Q^2 transverse quark polaris., quantum chromodynamics test 9-17741
 QCD, leptonprod. and Drell-Yan processes beyond leading approx., Bjorken scaling 9-6323
 QCD and jets in leptonproduction 9-45059
 QCD predictions for inclusive and semi-inclusive leptonprod., hadron ang. distrib. 9-13041
 μ^+ -nucleus 150 GeV deep inelastic scatt. in nuclear emulsions 9-17893
 $\bar{\nu}$ -nucleus charged current interactions 9-22275

hadron photoproduction

see also *baryon photoproduction; meson photoproduction*
 baryon resonances and electromagnetic couplings 9-9384
 double equivalent-photon approx. (Russian) 9-403
 large p_T inclusive photoprod. and hard scatt. model 9-9417
 shadowing in hadronic photoproduction cross section in C, Cu, Pb, 20 to 185 GeV 9-30823
 $\gamma p \rightarrow hX$, quark jet model and total cross section 9-13133
 C, total hadronic photoprod. cross sections, 12-30 GeV 9-9379

hadron production

see also *baryon production; hadron leptonproduction; hadron photoproduction; meson production*
 cascade model, comparison with hadron prod. in quark fragmentation region 9-22065
 charged current ν and $\bar{\nu}$ interactions, hadron prod. at high energy, quark parton model 9-36058
 Feynman-Wilson gas, statistical model for multiparticle physics 9-22071
 hadronic phase transitions, evidence from present data phenomenology 9-45006
 jet studies and large transverse momentum collisions, review 9-22143
 large p_T hadron jets, correlating quark rearrangement model 9-2997
 large q_T transverse momentum lepton pairs and hadron jets prod., reaction mech., perturbative QCD 9-2999
 many-hadron production at low P_\perp , basic concepts and models, review 9-6331
 multihadron production in matter connection with hadron quark-gluon model 9-356
 multiple hadron generating models, transition to KNO scaling (Russian) 9-22051
 QCD, hadronprod. of heavy quark flavours 9-22062
 quark jet fragmentation 9-45063
 sequential jet decay described by an Inonu-Wigner contraction of the Lorentz group 9-17695
 topological approach to high-energy large transverse momentum interactions 9-22057
 μp charged current interactions, hadron production, quark-parton model comparison 9-40769
 $\nu p \rightarrow \mu^- + \text{jet}$, greater than 10 GeV, jet props. 9-45084
 $p p$, 200, 300, 400 GeV, hadron prod. at large p_T invariant cross section 9-40926
 $p p$, multihadron production, gluon matter hadronisation 9-45047
 $p p$ -hadrons, scaling violation in fragmentation region in quark model, 10^6 GeV (Russian) 9-3051
 $p p$ interactions, multiplicity distributions associated with charged hadron prod., ISR energies 9-3053

hadron production continued

$Be+p$, high mass symmetric hadron and pion pair prod., scaling props. 9-22291
 $Be(p,X)$, 200, 300, 400 GeV, hadron prod. at large p_T invariant cross section 9-40926
 ^2H+p , 200, 300, 400 GeV, hadron prod. at large p_T invariant cross section 9-40926
 $Ti(p,X)$ 200, 300, 400 GeV, hadron prod. at large p_T invariant cross section 9-40926
 $W(p,X)$ 200, 300, 400 GeV, hadron prod. at large p_T invariant cross section 9-40926

hadron scattering see *hadron-deuteron scattering; hadron-hadron scattering; lepton-hadron scattering; photon-hadron scattering*

hadronic atoms

see also *mesic atoms*
 Coulomb levels shift (Russian) 9-45870
 momentum space method for hadronic atoms including relativistic hadron-nucleus reactions 9-872
 protonium annihilation widths from coupling channel boundary condition model 9-36803

hadrons

see also *baryon resonances; baryons; hadron classification schemes; hadron current; hadron decay; meson resonances; mesons*
 abundance of stable particles prod. in early Universe 9-44653
 non-ideal hadron gas, eqn. of state appl. to universe Friedmann model (Russian) 9-44649
 parton struct. and diffraction scatt. for soft processes 9-344
 relativistic non-ideal hadron gas universe, gravit. collapse (Russian) 9-44650
 superheavy, instantons in quark plasma (Russian) 9-36039

haemodynamics

see also *blood*
 angiograms, digital, comparison of methods of meas. blood flow (German) 9-39468
 aorta, dog, simulation via adaptive model 9-11964
 aorta model, canine, finite element soln. of Navier-Stokes eqn. 9-29550
 arterial blood flow, shock wave formation, math. model 9-5305
 arterial mean pressure, effect of changes on short-term pressure wave struct. 9-29539
 arterial pathology discrimination from angiograms 9-16274
 arterial pressure waves, physiological interpretation of spectra, heart rate, respiration waves 9-29540
 arterial pulsatile blood flow, linear theory (Chinese) 9-39427
 arterial system and cardiac activity, optimum tuning model (German) 9-16225
 arterial US scanner, colour coded differential velocity display 9-34617
 arteriosclerotic flow models, velocity fluctuation and shear stress obs. (German) 9-16226
 artificial exchange organ, effect of flow channel thickness on surface-induced blood damage 9-39439
 artificial heart, simulation of fluid dynamics (Japanese) 9-43954
 artificial heart and assisted circulation apparatus, hydrodynamic test bench rigs 9-48372
 bifurcation pressure measurements, glass models 9-25021
 bioengineering, international conf., Cape Town, S.Africa (April 1977) 9-20695
 blood intermittent pump with linear motor drive (German) 9-5401
 blood pressure, industrial noise effects on man, cardiovascular disease risk factors 9-5321
 blood pressure control system dynamic behaviour identification 9-2097
 blood pressure transducers, technical evaluation 9-44002
 blood stream meas., use of US probes and Doppler technique (German) 9-2113
 brain capillary, microkinematic obs. of blood velocity (Russian) 9-5366
 bubble detection and flow evaluation 9-34612
 capillary-tissue diffusion in multicapillary system, anal. 9-2095
 cardiac, prostheses problems (French) 9-34590
 cardiac function, reliability of noninvasive methods for meas. during exercise 9-16231
 cardiac left ventricular ejection fraction from gated images count rate 9-29605
 cardiac muscle mechanics, relation with zero-load aortic flow 9-29548
 cardiac output and shunts, automatic computation from indicator dilution curves 9-48359
 cardiac valve dynamics, fluid physics appls. (French) 9-34589
 cardio-pulmonary system, thermal indicator heat and mass transfer, pulsatile flow 9-25018
 cardio-pulmonary system, thermal indicator heat and mass transfer, pulsatile flow 9-25017
 cardiovascular and respiratory system dynamics (French) 9-34585
 cardiovascular modelling to study effects of pressure regulation: hypertension 9-25027
 cardiovascular system simulation by elec. compartmental model 9-5388
 carotid artery disease, US detection techniques 9-11989
 Casson fluids flow in non-circular ducts, appl. to haemodialyser 9-20563
 cerebral blood flow, confidence limits with positron emission tomography system 9-11994
 cerebral blood flow meas., lateral counting corrections 9-8536
 cerebral blood flow parameterisation, scintiangiography meas. 9-25025
 cerebral cortex, brain function rel. to blood flow 9-43988
 cerebral regional blood volume, variations meas. by computerised axial tomography 9-29583
 chest radiology, introduction to physiological aspects 9-25071
 circulation single channel theograph anal. (Russian) 9-29545
 circulatory arrest, prolonged, visual evoked potentials during hypothermia 9-16204
 circulatory disorders, pelvis and legs, programming method for angiography 9-34646
 circulatory variables, power spectra of spontaneous variations 9-29538
 counterpulsation operating mechanisms for assisted circulation 9-48371
 directional blood velocity waveform, Doppler preprocessors 9-34611
 Doppler blood flowmeter modulation (Japanese) 9-2115
 electrical resistivity changes of flowing blood (Japanese) 9-2015
 electronic sphygmomanometer, direct and indirect methods for blood pressure meas. 9-25125
 external counterpulsation, optimal phase shift determ. model 9-29557
 femoro-popliteal by-pass graft, flow in idealised models 9-39429
 flow in collapsible tubes 9-25020
 flow model, hydrodynamic study with blood simulant 9-25023
 flow model for blood type suspensions in circular tube 9-29543

haemodynamics continued

- flow restriction in rat small intestine, crypt survival after X-irradiation 9-11979
- gas catheters, flow-dependent, in vivo calibration 9-16330
- haemofiltration control system (*German*) 9-5403
- heart and muscle, apparent source resistance 9-25005
- heart valve prosthesis design, role of simulation studies 9-12033
- hydromechanical simulation facility 9-20708
- iliac artery, blood flow values in conscious humans using angiocine densitometry 9-25022
- instantaneous blood flow meas., X-ray imaging using cine/video densitometric data 9-34598
- intestine, exteriorised, influence of blood flow on temp. distrib. in the mouse 9-48219
- intravascular O₂ measurement, current-to-voltage converter 9-34684
- intravascular O₂ sensors, Monopolar, in vitro evaluations 9-34683
- laser Doppler velocimeter signal analysis for pulsatile arterial flow meas. (*Japanese*) 9-2156
- left ventricle, effects of external pressures on pressure-volume relation 9-11954
- left ventricular aneurysm, triaxiacardiometric criteria 9-39586
- left ventricular function, correlation with myocardium deformation 9-16244
- lung, regional distrib. of (dV/dt)/(dQ/dt) in man, at rest and with exercise, meas. with ^{81m}Kr 9-16232
- lung physiology and chest radiology 9-25072
- lung tissue volume and blood flow, rebreathing methods for determ. 9-20569
- mass transfer in semi-cylindrical hollows, electrochemical measurements 9-23365
- Mayer waves, history and methodology 9-29537
- medical diagnostics problems of computer applications (*German*) 9-20696
- microcirculation mathematical modelling 9-2094
- muscular hyperemia, study technique using ¹³³Xe 9-5351
- myocardial blood flow, meas. by fractional uptake of ⁸⁴Rb and microspheres 9-34656
- myocardial contractility, real time meas. by analogue computer with digital displays (*Japanese*) 9-44015
- myocardium, contractility determ., anal. of differential quotients 9-34584
- plasma radio-Fe kinetics in man, effect of plasma Fe conc. 9-25019
- platelet aggregation studies using TEXAC whole picture analysis 9-25133
- plethysmography, elec. admittance, blood flow meas., evaluation of theory and accuracy (*Japanese*) 9-43979
- pressure, systolic and diastolic, rel. to pulse transit time 9-29541
- pressure control, mechanical-chemical balloon implant 9-20712
- pressure recording transducer, arterial and venous 9-34708
- prosthetic heart valves, insufficiency and pressure loss in mitral position 9-20717
- prosthetic heart valves, pressure-flow relationship and dynamic behaviour 9-25158
- pulmonary circulation, human, behaviour during head-up tilt 9-39433
- pulmonary gas exchange model, effect of ventilation-perfusion, diffusion-perfusion ratios (*French*) 9-8516
- pulmonary physiology, pathology, and ventilation-perfusion studies 9-29613
- pulmonary regional perfusion, comparison of ^{81m}Kr continuous intravenous infusion, ^{99m}Tc macroaggregates 9-39477
- pulsatile flow disorder, poststenotic blood velocity meas. in dogs 9-8521
- pulsatile flow of dusty fluid through constricted channel 9-14468
- pulse wave velocity, digital meter (*Japanese*) 9-39546
- pump, controlled high pressure, for heart support systems (*German*) 9-8580
- pump regulation electropneumatic servo operation (*German*) 9-8579
- rate-dependent left bundle branch block patients, atrial pacing expts. 9-44019
- renal diagnosis by blood circulation angiocine densitometry (*German*) 9-2127
- skin, pig, blood flow clearance changes after single X-ray doses 9-29567
- skin blood flow, human, modelling of thermal effects 9-24959
- spleen microcirculation, open and closed circulation, rabbit 9-20573
- strain gauge plethysmograph, automated 2-channel 9-29648
- thoracic electrical impedance, cardiac-associated changes in man 9-25128
- thoracic electrical impedance sensitivity to blood volume changes 9-34543
- US blood flow imaging model eqns. and implications 9-48308
- US blood flow velocimeter, MTI filter, with inherent A/D 9-16263
- vascular system, haemorrhology and two-phase flow (*French*) 9-34586
- velocity meas., absolute, US Doppler method (*Japanese*) 9-43974
- velocity meas., US Doppler velocimetry, experimental appls. (*French*) 9-34610
- velocity meas. by hot-film anemometer (*Japanese*) 9-29678
- velocity profiles in small tubes, effect of red blood cells 9-25014
- venoarterial indicator-dilution curves, improved correction of distortion 9-25013
- ventricular aneurysms, mechanical behaviour, mathematical model 9-11953
- viscoelastic tube, viscous fluid wave propag., asymptotic formulae and numerical results 9-34595
- viscosity-temperature relationship, human plasma and serum 9-20564
- ⁵⁹Fe tracer data analysis program and kinetics model (*German*) 9-5342
- O₂ transmural transport to retina, mathematical model 9-34583

haemoglobin *see proteins***hafnium***see also nuclei with*

- diffusion in Er₂O₃, vol. and grain boundary diffusion coeffs., tracer sectioning technique 9-7712
- film on Si substrate, ion-beam induced silicide form. 9-46718
- secondary ion emission, energy spectra, 0-55 eV, contamination levels 9-15573

hafnium alloys*see also hafnium compounds*

- metatectic reaction prediction 9-29020
- Hf-Mo-C, isothermal section of phase diagram at 1400°C, X-ray phase analysis determ. 9-34006
- Hf-V, superconductivity and metallurgy of C15 materials 9-4610
- HfC-HfBr₂, preparation and high temp. antiferroprop. 9-1918
- HfNi₃, α and β modifications, X-ray cryst. struct. determ. 9-7578
- Hf₂Ni₇, X-ray cryst. struct. determ. 9-4270
- Hf₂Ni₂₁, single-cryst., X-ray cryst. struct. determ. 9-4269

hafnium alloys continued

- HfV₂, C15 supercond., dielec. transitions, temp. depend. of resist. and mag. susceptibility, 4.2-300K 9-38136
- HfV₂ supercond., Young's modulus and internal friction meas. 9-11654
- (Hf_{1-x}Zr_x)₈₀Nb₂₀, influence of Hf additions to Zr₈₀Nb₂₀, beta decomposition anal. 9-8304
- Mo-Hf-N, exam. of phase equilibria (*Russian*) 9-29018
- Nb-Hf-N, exam. of phase equilibrium using electron microscopy and X-ray analysis (*Russian*) 9-15654
- Ta-W-Hf, small-angle electron scattering in TEM from lattice strains accompanying precipitation 9-14658
- Ti-Hf-O system, ω (0) phase form. 9-11553
- Ti-Zr-Hf disordered solid solns., thermal cond. 9-15132
- V-Hf-Nb(Zr), multifilamentary, superconducting props. improvement 9-38267

hafnium compounds*see also hafnium alloys*

- vitamin B₁₂-¹⁸¹Hf complex, γ -ray PAC expt., crystal and liq. 9-39341
- Hf complex, tetrakis (tropolonato) hafnium (IV), mol. interactions in solid, perturbed γ - γ ang. correl. obs. (*French*) 9-8076
- HfC, bond energy and ionization efficiencies from SIMS 9-24400
- HfC electronic structures calc. and obs., by APW method and X-ray photoelectron spectroscopy (*Japanese*) 9-15074
- HfC, generalised susceptibilities and electronically driven phonon anomalies 9-42208
- HfCl₃-N₂, elect. resist. (*German*) 9-38064
- HfN coating on cemented carbide tools, machining evaluation 9-29253
- HfO₂+BaCO₃, mechanism, effect of polymorphic transitions 9-11605
- HfO₂, monoclinic, microcracking, elasticity, internal friction, thermal expansion meas. 9-29195
- HfO₂, obtained by vapo-condensation, exam. of structure and phase props. (*French*) 9-19489
- HfO₂-CaO(MgO) elec. field gradient at ¹⁸¹Ta, TDPAC meas. 9-33577
- HfO₂-La₂O₃ system, phase form. and relations, phys. props. 9-43218
- HfO₂-MgO system, intermediate phases existence, X-ray diffr. and IR obs. 9-38805
- Y₂O₃-HfO₂ system, solid soln. form. mechanisms 9-11579

half-lives (radioactive) *see radioactive decay periods***half-wave rectification** *see rectification***halides***see also compounds of individual elements, e.g. "tungsten compounds" and "organic compounds"**see also alkali metal halides; halogens*

- group IV halides, pot. const. calcs. 9-36605
- metal-rich compounds, pnictides, chalcides and halides, struct. and bonding, review 9-46626
- structures, and cryst. chem. of halide compounds of type A₂B⁺B³⁺X₆ 9-46639
- vacancy-interstitial pair prod. by electron-hole recomb. 9-4530

Hall constant *see Hall effect***Hall effect**

- 1/f-noise in Hall voltage 9-24039
- amorphous ferromagnet, thermal cycling and annealing, critical behaviour 9-42790
- amorphous metals and alloys, review of transport props. 9-4546
- conducting liquid flow on moving porous plate with Hall effect 9-18964
- disordered system, Hall mobility due to hopping-type cond. 9-15167
- ferromagnetic binary alloys, anomalous Hall effect (*Russian*) 9-42521
- ferromagnetic metal, two-band model ordinary Hall effect and spin-depend. phenomena 9-19577
- flowing electrolyte, Hall effect, student expt. 9-21501
- galvanomagnetic phenomena, difficulties in nonlinear theory 9-11151
- heavily doped semicond., electronic sp. ht. and transport coeff., influence of band-tail parameters 9-14941
- hydrocarbon fuels, universal formula for elec. cond. of combustion-products plasma 9-19004
- hydromagnetic thermal instability of rotating fluid layer, Hall current effects 9-27699
- III-V semiconductors transport parameters, review 9-19587
- layered struct., interaction of spin waves with hot carriers, transport coeff. for weak and arbitrary Hall effect 9-15291
- liquid in rot. system, Hall effects on MHD Couette flow and heat transfer 9-41681
- metal anisotropic normal metal, linearised Boltzman eqn., Hall effect coeffs. 9-1595
- metal film, Hall coeff. in mean free path model 9-11240
- metals, nearly-free-electron, holelike Fermi surface, Hall coeff. and magnetoc. tensor 9-4547
- MHD flow induced by oscill. disc in rot. fluid 9-18968
- MHD free and forced convective flow between porous plates with Hall effect 9-41763
- mobility measurement in specimens in strong pulsed electric fields 9-35779
- non-transition elements and alloys, supercond. transition temp., Hall const. correl. 9-47186
- Penning discharge, Hall crit. mag. fields 9-27146
- plasma Hall accelerator, azimuthal drift current, induction meas. method 9-23465
- plate with finite Hall electrodes, accuracy of relaxation soln. for potential problem 9-33303
- polyacetylene film, heavily doped with AsF₅, conductivity and Hall effect meas. 9-28353
- polyphtalocyanine, amorphous, linear polymer, Hall effect meas. 9-23989
- protein-methylglyoxal complex, electronic props., energy band cond. 9-24936
- semiconductor, bounded, transport effects when a current passes along an energy inhomogeneity 9-7845
- semiconductor, defect interactions, radiation physics (*Russian*) 9-46702
- semiconductor, polycrystalline, phenomenological theory of Hall effect 9-11160
- semiconductor, zero gap, collisionless, anomalous Hall effect 9-23988
- semiconductor-ferrite layer structure, influence of Hall effect on spin wave spectron and amplification by current 9-11308
- SOS films, surface recomb. profile and transport parameters 9-33357
- transition metal carbides, 3d metal, interatomic interaction 9-1569
- transition metal diborides, 3d metal, interatomic interaction 9-1569
- transition metal mononitrides, 3d metal, interatomic interaction 9-1569
- transition metal oxides, 3d metal, interatomic interaction 9-1569

Hall effect continued

type II superconductor influence of structure defects on resistive and Hall effects (*Russian*) 9-33419
 Al, nuclear acoustical reson., 20-80K, Hall coefficient in high mag. field 9-8058
 Al-Ag(Ga)(Ge) dil. alloys, Hall coeff., residual resist., and relax. times 9-11107
 Al-Cu, dil., anisotropic scattering of conduction electrons on dilute Cu impurities 9-47082
 Al_{0.5}Ga_{0.5}As MBE layers, ionized beam doping, elec. and optical characts. 9-37721
 Au-Fe (1-7 at.%), extraordinary Hall effect, near ferromag. percolation limit 9-19575
 Ba-ferrite, hard magnetic, temp. range 308.5 to 354K 9-38109
 Ba-ferrite, temp. range 303 to 353K 9-42564
 BaTiO₃, transport and optical props., small polaron hopping theory 9-47096
 Bi, powdered mag. resistance (*German*) 9-28358
 Bi_{1-x}Sb_x epitaxial layers, effect of film thickness on elec. props. (*Russian*) 9-11244
 Bi_{1-x}Sb_x epitaxial thin films, galvanomag. props. in semimetal and semi-cond. regions 9-11254
 Bi_{1-x}Sb_x thin film, elec. props., composition variations (*Russian*) 9-7841
 Bi_{1-x}Sb_x thin films, elec. props., 4.2-300K, Hall coeff. meas. (*Russian*) 9-24087
 Bi₂Te₃-Sb₂Te₃, Bi:Sb=1:2, 2:1, solid soln. deviation from stoichiometric cross section 9-43221
 BiTe, elec. props., crystals grown from melt in excess iodine 9-4907
 Bi₂Te₃Se_{0.12}, solid soln., single cryst. growth and doping, thermoelec. efficiency and Hall coeff. 9-33921
 Cd_{0.93}Cu_{0.07}Cr₂Se₄, single cryst., Hall EMF depend. on temp. 9-7848
 CdGeAs₂, optical and elec. props. 9-19590
 Cd_{0.9}Hg_{0.1}Se, carrier mobility, 4.2 to 300K, scatt. mechanisms 9-4561
 Cd_{0.9}Hg_{0.1}Te films, epitaxial growth, optical, elec., and photoelec. props. 9-11512
 Cd_{0.9}Hg_{0.1}Te, strong elec. field effect on galvanomagnetic effects 9-11159
 Cd_{0.9}P_{0.1}, energy band struct. and electron mobility at low temp. 9-37984
 n-CdS(Se), bipolar photocond. and acoustoelectric current 9-19636
 CdSb, monocrystalline film, prep., elec. props. 9-43159
 p-CdTe, bipolar photocond. and acoustoelectric current 9-19636
 CdTe epitaxial layers on GaAs, cryst. struct. and phys. props. 9-33202
 CdTe-HgTe, neutron irradi. rel. to elec. props. 9-15141
 Co₄₀Ni₆₀B₂₀, spontaneous Hall effect and resistivity 9-19576
 Cr-Al, temp. depend. of Hall coeff. 9-33280
 Cu_{0.65}Cr_{0.35}Se_{2.67}Bi_{1.34}, Hall emf, temp. depend. 9-7846
 Cu_{0.6}Mn_{0.4}(Se₄)(Te₄) spinel, prep. and elec. props., 100 to 650K 9-43127
 EuO, hydrostatic press. effects on elec. resist. in temp. range 3 to 300K 9-23968
 EuSe, Hall effect, elec. cond. and magnetoresistance temp. depend. 9-33296
 Fe-C, dil., Hall-field electrotransport of C, effective valence numbers 9-28148
 Fe_{80-x}Co_{20-x}B₂₀, spontaneous Hall effect and resistivity 9-19576
 FeCr₂S₄, pure and doped, CVD grown, surface struct., elec. props. and band struct. 9-4905
 Fe_{80-x}Ni_{20-x}B₂₀, spontaneous Hall effect and resistivity 9-19576
 Fe₂Ni_{80-x}B₂₀, Fe₂Ni_{80-x}P₄B₄, amorphous, voltage meas. (*Croatian*) 9-11102
 Fe₄₀Ni₄₀P₁₄B₆, metglas 2826, amorphous, Hall resistivity, thermal cycling and annealing effects 9-38050
 GaAs, MBE, growth temp. depend. and characts. 9-28946
 GaAs, shallow donors, screening, energy spectrum of electrons and cond. mech. 9-7831
 p-GaAs:Be, ion implanted, annealing characts., defect cond. profiling, electron diff. obs. 9-4318
 n-GaAs:O film, influence of O on elec. props. 9-11252
 n-GaAs:Te, elec. cond. and Hall coeff. temp. depend. meas., three band model 9-33287
 GaAs:Zn, Se, double doping during LPE, exam. of elec. cond. and Hall effect 9-4923
 GaAs:Zn MBE layers, ionized beam doping, elec. and optical characts. 9-37721
 GaN, epitaxial growth on sapphire substrates, elec. props., X-ray diff. anal., photoluminescence spectra 9-4919
 GaP layers, LPE growth, elec. props., residual impurities 9-38202
 GaSb and GaSb_{1-x}As_x films, MBE growth and elec. props. 9-23863
 p-GaSb, elec. cond., Hall effect, mobility and carrier concentration (*Russian*) 9-19603
 GaSb:Fe, shallow acceptor level, electrical meas. 9-11087
 n-GaSb:Te, Hall coeff., carrier conc. and mobility, elec. cond., 290 to 550K (*Russian*) 9-19604
 GaTe, Hall mobility, resistivity anisotropy 9-11150
 Ge detector; high-purity, effect of crystal growth direction on electron resolution 9-45541
 Ge, high purity, carrier trapping 9-47104
 Ge, trapping defects, deep level transient spectroscopy 9-47045
 Ge:Cu, press. effect on energy spectrum of carriers, elec. cond. and Hall coeff. expts. 9-23930
 Ge-Si alloy, epitaxial growth by getter sputtering, characts. 9-28915
 GeTe-MnTe-SnTe system, compds., GeTe phase transition temp., elec. props., thermal cond. 9-43220
 Ge_{1-x}Te_x, elec. cond., Hall effect in phase transition region 9-11113
 Hg_{1-x}Cd_xSe, (x=0 to 0.15), Shubnikov-de Haas oscillations, influence of level broadening 9-11155
 In, electron MFP, conduction electrons injected from ferromag. 9-15135
 InAs, exam. of decomposition of donors 9-1605
 InAs heteroepitaxial layers, VPE grown, effect of AsCl₃ mole fraction on elec. props. 9-11255
 InAs, thin film prep. and elec. props. 9-1633
 n-InAs, transport props., influence of higher energy bands, calcs. 9-19598
 (InAs)_{1-x}(CdSe)_x solid solution, elec. props. 9-15146
 InAs_{1-x}Sb_x, epitaxial film, carrier recomb., elec. and optical props. 9-15164
 n-In_{1-x}Ga_xP solid solns., electron scatt. mechanisms (*Russian*) 9-4568
 InO₃:Sn film, prep. by spray hydrolysis, struct., elec. and optical props. (*Japanese*) 9-42678
 In₂O₃:Sn films, doping profiles and elec. props., appl. to optoelectronic devices 9-38203
 p-InP film growth, by close space vapour transport, elec. charact. 9-28944

Hall effect continued

InP, growth and props. 9-1822
 InP, synthesis solute diffusion grown, elec. props., photoluminesc., etch pit profiles 9-4914
 InP:Sn, LPE growth from Sn soln., elec. props., 80 to 300K 9-11250
 n-InSb, electron mobility at 77K in avalanche regime 9-33295
 n-InSb, Hall effect and magnetoresist. in mag. freeze-out region 9-15165
 p-InSb, ion bombardment using 30-80 keV ions, isochronous annealing, elec. props. obs. 9-19295
 InSb:Cr:Zn, Hall coeff. in static and pulsed mag. fields 9-15169
 n-InSb:Zn, Zn diffusion out of implanted layers, Hall effect meas. at 77K 9-10984
 In₂Se₃, single cryst. prep. and electrophys. props. 9-43129
 KNO₃, elec. and thermoelec. singularities due to small polaron hopping motion cond. transition 9-42565
 LiNbO₃:Fe, optical damage induced by laser light, X-ray irradi., carrier mobility effects 9-33657
 LiNbO₃:Fe, photovoltaic effect and charge transport mechanism 9-38123
 (MnTe)_{1-x}(As₂Te₃)_x solid solns., thermoelec. props. 9-42567
 Nb-Sn, A15 compounds, Hall coeffs. 9-33281
 NbSe₃, CDW linear chain metal, two band model in ohmic region 9-38056
 NbSe₃, conductivity anisotropy and transverse magnetoresistance 9-38055
 Ni films, evaporated, effect of CO adsorption on galvanomag. and mag. props. 9-33363
 Ni films, evaporated, effect of CO adsorption on galvanomag. and mag. props. 9-33364
 Ni, magnetoresistance anisotropy, planar Hall effect 9-23947
 Ni-Cu alloy, magnetoresistance anisotropy, planar Hall effect 9-23947
 Ni-rare earth intermetallics, RNi₃, amorphous alloys, mag. and transport props. 9-42513
 NiS₂, weak ferromagnet, galvanomagnetic effect 9-11148
 Pb film, near supercond. transition temp., Hall effect 9-42698
 PbI₂ (2H), electronic transport and cyclotron reson. 9-28369
 Pb_{1-x}Mn_xTe (x=0.005, 0.001, 0.05), solid solns., exam. of electrical and thermal props. 9-1599
 PbO₂ pressed powder, Hall voltage and change of cond. in transverse mag. fields 9-4567
 PbSe, valence band struct., Hall and transverse Nernst-Ettingshausen effects, optical absorption 9-11064
 Pb_{0.82}Sn_{0.18}Te epitaxial films, surface transport of carriers at 77K 9-28419
 Pb_{1-x}Sn_xTe, epitaxial layers, carrier lifetime meas. 9-42559
 Pb_{1-x}Sn_xTe film, pure and Bi doped, polycryst., struct., elec., optical props. 9-42542
 PbTe epitaxial films, carrier recomb. and deep levels, photocond., Hall effect, and luminesc. meas. 9-38024
 PbTe, epitaxial layers, carrier lifetime meas. 9-42559
 PbTe film, elec. transport props. 9-42679
 PbTe films, thermal cond. and elec. props., 4.2 to 300K 9-28162
 PbTe:Ti, effect of impurities on transport props. 9-11158
 PbTe-based solid solns., 9-23990
 Rb₂WO₃, phase transitions, supercond. transition temp. and elec. props. 9-28431
 (SN), single crystals, galvanomag. effects 9-19582
 Si, diffusion coeff. of Se, by sheet Hall coeff. meas. 9-46843
 p-Si, electron irradi., influence of acceptor impurity conc. and irradi. temp. on defect formation 9-19281
 Si film, elec. props., effect of amorphous to polycryst. transition 9-28425
 p-Si, galvanomagnetic effects 9-33297
 n-Si, γ -irrad., galvanomagnetic effect anisotropy rel. to layer inhomogeneity 9-33299
 Si, spin dependent recomb. at dislocations, EPR and photocond., Hall effect meas. 9-38095
 Si, thermal donor generation in temp. range 600-800°C 9-11121
 Si:B, polycryst., effect of laser annealing on struct. and elec. props. 9-11243
 Si:Fe, photoconductivity and Hall effect 9-4579
 Si:Fe⁰ interstitial localisation, EPR spectrum 9-1582
 Si:In, doping conc., meas. by Hall, C-V and junction breakdown methods 9-14824
 n-Si:P, low-compensated, Hall factor, electron-phonon interactions 9-4570
 Si:Se,B(Ga)(Al)(In), diffusion of Se, solubility and ionization levels, Hall effect and photocond. meas. 9-42486
 n-SiC (6H), density of states effective mass determ., high temp. meas. of elec. props. 9-15073
 SnS_{2-x}Se_x, electron mobility elec. resist. and Hall constants 9-28346
 SnTe, film, heat treatment in air, effect on struct., props. 9-11037
 TaS₂ (1T), Hall effect 9-38103
 Ta₂Ti_{1-x}Se₂, cryst. struct. and elec. props. 9-47133
 Te, deformed and annealed crystal, Hall coeff., depend. on stress 9-7847
 Te film, on TGS substrate, ferroelec. field effect 9-42675
 Te, films, elect. and galvanomag. characts. 9-33365
 Ti, film, elec. resist. Hall effect and absolute differential thermoEMF (*Russian*) 9-24083
 U film, condensed on cold substrate, electronic props. (*Russian*) 9-7912
 V-Si, A15 compounds, Hall coeffs. 9-33281
 VH₂, reluctance, Hall effect 9-38102
 V₂Ti_{1-x}Se₂, cryst. struct. and elec. props. 9-47133
 WS₂-NbS₂ system, compds., elec., antiferroprop. 9-38066
 Zn, Hall effect and phonon scattering in pure crystal 9-23948
 Zn, Hall effect coeffs. at high temp. calc. 9-1595
 Zn₃As₂:Cu(Te), single crystals, gas phase growth, elec. props. 9-15598
 ZnO-ZnS powder mixtures, elec. cond. and Hall effect meas., percolation effects 9-7828
 ZnSe:Al(As), and pure single cryst., defect struct., Hall effect and Zn self-diffusion meas. 9-1427
 ZnSe:Ga, defect struct., Hall effect and resist. meas. 9-1428
 n-ZnSiP₂:Ga, elec. cond. and Hall meas., 77 to 1000K, scatt. mechanisms 9-11153
 ZnTe, effect of quenching on electrical props. 9-1920

Hall effect devices

carrier mobility meas. instrum. for specimens in strong pulsed electric fields using Hall current method 9-35779
 depth measuring apparatus for borehole logging 9-5643
 extensometer for simple shear meas. in polymers 9-23286
 magnetometers for rocket attitude meas. 9-21148

Hall effect devices continued

probes for small mag. field detection, temp. matching 9-40592
InSb films, transverse 1/f noise and S/N ratio of related Hall elements 9-42597

Hall effect transducers

collective accelerator magnetic field meas. apparatus 9-31354
Daresbury Laboratory automated magnet field meas. facility 9-30509
high-energy physics magnet meas. 9-31353
liquid level measurement and regulation using megohmmeter and op. amp. (Romanian) 9-40532
phase shifters for fluorometer, high temperature flow meters appl. 9-8459
superconducting magnets excited by AC, energy loss meas. device 9-2796
Cd₂Hg_{1-x}Te thin film Hall probes for high mag. fields 9-30452

Hall generators *see* **Hall effect devices****halogens**

see also astatine; bromine; chlorine; fluorine; halides; iodine
chemisorption on Na, surface chemiluminesc., MO description 9-43048
halogen-metal vapour lasers, average lasing power 9-936
molecule+K, ion pair form., vibr. energy depend. 9-34287
molecules, van der Waals dimers, PCILO calcs. 9-36542

Hamidashi effect *see* **ferroelectricity****handling, materials** *see* **materials handling****Hanle effect**

diatomic molecule, ground state, opt. prod. and orientation, review (Russian) 9-27046
BO₂, A²Π_g-state, Hanle effect, press. and Zeeman broadening 9-18239
Ba²⁺+Ba, 6p²P level lifetimes, depolaris. cross-sections, Hanle effect obs. 9-26943
Hg+Zn(Cd), sensitized fluoresc., orientation and alignment transfers (French) 9-13808
K₂, optically aligned ground state, Hanle effect obs. 9-36707
Mg, reson. line, Hanle effect, density depend. 9-6917
NO₂, coherence time rel. to radiative lifetime, theory 9-18240
Na₂, optically aligned ground state, Hanle effect obs. 9-36707

hard soldering *see* **brazing****hard-sphere fluids** *see* **classical theories of fluid structure; liquid theory; quantum theories of fluid structure; statistical mechanics****hardening**

see also dispersion hardening; quench hardening; radiation hardening; solid solution hardening; surface hardening; work hardening
austenite, hot-worked, subgrain struct., X-ray diffr. and electron microscope obs. (Russian) 9-15698
crystal plasticity, hardening law for slip systems 9-33030
cyanate bath, soln. mechanism of Fe and Cr 9-39271
elastic-plastic struct. cyclic thermomech. loading 9-7299
epoxy resin curing, elastic moduli changes, US wave propagation monitoring technique 9-20305
metals, BCC, low temp. softening 9-34113
Permalloy, high permeability, effect of hardening additions on mag. props. (German) 9-28566
PVC plastisols, thermally hardened, rheological props. (German) 9-29154
soil, anisotropic hardening model, cyclic loading appl. 9-16441
steel, austenitic, metastable, 0Kh14AG12M, Cr-Mn and Cr-Mn-Ni, phase transform. kinetic effect on mech. props. (Russian) 9-34024
steel, C, bainitic hardenability, overheating effect 9-38866
steel, Cr-Mo-V, 1% Cr, chem. comp. and struct. effect on deform. props. (German) 9-1888
steel, high speed, hardened, for drills, mech. and cutting props. 9-43407
steel, high-temperature thermomechanical treatment, holding after deform. effect on strengthening 9-38868
steel, lattice hardening and anomalous softening caused by electrolytic H₂ charging (Japanese) 9-43398
steel, low alloy and C, hardened and tempered parts, nondestructive magnetic inspection 9-1929
steel, Mn-Ni-Mo, PWR pressure vessel, irradi. induced embrittlement, chemical composition effect (French) 9-20195
steel, stainless, 304, beam, elastic-plastic response to impulse loads 9-34118
steel, structural 15Kh2NMFA, use of linear and nonlinear fracture mech. for crack propagation resist. determ. 9-5056
steel, tool, cutting blades, heat treatment in fluidised bed, hardening 9-20087
steel, ultra-high strength, strengthening, props. and characts. (Korean) 9-24607
visco-plasticity problem with hardening, finite element anal. (French) 9-46222
Al alloy, low-cycle fatigue strength, isothermal hardening effect 9-38863
Cu-Al martensite, temper hardening, study by TEM, DTA, microhardness and yield strength meas. 9-43260
Cu-In, thermally cycled, effect on mech. props. and microstruct. 9-4987
Fe, lattice hardening and anomalous softening caused by electrolytic H₂ charging (Japanese) 9-43398
Fe-C, dil. alloys, softening, conventional and in situ expt. 9-47744
Fe-C, dilute alloys, softening, conventional and in situ expt., HVEM obs. 9-47743
Ni, creep, effect of AC mag. field, 1.5-4.2K (Russian) 9-11657
Ni, US deformation at low temps. (Russian) 9-11656
Ni-Al (1.18 wt.%), substruct. hardening effect, depend. on mechanism controlling creep rate, 700°C 9-20144

hardness

see also abrasion; hardness testing
activation volume determ. by means of change in hardness 9-18836
Al alloy AK4-1, acoustic investigation of ageing 9-34083
alloys, ion implantation in tribology and corrosion science, overview 9-14830
boride coatings, high temp. resist. and struct. 9-39008
coal, variations with maceral and orientation 9-24605
diamond, natural, micromechanical characteristics 9-20190
diamond-like C film, plasma stream condensation with RF pot., props. 9-15612
elastomer compound O-rings for service in hot water, evaluation 9-29257
glass, inorganic, calc. of microhardness and glass transition temp. 9-5059
hardness, elec. cond., photo emission, and mag. props. (Norwegian) 9-32909
III-V semicond. plates, scribing marks rel. to sclerometric microhardness 9-15891
Incoloy 800, creep rupture ductility, 500 to 600°C, hardness and metallurgical exam. 9-43435

hardness continued

Incoloy 800, from KFA experimental duct at 700°C and 480 d in DRAGON reactor, mech. props. before and after contamination 9-47777
Incoloy 800, mechanical props., heat treatment and appl., conf., Petten, Netherlands (March 1978) 9-43296
indentation hardness number conversion table analysis 9-11736
metallic glasses manufacture, struct. and stability (Norwegian) 9-14687
Nb-O, effect of O₂ on penetration of Li at 400°C 9-11719
Nimonic alloy, effect of annealing on hardness, carbide phase strengthening (Russian) 9-34137
polypropylene, fracture exam. using microscopic obs. (German, English) 9-20186
PVC, crosslinked, mech. and thermal props. with plasticisers (Japanese) 9-15741
PVC, tensile and indentation behaviour, durability tests, glass transition 9-5017
rare earth titanates, R₂Ti₂O₇, synthesis and phys. props. 9-43128
refractory coatings, deposited by electron evaporation, struct. and props. 9-23871
satellite, hardness and erosion resistance to aqueous SiO₂ slurry 9-43441
steel, 37Kh12N8G8MFT, precipitation hardening, hardness meas. and electron microscope exam. (Russian) 9-38843
steel, AISI 4340, positron lifetime and X-ray particle size meas. during high cycle fatigue 9-5053
steel, austenitic, Mn strain hardening at room and low temps. (German) 9-38845
steel, austenitic solid solution, chem. evaluation of B and its correlations with hardenability and hardness (German) 9-39230
steel, brittle transition temp. comparison of arc, gas-pressure and friction-pressure welded alloy by hardness measurements (Japanese) 9-11691
steel, C hot dipped aluminised, phase composition anal. of alloy layer by X-ray, electron probe and hardness meas. 9-34192
steel, C type 45 hardened layer structure and props. with intensive spray cooling and hardening 9-38859
steel, carburised, fracture resistance 9-24612
steel, Cr-Ni-Mo, combined B and rare earth metal additions effect on microstruct. impact strength and hardness 9-38963
steel, effect of laser irradi. in inert gas atm. (Russian) 9-38935
steel, fatigue strength, statistical prop. (Japanese) 9-20169
steel, grinding, effect of hardness, texture, and bond of grinding wheel, temp. effect (German) 9-43459
steel, high speed, hardened, for drills, mech. and cutting props. 9-43407
steel, low C, mech. props. determ., NDT methods 9-29176
steel, martensitic, ageing of 05kh3N2MD2, hardness depend. on tempering temp. (Russian) 9-24544
steel, martensitic, Cr-Ni-Co-Mo-Ti, Kh12N8K5M3TYu, ageing of C free martensite (Russian) 9-1884
steel, medium C, type 35 laser treatment effect on struct. and mech. props. 9-39041
steel, mild, fatigue life, effect of H₂S and SO₂ gas 9-15871
steel, Mn-Cr-V, crack propag. resist. at hardness indentation, and fracture toughness (German) 9-29220
steel, neutron irradiated press. vessel material, small angle neutron scattering meas. 9-13428
steel, stainless, ferritic, Ti stabilised, exam. of grain boundary structure (Russian) 9-15662
steel, W, high C, amorphous, rapidly quenched from melt, mech. and thermal props. 9-38874
steel, white layers forming at high rates of friction, struct. props. (Russian) 9-15800
steel 45 microstruct. and hardness after electron bombardment 9-38956
steels, tool, cold hydrostatic extrusion rel. to struct., props. 9-20068
surface, mech. and corrosion props. improvement using US energy (Romanian) 9-15821
α-W₂C, polycryst., plastic behaviour at ambient temp. (French) 9-1435
α-Zr, crystalline anisotropy determ. by hardness meas. (French) 9-20157
Ag alloy, cermet contact, Brinell and Vickers hardness number comparison 9-38978
Al-Cu (4 wt.%), with θ' precipitates, relation between elastic limit and hardness (French) 9-5018
Al-Ge alloy, effect of high press. on phase equilibrium (Russian) 9-1844
Al-Si-Mg alloys, Si content and Mg addition effect on mech. props., Na treatment (Korean) 9-38901
Al₂O₃, ion condensing metal plasma stream, coating microhardness, chemical reactions 9-42426
Al₂O₃/Al clad powder prep. and physicochem. props. 9-29010
Al₂O₃, corundum, abrasive, evaluation of brittleness, contact endurance by cyclic microhardness 9-15890
As₂Se₃-GeSe₄-SnSe_x (x=1,2), exam. of Sn valency and physical props. 9-4753
As₂Se₃ films, microhardness data for number of illumination-annealing cycles 9-24378
Au-Co electrodeposit, struct. and hardness characts. 9-28245
Au-Cu alloy, internal oxidation, calorimetric meas. 9-43258
Au-Mg alloy, internal oxidation, calorimetric meas. 9-43258
Au-Pd-Pt-Ag, composition-property diagrams, mathematical models for diagrams (Russian) 9-11554
BP coatings, on Mo by CVD and their composition and microhardness 9-28942
C, dense hard-type solids prep. from petroleum coke powder by grinding 9-20002
CdTe-Co(Mn) systems, reaction of components, DTA, microstruct. and microhardness obs. 9-38804
Co-transition metal, transition metal additives influence on struct., specific resistance, microhardness, mech. props., magnetic props. 9-29078
Cr-La-V-Nb-Ta, La, V, Nb Ta effect on hardness and strength (Russian) 9-34050
Cr-V-Ce-N, (2.4 to 2.6, 1.7 to 2.3, 0.005 to 0.23 wt.%) V effect on hardness, and ductile to brittle transition temp. (Russian) 9-34138
CrN, deposition by hollow cathode discharge process, and hardness 9-24452
CsH₂PO₄, microhardness, expt. determ. 9-24603
CsI:Na⁺, crystal, mech. props. assessed from yield stress and microhardness 9-15748
Cu-Al martensite, temper hardening, study by TEM, DTA, microhardness and yield strength meas. 9-43260
Cu-Al₂O₃ coatings, electrodeposited, dispersion hardened, exam. of props. 9-34181
Cu-Al₂O₃ electrodeposits, dispersion hardened, props. 9-28258

hardness continued

Cu-Al-Fe-Mn (10,3,2 wt.%), phase comp. struct., continuous cooling from β -phase effect 9-24499
 Cu-Al-Si, Si effect on mech. props. and microstructure (*Korean*) 9-38903
 Cu-ferrous alloy, hard inclusion composite exam. of wear resistance props. 9-34153
 Cu-Ni-Al, ageing charact., optical TEM, X-ray, hardness obs. 9-29079
 Cu-Ti alloys (0.5 to 4.0 wt.%) ageing charact. determ. 9-20089
 CuAl₂, Knoop hardness meas. on single cryst. faces 9-37696
 Fe, Armo, microstruct. and hardness after electron bombardment 9-38956
 Fe, cast, high Cr, phase composition, mech. props. rel. to heat treatment 9-29108
 Fe, cast, mech. props., demodification influence of isothermal holding and Mg additions (*Bulgarian*) 9-15707
 Fe-Al (1 to 4 wt.%), effect of nitriding on surface structure and props., and on diffusion layer (*Russian*) 9-34197
 Fe-B, rapidly solidified, metastable phases (*German*) 9-29045
 Fe-NbC, exam. of phase diagram, and mech. props. (*Russian*) 9-20028
 Fe-Nb(Ta)-Co, Recalloys, semi-hard mag. alloys, mag. and elec. props., hardness, thermal expansion (*Japanese*) 9-5066
 Fe₈₀P₂₀, hardness, elec. cond., photo emission, and mag. props. (*Norwegian*) 9-32909
 Fe_{80-x}Ni_xB₂₀, Fe_{80-x}Ni_xP₁₀B₁₀, amorphous, microhardness meas., dependence on mag. props. (*Croatian*) 9-11688
 Fe₄₀Ni₄₀P₁₀B₁₀, amorphous, annealed and unannealed, temp. depend. of flow stress and ductility 9-29119
 Fe₄₀Ni₄₀P₁₀B₁₀, hardness, elec. cond., photo emission, and mag. props. (*Norwegian*) 9-32909
 (GaP)₂(ZnSe)_{1-x}, solid solution, reaction of Zn with Se during Czochralski growth and LPE 9-8238
 Ge, plates, semicond., scribing marks rel. to sclerometric microhardness 9-15891
 Ge-P-Se system glasses, penetration by indenter, activation parameters, microhardness 9-43419
 Ge-S-In, chalcogenide glass, determ. of microhardness 9-23526
 HfC-HfBr₂, preparation and high temp. antifriction props. 9-1918
 InAs, exam. of decomposition of donors 9-1605
 KCl, Knoop microhardness anomaly on (001) planes 9-38942
 KCl:Ba(Ca)(Sr), microstruct. and hardness, impurity distrib. effects 9-24529
 KH₂AsO₄, microhardness, expt. determ. 9-24603
 KH₂PO₄, microhardness, expt. determ. 9-24603
 LiF, Knoop microhardness anomaly on (001) planes 9-38942
 Li₂O pellets, neutron irradi., microstruct. and Vickers microhardness meas. 9-8339
 LuAlO₃, single crystals, prep. and phys. props., X-ray struct. anal. 9-4298
 Mg-Ga (6 wt.%), precipitation, lattice const., ageing effects (*Chinese*) 9-43279
 MgO, anisotropy of grinding damage, chem. polishing and etching 9-47793
 MgO briquets, prep. by shock compaction and characteris. 9-43178
 MgO, hot pressed, microstruct. influence on microhardness 9-38971
 MgO, Knoop microhardness anomaly on (001) planes 9-38942
 Mn-B system, microhardness and phase analytical studies 9-24502
 Mn-Ni-Ti (Zr) systems, and mech. props. thermal expansion for different heat treatments (*Japanese*) 9-29123
 Mn-Ni-Ti(Zr), non-ferromagnetic Elinvar-type alloys 9-24566
 Mn₄₀Co₆₀, amorphous alloy prep. by high-rate sputtering, struct. and prop. characteris. 9-24462
 Mo single crystal, effect of prior ultrasonic working on hardness, crystal orientation and creep resistance (*Russian*) 9-34056
 MoN_x, ion condensing metal plasma stream, coating microhardness, chemical reactions 9-42426
 NH₄H₂AsO₄, microhardness, expt. determ. 9-24603
 NH₄H₂PO₄, microhardness, expt. determ. 9-24603
 NaCl, Knoop microhardness anomaly on (001) planes 9-38942
 Na₂WO₃, bronze, composition-dependent microhardness, rel. to bonding 9-24606
 Na₂WO₃, hardness anisotropy, comp. depend. 9-29181
 Nb-Ge system, phase diagram determ. 9-38796
 Nb-Ti-Ta alloys, metallurgical anal. and crit. current densities 9-38286
 NbCo_{0.86}, single crystal work function, thermionic emission and contact pot., microhardness and binding 9-19649
 Nb₃Sn-Cu multifilamentary wires, in situ prep., supercond. and mech. props. 9-38768
 Ni electrodeposition from alkaline: citrate electrolytes, coating impurity quantities and props. (*Russian*) 9-8252
 Ni electroless plating, effect of ultrasonic irradi. 9-33953
 Ni-Al₂O₃ cermet, fabrication and mech. charact. 9-38781
 Ni-Co-Cr-Mo-Al, Astroloy, extruded powder metallurgy superalloy, recrystallisation study 9-4976
 Ni-Cr (33.3 at.%) alloy, ordering after US deform., microhardness and elec. resist. meas. (*Russian*) 9-20113
 Ni-SiC(WC), dispersion hardened coating, chemically deposited using electroless baths, exam. of protection props. 9-34208
 NiO:Mn, microhardness, plasticity, ageing effects 9-43291
 PbTe:Ga, location, behaviour of Ga, electrophysical props. meas. 9-38106
 RbH₂AsO₄, microhardness, expt. determ. 9-24603
 RbH₂PO₄, microhardness, expt. determ. 9-24603
 ReO₃, hardness anisotropy, comp. depend. 9-29181
 Si, plates, semicond., scribing marks rel. to sclerometric microhardness 9-15891
 Si-Y-Al-O-N glasses, compositional anal., hardness depend. on N₂ content 9-34129
 SiC, abrasive, evaluation of brittleness, contact endurance by cyclic microhardness 9-15890
 SiC, phase transition under isostatic press., microhardness meas., -196 to 1700°C 9-19318
 SiC single cryst., reaction-bonded and hot pressed, hardness and wear behaviour 9-38970
 Si₃N₄, pyrolytically-deposited, engng. significance 9-38746
 Si₃N₄, reaction-bonded and hot pressed, hardness and wear behaviour 9-38970
 Si₃N₄ with Y₂O₃ and Al₂O₃ additions, hot pressed, exam. of mech. props., grain boundary crystallization 9-20009
 SiO₂-Na₂O-K₂O water glass with polyethylene filler, thermogravimetric and thermomechanical anal. 9-20020
 strengthened by lattice transformations, mech. props. study (*Japanese*) 9-43332

hardness continued

Ti alloy VT20, phase composition and structure effect on mech. props. 9-38958
 Ti-M-V-Cr-Mo, RMI 38644, shock loaded, age hardening 9-29112
 Ti-Mo (16 at.%), effect of H impurities on lattice spacing, hardness, and plastic strain (*Russian*) 9-11664
 Ti-transition metal, transition metal additives influence on struct., specific resistance, microhardness, mech. props. 9-29078
 Ti-V-Si (30, 1 at.%), quenched and aged, hardness, tensile behaviour and phase transform. 9-11646
 TiB₂ coatings, prep. by CVD and interaction with substrate 9-24680
 TiB₂, erosion resistant boride coating on Ti and Ti alloys 9-20290
 TiC, deposited by activated reactive evaporation, TEM and hardness 9-23872
 TiC-TiB₂, preparation and high temp. antifriction props. 9-1918
 TiC, film, formation by hollow cathode discharge reactive deposition process, on mild steel sheet 9-24451
 Ti_{1-x}C_x, deep doping during ion-beam welding, microhardness meas. 9-19294
 TiN_x, deposition by hollow cathode discharge process, and hardness 9-24452
 TiN_x, ion condensing metal plasma stream, coating microhardness, chemical reactions 9-42426
 TiO-ZrO₂, pseudo binary system, effect of Ti addition on struct. and props. of zirconia 9-11583
 Ti-Te, phase equilibrium exam., using DTA, X-ray diffraction, and hardness 9-1846
 Ti₃As₄, crystal growth by Bridgman-Stockbarger method, exam. of props. 9-11506
 Ti₂S-Ag₂S system, phase equil., DTA, X-ray and microhardness obs. 9-38803
 Ti₂S-Ti₂Se(Ti₂Te), exam. of phase equilibria, using DTA, X-ray phase analysis and microhardness 9-4953
 UO₂ microspheres, prep. from UO₃ (NH₃)₂, exam. of mech. and physical props. 9-6758
 US-UC-UC₂ system, potential nuclear fuels, phase solid soln. studies, prep. and props. exam. 9-40996
 VC-TiC, deposited by activated reactive evaporation, TEM and hardness 9-23872
 YbAlO₃, single crystals, prep. and phys. props., X-ray struct. anal. 9-4298
 Zr-Dy dil. alloys, plastically deformed, mech. props. and microstruct. (*Russian*) 9-20112
 ZrC, single cryst. growth by modified hot-filament method, cryst. morphology and microhardness 9-19983
 ZrC-ZrB₂, preparation and high temp. antifriction props. 9-1918
 ZrCo_{0.84}, single crystal work function, thermionic emission and contact pot., microhardness and binding 9-19649
 ZrO₂/Al clad powder prep. and physico-mech. props. 9-29010

hardness testing

abrasive material, brittleness and contact endurance eval. by cyclic microhardness 9-15890
 diamond indenters, microhardness meas. technique, rel. to quantifying bonding changes 9-24606
 equipment for production line inspection 9-29320
 gauges, PMT-3 and PMT-5, comparison of metrological props. 9-20317
 metals, alloys hardness testing, depth of impression meas., automated 9-15892
 microscope, laboratory standard for hardness impression meas. 9-21808
 scale effect during indentation, role of elastic strains (*Russian*) 9-39062
 semiconductor plate, relationship between scribing mark and sclerometric microhardness 9-15891
 steel, acoustic hardness testing 9-39088
 steel, heat treated small parts, electromagnetic hardness inspection 9-34241
 steel, hot-rolled high quality sheet use of stat. maths. for NDT determ. of mech. props. 9-11749
 steels, eutectoid 9-15889
 Fe electrodeposited coatings, microhardness, H_a, design appl. 9-39069
 Na₂O-CaO-SiO₂, dynamic hardness testing, pendulum attenuation, yield stress obs. 9-24699

harmonic analysis

see also waveform analysis
 aeromagnetic anomaly from remanently magnetised Precambrian schist belt, Karnataka, India harmonic inversion 9-44094
 atmospheric pollution and natural radioactivity diurnal waves (*Rumanian*) 9-21009
 auroral pulsations, harmonic anal. 9-8736
 cantilever vibration of cantilever-electro-piano (*Japanese*) 9-18634
 Earth gravity potential, GRIM 2 model determ. and evaluation (*French*) 9-8587
 EM field problem with a non-linear condition 9-18326
 FKSZ stars, astrometric obs. and systematic differences spherical harmonic anal. (*Russian*) 9-44336
 geopotential, harmonic coeffs., determ. error (*Russian*) 9-5439
 gravity, anomalous fields, stochastic harmonic analysis 9-35003
 lunar daily geomagnetic variations at Sabhawala and Hyderabad, harmonic anal. 9-44097
 mixed problems in theory of harmonic functions, Monte Carlo method appl. 9-10464
 mutual gravitational potential of N solid bodies, harmonic coeffs. expansion 9-12390
 oceanic tides, semidiurnal waves determ. via obs. of artificial satellites trajectories (*French*) 9-8634
 physical systems instabilities, variational principles for complex eigenvalues 9-21527
 pulse-excited systems for nondestructive materials testing, using eddy current method (*Czech*) 9-39071
 relativistic Boltzmann equation 9-17367
 Schumann resonance problem, convergence of zonal harmonic series 9-2348
 solar daily geomagnetic variations at Sabhawala and Hyderabad, harmonic anal. 9-44097
 spherical harmonic expansion method for data sampled on sphere 9-2602
 spherical harmonic gradient formula, generalisation 9-17271
 SU*(4), elementary representations and intertwining operators 9-301
 tensor spherical harmonics on S² and S³ as eigenvalue problems 9-17324
 tidal dynamics of Irish and Celtic Seas 9-25254

harmonic generation

- see also optical harmonic generation*
 α -brass, acoustic harmonic generation by long-range dislocation motion 9-42150
 cubic ferromagnet, second magnetoacoustic harmonic generation (*Russian*) 9-42816
 dirty superconductors, third harmonic response to weak EM field near transition temp. 9-38249
 magnetoplasma, plasma wave generation and SHG by Gaussian EM beam 9-37479
 piezoelectric cryst., excitation and energy flux of acoustic harmonic 9-15404
 plasma discharge, second harmonic generation by surface waves 9-1306
 second harmonic SAW generation in devices involving semiconductor coupling 9-46148
 semiconductor, second harmonic generation by hot electron and electron transfer effects, optimum conditions 9-41491
 simple harmonic generation: an exact method of solution 9-25872
 X-ray phase-matched nonlinear interaction possibility in ideal crystals 9-41416
 Bi, magnetoplasma waves, freq. doubling in propag. 9-28367
 He, liq., first sound response, nonlinear, at 1, 3 10 MHz 9-46858
 Ti, acoustic harmonic generation by long-range dislocation motion 9-42150

harmonic oscillators

- anharmonic, large order perturbation expansion coeffs. of ground state energy 9-9139
 anharmonic, mol. state stability, symmetry breaking for a non-linear Schrodinger equation 9-26867
 anharmonic chain with nearest neighbour interaction, periodic permanent waves 9-150
 anharmonic oscillator, analytic theory of continued fractions, Green's function 9-6019
 anharmonic oscillator, appl. to nonpolar dielect. and displacive-type ferroelects. 9-8087
 anharmonic oscillator, modified perturbation theories using Riccati eqn., energy eigenvalues 9-12644
 anharmonic oscillator, moment recursions and the Schrodinger problem 9-35584
 anharmonic oscillator, multipseudoparticles, perturbation theory in ground state energy calcs. 9-17622
 anharmonic oscillator, perturbation theory higher orders and struct. (*Russian*) 9-25904
 anharmonic oscillators, single and coupled, with quartic coupling energy levels, quantum theory 9-35587
 anharmonic temperature factors, site symmetrised Fourier invariant treatment 9-33040
 approximate spectral decompositions associated with a family of harmonic oscillators (*French*) 9-44761
 baryonic state even wave harmonic oscillator theory, structure functions versus form factor 9-393
 biharmonic oscillator, coincident energy levels, for teachers 9-40324
 bound states and energy spectrum, appl. to massless Klein-Gordon equation in Kerr metric 9-35600
 classical coupled dipole oscillators, optical props., normal mode treatment 9-36611
 coherent states and lattice sums 9-2650
 coupled anharmonic oscillators, coherent state representation, perturbative soln. 9-17270
 coupled harmonic oscillators, natural freqs. from anal. geometry, for teaching 9-25806
 coupled oscillator model for opt. activity in Occupation Number Representation 9-31619
 coupled oscillators, approx. and exact quantum energies and eigenfunctions 9-26961
 coupled resonators, normal mode anal. 9-14327
 diatomic molecule+diatomic molecule, collinear collision, anharmonicity effects 9-31656
 dispersive waves, nonlinear model eqn., parametric growth rate 9-12615
 dissipative oscillator, time relaxation approx. anal. (*Russian*) 9-5997
 double well oscillator, nonlinear contribs. to the partition function 9-12963
 dynamical symmetries in spherical geom. 9-40394
 education, classical and quantum uncertainties, particle in box, harmonic oscill. and atom 9-25789
 elastic three-body linear collision, inverse scatt. problem, for teaching 9-35468
 energy eigenvalues of Coulomb and oscillator potentials, connections 9-12637
 ensemble of oscillators with embedded impurity oscillator, absorption spectrum windows 9-6045
 fast rotating nuclei, harmonic oscillator approx., moments of inertia and yrast lines 9-30765
 forced harmonic oscillator, Hamiltonian for time-depend. damping, for teachers 9-21495
 friction in quantised Langevin systems, Schrodinger eqn., damped harmonic oscill. solns. 9-21570
 general anharmonic oscillator, eigenvalue calc. 9-6015
 generating functions calc. from characteristic functions 9-914
 generating functions for integrals involving harmonic oscillator functions 9-35577
 Hartmann flows, resonant perturbations (*Russian*) 9-32685
 heavy meson spectroscopy, centrifugal and harmonic oscill. pot. 9-17699
 highly excited harmonic oscillator in crystal, damping 9-40408
 hydrogen bond absorption spectra, interaction between two harmonic oscills. 9-6929
 isotonic, coherent state dynamics, energies 9-44794
 linearly perturbed parameter dependent systems, energies calcs. 9-25893
 Lorentz-invariant minimum uncertainty product 9-6006
 magnetoaerodynamic forces on oscill. circular cylindrical shell, simple harmonic motion 9-1257
 meson masses in gauge theory with harmonic oscillator pot., coloured quark-gluon model 9-350
 Morse oscillator, matrix elements calcs. with Sturm-Liouville eqn. eigenfunctions 9-2660
 Newton and Heisenberg eqns. of motion relation, harmonic and anharmonic oscill. 9-6018
 nonlinear oscillators, Brownian motion, projection operator method, double well potential oscillator appl. 9-2723

harmonic oscillators continued

- phase space quantization of the linearly damped harmonic oscillator 9-35627
 polyatomic molecules decomposition, pseudocanonical description of non-Boltzmann excited ensemble of oscillators 9-29331
 QCD hadronic spectrum, α -expansion method extraction, harmonic oscillator test 9-3009
 quantization of inequivalent classical Hamiltonians, damped oscill., for teaching 9-35466
 quantum dissipative system, nonlinear von Neumann equations 9-25976
 quantum Hamiltonian on lattice, estimation of eigenvalues 9-40669
 quantum nonlinear oscillator, quasiclassical theory of excitation time 9-40411
 quasi-classical quantisation of multidimens. systems, adiabatic invariants (*Russian*) 9-3343
 spontaneous emission, master eqn. for harmonics oscillator system 9-12727
 statistical mechanics of waves in thermal equilb. 9-9175
 superoperator method for oscill. interacting weakly with medium 9-40409
 superoperator method for weak interaction of oscillator with non-particular medium 9-30290
 three body problem for general even power potential with applications 9-25900
 time-dependent anharmonic oscillator, invariant Hamiltonian 9-44780
 time-dependent polynomial Hamiltonians, nonlinear transform. 9-40395
 transient beats, determ. using operational amplifier cct. 9-54
 truncated space calcs. of exact bound state energies 9-3090
 uncertainty relations, covariant harmonic oscillator forms 9-9137
 vibration-rotation interaction, estimate for eigenvalues 9-12628
 wave propagation in stratified media, matrix anal. 9-12618
 $\pi\pi\rightarrow\pi\pi$, operator dual model for bound relativistic quark based mesons (*Russian*) 9-9408
 $T\rightarrow e^+e^-$, harmonic oscillator model, QCD gluon-bottom quark coupling 9-3016

harmonic oscillators (circuits)

- Josephson oscillators, synchronisation props., single point junctions and chains 9-19703

harmonics

see also harmonic analysis

- AC and DC power lines, ELF radiation obs. 9-48609
 induced telluric current and power harmonic radiation enhancement during sudden storm commencement 9-2184
 rotationally symmetric mag. field expansions into zonal harmonic functions 9-31772
 structural vibration testing, using electromag. forcing device, use of feedback to reduce harmonics 9-20298

Hartmann lines *see Luder's bands***Hartree calculations** *see SCF calculations***Hartree-Fock approximation** *see HF calculations***Hartree-Fock calculations** *see HF calculations***Hasiguti relaxation** *see anelastic relaxation; dislocation damping***He** *see helium***headphones**

see also earphones

- equipment and services, 1979 video yearbook 9-14197
 noise excluding audiometric headsets, perform. characts. 9-32157

health effects of radiation *see biological effects of radiation***health hazards**

see also biological effects of radiation

- acoustic noise, biological effects other than hearing, review of animal expts. 9-5314
 acoustic noise, impulsive, accuracy of measurement 9-18652
 aerosol, electrostatically charged, particle deposition in hollow cast of human larynx-tracheobronchial tree 9-43953
 airborne dust, field sampling techniques 9-12258
 aircraft noise, effects on mental health 9-5316
 aircraft noise and premature birth 9-5324
 atmospheric aerosol characterization for particulate S, health effects 9-20984
 biological safety cabinet design, testing 9-16362
 cancer risk from $^{239}\text{PuO}_2$, max. permissible conc. in air 9-25108
 cancers, genetic defects, resulting from use of various energy sources 9-16259
 carcinogenetic risk estimation, comparison of radiation therapy and chemotherapy 9-20592
 chemical pollutants and radiation, comparative biological hazards 9-25035
 ear-defenders, active noise reduction system for aircrew flying helmets 9-18602
 EM waves biological effects, interdisciplinary and international contribs. 9-48288
 embryo, human, radiation effects on pre-natal development 9-29566
 environmental monitoring and control 9-39328
 environmental noise, conclusions and recommendations of conf. Gothenburg 1977 9-5325
 environmental noise, health effects of noise exposure, review 9-5313
 environmental noise, medical effects, Conf., Gothenburg, Sweden, 1977 9-5311
 environmental noise, review of biological effects on humans 9-5315
 environmental noise exposure, medical effects, review of basic considerations 9-5312
 environmental pollution, anodic stripping voltammetry anal. of samples 9-11836
 hearing protectors, attenuation-frequency characts. meas. using cadaver ears 9-11947
 hearing protectors, circumaural type, objective meas. of attenuation 9-11948
 hearing protectors, effectiveness meas. 9-14180
 immunological effects of auditory stress 9-5323
 indoor natural radiation environment and dose distribution in man, multi-compartment models 9-12015
 industrial noise, biological effects other than on hearing 9-5320
 industrial noise, effect on blood pressure in humans 9-5321
 industrial plant noise, exposure control 9-14153
 instant working level meter methods, mathematical evaluation 9-9918
 laser radiation of 1.54 μm wavelength, max. permissible exposure of human eye 9-11966
 laser safety, basic classification concepts 9-39524
 laser safety calc., for various viewing conditions 9-39447

health hazards continued

- laser safety eyewear, filter glasses 9-39525
- leukemia risk from neutron exposure 9-39509
- linear accelerators, health physics aspects of 20 to 40 MeV operations 9-45482
- microwave and radiofrequency radiations exposure limits proposed, in Canada 9-5375
- NMR of tritiated samples, use of plastic tube insert 9-40546
- noise, physiological defensive activation 9-5318
- noise-induced sleep disturbances and their effects on health 9-5317
- non-ionising EM radiation, biological response research perspectives 9-48289
- nuclear medicine, intrastitutional mobile, health physics considerations 9-8546
- nuclear power, effect on the environment, general radiation level and waste product disposal 9-18051
- nuclear power health risks, for teachers 9-35506
- radiation, low-level, hazard to humans 9-11987
- radiation dose, X-ray and radioisotope examinations, children 9-16308
- radiation exposure and other hazards, comparison of relative risks 9-2111
- radiation exposure meas., airport cargo workers 9-8544
- radiation field measurements, Vermont Yankee Nuclear Power Station 9-9893
- radiation therapy, ¹³⁷Cs needle implants, miniaturized 9-11995
- radioactive releases from nuclear installations, eval. of accidental atmos. discharges 9-39529
- radioactive solid waste, storage facility, radiological safety assessment 9-17995
- radioactive waste burial grounds, generic hazard evaluation 9-22418
- radiogenic cancer, estimate of life shortening per rem absorbed dose 9-11967
- radiological protection in medical establishments, pilot study 9-8552
- reactor loop, experimental, hazard and protection from tritium 9-36420
- risk assessment from radiation 9-25116
- skin, α -irradiation, possibility of late effects, U miners 9-20584
- static and LF mag. field biological effects and hazards 9-34579
- thyroid, high dose associated with adrenal scanning using ¹³¹I 9-29629
- urban noise, effect on cardiovascular function in rhesus monkey 9-5322
- urban noise, field study, noise sources, effects on humans 9-5319
- US tissue characterisation practice and risk 9-48309
- X-ray baggage anal. equipment, radiation safety standards, Canada 9-2139
- X-ray diffraction and fluorescence anal. equipment, radiation safety 9-12017
- ¹⁴C, dosimetry and metabolism of low energy β -emitters 9-8551
- ²⁵²Cf, heavy metal shielding for neutron sources 9-9892
- ³H biological half-life estimation in man, model 9-20689
- ¹³¹I, CH₃¹³¹I, radioactive, airborne, diffusion coeffs. 9-2142
- ²³⁸PuO₂, uptake by plants in polluted soil 9-5381
- ²³⁹Pu, ²⁴⁰Pu, Danish cereal grains, variation of direct contamination 9-5382
- Rn barrier, interior of building structs. foundations built on U mill tailings material 9-2138

hearing

- see also bioacoustics; ear; hearing aids; speech*
- acoustic noise, duration effect on annoyance 9-14151
- acoustic reflex adaptation in humans 9-2082
- acoustic-reflex dynamics for pulsed signals 9-20549
- action potential latencies, narrow-band, in normal and recruiting human ears 9-43929
- anatomical and physiological basis of auditory information 9-11944
- audiometric zero proposal referred to IEC artificial ear 9-12039
- auditory nerve fibre response to cubic difference tone, in cat 9-2081
- auditory space neural map, owl 9-8514
- aural reflex and noise susceptibility relationship (*Japanese*) 9-24998
- aviation medicine, visual, auditory and vestibular fitness standards (report) 9-11920
- binaural diplacusis, influence of intensity on pitch 9-34571
- biosonar signals, moustache bat, auditory information processing 9-11943
- brain stem potentials, monkey, mapping following monaural clicks 9-16211
- brainstem, lower, auditory mechanisms, book contrib. 9-2084
- brainstem evoked response, effects of signal rise time and frequency 9-20552
- brainstem evoked response, relationship of latency and amplitude with sound intensity 9-20551
- central auditory function in stutterers 9-20550
- children, auditory thresholds, noise exposure and biological factors 9-16219
- children's hearing levels, effect of road traffic noise, exp. study 9-20553
- children auditory threshold meas., forced-choice adaptive procedure 9-29644
- computer simulated patients for teaching students of speech and hearing 9-17162
- concert hall acoustic investigations, Gulbenkian Great Hall, Lisbon 9-14163
- conservation in military occupational noise environment 9-14154
- deaf children, vocal pitch exercising apparatus 9-25001
- deafness due to impact noise from industrial machinery 9-18599
- detection of single gap in white noise 9-43931
- dichotic chords, effect of bone conduction on intensity independence 9-43928
- education, psychoacoustical expts. with all pass networks 9-25787
- emitted potentials and temporal uncertainty 9-34575
- evoked potentials, averaging and FM 9-34574
- evoked potentials, time shifted, generation technique 9-16354
- evoked response correlate of symbol and significance 9-25000
- evoked sustained potentials, nature of response 9-34572
- evoked sustained potentials, stimulus relationships 9-34573
- figural props. of auditory patterns 9-16214
- fluctuating noise, effective sound level prediction (*Japanese*) 9-27462
- fluctuating noise annoyance meas. using magnitude estimation method (*Japanese*) 9-27461
- growth function for human response to large-amplitude impulse noise 9-16222
- hair cells, inner, role of in hearing 9-43932
- harmonic-sensitive neurons, mustache bat auditory cortex 9-43933
- inner ear impulse response and basilar membrane modelling 9-34570
- insect auditory nerve fibre, latency shift, neuronal time cue of sound direction 9-48274

hearing continued

- laterality matching data, regression interp. 9-5297
 - lateralization of dichotic signals with large interaural amplitude difference (*French*) 9-20547
 - loss of hearing, aviation personnel 9-11945
 - loudness of complex sounds as a function of the standard stimulus and the number of components 9-5296
 - magnetic evoked fields, human 9-16212
 - masked auditory thresholds for constant and gliding tones 9-2079
 - masking of tone-envelope irregularities by a tone of another frequency 9-34576
 - music perception, appl. of computer program 9-8513
 - noise generator for auditory neurophysiological and psychophysical experiments 9-29676
 - peripheral feedback qualitative model 9-39422
 - personal hearing protectors, determination of effectiveness 9-14156
 - pitch perception, spatial and temporal cue analysis of complex tones hearing 9-2080
 - pitch shifts following tone adaptation 9-20546
 - protectors, attenuation-frequency characts. meas. using cadaver ears 9-11947
 - protectors, circumaural type, objective meas. of attenuation 9-11948
 - protectors, effectiveness meas. 9-14180
 - psychophysical pitch biases related to vowel quality, intensity difference, and sequential order 9-5295
 - pure-tone audiometric thresholds, relation to age, comparative anal. of data 9-5299
 - room acoustics and subjective sound perception, computer simulation (*Polish*) 9-7258
 - sensorineural hearing loss effect on acoustic stapedius reflex growth functions 9-16216
 - sensory evoked potentials in nervous system clinical disorders, book contrib. 9-2029
 - signal central spectral pattern anal. based on cochlear neural timing and freq. filtering 9-5300
 - single auditory nerve fibres, adaptation, saturation and masking 9-48273
 - spatial freq. analysis within cochlea, meas. of stiffness gradient along basilar membrane 9-24995
 - spatial hearing problems, stereophony, quadraphony appl. (*German*) 9-16213
 - speech intelligibility measuring, hearing-impaired children 9-20554
 - speech perception, use of comfortable listening levels, effect of loudness level 9-2078
 - stereophony, reproduction of sound effects using microphone and headphones (*German*) 9-37106
 - stimulus freq. effects on adaptation in auditory nerve fibers 9-43924
 - subjective analysis of acoustic noise (*German*) 9-46109
 - temporal factors and suppression effects in backward and forward masking 9-16215
 - temporal integration of two-component tone glides 9-16217
 - temporal perception of sound events, subjectively uniform rhythm (*German*) 9-20548
 - tonal signal lateralization and detection of interaural differences of time 9-43930
 - tone quality, descriptor characts. (*Japanese*) 9-24997
 - tone quality eval. expts. (*Japanese*) 9-24996
 - tones, AM, dependence of fluctuation strength on sound parameters (*German*) 9-34569
 - traffic noise, acoustical correlates of aversiveness 9-41511
- ## hearing aids
- auditory training apparatus, individual for persons suffering from severe hearing loss 9-39590
 - bandwidth compression, limitations of voiced portion of speech 9-29668
 - compression aids, meas. of attack-release times 9-20707
 - implantable 8-channel stimulation system for labyrinthine deafness (*German*) 9-16347
 - microelectrode arrays, photolithographic fabrication and neurophysiological performance 9-12034
 - speech communication, contribution of speech reading and hearing aids 9-25002
- ## heat
- see also heat transfer; heating; latent heat; specific heat; temperature; terrestrial heat; thermal variables control; thermal variables measurement; thermodynamic properties; thermodynamics*
 - No entries
- ## heat capacity *see specific heat*
- ## heat conduction
- see also thermal conductivity*
 - anisotropic sheet with insulated hole, temp. distrib. 9-32202
 - annulus, spherical, rot., forced thermal convection of viscous fluid 9-27634
 - axisymmetric body-duct configuration 9-32185
 - battery heat flowmeter, heat flux meas. using Kalman filter 9-37143
 - boiling heat transfer during rewetting, one-dimens. cond. model 9-598
 - building, thermal energy balance, method for including environmental modulation (*French*) 9-3900
 - building with porous walls for air ventilation, heat transmission 9-4016
 - chemically active liquid in horizontal porous bed, convective instability 9-41769
 - circular plate, quasi static thermal deflection 9-14259
 - closed form solutions for cylinder 9-32186
 - composite prismatic bars, doubly connected cross section, heat flow shape factors, anal. determ. 9-1068
 - convective-conductive transient heat transfer, finite-element method 9-3888
 - cooling fin with heat sink, design optimisation 9-1046
 - coupled radiative and conductive transfer thermokinetics (*French*) 9-1095
 - coupled thermomechanical phenomena, nonlinear transient anal. 9-32181
 - cylinder, inverse heat cond. problem soln. for thermal consts. determ. 9-37142
 - cylindrical heat cond. eqn., implicit difference methods 9-41551
 - cylindrical mould, heat cond. with phase change 9-37108
 - differential equations, generalised differential operator appl. (*Hungarian*) 9-14202
 - elastic mixtures with long range spatial interaction 9-12600
 - elliptic cylinder, interior value problem 9-37123
 - F-region, vertical cond. rel. to neutral temp. and zonal wind during Joule heating 9-21084
 - fast reactor, HCDA, heat conduction calc., method of weighted residuals 9-635

heat conduction continued

- ferrofluid, helical flow with heat cond. between coaxial porous tubes 9-23371
- ferromagnetic suspension, heat transfer for shear flow conditions 9-46394
- fluid, convective heat transfer with alternating circulation, mathematical model (*Rumanian*) 9-14208
- forward Monte Carlo heat conduction, known-temp. boundary condition treatment 9-158
- freeze-drying of food models, heat and mass transfer 9-1098
- fuel droplets, mathematical models of transient heat flow 9-18673
- gas flow, high-temp., heating of graphite body, numerical soln. 9-37318
- gas plane flows in presence of weak supply of energy (*Russian*) 9-32498
- general physics and heat, book 9-25814
- glass fibre reinforced plastic, thermal cond. meas. rel. to temp., heat cond. problem soln. 9-37887
- governing principle of dissipative processes appl. 9-3884
- heat and mass transfer bibliography—Soviet works 9-23318
- heat evolution during cyclic deformation of a hereditary medium (*Russian*) 9-46227
- heat storage, periodic, heat-carrying fluid and storage material transport kinetics 9-3901
- heat transfer bibliography, Japanese works 9-23317
- hyperbolic equation application telegraph eqn. soln. 9-37122
- inverse problems, by 9-37120
- inverse problems, soln. using specialised analogue computers 9-37121
- laminar jet at wall, heat transfer 9-41725
- laminated stack, thermal conductance theory 9-41556
- linear thermoconsolidation, porous elastic solid containing compressible fluid 9-23186
- LWR, stationary boiling front in liquid film cooling of a vertical heated rod 9-45341
- materials with memory, linear theory 9-14206
- melting, Landau problem, numerical soln. of bedding eqns. 9-14233
- metal, casting of slab, continuous, solidification interface shape 9-15656
- modelling of mechanical system with external unsteady thermal action 9-37124
- Monte Carlo heat conduction using transport eqn. approximation 9-159
- nonlinear 2-D eqn. soln. (*Russian*) 9-37125
- nonlinear heat cond. eqn. soln. (*Russian*) 9-32187
- nonstationary heat conduction problem in presence of mass exchange, finite element anal. (*Russian*) 9-27492
- nonsteady heat fluxes, nonlinear differential eqns. 9-37116
- one-dimensional body, transient heat flux, spline identification method 9-37117
- optimal control of body heating with max. temp. stress constraint (*Russian*) 9-14205
- particle, spherical, transient heat-mass exchange 9-7276
- phase change region, cond. and natural convection, numerical method 9-41563
- pipe flow, laminar with nonlinear wall heat fluxes, axial cond. 9-27636
- plastic, thermal cond. meas. rel. to temp., heat cond. problem soln. 9-37887
- plate, infinite, asymmetric cooling, direct and inverse heat cond. problems 9-37113
- plate, melting, inverse heat cond. problem soln. 9-37112
- plate, thin, circ., quasistatic normal deflection due to time depend. heat-source distrib. 9-37145
- polyamide 6, glass fibre reinforced, response function characterization of thermal state in dynamic testing 9-18680
- polyamides 6 and 66, response function characterization of thermal state in dynamic testing 9-18680
- polyoxymethylene copolymers, response function characterization of thermal state in dynamic testing 9-18680
- problems soln. by method of finite elements 9-14204
- radioactive waste vault, temp. distrib. anal. 9-636
- random heat eqn. soln. by iterative scheme 9-1915
- reinforced organic composite, graphite, or C-C, ablation, mathematical modelling 9-41564
- relativistic heat conducting fluid, dispersion relation (*French*) 9-7419
- resistance thermometer sensor overheating, influence of meas. current (*Russian*) 9-26053
- rewetting model using generalised boiling curve 9-9675
- rigid heat conductors with memory, integrodifferential equation 9-37111
- rod, semi-infinite, temp. stresses 9-18714
- rod with concentric heat generating core, temp. distrib. 9-32183
- rotating disc with axisymmetric surface heat source distrib., in laminar flow, heat transfer 9-46314
- saturation theorems connected with the abstract wave equation 9-14207
- solar energy thermal storage, numerical simulation of energy transfer by conduction and radiation (*French*) 9-24916
- solar flares (*Russian*) 9-35229
- solar storage tank, buried, hemispherical, heat cond. to environment, series soln. 9-3891
- solid with random conductivity, perturbation method, temperature field 9-46162
- solidifying semitransparent cylindrical medium, thermal stresses, radiation and conduction 9-46200
- Stefan variable-property problem, asymptotic solns. 9-37107
- Stefan-like problems, soln. improvements 9-23181
- structural elements, thin-walled, temp. fields calc., algorithm 9-37114
- surface heat flux reconstruction, heat cond. regularised soln. 9-37119
- system of heat exchanging bodies, boundary conditions identification methods 9-37115
- temperature distribution produced by a moving heat source 9-27488
- temperature waves in rigid materials with memory 9-17238
- thermal analysis, finite element method for temp. depend. parameters 9-32184
- thermal energy storage by latent heat of fusion (*French*) 9-3893
- thermal insulation for buildings, heat conduction in disperse media (*Hungarian*) 9-1056
- thermal storage unit, sensible-heat, solid, transient response 9-3892
- thermodynamics, second law, heat flow direction and Fourier inequality, comparative assessment 9-44896
- thermoelastic anal. of finite orthotropic slab 9-1111
- thermophysical parameters, determ., temp. fields anal. 9-37118
- transient heat conduction, soln. by ADI methods in $r-\theta$ geometry 9-14203
- transition boiling curves from quenching expts., two-dimens. model with axial conduction 9-19360
- tube, circumferential wall heat cond. effect on thermal boundary conditions 9-32200

heat conduction continued

- turbulent flow near wall, effect of conduction error on hot wire meas. 9-7423
- upwindings of high order Galerkin methods in conduction-convection problems 9-3886
- viscous gas, with internal heat sources, thermoconvective stability (*Ukrainian*) 9-32495
- wall, perforated, relative effects of external and internal convection (*French*) 9-1248
- wall, plane, nonsteady heat transfer, conjugate problem soln. 9-37128
- wall with one-way heat flow, vertical inclined cavity stack 9-3899
- wave equation for simultaneous heat and mass transfer in moving media 9-44747
- welding, ultra pulse type, heat transfer characts. 9-1047
- Si, temp. rise induced by laser beam, nonlinear heat cond. 9-11487

heat content see enthalpy**heat convection see convection****heat dissipation see cooling****heat engines**

- Archibald rubber band heat engine, optimisation 9-5936
- Brayton cycle isotope power system, for space appl. 9-48167
- power and efficiency, irreversible heat flow 9-9198
- quantum open system model 9-44894
- Rankine cycle, radioisotope power system, emergency cooling by multifoil insulation melting 9-48168
- spacecraft nuclear dynamic power system, thermally-integrated 9-48166
- Stirling, 500 to 2000 HP range, potential for stationary power appl. 9-48177
- Stirling, computer and expt. simulation 9-48169
- Stirling, free-piston, for solar thermal power plants 9-48174
- Stirling cycle analysis, numerical methods accuracy evaluation 9-48170
- Stirling cycle machines optimisation, free piston design 9-48172
- Stirling cycle power system, 1 kW, isotope fuelled 9-48176
- Stirling free-piston engine/linear alternator system, 1978 development status 9-48178
- Stirling free-piston engine/linear alternator system, demonstrator engine design 9-48175
- Stirling JPL laboratory research engine, computer simulation 9-48171
- Stirling laboratory research engine, preprototype design 9-48173
- Na, using β -alumina ionically conducting ceramic, principle and thermal efficiency 9-48179

heat exchange see heat transfer**heat exchangers**

- see also cooling towers
- agitated vessels with bare and finned vertical tube baffles, heat transfer, power expenditure 9-1052
- air chamber, thermostatic precision (*Japanese*) 9-35736
- bayonet tube exchanger, optimum design 9-1083
- coal-fired cored brick regenerative heat exchangers 9-1353
- concentric, for dilution refrigerator 9-21756
- countercurrent, dynamic response to temp. disturbance and step flow variations 9-1084
- cross-flow heat exchanger tube bank efficiency rel. to structure (*Russian*) 9-10448
- cross-flow induced vibrations in tube bank, turbulent buffeting and fluid elastic instability 9-3958
- cross-flow induced vibrations in tube bank, vortex shedding 9-3957
- cross-flow-heat exchanger, model of thermal mixing process 9-1078
- cylinder in cross flow, turbulence effect on heat transfer 9-1075
- double-pipe, geothermal power generation from salt domes 9-48087
- evaporative thermal siphons for intensifying heat exchange 9-18682
- fin and tube heat exchanger, heat transfer, water spray effects 9-193
- fixed bed heat regenerators, with heat losses and sources 9-188
- fluidised-bed, liquid, scale control and corrosion tests, geothermal power plant appl. 9-48090
- fouling in heat exchangers, review 9-3902
- geothermal energy utilisation, fouling problem overcoming 9-43740
- geothermal power plant appl., shell-and-tube design 9-48089
- impinging jets, heat transfer, appl. to compact heat exchangers 9-1071
- multirow dry or wet heat exchangers, simulation 9-191
- optimal design 9-3895
- parallel and counter-flow, weighted residuals method and modal control 9-3898
- plate type, cooling water fouling 9-1092
- plate-fin surfaces, performance ranking 9-32194
- quartz, heat treatment of dense moving layer, heat exchange development 9-20075
- recuperative, convective heat transfer, nonNewtonian carrier, conjugated problem 9-1086
- recuperative, source/sink even model (*Hungarian*) 9-14226
- rippled silica deposits, form. in heat exchanger tubes 9-1087
- shallow fluidised bed heat transfer investigation 9-7404
- shell and tube exchanger, electrochem. mass transfer modelling 9-1074
- solar energy thermal storage by latent heat of fusion of mineral salts (*French*) 9-24915
- surface selection methods 9-1070
- surfaces, thermal efficiency determ. 9-27641
- tap-water purification for home dialysis (*German*) 9-2160
- temperature distrib. perpendicular to heat exchanger surface 9-32189
- thermal mixing in cross-flow tube banks 9-1079
- thermal performance deterioration in cross flow due to flow nonuniformity 9-1082
- thermal performance of in-line and staggered tube banks 9-7277
- thermal regenerators, packing materials, size and arrangements effects 9-190
- thermal regenerators, periodic flow, transient performance 9-187
- thermionic, central station appl., design point selection, economic impact 9-48155
- thermohydraulic irregularities in shell and tube flow exchangers, effectiveness 9-1072
- three-fluid heat exchangers of two and three surfaces 9-10451
- tube banks in cross flow, heat transfer 9-1077
- tube banks in turbulent flow, heat transfer prediction 9-1080
- tube bundles, airside press. losses 9-1076
- tube bundles, heat transfer to three dimens. flow 9-1073
- tubes in cross flow, local and average heat transfer 9-1081
- ultra-compact, low cost, cryogenics appl. 9-35758
- wiped-film exchanger, local heat transfer coeff. 9-1051

heat flow *see* heat transfer

heat insulation *see* thermal insulation

heat losses

see also thermal insulation

quasi-stationary Stefan problem for a hot pipeline in a frozen mass
9-23324

heat measurement *see* thermal variables measurement

heat of adsorption

BCC metal hydrides, geometric and electronic contribs. to thermodynamic props. 9-46815

determination of gas-solid chromatography, for teachers 9-35497

graphite, adsorption and migration of O₂, CNDO/2 calcs. 9-28205

interstellar grains of H, heat of adsorpt. rel. to surface temp. and H₂ form. 9-21367

Ag, adsorption of aromatic hydrocarbons, heat of adsorption, coating and fine struct. (*German*) 9-23844

CeO₂ in O₂ atmos., adsorption and elec. cond. props. 9-23836

Cu film growth on amorphous C, energy characts., in situ electron microscope determ. 9-11027

Ge+GeBr₄, single crystal+vapour system, reaction kinetics and laws of soln., heat of adsorption 9-39196

Re (1010) of k, electron-adsorption props. 9-33192

SnO₂, of water, adsorption anomaly rel. to pretreatment 9-28194

W, adsorption of La, specific characts. (*Russian*) 9-1543

W surface, of Cs ions, evap. isotherm from single cryst. faces 9-24829

heat of combustion

No entries

heat of crystallisation

polyethylene terephthalate, stretching, heat effects, struct. transforms. 9-15735

heat of dissociation

alkali metal hexachloroniobates and hexachlorotantalates, thermodynamic props. from VP meas. 9-34345

LaNi_{5-x}Fe_x(Cr_x), Fe and Cr electron hydride formation, X-ray and SEM obs. (*Japanese*) 9-43202

Li₂O, mass-spectrometric study of vaporization of solid and thermochemistry of gas 9-10940

MgCr₂O₇·6H₂O, dehydration, thermal decomposition, kinetics 9-11777

heat of formation

alloy, nonlocality and energy of form. 9-20459

alloying tendencies and impurity heats of soln. 9-28102

anilines, substituted, in benzene, dielectric relax. and mutual viscosity, obs., enthalpy of formation 9-38449

heterocyclic molecules, ionisation pot. and heat of form., IOC- ω method 9-31733

hydrocarbons, nobenzoid, ionisation pot. and heat of form., IOC- ω method 9-31733

rare earth nitrides, Knudsen cell vaporization, vaporization enthalpies 9-10936

refractory metal-Al₂O₃ systems, vaporis. at elevated temp., mass spectrometric obs. 9-29388

transition metal alloy, tight binding theory of heat of formation 9-28110

transition metal alloys, heat of formation theory, tight binding approx. 9-43618

transition metal dichalcogenides, of CdI₂-type, crystallographic parameters correlation to heats of formation and reduced length 9-27963

trifluoroformamide, thermal dissoc., shock wave study 9-34284

Ag₃(Se)(Te), solid and liquid, mass spectrometric obs. of VP, heats of form., comp. 9-42266

Al-Li-Mg, estimation of isothermal sections of phase diagram 9-11567

B₄C, enthalpy of formation, 1320K, appl. of high-temp. solution calorimetry 9-11814

Cu-Sn, self-diffusion of Sn, correl. with other props. (*Russian*) 9-23764

Fe₉₉S, ferrimag. transition, mag., thermodynamic props., kinetics 9-47280

GdF₃, standard enthalpies of formation 9-24810

H-bonded systems, MINDO/3 geom. optimis. calcs., heats of form. of monomer and dimer 9-31399

HSO, thermochem. props. 9-5173

³He, entropy of vacancy formation 9-33156

LaAlO₃ perovskite electrolytes for high-temp. fuel cells 9-29467

Li₂O, gaseous, mass-spectrometric study of thermochemistry 9-10940

Mn, vaporization, thermodynamic study by Knudsen-cell mass spectrometry, enthalpies of form. 9-10937

Mn-Si liquid alloy, vapour-pressure meas. using torsion effusion method 9-42215

Mn(CO)₅Cl(Br)(I), thermodynamic props. tabulation 9-24808

MoF₆(I), enthalpy of form. by soln. calorimetry 9-47962

Na₂O-B₂O₃-SiO₂/AgNO₃, thermodynamic characteristics of ion exchange process 9-8452

PbSiO₃ and PbSiO₄, vitreous, free energy of form. at elevated temps. 9-43195

PuN, high-temperature enthalpy, heat capacity 9-24809

Re(CO)₅Cl(Br)(I), thermodynamic props. tabulation 9-24808

ScM, (M=Ru,Rh,Pd,Ag,Mo), self-consistent local density functional calcs., LMT method 9-11059

SiHBr₃, heat of form., mass spectrometric determ. 9-20455

SiH₂Br₂, heat of form., mass spectrometric determ. 9-20455

SiH₃Br, heat of form., mass spectrometric determ. 9-20455

Tc(CO)₅Cl(Br)(I), thermodynamic props. tabulation 9-24808

Th-Os(Ir) system, phase diagram and thermodynamic props. (*German*) 9-47958

UO₂Br₂, and hydrates, standard enthalpies of formation and solution 9-24811

UO₂I₂, and hydrates, standard enthalpies of formation and solution 9-24811

YFeO₃, dissociation press. and Gibbs energy of form. 9-11816

YbF₃, standard enthalpies of formation 9-24810

Zn-Ca, liquid alloy, exam. of thermodynamic props., using EMF method (*Russian*) 9-34003

Zr iodides, gaseous, generated by H1+Zr reaction, enthalpies of formation 9-20458

ZrCl₃ disproportionation reaction sequence, and Zr lower halide formation enthalpies 9-15973

heat of fusion

dodecylamine (-(NH₂)/H₂O₂ and deuterated cpd., liquid crystal, phase relationships, isotope effects 9-19358

EBBA, fusion of metastable solid cryst. forms 9-14678

heat of fusion continued

eutectic molten salt mixtures, enthalpy of fusion estimation for energy storage (*French*) 9-24914

2,4-hexadiynyl-1,6-bis(p-toluenesulphonate), programmed temp. and DSC obs., cryst. forms and polymerisation kinetics 9-43583

metals, purification and thermodynamics, possibilities in space environment 9-46816

phase change region, cond. and natural convection, numerical method 9-41563

polyethylene oxide blends, thermal and mechanical props. 9-11679

PVC, enthalpy determ. of order 9-7556

solar energy thermal storage by latent heat of fusion of mineral salts (*French*) 9-24915

steel, Ni-Co-C (9, 4, 0.2 wt.%) enthalpy, sp. ht. to 2000K 9-10960

s-triazine, sp.ht. 130-380K, melting enthalpy and solid-state transition 9-46812

Ag₂SO₄, enthalpies of transition and fusion 9-10925

3Bi₂O₃·5B₂O₃, viscosity, molar volume of melt and enthalpy of fusion 9-10924

Co, amorphous and liquid, density of electronic states 9-23881

In, heat capacity and enthalpy of fusion, 300-1000K 9-14939

In-Cd, soft mode, latent heats and entropies of fusion 9-46786

In-Tl, soft mode, latent heats and entropies of fusion 9-46786

WO₃, fusion enthalpy data from alkali tungstates liq. mixtures, mizing enthalpies at 801, 950°C 9-10949

heat of mixing

alkali tungstates liq. mixtures with WO₃, mixing enthalpies at 801, 950°C 9-10949

alloys, enthalpy of mixing, 'const. vol. alloy' formulation 9-28111

benzene-n-decane-n-tetradecane, molar enthalpies of mixing (*German*) 9-42253

benzene-n-heptane-n-tetradecane, molar enthalpies of mixing (*German*) 9-42253

benzene-toluene-n-tetradecane, molar enthalpies of mixing (*German*) 9-42253

binary liquid mixtures nonidealities, optimal representation 9-42248

chemical equilibrium, entropy differences and statistical effects, symmetry corrections and entropy of mixing 9-21480

methanol-pyridine base systems, excess enthalpies of mixing 9-42255

2,4,6-trimethyl pyridine-aliphatic alcohols, molar excess enthalpies and vols. 9-42254

Al-Ga, enthalpy of mixing, 'const. vol. alloy' formulation 9-28111

Al-Ga(In)Sn, interpretation of metallic phase diagrams, entropy of mixing 9-42274

Al-Ga(Sn), ab initio calcs. of partial enthalpy and result for enthalpy of mixing 9-43197

Al-In, enthalpy of mixing, 'const. vol. alloy' formulation 9-28111

Al-Sn liquid alloys, heats of mixing and activities calcs. 9-42264

Al-Tl, enthalpy of mixing, 'const. vol. alloy' formulation 9-28111

Al-Zn, miscibility gap, spinodal region, thermodynamic data transferability (*German*) 9-20027

BaCO₃, soln. kinetics and activation heat (*German*) 9-16031

Fe-Ge, liquid alloy, thermodynamic mixing function determ. by mass spectrometric meas. 9-29025

In-Zn, liq., Zn activity meas. by Knudsen torsion-effusion method, enthalpies, entropies of mixing 9-10950

Li₂O-Na₂O-P₂O₅, heat of soln. (*Japanese*) 9-34350

Mn-Si liquid alloy, vapour-pressure meas. using torsion effusion method 9-42215

N₂-He, heat of mixing, 2-15 bar (*French*) 9-7436

Na-Ga liquid alloy, thermodynamic props. 9-37854

Na₂O-SiO₂/AgNO₃, thermodynamic characteristics of ion exchange process 9-8452

Pd-Te liquid alloys, thermodynamic activities (*German*) 9-29022

SiO₂-K₂O, thermodynamic approach to ionic conds., statistical model of chem. potential 9-46833

SiO₂-Na₂O, thermodynamic approach to ionic conds., statistical model of chem. potential 9-46833

heat of reaction

see also heat of combustion; heat of dissociation; heat of formation

ethylene, reaction heat, HF limit energies, correlation energy 9-8447

ion (H₂O)_n+H₂O \rightleftharpoons ion(H₂O)_{n+1}, standard free energies of reaction 9-34348

linear free enthalpy relation validity, thermodynamic foundation (*German*) 9-34351

methyl isocyanide, unimol. isomerisation to methyl cyanide 9-24725

oxidation-reduction reactions in undifferentiated Earth, thermal effects 9-25218

pyrolysis, of single solid particle accompanied by consecutive reactions, vol. reaction model 9-47896

spinel, entropy of cation transitions 9-11812

B(I) hydrides, ab initio calcs., proton and hydride affinities 9-10029

MgBr₂-ABr (A=Cs, Rb, K, Na, Tl), thermochemical and struct. investigation (*German*) 9-1423

O₂ bomb calorimeter modification for liquid metal reaction enthalpy meas. 9-201

¹⁸OH+CO₂(CO), evidence for at. exchange 9-47910

VO₂+I₂, transport react., thermochem., appl. to MoO₂:V cryst. growth 9-43116

Zn(g)+H₂O(g)=ZnO(s)+H₂(g), standard Gibbs free energy of reaction 9-11815

heat of solution

alloying tendencies and impurity heats of soln. 9-28102

ribonuclease A, enthalpy of soln. in aqueous consolute solns. 9-24939

ribonuclease A, lyophilized, heat of soln. depend. on H₂O content of solid 9-24938

supersaturation evaluation, in cryst. growth from soln., heats of soln. use 9-46584

Ar-He(Kr)(Ne), solubility in Ar, and related functions, three-body forces 9-10776

B₄C, enthalpy of formation, 1320K, appl. of high-temp. solution calorimetry 9-11814

BaCO₃, soln. kinetics and activation heat (*German*) 9-16031

Li₂O-Na₂O-P₂O₅, heat of soln. (*Japanese*) 9-34350

MgBr₂-ABr (A=Cs, Rb, K, Na, Tl), thermochemical and struct. investigation (*German*) 9-1423

MgO solution in UO₂+x, shell model calcs. of enthalpy, computer program for formation energies 9-42251

Mo-N solid solution, exam. of enthalpy of solution, variation with temp. 9-10947

heat of solution continued

- SiC, solubility, partition coeff. of Be 9-10951
- SiO₂ glass, densified, enthalpy variation, heat of dissolution obs. (*French*) 9-34015
- UO₂Br₂ and hydrates, standard enthalpies of formation and solution 9-24811

heat of sublimation

- carboxylic acids, crystals, empirical interatomic potential functions 9-7567
- thianthrene, heat of sublimation, cryst. lattice and polarisation energy 9-32941
- TTF, heat of sublimation, cryst. lattice and polarisation energy 9-32941
- Cu film growth on amorphous C, energy characts., in situ electron micro-scope determ. 9-11027
- I₂, heat of sublimation, laser photometric meas. 9-5942
- Se, molecular cryst., Se-Se nonbonded pot. parameters derivation from heat of sublimation 9-27945

heat of transformation

- see also heat of crystallisation; heat of fusion; heat of sublimation; heat of vaporisation*
- cholesteryl myristate, polymorphism of blue phase, DTA and microscopy meas. 9-37819
- cholesteryl nonanoate, polymorphism of blue phase, DTA and microscopy meas. 9-37819
- dodecylamine ((-NH₂)/H₂O₂ and deuterated cpd., liquid crystal, phase relationships, isotope effects 9-19358
- ionic cryst., polymorphic transition due to disordering, calc. of lat. ht. of transition 9-14724
- martensitic transformation, stress induced, in single cryst., thermodynamic anal. 9-43249
- polycaprolactam film, subjected to 9 kV elec. discharge, X-ray obs. (*Russian*) 9-23536
- semicarbazide hydrochloride, phase transition, IR spectra and thermal study 9-37833
- Ag₂SO₄, enthalpies of transition and fusion 9-10925
- Fe-Ni, enthalpy of transform. of γ to α' and α' to γ transforms. (*French*) 9-47683
- Ni_{1-x}Rh_xS, nonvolume effect of Rh substitution on paramag. metal-antiferromag. nonmetal transition 9-28277
- Rb₂Hg(CN)₄, spinel, ferroelasticity and phase transformation 9-7646
- TiMnCl₃, sp. ht. and latent heat, under press. 9-7694

heat of vaporisation

- heat of evaporation and liq.-vapour equilb., appl. to real substances 9-4409
- monoalkylcyclohexanes, heats of vaporisation by gas chromatography-calorimetry method 9-34344
- rare earth nitrides, Knudsen cell vaporization, vaporization enthalpies 9-10936
- water, student lab. meas. method 9-30175
- RbI, vaporisation thermodynamics, mass-loss Knudsen effusion, mass spectrometry 9-28093
- Sr, vapour pressure below 660K, heat of vaporisation 9-37825

heat of wetting *see wetting***heat pipes**

- effects of various working fluids on operational characteristics of heat pipes (*Japanese*) 9-37320
- frequency domain dynamics 9-14216
- liquid metal, for central solar receiver gas turbine plant 9-48096
- low temperature pipes with vapour injection 9-14217
- operating principles, construction, and appl. (*French*) 9-3896
- space nuclear propulsion, out-of-core thermionic power conversion system 9-48160
- space vehicle radioisotope thermoelectric generator, heat pipes design and testing, Cu/H₂O, axially-grooved 9-48144
- supersonic flow and shock waves 9-32568
- thermionic convertor appl., using Li and K working fluids 9-48153
- thermionic technology development, for space nuclear propulsion, NASA's program 1978 status, objectives and plans 9-48159
- transport-opposing body forces field effect, mathematical model 9-41552
- wick, liq. evaporation, drop carry-over phenomena in capillary struct., obs. 9-18948
- K heat pipe, heat transport characteristics, transverse mag. field effects 9-37127
- Na heat pipes, evap. process, sonic limits to power transfer 9-18672

heat pumps

- see also heat sinks*
- dwelling appl., single family computer-aided analysis 9-43784
- energy recovery 9-43782
- ice-maker, two plate-type, Remcor and 'no-penalty' harvest schemes comparison 9-48165
- steam power plants, energy conversion by alternative working fluids, book contrib. 9-43783
- Stirling engine powered, heat activated, system level performance 9-48164

heat radiation

- black body sources, in band flux density calcs. 9-37135
- blackbody radiation interaction with LF atomic transitions, Zeeman, Stark and stimulated emission 9-41127
- Earth surface radiation balance, influence of irrigation 9-29863
- emissivity measurement of partially transparent materials to thermal radiation, high speed spectrometric method 9-7280
- glassy material, destruction at critical point in radiative gas stream (*Russian*) 9-32910
- high temperature measurement of small specimens of metals, alloys, structural materials appl. 9-7281
- hypersonic shock layer, screening of selective heat radiation in boundary layer (*Russian*) 9-32497
- metal-dielectric inhomogeneous selective absorpt. of solar energy 9-48181
- optical cavity, one-dimens., with output coupling, thermal radiation, fluctuation-dissipation theorem 9-978
- parity violating currents in rotating thermal radiation 9-17633
- pipe flow, laminar with nonlinear wall heat fluxes, axial cond. 9-27636
- pressure shock in gases at high temp. 9-18910
- radiant-flux detectors, comparison 9-35831
- recording by two-stage freq. conversion detects., AgGaS₂, α -HfO₃ 9-46002
- rectangular waveguide, blackbody radiation, EM fluctuations 9-41309
- soil, radiothermal radiation rel. to stored productive moisture remote determ. 9-29795

heat radiation continued

- solidifying semitransparent cylindrical medium, thermal stresses, radiation and conduction 9-46200
- specimen in spectrophotometer, effect of radiation heating on meas. accuracy 9-30589
- Stefan problems with nonlinear boundary conditions, polygonal method soln. 9-26010
- transfer model, nongrey semiinfinite media with boundary 9-32204
- water, thermally-stratified, cooled from above, free convection 9-46315
- water covered with foam, thermal radio emission from foam structures 9-29497
- Ge, low-temperature bolometer, heat transfer coeff. 9-30561

heat sinks

- selective covers for natural cooling devices 9-43750
- Nd:YAG laser pumping system, heterostructure spectrum convertor, opaque and sapphire heat sink 9-27272

heat systems

- see also boilers; heating*
- centralised, energy distribution and storage 9-48184
- solar energy thermal processes, digital simulation 9-24890
- wind furnace systems, advanced, for residential and agricultural heating and power supply 9-48070

heat transfer

- see also condensation; convection; cooling; evaporation; heat conduction; heat radiation; radiative transfer; thermal diffusivity*
- adsorbent fixed bed, temp. profiles 9-23359
- aerodynamic ablation of spinning steel shells, side force 9-37347
- agitated vessels with bare and finned vertical tube baffles, heat transfer, power expenditure 9-1052
- air, dissociated, hypersonic flow over blunt axisymmetric body, nonsteady heat exchange 9-37319
- air cooling and dehumidifying coil, heat, mass and momentum transfer 9-192
- air-atomised water mixture, high temp. surface impact, heat transfer (*French*) 9-4015
- air-water mist flows, uniform heat flux wedge 9-23352
- annular channels with turbulent gas flow, bilateral heating (*Russian*) 9-37375
- annular channels with turbulent gas flow, unilateral heating (*Russian*) 9-10559
- annular gap between concentric inclined cylinders 9-23322
- Arctic ice pack heat and mass balance 9-39750
- atmosphere, bulk transfer velocity to and from natural and artificial surfaces 9-25302
- atmosphere, sensible heat advection, local and regional components 9-20942
- atmosphere baroclinic planetary boundary layer above sea, heat and moisture fluxes parameterisation (*Russian*) 9-16576
- atmosphere heat and momentum transfers under strong stability in boundary layer 9-16584
- axisymmetric starting plume cap, transition from laminar flow 9-18872
- bibliography, Japanese works 9-23317
- bibliography, Soviet works 9-32180
- bibliography 9-32503
- binary mist flow, heat and mass transfer anal. (*Japanese*) 9-14467
- binary vapour mixtures, simulation of unsteady state behaviour of dephlegmation 9-7285
- bodies in gas-filled contact, integral equation numerical solution 9-37130
- boiling, convective, of refrigerants in horiz. tube, statistical anal. of heat transfer data 9-7283
- boiling, nucleate, superheating, heterogeneous nucleation theory calc. 9-46170
- boundary control of heat eqn., time depend. reachable states 9-44886
- boundary layer on heated plate 9-4004
- boundary layers with flow reversal 9-37313
- buoyant flow, thermally driven, equations of motion 9-23334
- canal, converging, unsteady 2-D compressible boundary layer flow 9-20885
- capillary porous materials, product quality under heat processing, heat flux direction influence (*Russian*) 9-32203
- catalytic reactors, runaway inhibition 9-47983
- channel array with interconnections, finite-difference scheme 9-4012
- channel flow, heat transfer dynamics, anal., impulse function method 9-37317
- channel flow/wall heat transfer, thick wall, difference method 9-37129
- channel thermal inlet zone, heat transfer in laminar boundary layer 9-1178
- checkerboard pipes in rarefied gas stream, coefficients determ. and obs. 9-23325
- coal pyrolysis, in entrained bed flow reactor, theoretical exam. with aid of physical models 9-48062
- coastal inlet water temp. change due to artificial heat input 9-16506
- coated cement stone heat and mass transfer obs. (*Russian*) 9-14219
- compressible liquid flow with heat transfer, acoustic vel. 9-14131
- condensation, flow of vap. over cylinder, two-phase boundary layer eqns. 9-46306
- convective heat transfer with diffusion, finite element anal. 9-4011
- convective heat transfer with phase change, finite element anal. 9-3887
- cryogenic container, cylindrical estimation of steady state heat link 9-35750
- curved pipe laminar flow anal., heat transfer 9-32674
- cylinder, heated, melting around it, photographic appl. 9-23195
- cylinder in cross flow, turbulence effect on heat transfer 9-1075
- cylinders in turbulent flow, heat transfer 9-1198
- Devon Island ice cap, Canada, heat transfer eqn. rel. to temp. profiles 9-16524
- dielectric fluids vapours condensation, freon-113 and diethyl ether (*Russian*) 9-1055
- diffusion equation, sols. by Picard's method 9-7273
- disperse annular flow, crit. heat transfer, liq. distrib. 9-32209
- disperse system in contact with vertical heating (cooling) surface 9-1069
- dissociating gas in pipe flow, heat transfer crisis, flow laminarisation 9-1265
- dryout in an SGHWR rod bundle, exptl. and calc. comparison 9-3192
- Duluth-Superior Harbour, turbulent heat transport rel. to ice growth 9-2299
- Earth crust, heat and mass transfer from ascending magma 9-34768
- Earth mantle, parametrised convection model rel. to Earth thermal history 9-16429

heat transfer continued

effects of various working fluids on operational characteristics of heat pipes (*Japanese*) 9-37320
 electroslag remelting, steady state segregation and heat flow 9-11629
 evaporative cooling, porous heat-producing element 9-32213
 exchanger, wiped-film type, local heat transfer coeffs. 9-1051
 extended surfaces, total efficiency, uniform fouling deposit effects 9-1091
 ferromagnetic fluidized bed in mag. field, interphase heat exchange (*Russian*) 9-18675
 ferromagnetic suspension, heat transfer for shear flow conditions 9-46394
 film, liq., flowing down inclined plane with heat transfer, interfacial shear, stability 9-37290
 film boiling, hot sphere in subcooled liq. press. excursion of vap. film 9-14231
 film boiling from cylindrical surfaces 9-23194
 film boiling on sphere, in forced convection 9-32211
 film condensation inside pipes, heat transfer, general correlation 9-46312
 fin and tube heat exchanger, heat transfer, water spray effects 9-193
 finite difference schemes for heat eqns. 9-37109
 fission reactor LOCA, reflood heat transfer and entrainment expts. 9-31060
 flame jet, premixed, impinging on plane surface, turbulent heat transfer 9-4054
 flow, annulus entrance, finite-difference method 9-4013
 flow, fully-developed, in non-circ. passages, prediction method 9-1254
 flow, over blunt nosed body, laminar or turbulent, heat transfer and curvature effects, numerical soln. 9-1173
 flow around rotating cones and discs, momentum, heat and mass transfer 9-1203
 flow over 9-46308
 flow over blunt body, wall accommodation at stagnation region 9-41708
 flow over blunt plate, separated and reattached 9-32500
 fluid, cold, displacement by hot fluid in porous medium, stability 9-27691
 fluid, electric field induced promotion of combustion, vaporisation, and heat transfer 9-20370
 fluidised bed, axial heat transport and solid phase displacement 9-14473
 fluidised bed, surface to bed heat transfer intensification at controlled gas distrib. 9-1246
 fluidised glass ballotini-packed fixed bed, at low/intermediate Reynolds nos. 9-1244
 fluids, transport processes, space environment 9-46825
 forced convection heat propagation eqn., singularity theory (*Italian*) 9-18670
 freon-114 boundary layer, stability, press. gradient and heating effects 9-18891
 furnaces, heat transfer and pollution (*French*) 9-16001
 gas evolving electrodes, heat transfer concept 9-34314
 gas mixture, binary, condensation in boundary layer flow, numerical method 9-1236
 gas separation in vortex tube, theory and expts. (*Japanese*) 9-4021
 gas temperature in Hartmann-Sprenger tube calc., using Lagrange equations (*Japanese*) 9-4041
 gas turbine, temperature gradient along cooling channel surface, heat transfer in initial hydrodynamic section, effects 9-18892
 gas turbine combustion chamber, isothermal model, bluff body, recirculation phenomena in primary zone 9-47925
 gas turbine holes rows, anal. 9-7376
 gas-liquid dispersion, mechanically agitated, heat transfer to helical cooling coil 9-4063
 gas-solid turbulent flow, heat transfer, model 9-1232
 gasdynamic stand for heat transfer and combustion product testing 9-39085
 GCFR cores, heat transfer with He and Na coolants, review 9-45331
 geothermal energy extraction, through hydraulically induced fractures in hot dry rock 9-34424
 geothermal steam power plants, using fossil superheating, thermodynamic analysis 9-48088
 granular material pneumatic conveying, gas-to-particle heat transfer 9-18927
 grid-generated turbulence, temp. fluctuation decay obs. 9-32506
 Hall and ion slip currents effect on heat transfer in MHD fluid in channel 9-27702
 heat and mass transfer bibliography—Soviet works 9-23318
 heat and mass transfer development in USSR 9-14201
 heat conductors with randomly varying boundaries, Green's functions (*German*) 9-32188
 heat eqn. with u.s.c. obstacle, soln. existence (*French*) 9-26001
 heat exchange between two-phase flow and nozzle wall with condensate film 9-46357
 heat exchangers, countercurrent, dynamic response to temp. disturbance and step flow variations 9-1084
 heat generating fluids, one-dimens. flow, thermal unsteady regimes, nuclear reactor appl. 9-1179
 heat instability in thermoviscoelastic coupled dynamic problems (*Russian*) 9-10489
 heat pipes, flow with injection 9-1065
 heat pipes, heat and mass transfer, one-dimens. model 9-1064
 heated cone, heat transfer and shear stress 9-46168
 heated spherical particle motion, reduction of temp. and mass influences 9-46320
 heated tubes, alternate dry and rewet, flow boiling, obstruction effects 9-1181
 holographic interferometry methods and applications (*French*) 9-7099
 hot film probe, heat transfer to substrate (*French*) 9-23381
 HTGR piping, heat transfer characts. of horizontal annular insulation layer (*Japanese*) 9-26520
 hypersonic flow, body form for minimum heat transmission (*Russian*) 9-37131
 hypersonic free-molecular heating of micron size particulate 9-4058
 hypersonic laminar heat transfer to cones at angle of attack 9-1211
 hypersonic shock tunnel, development for aerospace simulation 9-41777
 impinging jets, heat transfer, appl. to compact heat exchangers 9-1071
 in-reactor fuel-to-sheath heat transfer meas. 9-13408
 inclined flat plate with isothermally heated surface downwards, natural convection heat transfer investigation 9-10563
 induction gas heater discharge channel heat exchange (*Russian*) 9-18677
 integral eqn. kernel approx. in axially symmetric temp. problem 9-35643
 internal boiling and superheating in vaporizing multicomponent droplets 9-3906

heat transfer continued

inverse problem for the heat equation, Neumann and Dirichlet data correl. 9-23184
 isoperimetric lower bound for one sided linear radiation condition 9-32195
 jet, impinging, eddy struct. effect on heat transfer 9-1227
 jet, turbulent mixing layer, conditional meas. 9-32598
 laminar boundary layer heat transfer over rot. bodies 9-32517
 laminar boundary layers, separation in water, heating and suction, comments 9-14378
 laminar channel flow, heat transfer in entrance region 9-32518
 laminar compressible MHD boundary layer flow, effect on heat transfer 9-14489
 laminar condensation heat and mass transfer at stagnation point of droplet in ternary mixture 9-14227
 laminar liquid films, dependence of temp. variation of film substance viscosity 9-41686
 laminar MHD pipe flow with heat transfer 9-14482
 laminar steady free surface flow past a permeable bed, buoyancy effects (*German*) 9-41665
 laminar swirling impinging jet, heat transfer, numerical calc. 9-1228
 laminar water boundary layer on heated cones, variable viscosity effect, heat transfer, shear stress 9-32520
 large deflections of heated orthotropic plates 9-32262
 Lighthill nonlinear integral equation, soln. 9-6061
 liquid drops moving in single file in liquid continuum, heat transfer 9-46367
 liquid film, falling, laminar, evaporation model 9-46305
 liquid film vapour absorption, combined heat and mass transfer 9-19430
 liquid in rot. system, Hall effects on MHD Couette flow and heat transfer 9-41681
 liquid layer on rot. Archimedes spiral, heat transfer 9-14410
 liquid metal boiling, mag. field effect on bubble growth 9-32217
 liquid-solid evaporator, wall to liq. heat transfer, distillation plant 9-1245
 liquids and gases, measurement using transient hot-wire technique 9-200
 LMFBR, coolant thermodynamics and fluid dynamics (*Spanish*) 9-6726
 LMFBR, Na-H₂O steam generator, calc. local heat fluxes in circular channels 9-36312
 LMFBR, red. of two-phase thermal cond. and heat transfer by entrained inert gases 9-30897
 LMFBR evaporator tubes, corrosion and heat transfer 9-1088
 LMFBR hypothetical core disruptive accident, simplified multicomponent phase transition model 9-31016
 local heat transfer between plate and immobile and boiling layers 9-14218
 lumped mass approximation of heat eqn., uniform convergence 9-18669
 mainstream acceleration effect on heat transfer and wall temp. downstream of gas injection 9-1251
 mass transfer and friction under complex thermogasdynamical conditions 9-1209
 melt solidification, heat and mass transfer 9-14236
 melting, Landau problem, numerical soln. of bedding eqns. 9-14233
 melting and freezing problems, heat balance integral method, refinement 9-14229
 metals, thermal instabilities due to recomb. of radiation-induced Frenkel pairs 9-23597
 methane(-ethane)(-N₂), heat transfer in nucleate boiling of liquified gases and binary mixtures (*German*) 9-18687
 methane-hydrogen mixture, flow through glass bead bed, axial dispersion coefficients 9-46378
 MHD Couette flow, with variable wall temp., heat transfer 9-27640
 micropolar fluid, heat transfer in boundary layer flow, past curved surface 9-46316
 Mirror Fusion Test Facility supercond. coil development 9-31202
 momentum, heat and mass transfer during flow around a sphere, free stream turbulence effects, mathematical model (*German*) 9-41678
 momentum, heat and mass transfer during flow around a sphere, free stream turbulence effects (*German*) 9-41677
 natural convection in liquid layer in flat inclined solar energy panel (*French*) 9-18894
 non-Newtonian flow through pipes, heat transfer 9-32592
 non-Newtonian fluid, pipe flow, heat and mass transfer 9-46309
 non-Newtonian fluid, unsteady laminar incompressible boundary layer eqns., flow, heat and mass transfer, similarity solns. 9-32590
 non-Newtonian fluid duct flow, heat transfer 9-1219
 non-Newtonian laminar falling film, with smooth wave free gas-liq. interface 9-7389
 nonisothermal sorption within adsorbent particle, heat and mass balance 9-19452
 nonlinear, finite element anal. 9-23189
 nonlinear Volterra integro-differential equation, heat flow appl. 9-18668
 nonNewtonian duct flow, wall heat transfer in entrance region 9-4049
 nonstationary flow between rotating coaxial porous discs, porosity effects 9-32657
 novel Monte Carlo binning technique 9-160
 nozzle, heat transfer of transonic air flow 9-1230
 nozzle, subsonic and supersonic, turbulent boundary layer heat transfer 9-1229
 nozzle gas blast flows with arc heating 9-46502
 nozzle of rocket, compressible turbulent boundary layers, heat transfer and skin-friction 9-14451
 nucleation, liquid superheat and vapour subcooling, corresponding states correlation 9-32218
 ocean, diffusion parameterisation of mesoscale eddy effects from numerical expt. 9-48508
 ocean, low-freq. momentum, heat, salt and nutrients fluxes at Scotian Shelf edge 9-2242
 ocean surface mixed layer, heat transport during catastrophic mixing events 9-16503
 ocean-atmosphere interface, coupled energy transfer, turbulent and radiative 9-2290
 oceans, Southern Hemisphere, poleward heat fluxes 9-48496
 oil shale, transient temp. distrib. due to combustion flame in retort 9-37110
 packed bed, optimal control of heat and mass transfer (*Ukrainian*) 9-32655
 packed bed thermocline, anharmonic analysis 9-27494
 parabolic capacity and heat equation with irregular obstacle (*French*) 9-26002
 parabolic partial differential equatn. TEDDY2 program package 9-2613

heat transfer continued

parallel tube banks in transverse viscous flow, heat transfer and hydraulic drag (*Russian*) 9-10450
 particle shape, in laminar flow, by optical mixing (*Russian*) 9-10619
 permeable plate gas screen region, heat transfer and friction laws 9-1250
 phase change problem, with temp. dependent thermal conductivity, noniterative soln. 9-27493
 pipe, horizontal, straight, heated, entry flow 9-32675
 pipe flow, laminar with nonlinear wall heat fluxes, axial cond. 9-27636
 pipe outflow, turbulent, with wall suction, dynamic and thermal fields (*French*) 9-4082
 plane laminar gas jet in infinite space, thermal characts. (*Russian*) 9-18926
 plane membrane in way of a flowing stream, temp. change effects (*German*) 9-41557
 plate, permeable, turbulent boundary layer with injection, heat transfer 9-1247
 plate, simultaneous heat and mass transfer to flat plate in humid air stream under frosting conditions 9-7284
 plate heat transfer to highly turbulent air stream, expt. (*Russian*) 9-46318
 polyatomic gases, turbulent tube flow, heat transfer 9-14395
 polyurethane foam, cylindrical cryogenic containers 9-35750
 pool-boiling and bubbling heat transfer, freely convecting liq. 9-32212
 porous body, sublimation, heat, mass transfer from parallel capillaries 9-37395
 porous material, environment effects (*Polish*) 9-18674
 porous surface, heat exchange optimal control 9-32661
 post-dryout heat transfer, review 9-1094
 power law fluid Couette flow, entrance region heat transfer 9-32587
 power law fluid flow in pipes, entrance region heat transfer 9-1218
 PWR, heat transfer equations for boiler tubes (*Rumanian*) 9-3189
 PWR fuel assembly, thermohydrodynamic process, obs. 9-30902
 pyrolysis, of single solid particle accompanied by consecutive reactions, vol. reaction model 9-47896
 pyrolysis of solid particle, cyclic dynamics 9-47897
 quasi-stationary Stefan problem for a hot pipeline in a frozen mass 9-23324
 quench front motion, heat transfer coeff., surface approx. using boundary layer anal. 9-45342
 radioactive waste disposal in bedded salt, thermally induced movement of canisters 9-26573
 random heat transfer, flat channels, timewise var. of ambient temp. 9-23313
 reactors, chem., relaxation oscills. 9-39120
 rectangular ducts, localised heat transfer systems (*Chinese*) 9-37126
 recuperative heat exchange, source/sink even model (*Hungarian*) 9-14226
 regenerative heat exchange, calcs. with realistic boundary conditions 9-189
 review of 1977 literature 9-14392
 rocks, hot, dry, hydraulically fractured linearly expanding cracks, eqns. (*Japanese*) 9-34809
 rod cluster, recirculating flow due to blockage, finite difference method for temp. 9-3200
 rotating disc with axisymmetric surface heat source distrib., in laminar flow, heat transfer 9-46314
 rotating sphere, higher order heat transfer 9-4003
 rough cylinder in transverse water flow (*Russian*) 9-10449
 round heated jet, heat and momentum transport, intermittency, entrainment 9-32608
 round-bottom pool with internal heat generation, expt., LMFBR appl. 9-13470
 scale prevention, by annular flow of immiscible liquid along heated tube walls 9-1090
 second order fluid heat transfer for flow around circular cylinder 9-41683
 semiconductor refrigerating thermojunctions with radial flow of current 9-2766
 shallow fluidised bed heat transfer investigation 9-7404
 shear layer, thermally stratified, turbulence structure and stability (*Japanese*) 9-41731
 silica gel regeneration by adiabatic desorption mathematical model 9-1967
 simultaneous eqns. solution by iterative substructuring 9-10564
 skin blood flow, human, modelling of thermal effects 9-24959
 soil, heat and mass transfer with phase change 9-1093
 solar collector/storage system buried in ground, heat transfer anal. 9-7275
 solar energy collector, flat-plate, transient response, efficiency evaluation 9-18676
 solar flares, heat transfer theory 9-40168
 spark machining, heat and mass transfer 9-1369
 sphere with fluid source at centre, heat transfer to fluid stream 9-18887
 spheres, almost touching, temp. field or elec. pot. 9-41268
 spray-cooled cylinder 9-23354
 square plate in oblique airflow, local heat transfer 9-41684
 stagnation point boundary layers, unsteady, three dimensional, compressible, numerical soln. 9-37335
 stationary heat exchange in thermochemical gas analyser (*Russian*) 9-14215
 steady vortex driven by heat line source, math. anal. 9-23329
 steam generating tube, with ribbon like dry-out patch, temp. distrib. calcs. 9-1085
 steam generator, heat transfer, surface ash and internal pipe deposit resistance calcs. 9-1089
 steam generators, steady 2-dimens. two-phase flow and heat transfer calc. 9-1237
 steel, hardening, mathematical model including phase changes 9-4950
 steel, stainless, cylinder, in thermal aerodynamic tube, nonsteady heat transfer method 9-37147
 Stefan multi-phase problems, similarity solns. 9-12742
 Stirling cycle analysis, numerical methods accuracy evaluation 9-48170
 Stokes' problem for vertical infinite plate with variable temp. 9-23301
 Stokes problem, free convection effects, rarefied gas flow past plate 9-32581
 subsea permafrost heat and mass transport processes, mol. diffusion and consequences anal. 9-2302
 superconductivity, propagating normal zone (quench), induction, by local energy release 9-38210
 supersonic flow, viscous, past corner, energy eqn., asymptotic solns., heat transfer 9-32564

heat transfer continued

surfaces, thermal efficiency determ. 9-27641
 suspension of prolate spheroids in shear flow, bulk heat flux 9-46370
 suspension of solids, transfer process, adiabatic calorimeter problem 9-23353
 sweat cooled porous hollow cylinder, heat transfer from hot fluid 9-18943
 temperature field equations, steady-state and transient case, 2-D, 3-D, finite element anal. 9-23182
 temperature pulsation balance in turbulent streams 9-14385
 temperature sensitive semiconductors, AC thermal theory 9-11131
 terrestrial heat flow, erosion effect on palaeoclimatic and topographic corrections 9-34767
 thermal energy storage material cylinders, heat transfer during melting 9-3894
 thermal energy storage tank, thermal stratification during charging 9-3890
 thermal plumes development, effect of condensation (*French*) 9-23192
 thermal pollution by discharges into waterways, mixing problems 9-8645
 thermal quenching, Cu block by liq. N₂, for boiling curve 9-14232
 thermal radiation flux distribution from electrodynamic gas heater (*Russian*) 9-18678
 thermal storage unit, sensible-heat, solid, transient response 9-3892
 thermal transpiration, in circular capillary with small temp. difference 9-32191
 thermoacoustic pressure oscillations in heated channel 9-46319
 thermodynamics, second law, heat flow direction and Fourier inequality, comparative assessment 9-44896
 thermoelectric discs, coaxial, radial current flow, heat transport 9-2767
 thermoelectric heat-flow meters, compensated, metrological characts. 9-37144
 thermosyphon, gas-controlled two-phase, performance 9-1049
 thermosyphon, two-phase, heat and mass transfer in evaporation zone 9-1048
 transient and steady state, finite difference computer programs 9-14221
 transient superheat on vertical surfaces in subcooled boiling 9-7282
 transient temperature field approx. in cylindrical and spherical bodies (*Polish*) 9-23192
 transition boiling heat transfer with forced convection, composite test section, steady state method 9-19361
 trifluorotrichloroethane, influence of porous coating of heating surface on rate of heat transfer on boiling (*Russian*) 9-10452
 tube, circumferential wall heat cond. effect on thermal boundary conditions 9-32200
 tube, vert., uniformly-heated, crit. heat flux prediction, generalised graphical method 9-46313
 tube banks in cross flow, heat transfer 9-1077
 tube banks in turbulent flow, heat transfer prediction 9-1080
 tube bundles, heat transfer to three dimens. flow 9-1073
 tubes, flattened, in transverse gas flow 9-1067
 turbulence models for heat transfer, review 9-4017
 turbulent air flow in channel, temp. field 9-4005
 turbulent boundary layer, temperature fluctuations, correlations and probabilities 9-46303
 turbulent boundary layer in pipe, temp. distrib. 9-32668
 turbulent compressible boundary layer on permeable rough surface with heat transfer 9-1176
 turbulent flow, temperature fluctuations, local isotropy 9-1191
 turbulent flow in annulus, heat transfer enhancement by fluid injection 9-23319
 turbulent flow in tube, critical heat flux meas. (*Russian*) 9-10558
 turbulent forced convection, heat and mass transfer, analogous relationship (*Japanese*) 9-14396
 turbulent heat transfer, TURF computer schemes 9-4014
 turbulent heat transfer and press. drop in tube, internal solidification effect 9-32512
 turbulent incompressible gas jets, thermodynamic transfer theory (*Russian*) 9-32621
 turbulent jet, joint probability densities and quadrant contribs. 9-32597
 turbulent pipe flow with heat transfer and chemical reaction 9-1271
 turbulent shear flow, temperature ramps characterisation by two length scales 9-10560
 turbulent shear flow with streamline curvature, algebraic stress-heat flux model 9-27625
 turbulent thermal layers on flat plates 9-23307
 turbulent tube flow, of water, with nonuniform heating 9-32513
 two-dimensional MHD parallel plate channel flow, heat transfer 9-32701
 two-dimensional steady state heat transfer with surface heat sources, program (*Italian*) 9-37132
 two-phase flow, transient, interfacial heat and mass transfer, surface renewal model 9-27683
 two-phase polydisperse medium with phase transformations and size distrib., thermohydrodynamic eqns. 9-41743
 two-phase two-component heat transfer, review 9-1239
 uncooled radial gas turbine, anal. 9-4010
 underwater plasma weld cooling 9-1932
 unsteady heat transfer effect on boundary layer growth at forward stagnation point 9-10555
 urban-rural canopy analysis, surface heat flux/temp. model 9-20945
 US assisted radiant heat transfer into water and air 9-46169
 vapour phase heat transfer in post critical heat flux region 9-9668
 variational irreversible thermodynamics of heat and mass transfer in porous solids 9-4081
 vertical thermal channels, interferometric simulation of heat transfer 9-17477
 viscoelastic fluid in channel entrance, hydrodynamic and thermal boundary layers 9-18915
 viscous fluids in static mixer, heat transfer coeffs. 9-18885
 wake behind linear heat source, temp. pulsations (*Russian*) 9-14401
 wake in steady and pulsed flow (*French*) 9-1188
 wall flux, down-stream from linear heat source in turbulent boundary layer (*French*) 9-32489
 wall in electric furnace, plane, temperature dependence on time and spatial coordinates 9-1054
 water, boiling curves, subcooled and forced convective conditions 9-14230
 water, thermally-stratified, cooled from above, free convection 9-46315
 water adjacent to vertical uniform flux surface, buoyancy driven flow, transition and transport 9-27631
 wave equation for simultaneous heat and mass transfer in moving media 9-44747
 Ar, liquid, superheated, nucleation 9-23741

heat treatment continued

- Au electroplated layer, dropwise steam condensation, thickness depend. 9-46791
 CMN-³He (³He-⁴He), heat capacity and heat transfer meas. instrum. (French) 9-1097
 Cu surface roughness, liq. superheat and heterogeneous nucleation 9-37146
 H₂O, supercritical, heat transfer and pressure drop in horizontal tubes (Japanese) 9-14399
 He, vapour formation and heat transfer in supercond. magnet cooling channels 9-32197
 He-II, critical heat flux for narrow Sn films 9-23795
³He, liq. A-phase, helical textures and anisotropic heat flow 9-23800
⁴He, superfluid, phonon heat transport and Knudsen's minimum below 0.6K 9-33136
⁴He, superfluid, second sound, boundary conditions 9-46857
 K heat pipe, heat transport characteristics, transverse mag. field effects 9-37127
 Kr, liquid, superheated, nucleation 9-23741
 MHD flow and heat transfer, porous disc eccentric rotations at infinity 9-18965
 N₂, heat transfer during nucleate boiling, heating wall and metallic coating thicknesses depend. 9-32210
 N₂O₄ circular channel hydraulic resistance and heat transfer expts. (Russian) 9-14213
 N₂O₄, dissociating, nonsteady flow in steam-generating channel 9-37422
 N₂O₄ flow in axisymmetric channels, heat transfer calc. (Russian) 9-14214
 N₂O₄, heat and mass transfer in turbulent stream in axisymmetric channel (Russian) 9-18960
 Na, incipient boiling in the presence of a mag. field 9-37411
 Si film, electron beam evaporation, for solar cell appl., heat exchanges and columnar growth 9-15609
 UO₂-Na contact interface temp., effect of internal radiation 9-13477
 UO₂-PuO₂ fast reactor fuel rods, burnup-dependent heat transfer from fuel to cladding 9-36323
 Xe, liquid, superheated, nucleation 9-23741

heat treatment

- see also annealing; normalising; quenching (thermal); spheroidizing; tempering; thermomagnetic treatment; thermomechanical treatment
 alloy, coarsening by temp. cycling 9-29111
 bone, X-ray and neutron diff. meas. of apatite cryst. orientation and growth, effect of chem. and heat treatment 9-39431
 carbons, Raman spectra in 2600-3300 cm⁻¹ region, heat treatment temp. effect 9-42955
 chinaware, semivitreous, eval. of crazing resistance by stress meas., after autoclaving (Japanese) 9-20235
 chinaware, vitreous, elimination of crazing by repeating glost firing (Japanese) 9-20236
 corundum single crystal, premetallizing with Mo-Mn-SiO₂ 9-47792
 diacetate-nitrocellulose, long period struct., 180-265°C, X-ray diff. obs. (Russian) 9-24556
 Incoloy 800, creep rupture ductility, 500 to 600°C, hardness and metallurgical exam. 9-43435
 magnesium-spinel materials form. using heat treatment 9-38773
 martensite steel, cryst. struct. variation during heating, role of Mn and Al (Russian) 9-46600
 montmorillonite, clay mineral, expanding type, surface props. rel. to heat treatment 9-29406
 PET, crystallised by nonreactive liquids, exam. of mech. props. 9-43338
 polyacetylene film, heavily doped with AsF₅, degradation by heating and air exposure 9-28353
 polyethylene, linear, bulk-crystallised, morphology study 9-32918
 polyethylene, low density, UV and heat treatment effects, DSC obs. 9-14915
 powders thermosetting, hot stage microscopic technique for examining curing 9-28979
 PVC, different stereoregularities, heat treatment effect on glass transition temp. and c_g changes 9-4985
 PVC, influence of thermal history on physical props. 9-4984
 quartz, heat treatment of dense moving layer, heat exchange development 9-20075
 quartz glass, Si⁺O⁻ defect bands, Raman intensities, thermal treatment effects 9-15444
 steel, 11YuA, cold worked, heat treated, electromagnetomech. props. NDT 9-4980
 steel, alloy, thermodynamic aspects of gas-metal heat treating reactions 9-24547
 steel, austenitic, fracture toughness meas. by Charpy impact testing, welding, heat treatment, neutron irradiation effects 9-5062
 steel, austenitic, metastable, hardening by cycling of martensitic transform. during rapid heating, in 30N24M4 and 50N21M3 (Russian) 9-20074
 steel, austenitic, Mn-Al-V-F2, EM characs. after nitriding, aging, austenitizing, NDT of nitrided layer depth 9-11750
 steel, austenitic, pearlitic and bainitic transforms., effect of austenitisation conditions (Russian) 9-38820
 steel, ball bearing, heat treated, fatigue crack propag. 9-20188
 steel, C, cold strained, effect of rapid heating on strain ageing (Russian) 9-11642
 steel, C, mech. props. rel. to heat treatment, ferrite-pearlite transform. (French) 9-20043
 steel, C, type 25KhN3MFA, forgings, austenite grain refining 9-38864
 steel, C, US exam. of yield and breaking strength 9-15755
 steel, carburised, microstruct. and fracture 9-24658
 steel, corrosion resistant, review of heat treatment, mech. and corrosion resist. characs. (Korean) 9-24653
 steel, Cr-Mo (1, 0.5 wt.%), heat treated creep failure, role of stress state 9-5047
 steel, deformation under modified ausforming (Japanese) 9-11673
 steel, first order phase transformations, in non-isothermal conditions, exam. of kinetic parameters (Russian) 9-34028
 steel, gas nitrosulphurized, in temp. range 813-903K, wear props., surface and cross-sectional hardness, X-ray diff. and SEM study (Japanese) 9-29224
 steel, internal oxidation during carburizing and heat treating 9-24660
 steel, low alloy, type 10KhN1M, heat-treated, struct. and resist. to thermal embrittlement 9-15788
 steel, low C, with various strain ageing potentials, tension compression fatigue (Japanese) 9-20162

heat treatment continued

- steel, martensitic, corrosion resistance and mechanical performance in medical instruments 9-39537
 steel, mild Cr welding, 550°-850°C heating effects on structure and toughness 9-24540
 steel, Mn (1.10 to 1.55 wt.%), reactor vessel material, assessment of weld heat affected zone mech. props. 9-29217
 steel, Si (6.5 wt.%) Mn, Ni and Al additions influence obs., on mech. and magnetic props. (Slovak) 9-5064
 steel, stainless, 1Kh16K4N2MVFB, corrosion-fatigue strength (Russian) 9-15856
 steel, stainless recrystallisation of thin bands, heating time investig. 9-38848
 steel, tool, martensite plate size, austenitization 9-24549
 steel, type 35L, heat treated, exam. of surface defects using fluorescent liquids 9-15933
 steel, VN precipitation after heat treatment 9-29067
 steel austenitic stainless, cold working type, heat treated, tool wear during cutting 9-47782
 steel high strength, Cd plated, effect of composition and thermal treatment, on hydrogen embrittlement susceptibility (Russian) 9-15769
 steels, strength reduction by adsorpt., stress corrosion (Russian) 9-29265
 triacetate-nitrocellulose, long period struct., 180-265°C, X-ray diff. obs. (Russian) 9-24556
 viscose, long period struct., 180-265°C, X-ray diff. obs. (Russian) 9-24556
 welded joint, microstructural and chemical heterogeneity 9-29096
 welded joints, flash, fatigue strength obs., microstructures influence 9-15760
 zeolites, type Y, containing catalysts, cryst. struct., IR spectra 9-42958
 Zircaloy-4/stainless steel, diffusion bonding in presence of Fe intermediate layer 9-10987
 Ag chemically deposited layer, reflectivity rel. to heat treatment 9-27366
 Al alloy, cast, forging and heat treatment effects on diamond planishing treatment 9-43237
 Al alloy, low-cycle fatigue strength, isothermal hardening effect 9-38863
 Al-Cu-Mg-Mn(-Zn-Cr), low temp. deformed, ageing and mech. props. 9-1881
 Al-Zn-Mg alloy, thermomech. treatment, precipitation and strengthening 9-24527
 Al₂O₃, polymorphic transitions during heat treatment at 900-1500°C 9-11607
 Al₂O₃ sintered surfaces, premetallizing with Mo-Mn-SiO₂ 9-47792
 Al₂O₃(Al₂O₃-MgO)-Ag(Au)(Cr)(Cu) cermet selective surfaces for evacuated solar collectors 9-43785
 C, elec. cond. at low-temp. as function of freq., behaviour of heat treated samples 9-23965
 C fibres, pitch and lignite based, exam. of microvoids by X-ray scatt., heat treatment and stretching effects 9-20091
 C, heat-treatment and neutron irradiation effects on US atten. and Young's modulus 9-11644
 CaF₂:Dy sensitivity to UV and ionising radiations, temp. treatment effect 9-26763
 CaMg(CO₃)₂, dolomite, reaction with ZrO₂, mineralisation during roasting 9-43180
 CdCr₂S₄, ferromagnetic semiconductor films, prep. and props. (Japanese) 9-47308
 CdF₂:Mn, Y, deconversion due to vacuum heat treatment, elec. resist. and electron probe meas. 9-24025
 CdF₂:Mn²⁺, Y³⁺, thermal stability under vacuum, effect of heat treatment on resist. 9-23969
 Cd₃(PS₄)₂, synthesis by roasting, and exam. of props. 9-4926
 CdS single cryst., melt growth, improvement of elec. characs. 9-38734
 CdS sprayed film, heat treatment effect on props. 9-7916
 Cd₂SnO₄ film, sputter deposition and characterisation 9-43146
 Co-Fe (6 wt.%) alloy magnetic properties, 850 to 1000°C range (Slovak) 9-4698
 CsI:Ti X-ray phosphor, spectral characs. 9-8172
 Cu-Al (12 wt.%), acoustic emission related to props. 9-34032
 Cu-Cu Zr eutectic composite, struct. and props., heat treatment and cryst. rate influence (Russian) 9-38813
 Cu-In eutectoid, coarsening at 829K 9-1885
 Cu-Sn-Mg, precipitation, effect of thermomechanical treatment (Japanese) 9-4970
 Cu₃Au, elec. resistivity, temp. depend. 9-47078
 Cu_{1-x}Fe_xO₄, elec. resist., Seebeck coeffs., 20 to 900°C, cation distrib. 9-4573
 Fe alloy porous powder metallurgical components, gamma nitriding 9-20088
 Fe, cast, homogenization of property difference due to mass effect by repeated heat treatment (Japanese) 9-38857
 Fe, cast, mech. props., demodification influence of isothermal holding and Mg additions (Bulgarian) 9-15707
 Fe, cast, Mg, isothermal dissociation of supercooled austenite, exam. of kinetics (Russian) 9-29013
 Fe, cast form. of surface graphitisation centres (Russian) 9-11720
 Fe-Al, variation in absolute thermoelec. power under heat/treatment (Ukrainian) 9-38051
 Fe-C (0.8-4.2 wt.%), eutectoid transform., effect of heat treatment in H₂ (Russian) 9-4947
 Fe-C (30 at.%), production of Fe₃C at high press., morphology and microstruct. (Russian) 9-38828
 Fe-Co-Cr, magnetic, phase transform. obs. (French) 9-47676
 Fe-Cr (25wt.%) alloy, surface comp. rel. to passivation phenomena (French) 9-43479
 Fe-Cr-C solid solns., ordering and γ to α transforms, effect of heat treatment (Russian) 9-24520
 Fe-Cu (1.77%) alloy, influence of neutron irradiation on electric resist. (Russian) 9-38041
 Fe-Ni-C, phase diagram determ. 9-24495
 Fe-Ni-Cr-Ti-Al Elinvar alloys, dispersion-hardened, structural transform. (Russian) 9-1872
 Fe-Pd (47 at.%) alloy, powders and powder compacts, mag. props. rel. to heat treatment (Russian) 9-15816
 Fe₃Cr₁₂Ti₂Mo₃, high temp. precipitation kinetics, internal friction study 9-43254
 Fe(Pd_{1-x}Au_x)₃ ordering alloys, mag. props., 4.2 to 500K (Russian) 9-47301
 n-GaAs/Pt/Cr Schottky contact, barrier height change due to heat treatment 9-47165

heat treatment continued

- Ge-As-Se films, light irradi., heat treatment rel. to optical props. (*Russian*) 9-4858
- InSb films, transverse 1/f noise and S/N ratio of related Hall elements 9-42597
- KCl, luminesc. of Z_4 centres 9-24355
- KCl:Pb, impurity valence, heat treatment influence, absorpt. spectra obs. 9-38574
- KCl:Sr, single crystal, thermally stimulated topochemical reactions 9-28011
- KI:Ti, X-ray phosphor, influence of different factors on emission intensity 9-8171
- LiF:Mg:Ca detectors, variation of parameters of thermally stimulated luminesc. 9-6793
- Mg-Cu-Mn-Ni-Fe-O, UHF ferrites, synthesis, physicochem. state, mag. and dielec. parameters 9-11536
- MgCr₂O₄ spinel, exam. of expansion during synthesis 9-20012
- MgO-Al₂O₃-Fe₂O₃-SiO₂, cordierite, in ceramic, effect of heat treatment on cordierite content 9-20039
- Mn-V-Al, magnetic props., heat treatment effects 9-29233
- NaNbO₃, memory effect, in ferroelec. phase, ESR meas. 9-28696
- Na₂O-B₂O₃-SiO₂ glass, phase separated, HCl leaching rate and microstruct. 9-29242
- Nb spheres, residual resistivity ratio, prep. method effects (*German*) 9-8372
- Nb, vacuum heat treatment effects on gas content and elec. and mech. props. (*Russian*) 9-43281
- Nb-Mo(Zr) alloys, vacuum heat treatment effects on gas content and elec. and mech. props. (*Russian*) 9-43281
- Nb-Ti filamentary superconductor critical current density rel. to thermal treatment 9-33440
- Nb₃Al multifilamentary cable fabrication and props. 9-33438
- Nb₃Sn multifilamentary hollow superconductor and magnet, fabrication and crit. currents 9-38289
- Nb₃Sn, superconducting, formed from Cu-Sn alloy, props. 9-42709
- Nb₃Sn superconducting multifilamentary wire, stress effects 9-33431
- Nb₃Sn superconductors, Kirkendall voids, effects on mech. and supercond. props. 9-33429
- NbTi, supercond., crit. current densities and anisotropy factors, heat treatment effects 9-38285
- NbTi, supercond., processing parameter optimisation for high mag. field apps. 9-38290
- Ni-Cr (2 wt.%), role of hydrostatic pressure on sintering of creep cavities 9-28980
- Ni-Cr-Fe steam generator tubes, stress corrosion susceptibility, heat treatment effect 9-20258
- Ni-Cr(Mo), variation in absolute thermoelec. power under heat/treatment (*Ukrainian*) 9-38051
- Ni-Mn base polynary alloys, magnetic, and elec. props., composition and heat treatment effects 9-11710
- Ni-Nb-Al, unidirectionally solidified γ/γ' - δ eutectic, fatigue crack propag. 9-29184
- Ni-S, defect control by heat-treatment in S atmos. 9-43293
- Ni-Si, intergranular segregation of Si, electron energy loss spectrometers, X-ray anal. (*French*) 9-8388
- NiFe₂O₄, effect of sintering in air in range 1373-1773K on lattice parameter 9-19208
- Pb-Ag eutectic alloy, microstruct. coarsening under isothermal and temp. gradient conditions 9-20079
- Pb₂MnSb₉Sn₉, ¹¹⁹Sb Mossbauer study, compositional and heat treatment effects 9-42875
- PbO-B₂O₃-SiO₂-Li₂O-MgO(CaO)(ZnO)(Al₂O₃)(TiO₂)(ZrO₂), glass enamel, heat treated, chemical durability, MgO, CaO, ZnO, Al₂O₃, TiO₂, ZrO₂ addition effects 9-29255
- Pb(Zr,Ti)O₃, synthesis from cryochem. mixtures, chem. reacts. in sublimation drying 9-11538
- Se amorphous film, stabilisation by thermal treatment (*French*) 9-47176
- a-Se, hole form. energy, heating time and cooling rate depend. 9-41958
- Si, dislocation-free, defect formation, high temp. treatment, growth-band influence (*Russian*) 9-4299
- Si, heat treated, spin-depend. recomb. at dislocations 9-47122
- Si, porous layer, struct. and heat-treatment effect 9-1557
- Si, thermal donor generation in temp. range 600-800°C 9-11121
- SiC+BaO+BaCO₃ react., contact phenomena at SiC grain boundary 9-43193
- SiO₂ gels, heats of immersion, effects of pore narrowing 9-11833
- SiO₂-GeO₂, synthetic, struct. IR spectra 9-42993
- SmCo₅ magnets, magnetisation and demagnetisation heating effects 9-38357
- SnO, disproportionation, thermoEMF, Mossbauer spectroscopic, X-ray diff. anal. 9-11776
- Sr₂Fe₂O₅, order-disorder transition from brownmillerite to perovskite under heat treatment in N₂ stream 9-11612
- stainless, carbide precipitation during post heat treatment, knife line attack phenomena 9-20288
- Ta₂O₅ anodic films, reanodisation effect on exoelectron emission 9-43110
- Ti-Hf-O system, ω (0) phase form. 9-11553
- Ti-N system, phase relations, struct. rel. to heat treatment 9-11552
- TiO-ZrO₂ pseudo binary system, effect of Ti addition on struct. and props. of zirconia 9-11583
- UO₂ microspheres, prep. from UO₃(NH₃)₂, exam. of mech. and physical props. 9-6758
- V-Al/Cu-Ge composite superconductors, transition temp. and upper crit. field, heat treatment effects 9-38268
- YAG, interrelationship between mech. props. and elec. relief on surface layer 9-23821
- ZnO-TiO₂ system, heat treated, X-ray anal. of phase form. sequence 9-1850
- ZnS, polymorphic transition, (β - α) effect of mech. deformation 9-1858
- ZnS:Au, phosphor, 'blue' and 'green' centre form. (*German*) 9-38665
- α -Zr-H, volumetric changes, and thermal expansion, dilatometric and X-ray analysis exam. (*Russian*) 9-11665

heated cathodes *see thermionic cathodes***heating**

- see also electric heating; induction heating; ovens; plasma heating; refractories; space heating*
- α -particles, heating and acceleration 9-12376
- artificial kidney construction for solution mixing, heating and degassing (*German*) 9-2161

heating continued

- borosilicate glass, Simax, internal and surface temp. during heating (*Czech*) 9-42285
- clusters of galaxies, viscous heating of intracluster gas 9-9011
- clusters of galaxies intracluster gas, heating by relativistic electrons 9-25735
- crude oil heating in tube furnaces, anal. 9-18972
- D-region electron heating, appl. to negative ions detect. from Thomson scatt. 9-16739
- Earth interior, shear heating as explanation for lithosphere-mantle decoupling 9-20790
- Earth surface heating, remote sensing by Heat Capacity Mapping Mission 9-5640
- Fourcalt sheet glass, internal and surface temp. during heating (*Czech*) 9-42285
- hollow sphere, time-optimal control of heating (*Russian*) 9-27491
- interstellar dust of galactic extended low-density H II region, heating and diffuse IR emission 9-17047
- ionosphere, nighttime, O(¹D) contrib. to heating 9-44288
- solar active region coronal loops, heating mechanism rel. to temp. and density struct. 9-8890
- solar corona, rapid heating rel. to collisionless cond. front prod. and hard X-ray bursts 9-44427
- solar coronal loops, heating by Alfvénic surface waves reson. absorpt. 9-16905
- solar energy appl., availability, Swiss meas. and collectors efficiencies (*German*) 9-48092
- solar flares heating, significance of temp. min. region struct. in flares 9-12458
- solar radiative heating, in presence of aerosols 9-16665
- stellar coronae, heating and mechanisms and energy balance 9-44466
- Zircaloy cladding, internally pressurized, effect of temp. nonuniformity on diametral expansion during transient heating in steam 9-30920
- LiNbO₃, radiation induced heating by thermal neutrons, meas. of temp. 9-4337
- heating, buildings** *see space heating*
- heating elements**
- see also electric heating*
- Argonne/GA TNS Tokamak reactor supercond. ohmic heating coil design 9-31197
- Tokamak ohmic heating coil design and testing 9-32806
- SiC, heater, miniature, for thermo-emf meas. 9-2764
- heavily doped semiconductor materials** *see heavily doped semiconductors*
- heavily doped semiconductors**
- see also degenerate semiconductors; superconducting semiconductors*
- Auger coefficients 9-19606
- compensated, hopping photoconductivity 9-38130
- compensated piezoelectric semiconductor, sound absorpt. coeff. calc. (*Russian*) 9-15194
- disordered semiconductors, recomb. radiation spectrum (*Russian*) 9-4855
- electronic sp. ht. and transport coeffs., influence of band-tail parameters 9-14941
- film, laser irradiation, spontaneously broken gauge symmetry 9-47531
- impurity states, optical and transport props. review 9-47039
- perturbation potential distrib. and density of states 9-47052
- polyacetylene film, heavily doped with AsF₅, conductivity and Hall effect meas. 9-28353
- p-CdCr₂S₄, single cryst., elec. cond. 9-15148
- CdS, heavily doped compensated piezoelectric semiconductor, sound absorpt. coeff. calc. (*Russian*) 9-15194
- CdS:Cu, US absorpt. in heavily doped piezoelec. semicond. 9-11189
- CdSe, heavily doped compensated piezoelectric semiconductor, sound absorpt. coeff. calc. (*Russian*) 9-15194
- GaAs, strongly compensated, hopping cond. 9-47180
- n-GaAs:Sn, nonalloyed ohmic contact form. by MBE and metallisation 9-7895
- n-GaSb, spontaneous radiative recomb., complete vel. and radiative capacity 9-11458
- p-Ge, anomalous magnetoresist. under uniaxial compression (*Russian*) 9-33302
- Ge, heavily doped, multiplex AC hopping conduction 9-11122
- Ge, lattice disorder influence on optical spectra in interband transition region 9-43006
- p-Ge:Ga, elec. resist., 40 mK to 300K 9-38071
- InAs, Burstein-Moss effect and near-band-edge luminesc. 9-47525
- InP:Sn, LPE growth from Sn soln., elec. props., 80 to 300K 9-11250
- n-InSb, compensated, LF current instabilities 9-7859
- InSb, morphological instability under constitutional supercooling during cryst. growth from melt and stabilising thermal gradient 9-4910
- Si, bandgap narrowing and diffusion length meas. 9-7781
- Si, heavily doped, carrier diffusion coeff. 9-47099
- Si, heavily doped, characts. of distrib. of density of states 9-15072
- Si, heavily doped, doping density striation effects in studies of metal-nonmetal transition 9-28383
- Si:Au, diffusion of Au anal. 9-23786
- Si(B), single crystals, oxidation investigations, 780°-1150°C 9-5068
- Si:P, heavily ion implanted, polycrystalline, grain growth 9-19477
- Si:Sb, in solar cell struct., heavily doped, dopant striation, SEM 9-39312
- SnO₂:Sb₂X₃, X=Fe,Cu,S, CVD thin film, resist. temp. coeff. 9-38198
- Heaviside layer** *see E-region*
- heavy ion excited X-ray emission** *see ion microprobe analysis*
- heavy ion-nucleus reactions**
- for inelastic heavy ion-nucleus scattering, see "heavy ion-nucleus scattering"*
- ⁴⁰Ar, fragmentation in collisions at 213 MeV/nucleon, energy and isotope distrib. 9-17919
- angular momentum dissipation of fragments, using Fokker-Planck equation 9-36260
- charge and slope polarisation of nuclei, liquid drop model anal. 9-9543
- classical microscopic description of particle cluster collisions 9-9533
- collision integral in nuclear matter at zero temperature 9-17928
- complete fusion cross sections, compound nucleus props. (*French*) 9-577
- composite-particle interactions, nuclear cluster theory, computational procedures 9-13225
- compound reactions, critical ang. momentum effects on high spin selectivity 9-36272
- compound-nucleus cross sections from nuclear charge-density distributions 9-9605
- compressed zone evolution in high energy nuclear collisions, pion characts. 9-26447

heavy ion-nucleus reactions continued
continuum shell model description of resonant structures in nuclear reactions 9-13345
cosmic ray reactions, multiplicity distrib. of particles (*Russian*) 9-5719
deep inelastic collision, high lying vibrational and incoherent excitations, simultaneous treatment 9-36256
deep inelastic collisions, dispersion around mean classical path, effect on polarization of fragments 9-17891
density isomers in high energy heavy ion collisions, hydrodynamical model anal. 9-36138
dissipative heavy ion collisions, transport equation for microscopic Wigner functions 9-13329
double nuclear cluster system in heavy ion deep inelastic collisions 9-6438
double nuclear intermediate system, deform. by classical model 9-6699
double transfer reaction model, Buttle-Goldfarb approx. 9-6677
DWBA form factor for heavy-ion transfer reactions 9-13322
energy loss and ang. distrib., dissipation mechanism, hydrodynamic model 9-3175
equations of motion in Ehrenfest's theorem for heavy-ion collisions 9-17916
equations of motion with nuclear absorption in heavy ion collisions, optical model 9-6684
exchange effects in nucleus-nucleus interactions, antisymmetrisation effects 9-36271
Fermi Gas model, nuclear response function and dissipation 9-40955
Fermi system particle distrib., nuclear matter, heavy ion collisions and fission 9-36183
Fermidynamics and time dependent Schrodinger-Hartree Fock theory 9-3105
few nucleon transfer reactions, proton pairing and four nucleon correl., reaction kinetics (*French*) 9-557
fireball model for heavy ion collisions, statistical theory 9-6556
fireball model of relativistic heavy ion reactions, chemical equilibrium relations 9-22262
firestreak model calcs. for relativistic heavy-ion reactions, particle spectra 9-568
gamma-ray spectra anal., interactive computerised system 9-9509
gamma-ray spectroscopy, nuclear shape and reaction mechanism (*French*) 9-560
giant E1 mode, energy broadening in heavy ion reactions 9-30815
hadronic matter chemical equilibrium, statistical model for heavy ion collisions, nuclear fireball 9-40948
heavy ion national accelerator Ganil, principle and expected performances (*French*) 9-696
heavy ion optical model, surface transparency and resonance phenomena 9-9617
high energy interactions of nuclei, review 9-22326
high energy interactions of nuclei, review book contrib. 9-22161
high energy reactions, use in nuclear struct. studies 9-45286
hypernuclei production cross section in relativistic reactions (*Russian*) 9-45298
inclusive quasielastic d prod. in heavy ion collisions, quasiclassical description 9-6695
intermediate energy collisions, elastic scatt., Coulomb excitation, nucleon transfer, expt. facilities, models 9-6697
ion-ion pot., energy depend. from simplified energy density method, folding model combination 9-6429
low energy one-neutron transfer reactions between heavy ions, optical model potential 9-45294
magnetic spectrograph for very heavy ions 9-31315
magnetic spectrometer of Van de Graaff tandem for heavy ion induced reaction study (*French*) 9-707
mass asymmetry as collective coord. in Hartree-Fock calcs. 9-17914
mass distribution, struct. limitations, time depend. Hartree-Fock calc. 9-30852
mass transport in nuclear collisions, nucleon exchange, drift and diffusion coeffs. 9-563
meson condensation and two photon emission in hadron capture by nuclei and heavy-ion collisions 9-3109
multi-step amplitudes, variational approach, exact T-matrix and DWBA amplitude differences 9-3167
multiple angular correlation between many quanta in coincidence, populated by heavy ion reactions 9-36193
multiplicity distrib. nonlinear phenomena from high energy nucleus-nucleus collisions 9-6685
multistep multinucleon transfer, grazing collisions, quantal theory 9-6698
nonresonating light systems expts. 9-9622
nuclear matter overlap integral calcs. in diffuse surface model 9-17821
nuclear pionisation phenomena, collision between relativistic nuclei (*Russian*) 9-6696
nucleus-nucleus interaction pot. using energy dependent delta interaction, Skyrme interaction folding 9-36269
nucleus-nucleus interactions, existence of slowly moving sources, vel. depend. frictional sources 9-6690
p and π inclusive cross sections, non-equilibrium processes 9-40947
pion prod. and absorption in heavy ion reactions below 500 MeV 9-40952
precompound emission inference ambiguities from excitation function anal. 9-22319
quasitoms formed in heavy-ion collisions, high energy electron emission spectra 9-3554
reaction products identifier, ΔE -E system 9-746
relativistic continuum mechanics for heavy ion high energy collision calcs. 9-45299
relativistic heavy ion processes, infinite momentum frame description 9-40944
relativistic heavy ion reaction large fragment yields, abrasion-ablation calcs. 9-45295
relativistic heavy ion reactions, 1.05-7.52 GeV, π prod., statistical interpretation 9-570
relativistic heavy ion reactions, target residue mass and charge distrib., calcs. 9-3172
relativistic heavy-ion collisions, nuclear matter to hot quark matter phase transition 9-3170
relativistic heavy-ion collisions, two-pion to single-pion inclusive data ratio, pion source parameters 9-3171
relativistic hydrodynamical approach, shock compression effects (*Russian*) 9-30851
relativistic nuclear collisions, π interferometry observation, source space time struct. 9-13324

heavy ion-nucleus reactions continued
resonances, conference, Hvar, Yugoslavia (June 1977) 9-9614
resonances in heavy ion reactions, s-d nuclei with $A=24$ to 32 9-6403
resonant and non-resonant behaviour of complete fusion cross-sections 9-9625
s-d shell nuclei, semiempirical prediction of heavy ion reaction resonances 9-22256
second-order excitation in nucleus-nucleus interaction potential 9-36264
shell model level densities in evaporation calculations 9-45241
shock waves in a hydrodynamic model of central heavy ion collisions 9-40946
statistical thermodynamics of relativistic heavy ion collisions 9-17887
streamer chamber study, spatial reconstruction program 9-31348
theory of resonating group method and generator coordinate method, and orthogonality condition method 9-13226
time dependent SCF theory 9-17932
total γ -decay energy meas., selection of high spin nuclear states 9-26391
total reaction cross sections and elastic scatt., refractive scatt. or strong absorption 9-567
total reaction cross sections determ., review of methods 9-9624
transfer reactions, new methods using particle ang. correl. (*French*) 9-558
transport coefficients for deeply inelastic scattering from the Feynman path integral method 9-17922
two spherical nuclei system, pot. energy calcs. for fission and fusion 9-13326
two-body molecular model for resonances 9-9620
volatile superheavy elements, synthesis and identification in heavy-ion reactions 9-45288
zero-spin particle reactions, angular distrib. anal. 9-13342
 $(^{12}\text{C},\text{X})$, 3-12.6 GeV, in-beam nuclear γ -rays from Sr, Na, S, Ca 9-6483
 $^{30}\text{Cr}(^6\text{Li},\text{pn})$, ^{54}Fe , mean lifetime of 6.38 MeV 8^+ state (*French*) 9-45204
 $^{63}\text{Cu}+^{20}\text{Ne}$, 168 MeV, gamma ray multiplicity distrib. in strongly damped oscils. 9-36266
 $A=12$ -15, heavy ion induced α -transfer α -clusters, DWBA anal. 9-26454
 $^{109}\text{Ag}+^{40}\text{Ar}$, reaction cross section calc. in boundary condition model 9-9656
 $^{109}\text{Ag}+^{86}\text{Kr}$, 366-716 MeV, evaporation residue product cross sections 9-17947
 $^{27}\text{Al}+^{14}\text{N}$, 100 MeV, α preequilibrium decay 9-6666
 $^{27}\text{Al}+^{16}\text{O}$, 50-65 MeV, radiative capture cross sections upper limits 9-17923
 $^{27}\text{Al}+^{16}\text{O}$ fusion, 30-70 MeV, statistical model calcs., yrast states and continuum feeding times 9-579
 $^{27}\text{Al}(^{12}\text{C},2\text{p})$, 40 MeV, ^{37}Cl high spin state decay, spin assignments, yrast level lifetime 9-6490
 $^{27}\text{Al}(^{16}\text{O},^{15}\text{N})$, $^{15}\text{N}_{3/2}$, (6.33 MeV) state, spin alignment meas. from $(^{16}\text{O},^{15}\text{N})$ using γ -recoil 9-17796
 $^{27}\text{Al}(^{16}\text{O},\alpha\alpha)$, 50 and 60 MeV, ang. correl. in compound nucleus decay 9-36261
 $^{27}\text{Al}(^{16}\text{O},\text{ap})$, 50 and 60 MeV, ang. correl. in compound nucleus decay 9-36261
 $^{27}\text{Al}(^{16}\text{O},\text{pp})$, 50 and 60 MeV, ang. correl. in compound nucleus decay 9-36261
 $^{27}\text{Al}(^{20}\text{Ne},^{12}\text{C})$, 120 MeV, anal. of continuous spectra by multi-step direct reaction theory 9-45287
 $^{27}\text{Al}(^{20}\text{Ne},^{16}\text{O})$, 120 MeV, anal. of continuous spectra by multi-step direct reaction theory 9-45287
 $^{27}\text{Al}(^{28}\text{Si},\text{X}\gamma)$, 65-81 MeV, fusion evaporation products, reaction cross sections 9-17946
 $^{36}\text{Ar}(^6\text{Li},\text{d})$, 17 MeV, ^{40}Ca α -spectroscopic factors, direct α -stripping, zero range DWBA anal. 9-45157
 $(^{40}\text{Ar},\text{X})$, 160-280 MeV, ^{149}Tb production in deep inelastic transfer reactions, fragment ang. momentum 9-30854
 $^{40}\text{Ar}+^{12}\text{C}$ 205 MeV/nucleon, ^{28}Ne and ^{35}Al fragment obs. 9-22314
 $^{40}\text{Ar}+^{58}\text{Ni}$ system, high energy, compound nucleus form. and deep inelastic scatt. (*French*) 9-559
 $\text{Au}+^{12}\text{C}$, 25 GeV, momentum transfer to target fragmentation products 9-6691
 $\text{Au}(\text{Ar},\text{X})$, 227 MeV, ang. momentum transfer in deep inelastic collisions 9-45281
 $\text{Au}(^{63}\text{Cu},\text{X})$, 365 and 443 MeV, ang. momentum transfer in deep inelastic collisions 9-45281
 $^{197}\text{Au}(^{20}\text{Ne},\text{X})$, 110 MeV, C, N, and O isotopic yields and energy spectra meas. (*Russian*) 9-9612
 $^{197}\text{Au}(^{86}\text{Kr},\text{X})$, 730 MeV, heavy fragment coincidences, sequential fission probability 9-22316
 $^{197}\text{Au}(^{86}\text{Kr},\text{X})$, γ -ray multiplicities from diffusion model with one body dissipation 9-6487
 $^{10}\text{B}(^{16}\text{O},\alpha)^{16}\text{O}$ reaction near Coulomb barrier, intermediate structure resonances 9-9450
 $^{10}\text{B}(^{16}\text{O},\alpha)^{16}\text{O}$, intermediate resonance struct. near $E_x(^{20}\text{Ne})=38$ MeV 9-6404
 $^{10}\text{B}(^{14}\text{N},\text{X})$, 2.9-7.5 MeV, evaporation residue and total fusion cross section 9-22348
 $^{10}\text{B}(^{16}\text{O},\text{d})$, 24 MeV, ^{24}Mg high spin states, high spin particle spectroscopy upper limits for compound reactions 9-36126
 $^{11}\text{B}+^{13}\text{C}$, ^{22}Ne backbending, yrast line and rotational motion, Strutinsky method 9-36135
 $^{11}\text{B}(^{13}\text{C},\alpha\gamma)$, 18.5 MeV, ^{20}F 2.97 MeV doublet γ -decay, J^π assignment 9-6491
 $\text{Be}+^{40}\text{Ar}$, 1.8 GeV/nucleon, central collisions, single particle inclusive spectra, associated multiplicity 9-9607
 $(^9\text{Be},^8\text{Be})$ Coulomb break up mechanism 9-36257
 $^9\text{Be}+^{12}\text{C}$ - $^{21}\text{Ne}^*$, different decay channels, resonance-like structures obs. 9-13333
 $^9\text{Be}(^{12}\text{C},^9\text{Be})$, 10-15 MeV, excitation functions and resonant enhancements 9-17881
 $^{10}\text{Be}+^{14}\text{N}$, multiparticle nuclear reactions, 9.5 MeV/nucleon, α -particle yield (*Russian*) 9-17927
 $^{209}\text{Bi}+^{12}\text{C}$, reaction mechanisms above Coulomb barrier, semi-classical anal. (*Chinese*) 9-22320
 $^{209}\text{Bi}+^{136}\text{Xe}$, 1130 MeV, statistical model for mass and charge distrib. 9-17929
 $^{209}\text{Bi}+^{136}\text{Xe}$, deep inelastic collisions, deformation role, cross sections 9-36270
 $^{209}\text{Bi}+^{14}\text{N}$, ang. distrib. anal. for quasi-elastic transfer reactions 9-17931
 $^{209}\text{Bi}+^{16}\text{O}$, ang. distrib. anal. for quasi-elastic transfer reactions 9-17931
 $^{209}\text{Bi}+^{19}\text{F}$, ang. distrib. anal. for quasi-elastic transfer reactions 9-17931

heavy ion-nucleus reactions continued

- ²⁰⁹Bi+⁴⁰Ar, ang. distrib. anal. for quasi-elastic transfer reactions 9-17931
- ²⁰⁹Bi+⁴⁰Ca, ang. distrib. anal. for quasi-elastic transfer reactions 9-17931
- ²⁰⁹Bi+heavy ion, A=12-63, 4.5-10 MeV; quasielastic transfer reaction excitation functions 9-3176
- ²⁰⁹Bi(X,Y)²¹⁰Po, ²¹¹At, X=¹⁴N, ¹⁶O, ¹⁹F, ⁴⁰Ar, ⁴⁰Ca, ⁵⁶Fe, ⁶³Cu, 1 and 2 p transfer reactions, determ. transfer prob. 9-36274
- ²⁴⁹Bk(¹⁵N,4n), synthesis of element ²⁶⁰104 9-30850
- C+¹²C, 800 MeV/A, wide angle inclusive proton spectra 9-40951
- (¹²C,X) on light nuclei, 1.55, 2.89 GeV/c, total and inelastic cross sections 9-6610
- ¹²C relativistic ions, Coulomb disintegration into 3 α -particles, total cross section 9-40943
- ¹²C-¹²C resonances, speculation of nature, excited α -particles 9-13339
- ¹²C+¹¹B, 116 MeV, in-plane heavy ion-alpha particle correlations 9-17921
- ¹²C+¹²C, 19.5 MeV, intermediate struct. in continuum shell model, quasi-molecular shape resonance 9-45235
- ¹²C+¹²C, 800 MeV, p and π inclusive cross sections, non-equilibrium processes 9-40947
- ¹²C+¹²C, 800 MeV/nucleon, two-fireball model for p and π inclusive spectra 9-13323
- ¹²C+¹²C, comment on interaction phenomena 9-13315
- ¹²C+¹²C, fusion reactions, Woods Saxon, folding and proximity pot. anal. 9-45316
- ¹²C+¹²C, multiparticle nuclear reactions, 9.5 MeV/nucleon, α -particle yield (Russian) 9-17927
- ¹²C+¹²C quasimolecular interactions, recent developments 9-9615
- ¹²C+¹²C system, molecular configuration in ²⁴Mg 9-13193
- ¹²C+¹³C, identical core neutron transfer, coupled channel anal., form factors 9-13319
- ¹²C+¹³C resonances, coupled channel anal. with core-exchange model 9-13338
- ¹²C+¹⁶O complete fusion, partial prod. cross section for nuclides, evaporation model calcs. 9-36294
- ¹²C+¹⁶O system, coupled channel approx., treatment of resonances 9-9621
- (¹²C-¹⁶O) system, E_{CM} =12.8 MeV resonance, spin parity determ. 9-6405
- ¹²C+¹⁸O, excitation functions for dominant fusion channels 7 to 25 MeV, obs. of regular gross struct. 9-36293
- ¹²C+ α - α , multiparticle nuclear reactions, 9.5 MeV/nucleon, α -particle yield (Russian) 9-17927
- ¹²C+emulsion, 50 GeV/c, multiple particle prod., cascade evaporation model (Russian) 9-22322
- ¹²C(¹³C, α)²⁴Ne, 6.85-15 MeV, evidence for rotational band and its fragmentation in ²⁴Mg 9-9449
- ¹²C(¹²C,X), 27-60 MeV, evaporation residue cross sections from complete fusion, statistical anal. 9-13369
- ¹²C(¹²C,X γ), X=p,d, 14.3,25.2 MeV, p and d exit channel enhancements, ^{22,23}Na J π assignments 9-45154
- ¹²C(¹²C, α), 11-15 MeV, quasimolecular resonances 9-6544
- ¹²C(¹³C, α)²⁰Ne, statistical methods for resonance detection, nonstatistical struct. 9-45238
- ¹²C(¹⁴N,¹⁰B)¹⁶O, DWBA anal., spectroscopic factors 9-6673
- ¹²C(¹⁴N,¹³N)¹³C, 100 MeV, exact finite range CCBA anal. 9-17926
- ¹²C(¹⁴N,X), 27-60 MeV, evaporation residue cross sections from complete fusion, statistical anal. 9-13369
- ¹²C(¹⁴N, α)²²Na, statistical methods for resonance detection, nonstatistical struct. 9-45238
- ¹²C(¹⁵N,X), 27-60 MeV, evaporation residue cross sections from complete fusion, statistical anal. 9-13369
- ¹²C(¹⁵N, α)²³Na, statistical methods for resonance detection, nonstatistical struct. 9-45238
- ¹²C(¹⁶O, n)²⁷Si, 12.8 MeV resonance investig. by time-of-flight spectra and n- γ coincidence 9-9627
- ¹²C(¹⁶O,¹²C,¹²C) α , ¹²C- α -¹²C chain formation, α emitted at rest search 9-45285
- ¹²C(¹⁶O,⁸Be) α ²⁰Ne*, obs. of α -doorway states 9-6662
- ¹²C(¹⁶O,⁸Be), 18.8 MeV, ²⁰Ne narrow J π =10⁺ resonance in strong absorption region, excited states 9-30814
- ¹²C(¹⁶O,⁸Be)²⁰Ne, 13.5-23 MeV, excitation functions, ang. distrib. and cross sections 9-13334
- ¹²C(¹⁶O, α) 9.4-12.4 MeV, ²⁸Si 10.9 MeV resonance; J π assignment 9-26414
- ¹²C(¹⁶O, α)²⁴Mg, 13.5-23 MeV, excitation functions, ang. distrib. and cross sections 9-13334
- ¹²C(¹⁶O, α)²⁴Mg, 13.7, 14.2, 14.7 MeV, ang. distrib., intermediate resonance struct. 9-13331
- ¹²C(¹⁸O,⁸Be)²²Ne, 15-22.5 MeV, resonance strength investig. 9-13336
- ¹²C(¹⁸O, α)²⁶Mg, 15-22.5 MeV, resonance strength investig. 9-13336
- ¹²C(²⁰Ne, α)²⁸Si, energy depend., non-statistical effects 9-13332
- ¹²C(⁶Li, ³He) γ , 34 MeV, ¹⁵N 9.155 MeV state, lifetime, cluster nature and parity 9-6424
- ¹²C(⁶Li,d), ¹⁶O level configuration mixing anal., α -spectroscopic strengths 9-6683
- ¹²C(⁶Li,d), 20-34 MeV, ¹⁶O levels, Hauser Feshbach and DWBA anal. α -spectroscopic strengths 9-569
- ¹²C(⁶Li,d)¹⁶O, 20 MeV polarised ⁶Li, DWBA calc. of analysing powers for ¹⁶N 1⁺ states 9-6679
- ¹²C(⁶Li,d)¹⁶O, 20 MeV polarised ⁶Li, DWBA calc. of analysing powers, O⁺ g.s. and 2⁺ state of ¹⁶O 9-6678
- ¹²C(⁶Li,p), 16, 18 MeV, ¹⁸O deduced levels and ang. distrib., cross sections 9-6686
- ¹²C(⁸Be,⁸Be), 11.4 MeV to 14.8 MeV (c.m.), search for resonances 9-45290
- ¹²C(⁸Be,⁸Be)¹³C, 20 MeV, α -cluster transfer process contrib. 9-6668
- ¹²C(⁸Be,⁸Be)¹³C, neutron and α -particle transfer processes 9-36255
- ¹²C(⁸Be,X), X=p,d,t, α , 11.4 MeV to 14.8 MeV (c.m.), search for resonances 9-45290
- ¹²C(⁸Be, α)¹⁷O, 10-15 MeV, excitation functions and resonant enhancements 9-17881
- ¹²C-¹⁶O, measurement of alpha-widths in ¹⁶O relevant to astrophysics 9-6682
- ¹³C+¹⁶O, excitation functions for dominant fusion channels 7 to 25 MeV, obs. of regular gross struct. 9-36293
- ¹³C(⁶Li,d), 34-36 MeV, ¹⁷O high spin 4p-3h strength location from excited peaks 9-3082

heavy ion-nucleus reactions continued

- ¹³C(⁶Li,t), 34-36 MeV, ¹⁷O high spin 4p-3h strength location from excited peaks 9-3082
- ¹⁴C(¹⁶O,¹⁸O)¹²C, resonance struct. at excitation energies 40-51 MeV in ³⁰Si, comparison with ¹²C+¹⁸O 9-13335
- ⁴⁰Ca+⁴⁰Ca, 2- and 3-dimens. time depend. HF calc. comparison 9-17948
- ⁴⁰Ca+⁴⁰Ca, total fusion cross section, time depend. HF calcs. 9-17945
- ⁴⁰Ca(¹²C,⁸Be)⁴⁴Ti, 45 MeV, semiclassical analysis of α -transfer reactions, partial wave amplitudes 9-45283
- ⁴⁰Ca(¹⁵N,¹⁶O), 60 MeV, ³⁹K 9/2⁻ forbidden transition, cross section CCBA anal., L=1 transitions 9-9507
- ⁴⁰Ca(¹⁶O, α), 70 MeV, ang. correl. in compound nucleus decay 9-36261
- ⁴⁰Ca(¹⁶O, α p), 70 MeV, ang. correl. in compound nucleus decay 9-36261
- ⁴⁰Ca(¹⁶O,pp) 70 MeV, ang. correl. in compound nucleus decay 9-36261
- ⁴⁰Ca(⁶Li,⁶He)⁴⁰K, charge exchange microscopic DWBA anal. 9-26453
- ⁴⁸Ca+⁹Be, 25-55 MeV, ⁵³Cr, ⁵⁴V, yrast levels J π assignments and lifetimes 9-9445
- ⁴⁸Ca(¹⁰B, 5n), 25-50 MeV, ⁵³Mn high spin states, lifetimes, shell model calcs., yrast levels 9-6425
- ⁴⁸Ca(¹⁸O,¹⁶O) 50 MeV, cross sections, DWBA multipole expansion calcs., form factors 9-13325
- ⁴⁸Ca(²⁴Ca, 2n)²⁹⁴X₁₁₆, super-heavy elements prod. at barrier energies 9-13368
- ⁴⁸Ca(⁶Li,⁷Be), 52 MeV, ⁴⁸K mass excess and 0.58 MeV excited state 9-446
- ⁹⁸Ca(¹⁶O,¹⁵C), simple unitary estimate for multistep processes, cross section bounds 9-40922
- Cd(¹⁰B,p_{2n}), ⁴Cs, A=119, 121, 123, 125, collective props. and level schemes 9-22171
- Cd(¹⁴N,3n), ⁴Cs, A=119, 121, 123, 125, collective props. and level schemes 9-22171
- ¹¹³Cd(⁴⁰Ar,6n), ¹⁴⁷Dy charge states and charge distrib. (Russian) 9-40840
- ¹⁴⁰Ce(¹⁶O,¹²C), comparison of reduced widths derived from transfer reactions and α -emitters, DWBA anal. 9-6671
- Cl+Ar, 800 MeV/A, wide angle inclusive proton spectra 9-40951
- ³⁵Cl, surface anal. using ³⁵Cl ion beams 9-5211
- ⁵⁹Co(¹²N,2n), 18 MeV, ⁶⁴Zn, J π assignments from γ -ray linear polarisation meas. 9-6383
- ⁵²Cr+¹³C, 105 MeV, ⁵¹V, ⁵¹Cr, ⁵³Mn, level scheme, DWBA and optical model anal. 9-36159
- Cu+Cu system, high energy, compound nucleus form. and deep inelastic scatt. (French) 9-559
- Cu(¹²C, spallation), 25 GeV, mean kinetic props., momentum transfer, target recoil props. 9-3129
- (⁶Cu,X), 280-420 MeV, ¹⁴⁸Tb production in deep inelastic transfer reactions, fragment ang. momentum 9-30854
- ⁶⁵Cu+⁸⁶Kr, 366-716 MeV, evaporation residue product cross sections mass-charge distrib. 9-17947
- ¹⁶⁷Dy(¹³C,4n), ¹⁷³Hf, three quasiparticle isomers and rot. bands 9-26354
- ¹⁶⁷Dy(⁴⁰Ar,5n), ¹⁹⁹Po charge states and charge distrib. (Russian) 9-40840
- ¹⁶⁷Dy(⁴⁰Ar,Xn) ²⁰⁴-²⁰⁵Po, 4 \leq X \leq 9, absolute cross sections and excitation function meas. 9-13330
- ¹⁶⁸Er+⁸⁶Kr, deep inelastic strongly damped collision, fragment isobaric distrib. statistical equilib. 9-40949
- ¹⁶⁸Er+⁸⁶Kr, relaxation times in dissipative collisions, fragment deformation, classical model 9-30853
- ¹⁶⁸Er(⁸Be,4n), ¹⁷¹Hf, three quasiparticle isomers and rot. bands 9-26354
- ¹⁶⁸Er(⁸Be,4n), ¹⁷³Hf, three quasiparticle isomers and rot. bands 9-26354
- F+Ne, 800 MeV/A, wide angle inclusive proton spectra 9-40951
- ¹⁹F+¹⁶C, fusion reactions, Woods Saxon, folding and proximity pot. anal. 9-45316
- ¹⁹F(⁶Li,p)²⁴Na cross-section meas. 9-9611
- Fe(¹⁶O,¹²C), A=54,56, high excitation region of ^{58,60}Ni, two- and four-nucleon transfer spectra 9-6675
- ⁵⁴Fe(⁶Li,X) A=54,56, 10-100 MeV, fusion and nonfusion processes, cross sections 9-45315
- ⁵⁴Fe(¹²C,2pn γ), 50-60 MeV, ⁶³Zn level scheme, spin and parity assignments 9-465
- ⁵⁶Fe(¹⁶O,2p γ), ⁷⁰Ge level spin and parity assignments 9-3081
- ⁵⁷Fe(¹²C,p γ)⁶⁷Ga, high spin states of ⁶⁷Ga 9-36128
- ¹⁵⁶Gd+¹²C, 112-164.7 MeV, fusion pre-equilibrium effects, ¹⁷⁰-¹⁷⁶Yb, ¹⁶⁶-¹⁷⁸Er, X=4-10, transitions 9-580
- ¹⁵⁶Gd+¹²C, 152 MeV, ZZ=9-581
- ¹⁶⁰Gd(¹⁶O,5n), ¹⁷¹Hf three quasiparticle isomers and rot. bands 9-26354
- ¹⁶⁰Gd(¹⁸O,¹⁸O), A=72, 74, 76, coupled channel anal. with double folding potential 9-45282
- ⁷⁴Ge(⁸Kr,Xn), ⁸⁴Kr excitation function for ^{152,153}Er prod. 9-22315
- ¹H(¹B, α) α , H profile distrib. in metals for defect-impurity interaction study 9-5206
- ¹H(¹N, α)¹²C, ¹⁵N hydrogen profiling method using γ -ray detection 9-5195
- ¹H(¹⁵N, α)¹²C, appl. to quantitative H analyses in different materials problems 9-5196
- ¹H(¹⁹F, α)¹⁶O, appl. to quantitative H analyses in different materials problems 9-5196
- ²H(⁶Li, α) 10-31 MeV, ⁸Be α * rot. levels search 9-22175
- ⁴He(²⁸Si,p)³¹P, precision Doppler-shift attenuation lifetime meas. from γ -ray lineshapes 9-36195
- ⁴He(⁶Li, γ)¹¹B, 1.68 MeV, appl. to He concentration profile determ. in materials, meas. technique 9-5200
- ²⁰⁴Hg(¹³C,5n γ)²¹²Rn, high spin yrast states in N=126 isotones 9-45131
- ¹⁶⁵Ho+⁸⁴Kr, 714 MeV, statistical model for mass and charge distrib. 9-17929
- ¹⁶⁵Ho(²⁴Mg,4n), collective band struct. in ¹⁸⁵Au 9-22166
- K+Ar, 800 MeV/A, wide angle inclusive proton spectra 9-40951
- (⁶Li,d), α -clustering and spectroscopic factors, shell effects and deformation correlations 9-6436
- (⁶Li,d), ground state transitions in 1f-2p shell, 34 MeV, spectroscopic factors 9-6670
- (⁶Li,d) on odd A, sd shell nuclei, α -cluster spectroscopic strengths, DWBA anal. 9-3104
- ⁶Li, surface anal. using ⁶Li ion beams 9-5211
- ⁶Li+⁶Li, effect on reaction rate of fusion reactor with ⁶Li(p, α)³He cycle 9-22459
- ⁶Li(d, α) α ⁺, 1.2-12 MeV, α ⁺ rotational band existence in ⁸Be 9-13192
- ⁷Li(p, α) α ⁺, 4.5-12 MeV, α ⁺ rotational band existence in ⁸Be 9-13192
- ¹⁷⁵Lu(¹⁶O,6n), collective band struct. in ¹⁸⁵Au 9-22166
- ²⁴Mg+¹⁶O system, high spin cluster-like resonances 17-31 MeV 9-6664

heavy ion-nucleus reactions continued

- ²⁸Mg(¹⁶O,¹²C), 17-31 MeV, ²⁸Si backward angle cross section, entrance channel resonance effects 9-30813
- ²⁶Mg(¹⁶O,X), complete fusion, 25-70 MeV evaporation residue cross section, total fusion excitation functions 9-13370
- ²⁶Mg(¹³C,¹⁴O), 87 MeV, cross section of stripping reaction, ³⁰Mg mass excess 9-3075
- ²⁶Mg(¹⁸O,¹⁵O), 85 MeV, ²⁹Mg mass excess 9-3075
- ²⁶Mg(¹⁸O,¹⁷F), 87 MeV, ²⁷Na excited states and mass excess 9-3075
- ⁵⁵Mn(¹⁶O,pnγ), 44 MeV, ⁶⁹Ge level structure and lifetimes, decay through negative parity band 9-45172
- ⁹⁶Mo(¹³C,3nγ), 45 MeV, ¹⁰⁶Cd collective and yrast levels, γ-transitions, 2 quasiparticle+rotor model 9-22169
- ⁹⁷Mo(¹³C,3nγ), 45 MeV, ¹⁰⁶Cd collective and yrast levels, γ-transitions, 2 quasiparticle+rotor model 9-22169
- ¹⁰⁰Mo(¹⁴N,¹²B), ¹²B polarisation, quantum mechanical explanation 9-17890
- ¹⁰⁰Mo(¹⁴N,¹²B), 200 MeV, ¹²B spin polarisation meas. 9-3168
- ¹⁴N-induced reactions energy relax. during fusion determ. by preequilib. α emission 9-26446
- ¹⁴N+¹²C, 112 MeV, alpha clustering, multiple shape vibrs., TDHFC calcs. 9-3164
- ¹⁴N+¹²C, fusion reactions, Woods Saxon, folding and proximity pot. anal. 9-45316
- ¹⁴N+X, X=¹¹B,¹²C,¹⁸O,¹³C, deduced excited states, shell model wave functions, DWBA anal. 9-45284
- Na+Ne, 800 MeV/A, wide angle inclusive proton spectra 9-40951
- NaF+²⁰Ne, 800 MeV nucleon⁻¹, inclusive proton production, classical many-body calc. 9-17918
- ²³Na α-transfer spectroscopic factors from shell model wave functions of ¹⁹F(⁹Li,d) 9-36149
- ²³Na(¹⁹F,X) complete fusion, 25-70 MeV evaporation residue cross section, total fusion excitation functions 9-13370
- ⁹³Nb+¹⁶O, 50-65 MeV, radiative capture cross sections upper limits 9-17923
- ⁹³Nb(⁸⁴Kr, αxn)⁴Re, x=5,6,7, A=168, 167, 166, isotope existence evidence 9-503
- ⁹³Nb(⁸⁴Kr, xn)⁴Ir, x=78, A=170, 169, isotope existence evidence 9-503
- Nd(¹⁶He,⁴n)¹⁶²Er, γ multiplicities, side feeding pattern, Monte Carlo calcs. 9-578
- ¹⁴⁶Nd(²⁰Ne,4n or 5n), continuum transitions in nuclei at high ang. momenta, are multipolarity 9-17849
- ¹⁵⁰Nd+²⁰Ne, 174.8 MeV, ZZ 9-581
- ²⁰Ne+⁵⁸Ni, 164 MeV, alpha clustering, multiple shape vibrs., TDHFC calcs. 9-3164
- Ni+¹⁶O, 100 MeV, deep inelastic, γ-circular polarisation and spin orientation 9-17848
- Ni+²⁰Ne, 164 MeV, ang. distrib., total reaction and evaporation residue cross sections 9-565
- ⁵⁸Ni+¹¹B, 116 MeV, in-plane heavy ion-alpha particle correlations 9-17921
- ⁵⁸Ni+¹⁶O, 96 MeV, particle spectra for hot spot emission 9-22312
- ⁵⁸Ni+¹⁶O fusion, 30-70 MeV, statistical model calcs., yrast states and continuum feeding times 9-579
- ⁵⁸Ni(¹⁶O,¹²C), 46, 60 MeV, DWBA anal. with optical pot., ⁶²Zn levels 9-6694
- ⁵⁸Ni(¹⁶O,αα), 70 MeV, ang. correl. in compound nucleus decay 9-36261
- ⁵⁸Ni(¹⁶O,αp), 70 MeV, ang. correl. in compound nucleus decay 9-36261
- ⁵⁸Ni(¹⁶O,pp), 70 MeV, ang. correl. in compound nucleus decay 9-36261
- ⁵⁸Ni(⁶Li,2n), 25 MeV, ⁶²Ga half life of Fermi superallowed β⁺ activities 9-9518
- ⁶⁰Ni(¹²C,np), 30-55 MeV, ⁷⁰As states, excitation functions, spin and half-lives 9-6414
- (⁶⁴Ni, 4n), ¹⁵⁴Er yrast cascade to spin 36, side feeding, energy, multipolarity irregularities 9-36191
- ⁶⁴Ni(¹⁶O,¹⁶O), coupled channel anal. with double folding potential 9-45282
- ⁶⁴Ni(⁶Li, d), 28 MeV, ⁶⁸Zn low lying states, S-values from DWBA anal. 9-36160
- ¹⁶O+¹²C, A=16,18,22 9-45316
- (¹⁶O, 4n), ¹⁵⁴Er yrast cascade to spin 36, side feeding, energy, multipolarity irregularities 9-36191
- ¹⁶O+¹¹B, 115 MeV, α-transfer, DWBA anal., spectroscopic factors 9-22311
- ¹⁶O+¹²C system, exptl. survey of resonant structs. below and above Coulomb barrier 9-9616
- ¹⁶O+¹³C, 105 MeV, α-transfer, DWBA anal., spectroscopic factors 9-22311
- ¹⁶O+¹⁶O, 2- and 3-dimens. time depend. HF calc. comparison 9-17948
- ¹⁶O+¹⁶O, 384 MeV, alpha clustering, multiple shape vibrs., TDHFC calcs. 9-3164
- ¹⁶O+¹⁶O, 64, 80 MeV, fusion events, time dependent HF calcs. 9-36292
- ¹⁶O+¹⁶O, fusion cross sections, struct. in γ-ray yields 9-9626
- ¹⁶O+¹⁶O, nucleon-nucleon forces and heavy-ion potentials 9-6657
- ¹⁶O+¹⁶O, nucleus-nucleus interaction and nuclear saturation props. 9-6395
- ¹⁶O+¹⁶O, total fusion cross section, time depend. HF calcs. 9-17945
- ¹⁶O+¹⁶O, total fusion cross section and excitation function, statistical model anal. 9-13371
- ¹⁶O+⁷Li, 50, 68 MeV, α-transfer, DWBA anal., spectroscopic factors 9-22311
- ¹⁶O+X, X=¹¹B,¹²C,¹³C,¹⁸O, deduced excited states, shell model wave functions, DWBA anal. 9-45284
- ¹⁶O+emulsion nuclei, 75-100 MeV/N, parallel momentum distrib. 9-9613
- ¹⁶O(¹²C,⁸Be)²⁰Ne*, determ. of resonance struct. in ²⁸Si 9-6663
- ¹⁶O(¹²C,α)²⁴Mg, 12.8-14.5 MeV, energy averaged ang. distrib., Hauser-Feshbach calcs. 9-22318
- ¹⁶O(¹⁶O,¹²C)²⁰Ne, angular distrib. of ²⁰Ne polarisation at 68 MeV 9-6681
- ¹⁶O(⁹Li,d)²⁰Ne, 20, 32, 38 MeV α-particle spectroscopic strength determ., DWBA anal. 9-26451
- ¹⁶O(⁶Li,d)²⁰Ne, dγ ang. correl. reaction strength comparison, DWBA anal. 9-26452
- ¹⁷O+¹²C, 14-33 MeV, max. total fusion cross section 9-22349
- ¹⁷O(⁶Li,d) 32 MeV, α-stripping, ²¹Ne α-spectroscopic strengths and level J^π assignments 9-516
- ¹⁸O(¹⁸O,¹⁶O)²⁰O 52 MeV, microscopic anal. with DWBA calc. 9-26450
- ²³Pa(⁴⁸Ca,3n), ¹¹²⁷⁶X synthesis search (Russian) 9-40954
- Pb+Ar, 800 MeV/A, wide angle inclusive proton spectra 9-40951
- Pb+C, 800 MeV/A, wide angle inclusive proton spectra 9-40951

heavy ion-nucleus reactions continued

- Pb+C¹², 3.6 GeV, emitted proton vel. spectra max. (Russian) 9-9571
- Pb+heavy ion hard reaction, ground state correlations from liquid drop model 9-22308
- Pb+Ne, 800 MeV/A, wide angle inclusive proton spectra 9-40951
- ²⁰⁸Pb(¹³C,5nγ)²¹⁴Ra, high spin yrast states in N=126 isotones 9-45131
- ²⁰⁶Pb(⁴⁰Ar,2n)²⁴⁴Fm, fusion reactions near Coulomb barrier, optical pot. parameter determ. 9-30874
- ²⁰⁸Pb(⁴⁰Ar,3n)²⁴⁴Fm 9-30874
- ²⁰⁸Pb+¹¹⁰Pd, 1.2 GeV, neutron rich nucleon flow in central heavy ion collisions 9-36268
- ²⁰⁸Pb+¹³⁶Xe, 800 MeV, charge and mass transfer near Coulomb barrier 9-22325
- ²⁰⁸Pb+¹⁶O, classical, semiclassical and quantum mechanical scatt. and reaction calcs. 9-566
- ²⁰⁸Pb+²⁰⁸Pb, 14 GeV, nonnuclear positrons creation 9-30847
- ²⁰⁸Pb(¹⁶O,¹²C)²¹²Po and α-decay, comparison for α-transfer reaction mechanism 9-6652
- ²⁰⁸Pb(¹⁶O,¹²C)²¹²Po, semiclassical anal. of α-transfer, calc. of angular distrib. 9-6672
- ²⁰⁸Pb(¹⁶O,¹²C)²¹²Po, 93 MeV, semiclassical analysis of α-transfer reactions, partial wave amplitudes 9-45283
- ²⁰⁸Pb(¹⁶O,¹⁵N), 104-312 MeV, fragment emission at high energies, Q value effects 9-6653
- ²⁰⁸Pb(⁴⁹Ca,Xn), excitation functions for compound-nucleus and transfer reactions of magic nuclei 9-22310
- ¹¹⁰Pd(¹²C,xnγ), shell effects at high spin in the γ-continuum from Te evaporation residues 9-22165
- ¹⁹⁴Pt(⁶Li,4n), 44 MeV, ¹⁹⁶Ti high spin states, γ-decay and rot. structs. 9-440
- ⁴Ru+³²S, A=96,98, new La and Ce neutron deficient isotopes 9-499
- ⁸²Se(⁴⁰Ar,xnγ), shell effects at high spin in the γ-continuum from Te evaporation residues 9-22165
- ²⁸Si+²⁰Ne, 120 MeV, numerical anal. based on linear response theory 9-36273
- ²⁸Si+²⁰Ne, frictional coeffs. using linear response theory 9-13327
- ²⁸Si(¹⁹B,⁹Be), 59, 75, 132 MeV, l=1 transfer reaction, exact finite range DWBA anal. 9-22317
- ²⁸Si(¹²C,¹⁶O)²⁴Mg, entrance, exit and reaction channel data at backward angles 9-36254
- ²⁸Si(¹⁵N,¹⁶O), 44 MeV, p pickup, DWBA and coupled channel anal., two step processes 9-6552
- ²⁸Si(¹⁶O,¹²C), resonant like structs., forward α transfer mechanism 9-17876
- ²⁸Si(¹⁶O,¹²C)³²S, transitions to g.s., meas. of excitation functions 9-17920
- ²⁸Si(¹⁶O,¹²C), 60 MeV, ³²S levels and spectroscopic factors, DWBA anal. 9-22204
- ²⁸Si(¹⁶O,α), 25-45 MeV, ⁴⁴Ti* band crossing search, Hauser-Feshbach calcs. 9-22174
- ²⁸Si(¹⁶O,¹⁴C), 60 MeV, ³²S levels and spectroscopic factors, DWBA anal. 9-22204
- ²⁸Si(²⁸Si,Xγ), 65-90 MeV, evaporation residues, relative production cross sections 9-45292
- ¹⁴⁴Sm+¹⁰B, 86-96 MeV, ^{148,149}Ho identification and β-decay 9-36166
- ¹⁴⁸Sm(¹⁶O,4nγ), yrast state obs. in ¹⁶⁰Yb, backbending effect 9-30777
- ⁷⁰Sn(¹⁰B,3n), ⁴Cs, A=119, 121, 123, 125, collective props. and level schemes 9-22171
- ⁷⁰Sn(¹⁰B, 3n), ⁴Cs A=127, 129, 131, 133, high spin states and collective properties 9-22170
- ¹⁷⁴Sn(¹²C, 3n), ¹²³Ba high spin levels prod. and anal. 9-45127
- ¹¹⁸Sn(⁴⁰Ar,xn), ⁴⁴Ar excitation function for ^{152,153}Er prod. 9-22315
- ¹¹⁸Sn(⁶Li,⁴He), 48 MeV, DWBA anal. with optical model parameters, ¹¹⁹Sb transitions 9-6688
- ¹²⁰Sn+¹³²Xe, deeply inelastic, relative motion mass transport and dynamics 9-13320
- ¹²⁰Sn(¹²⁰Sn,¹¹⁸Sn), semiclassical description of two nucleon transfer in superfluid nuclei, nuclear Josephson effect 9-45296
- ¹²⁴Sn(⁴⁰Ar,xn)Er, 161-236 MeV, pre-equilibrium neutron emission 9-3169
- ⁸⁸Sr(¹²C,¹⁰Be), 60 MeV, coupled channel Born approx. anal., form factors, sequential amplitudes 9-9608
- Ta(C,Z), 4.2 GeV.c⁻¹, inelastic cross section meas. and multiplicities obs. (Russian) 9-9580
- ¹⁸¹Ta+²⁰Ne, 8.0 GeV, target residue mass, charge distrib. determ. 9-17930
- ¹⁸¹Ta(⁴⁰Ar,xn), 165-202 MeV, ⁴Pa, A=215-218, 222, α-decay half life and energies 9-45216
- ¹⁵⁹Tb(⁴⁰Ar,X), 273 MeV, complete fusion and charge transfer reactions 9-45314
- Te(⁶Li, 3n), ⁴Cs A=127, 129, 131, 133, high spin states and collective properties 9-22170
- ¹³⁰Te+¹⁶O, 90 MeV, mechanism of four nucleon transfers in heavy-ion reactions 9-6674
- ²³²Th+¹⁶O, fission following transfer below Coulomb barrier 9-22346
- ²³²Th+¹⁹F, fission following transfer below Coulomb barrier 9-22346
- ²³²Th+⁴⁰Ar, 213 MeV/A, complex fragment emission study 9-6667
- ²³²Th(¹⁶O,X), (X=¹⁶N,¹⁵N,¹⁴C,¹³C or ¹¹B), surprisal anal., maximal entropy condition, Q-value depend. 9-9606
- ⁴⁶Ti+¹²C, 5.8 MeV/u, influence of shell effect in nuclear level densities on compound nucleus decay 9-40979
- ⁴⁸Ti(¹⁶O,¹²C), 120 MeV, formation and decay of ⁵²Cr primary fragment 9-45289
- ⁴⁸Ti(¹⁶O,¹⁵N), anomalous ang. distrib., interference effects due to ⁴⁹V state population 9-17924
- Tl(⁴⁰Ca,⁴⁶Caγ), 120 MeV, ⁴Tl, A=203, 205, excited state g-factor 9-22191
- ²⁰⁵Tl(¹³C,5nγ)²¹⁷Fr, high spin yrast states in N=126 isotones 9-45131
- U+²⁰Ne, 250 and 400 MeV nucleon⁻¹, inclusive proton production, classical many-body calc. 9-17918
- U+²³⁸U, search for superheavy elements 9-6692
- U(²⁰⁸Pb, f), 1535 MeV, direct evidence for multiple sequential fission 9-30866
- U(²³⁸U, f), 1785 MeV, direct evidence for multiple sequential fission 9-30866
- U(Xe,f), Coulomb fission problem, uniform semi-classical approach to forbidden transitions 9-36287
- ²³³U(⁴⁸Ca,3n), ¹¹²²⁷⁶X synthesis search (Russian) 9-40954
- ²³⁸U+¹⁸O, 20 MeV/nucleon, peripheral collisions, incomplete momentum transfer 9-30848

heavy ion-nucleus reactions continued

- ^{238}U , Xe-induced Coulomb fission, rotation-vibration model for target nucleus 9-13367
 $^{238}\text{U} + ^{208}\text{Pb}$, 14 GeV, nonnuclear positrons creation 9-30847
 $^{238}\text{U} + ^{238}\text{U}$, 14 GeV, nonnuclear positrons creation 9-30847
 $^{238}\text{U} + ^{238}\text{U}$, 1766 MeV, charge, kinetic energy and ang. distrib. of reaction products 9-26455
 ^{238}U , deeply inelastic, relative motion mass transport and dynamics 9-13320
 $^{238}\text{U} + ^{40}\text{Ar}$, 263 MeV, ^{37}Si , ^{40}P , ^{41}S , ^{42}S neutron rich nuclide prod. 9-22324
 $^{238}\text{U} (^{40}\text{Ar})$, 212-340 MeV, I prod. relative thresholds from fusion and transfer induced fission 9-9640
 $^{51}\text{V} (^{12}\text{C}, \text{np})$, 36 MeV, ^{60}Ni yrast state lifetimes and parities 9-45134
 $^{51}\text{V} (^{6}\text{Li}, \text{d})$, 32 MeV, ^{55}Mn transitions to low lying levels, α spectroscopic strengths, DWBA anal. 9-45156
 $^{184}\text{W} (^{20}\text{Ne}, \text{Xn})$, ^{204}Po , $4 \leq X \leq 9$, absolute cross sections and excitation function meas. 9-13330
 $^{184}\text{W} (^{40}\text{Ar}, \text{pn})$, 165-202 MeV, ^{184}W , A=215-218, 222, α -decay half life and energies 9-45216
 $^{186}\text{W} (^{12}\text{C}, ^{12}\text{C})$, ^{184}W , reaction mechanisms, use of accelerators and detection methods (Norwegian) 9-13316
 $^{132}\text{Xe} + ^{56}\text{Fe}$, 5.73 MeV/u, reaction mechanism, evidence for new type of strongly damped collisions 9-13328
 $^{89}\text{Y} (^{84}\text{Kr}, \text{xn})$, ^{86}Xe , $x=5, 6, 7$, A=168, 167, 166, isotope existence evidence 9-503
 $\text{Yb} (^{16}\text{O}, \text{xn})$, 77-88 MeV, ^{140}Pb , A=186, 188, 190, subnanosecond high spin isomers, decay chains and lifetimes 9-45140
 $^{170}\text{Yb} (^{19}\text{F}, \text{4n})$, collective band struct. in ^{185}Au 9-22166
 $^{42}\text{Zr} (^{16}\text{O}, \text{4n})$, 63 MeV, ^{100}Cd collective and yrast levels, γ -transitions, 2 quasiparticle+rotor model 9-22169
 $^{90}\text{Zr} + ^{86}\text{Kr}$, 366-716 MeV, evaporation residue product cross sections 9-17947
 $^{90}\text{Zr} (^{6}\text{Li}, ^6\text{He})^{91}\text{Nb}$, 34 MeV DWBA calcs. 9-26448
 $^{90}\text{Zr} (^{6}\text{Li}, ^6\text{Li})^{91}\text{Zr}$, 34 MeV, 1.21 and 2.03 MeV states, 2.19 MeV doublet in ^{91}Zr , DWBA anal. 9-26448

heavy ion-nucleus scattering

- band crossing model, resonance and strong absorption phenomena in heavy ion scatt. 9-3165
 $\text{C} (^{12}\text{Si}, ^{16}\text{O})$, 72 MeV, coupled-channels anal., nucl. excitation effects 9-26457
 cascade-disintegration model, appl. to heavy-ion-nucleus interactions (Russian) 9-3177
 clustering aspects and nuclear quasimolecular resonances 9-6439
 Coulomb excitation functions, numerical calc. of limiting props. 9-9604
 diffraction at backangles 9-17874
 eikonal model of hadronic matter distribution of particles and nuclei 9-26317
 elastic, interference effects, non nuclear-molecular phenomena 9-9623
 Glauber multiple scatt. series approx. quasi elastic shadowing 9-17915
 Glauber theory, functional integral representation for high energy heavy ion scatt. 9-40945
 heavy ion optical model, surface transparency and resonance phenomena 9-9617
 high-energy, Glauber's theory, classical transport eqn. 9-6522
 inclusive cross sections, collective and statistical effects, fluctuations for complex collisions 9-36258
 inelastic scattering, form factors 9-26458
 intermediate energy collisions, elastic scatt., Coulomb excitation, nucleon transfer, expt. facilities, models 9-6697
 local Slater exchange approx. for nucleon and heavy ion scatt. 9-22309
 modified perturbed stationary state anal. 9-36262
 molecular resonances in heavy ion collisions, review 9-22313
 multiple scattering in thin foils, 1.2 MeV, Ar, Kr, Xe, U ions, ang. distrib. meas. 9-751
 nuclear isobars elastic scatt., appl. to pion-nucleus interaction (Russian) 9-45297
 nuclear molecules, two-centre shell model parastatistics 9-9618
 optical potential resonances, semiclassical method, S-matrix amplitude 9-3120
 Pauli-principle resonance effects, analytic representation 9-6659
 quasi-identical elastic scatt., derivation of local approx. 9-6658
 relativistic nuclei, phase shifts and scatt. cross sections (Russian) 9-22321
 resonance states in two-body breakup channels, theory of fragmentation 9-9619
 resonances, conference, Hvar, Yugoslavia (June 1977) 9-9614
 semiclassical description using complex trajectories for very heavy-ion elastic scatt. 9-561
 strongly damped heavy ion collisions, nucleon exchange as possible mechanism, semiclassical model 9-6689
 superheavy ion collisions, slow, spontaneous positron creation 9-9603
 total reaction cross sections and elastic scatt., refractive scatt. or strong absorption 9-567
 unified pot. from liquid drop model, description of nuclear props. 9-22213
 $\text{Ag} (^{12}\text{C}, ^{12}\text{C})$, 50 GeV/c, multiplicities and ang. distrib. (Russian) 9-22323
 $^{10}\text{B} (^{14}\text{N}, ^{14}\text{N})$, 4.3-9.1 MeV, differential cross sections, incoming wave boundary condition model 9-22348
 $^{9}\text{Be} (^{9}\text{Be}, ^9\text{Be})$ 14, 20 and 26 MeV, optical model parameters, 9 to 22 MeV excitation curves 9-26449
 $\text{Br} (^{12}\text{C}, ^{12}\text{C})$, 50 GeV/c, multiplicities and ang. distrib. (Russian) 9-22323
 $\text{C} (\text{C}, \text{C})$, 800 MeV/N, high momentum nucleons from relativistic nuclear collisions, hard scatt. mechanism 9-40950
 $^{12}\text{C} (^9\text{Be}, ^9\text{Be})$ A=12, 13, 14, 20 and 26 MeV, optical model parameters 9-26449
 ^{12}C , elastic back angle scatt. from α -nuclei 9-6665
 ^{12}C , ^{12}C resonances, speculation of nature, excited α -particles 9-13339
 $^{12}\text{C} + ^{12}\text{C}$, mol. resonance props. by GCM 9-13321
 $^{12}\text{C} + ^{12}\text{C}$, optical pot. for nucleus-nucleus systems using double folding model 9-45225
 $^{12}\text{C} + ^{12}\text{C}$ inelastic scatt., gross struct. origin, nonreson. diff. model calcs. 9-30849
 $^{12}\text{C} + ^{12}\text{C}$ quasimolecular interactions, recent developments 9-9615
 $^{12}\text{C} + ^{12}\text{C}$ scatt., 10-20 MeV, optical model pot. 9-26456
 $^{12}\text{C} + ^{12}\text{C}$ scatt., intermediate molecular resonances, band crossing model anal. 9-6655

heavy ion-nucleus scattering continued

- $^{12}\text{C} + ^{12}\text{C}$ scatt. and fusion cross sections above Coulomb barrier, folding model, resonances 9-6687
 $^{12}\text{C} + ^{12}\text{C}$ system, inelastic scatt. and fusion cross section, folding model, resonances 9-13337
 $^{12}\text{C} + ^{12}\text{C}$ system, microscopic nuclear pots., elastic and inelastic channels 9-6654
 $^{12}\text{C} + ^{13}\text{C}$ elastic transfer interaction, intermediate energies, n exchange cross sections 9-13318
 $^{12}\text{C} + ^{13}\text{C}$ resonances, coupled channel anal. with core-exchange model 9-13338
 $^{12}\text{C} + ^{16}\text{C}$ scatt. reson. and strong absorpt. phenomena, band crossing model 9-3165
 $^{12}\text{C} + ^{16}\text{O}$, elastic scatt., simple double folded optical pot. model for resonances 9-6535
 $^{12}\text{C} + ^{16}\text{O}$ inelastic scatt., microscopic R-matrix method anal. 9-6656
 $^{12}\text{C} + ^{16}\text{O}$ multichannel scatt., microscopic calcs. in generator coordinate method, spin assignments 9-564
 $^{12}\text{C} + ^{16}\text{O}$ resonances, microscopic interpretation 9-13340
 $^{12}\text{C} + ^{16}\text{O}$ scatt. reson. and strong absorpt. phenomena, band crossing model 9-3165
 $^{12}\text{C} + ^{16}\text{O}$ scatt., anomalous backscatt. from nonlinear Schrodinger eqn. for nuclear matter 9-6465
 $^{12}\text{C} (^{12}\text{C}, ^{12}\text{C})$, 50 GeV/c, multiplicities and ang. distrib. (Russian) 9-22323
 $^{12}\text{C} (^{16}\text{O}, ^{16}\text{O})$, 315 MeV, giant multipole resonance excitation 9-30812
 $^{12}\text{C} (^{16}\text{O}, ^{16}\text{O})^{12}\text{C}$ resonant scatt., 15-30 MeV, ang. distrib., interpretation (French) 9-3166
 $^{12}\text{C} (^{20}\text{Ne}, ^{20}\text{Ne})^{12}\text{C}$, elastic, energy depend., non-statistical effects 9-13332
 $^{12}\text{C} (^{6}\text{Li}, ^6\text{Li})$ 5.8, 59.8 MeV, optical pot. inner part, elastic scatt. cross section 9-3173
 $^{12}\text{C} (^{6}\text{Li}, ^6\text{Li})^{12}\text{C}$, 20 MeV and higher, diffraction model behaviour, anomalies caused by two step-processes 9-13344
 $^{12}\text{C} (^9\text{Be}, ^9\text{Be})$, large angle scatt., optical model and DWBA anal. 9-36259
 $^{12}\text{C} (^9\text{Be}, ^9\text{Be})$, possibility of ^3He exchange 9-6669
 $^{12}\text{C} (^9\text{Be}, ^9\text{Be})$ elastic and inelastic 10-15 MeV, excitation functions and resonant enhancements 9-17881
 $^{12}\text{C} (^9\text{Be}, ^9\text{Be})$ 14, 20 and 26 MeV, optical model parameters 9-26449
 $^{12}\text{C} (^9\text{Be}, ^9\text{Be})$, large angle scatt., optical model and DWBA anal. 9-36259
 $^{14}\text{C} + ^{16}\text{O}$ scatt., molecular resonances, generator coordinate study 9-36216
 $^{14}\text{C} (^{16}\text{O}, ^{16}\text{O})^{14}\text{C}$, resonance struct. at excitation energies 40-51 MeV in ^{30}Si , comparison with $^{12}\text{C} + ^{18}\text{O}$ 9-13335
 $^{14}\text{C} (^{12}\text{C}, ^{12}\text{C})$, A=40, 42, 48, 47-51 MeV, ang. distrib. optical model anal., surface transparency 9-45291
 $^{40}\text{Ca} (^{12}\text{C}, ^{12}\text{C})$, 135-150 MeV, elastic excitation function at 180° , resonance like struct. 9-9609
 $^{40}\text{Ca} (^{12}\text{C}, ^{12}\text{C})$, 20-35 MeV, resonant scatt., ang. distrib., cross sections and excitation functions 9-45237
 $^{40}\text{Ca} (^{12}\text{C}, ^{12}\text{C})$, 80-178 MeV, backward angle excitation functions 9-36267
 $^{40}\text{Ca} (^{16}\text{O}, ^{16}\text{O})$, 80-178 MeV, backward angle excitation functions 9-36267
 $^{40}\text{Ca} (^{6}\text{Li}, ^6\text{Li})$, 156 MeV, refined folding model validity 9-509
 $^{40}\text{Ca} (^{6}\text{Li}, ^6\text{Li})$, 156 MeV, density depend. of N-N interaction 9-6660
 $^{40}\text{Ca} (^{6}\text{Li}, ^6\text{Li})^{40}\text{Ca}$, 30 MeV, ang. distrib. for elastic and inelastic scatt. at backward angles 9-13343
 $^{44}\text{Ca} (^{6}\text{Li}, ^6\text{Li})^{44}\text{Ca}$, 30 MeV, ang. distrib. for elastic and inelastic scatt. at backward angles 9-13343
 $^{59}\text{Co} (^{16}\text{O}, ^{16}\text{O})$, 36-56 MeV, cross sections, optical and double-folding model anal. 9-6693
 $^{56}\text{Ge} (^{16}\text{O}, ^{16}\text{O})$, A=72, 74, 76, coupled channel anal. with double folding potential 9-45282
 $^{56}\text{Ge} (^{16}\text{O}, ^{16}\text{O})$, A=72, 74, 76, coupled channel anal. with double folding potential 9-45282
 $^{4}\text{He} (^{28}\text{Si}, \alpha)^{28}\text{Si}$, precision Doppler-shift attenuation lifetime meas. from γ -ray lineshapes 9-36195
 $^{6}\text{Li} (^6\text{Li})$ scatt., polarisation and correlation probes of nuclear clustering 9-6437
 $^{24}\text{Mg} (^{16}\text{O}, ^{16}\text{O})$, 17-31 MeV, backward angle cross sections, resonant structure 9-30813
 $^{24}\text{Mg} (^{16}\text{O}, ^{16}\text{O})$, entrance, exit and reaction channel data at backward angles 9-36254
 $^{14}\text{N} + ^{12}\text{C}$, direct inelastic scatt. in 3-dimens. time depend. HF scheme 9-17925
 $\text{NaF}(\text{Ne}, \text{Ne})$, 800 MeV/N, high momentum nucleons from relativistic nuclear collisions, hard scatt. mechanism 9-40950
 $^{14}\text{Nd} (^{25}\text{S}, ^{25}\text{S})$, 56 MeV, A=144, 146, 148, first excited 2^+ state mag. moment meas. 9-17798
 $^{20}\text{Ne} + ^{12}\text{C}$, elastic scattering, symm., shell effects, absorpt. 9-562
 $^{58}\text{Ni} (^{16}\text{O}, ^{16}\text{O})$, 315 MeV, giant multipole resonance excitation 9-30812
 $^{58}\text{Ni} (^{16}\text{O}, ^{16}\text{O})$, 120-215 MeV, backward angle excitation functions 9-36267
 $^{58}\text{Ni} (^{16}\text{O}, ^{16}\text{O})$, 60 MeV, cross section ang. distrib., optical model parameters 9-6694
 $^{58}\text{Ni} (^{16}\text{O}, ^{16}\text{O})^{58}\text{Ni}$, 9-6676
 $^{58}\text{Ni} (^{6}\text{Li}, ^6\text{Li})$ scatt. of aligned spherical ^6Li ion c.f. strongly deformed ^7Li ions 9-6680
 $^{64}\text{Ni} (^{16}\text{O}, ^{16}\text{O})$, coupled channel anal. with double folding potential 9-45282
 $\text{O} (^{12}\text{C}, ^{12}\text{C})$, 50 GeV/c, multiplicities and ang. distrib. (Russian) 9-22323
 $^{16}\text{O} + ^{12}\text{C}$ system, expt. survey of resonant structs. below and above Coulomb barrier 9-9616
 $^{16}\text{O} + ^{16}\text{O}$, direct inelastic scatt. in 3-dimens. time depend. HF scheme 9-17925
 $^{16}\text{O} + ^{16}\text{O}$, Z=N nuclei, pot. calc. from α - α interaction 9-6661
 $^{16}\text{O} + ^{16}\text{O}$ inelastic scatt., gross struct. origin, nonreson. diff. model calcs. 9-30849
 $^{16}\text{O} (^{16}\text{O}, ^{16}\text{O})$, surface transparent pot. scatt. semiclassical wave propagation matrix method 9-101
 $^{16}\text{O} (^9\text{Be}, ^9\text{Be})$ 14, 20 and 26 MeV, optical model parameters 9-26449
 $^{16}\text{O} + ^{16}\text{O}$, elastic scattering, symm., shell effects, absorpt. 9-562
 $\text{Pb}(\text{C}, \text{C})$, 800 MeV/N, high momentum nucleons from relativistic nuclear collisions, hard scattering mechanism 9-40950
 $\text{Pb} (^{12}\text{C}, ^{12}\text{C})$, A=204, 206, 208, 60 MeV, quadrupole moment and B(E3) values 9-17797
 $\text{Pb} (^{16}\text{O}, ^{16}\text{O})$, A=204, 206, 208, 52 MeV, quadrupole moment and B(E3) values 9-17797
 $^{208}\text{Pb} (^{16}\text{O}, ^{16}\text{O})$, 315 MeV, giant multipole resonance excitation 9-30812

heavy ion-nucleus scattering continued

- ²⁰⁸Pb(¹⁶O,¹⁶O), elastic ang. distrib., nuclear contributions, Born approx. validity 9-36252
- ²⁰⁸Pb(²⁴Mg,²⁴Mg), 80-110 MeV, ²⁴Mg first excited state static quadrupole moment, B(E2) value 9-45161
- ³²Si(¹²C,¹²C), 20-35 MeV, resonant scatt., ang. distrib., cross sections and excitation functions 9-45237
- ³²Si(¹²C,¹²C) backward angle scatt., resonant like structs. 9-17876
- ⁷⁴Se(¹⁶O,¹⁶O), 33, 34 MeV, first excited state, static quadrupole moment, deformation evidence 9-17802
- ²⁸Si+¹⁶O, pot. for back-angle enhanced elastic scatt. 9-40953
- ²⁸Si(¹²C,¹²C), 20-35 MeV, resonant scatt., ang. distrib., cross sections and excitation functions 9-45237
- ²⁸Si(¹³C,¹³C), 20-35 MeV, resonant scatt., ang. distrib., cross sections and excitation functions 9-45237
- ²⁸Si(¹⁶O,¹⁶O), 55 MeV, Regge pole anal. using optical pots. 9-3174
- ²⁸Si(¹⁶O,¹⁶O), 50, 55 MeV, backward angle cross section, optical model calc. 9-9610
- ²⁸Si(¹⁶O,¹⁶O), 65 MeV, elastic and inelastic, optical and coupled channels model anal. 9-45293
- ²⁸Si(¹⁶O,¹⁶O), backward angle elastic excitation function structure 9-36263
- ²⁸Si(¹⁶O,¹⁶O), elastic and inelastic, coupled channels calcs., optical pot. energy depend. 9-571
- ²⁸Si(¹⁶O,¹⁶O) 35 MeV, elastic and inelastic back angle anomalies, nuclear rainbow angle 9-13317
- ²⁸Si(¹⁶O,¹⁶O) gross struct. in excitation function elastic transfer amplitudes 9-36215
- ²⁸Si(¹⁶O,¹⁶O) optical pot. semiclassical anal. 9-17917
- ²⁸Si(¹⁶O,¹⁶O)²⁸Si, 45-64 MeV elastic scatt., quasi-molecular or barrier-top resonance 9-13341
- ²⁸Si(¹⁶O,¹⁶O), 60 MeV, optical model parameters 9-22204
- ²⁸Si(¹⁶O,¹⁶O), 65 MeV, elastic and inelastic, optical and coupled channels model anal. 9-45293
- ²⁸Si(⁹Be,⁹Be), 20-35 MeV, resonant scatt., ang. distrib., cross sections and excitation functions 9-45237
- ¹¹⁸Sn(⁶Li,⁶Li), 42 MeV, optical model parameters for DWBA anal. 9-6688
- ⁹⁰Zr(⁶Li,⁶Li), 2⁺(2.18 MeV) and 3⁻(2.75 MeV) states in ⁹⁰Zr, DWBA anal. 9-26448
- ⁹⁰Zr(⁶Li,⁶Li) 34 MeV, optical model anal. 9-26448
- ⁹⁰Zr(⁶Li,⁶Li), 2⁺(2.18 MeV) and 3⁻(2.75 MeV) states in ⁹⁰Zr, DWBA anal. 9-26448
- ⁹⁰Zr(⁷Li,⁷Li) 34 MeV, optical model anal. 9-26448
- ⁹¹Zr(⁶Li,⁶Li) 34 MeV, optical model anal. 9-26448

heavy leptons

- cascade decay, μ^- -induced multimun prod. 9-17707
- cascade decay ν -induced multimun prod. 9-17707
- charged heavy lepton production by nondiagonal neutral currents (*Chinese*) 9-17668
- charm and heavy lepton production by e^+e^- interactions, recent results, review 9-26337
- Drell ratio and the existence of a second heavy lepton 9-13048
- E_7 gauge model, lepton assignments and trimun events in neutrino scatt. 9-17709
- lepton-quark correspondence scheme 9-35999
- muons, heavy, possible existence of 20 GeV muon (*Russian*) 9-6359
- neutral lepton radiative decay, mechanism for supernova shell explosion (*Russian*) 9-8934
- neutrinos, lifetime and mass constraints imposed by big bang nucleosynthesis 9-40308
- pair production by cosmic rays 9-36117
- selections from 1977 Comments on Modern Physics, book 9-30181
- stable heavy neutrinos, dynamical interactions and astrophys. effects 9-5743
- SU(2)XU(1) vectorlike model: new leptons, quarks, and the axion question 9-40711
- SU(n) group, mixing and sequential heavy lepton weak interaction (*Russian*) 9-40720
- $e-\mu-\tau$ spontaneous symmetry breaking and rare τ decays 9-9301
- $e^+e^- \rightarrow \tau^+\tau^-$, 3.9-5 GeV, τ lifetime experimental upper limit 9-40826
- $e^+e^- \rightarrow \tau^+\tau^-$, parity violating effects measurement 9-36057
- $e^+e^- \rightarrow \tau^+\tau^-$ near Z^0 pole, heavy lepton polarisation and radiative effects 9-22085
- η_c production cross sections in e^+e^- colliding beams, two-photon processes 9-36089
- $L^0 \rightarrow \nu\mu^+\mu^-$, heavy lepton spin, massless spin 3/2 ν four fermion interaction 9-13175
- L_2 , second heavy lepton, explanation of Drell ratio 9-13097
- $N+\nu \rightarrow M^0$, heavy lepton prod. and decay mechanisms cross section and coupling constant (*Russian*) 9-9365
- $\nu p \rightarrow p_2\pi^0 M^0$, neutrino prod. of neutral heavy lepton in E_7 gauge model 9-17710
- $pp \rightarrow t^+t^-X$, massive lepton pair prod., quark-gluon-parton model, scaling 9-428
- τ , decay calcs. in SU(3)XU(1) theory of weak-electromagnetic interaction with charged-boson mixing 9-35988
- τ , decay in six quark-six lepton Weinberg-Salam model 9-35990
- τ , identification and characteristics (*Hungarian*) 9-13180
- $\tau(1.8)$, charged lepton anomalous mag. moment, Weinberg-Salam model effects 9-13126
- $\tau \rightarrow 3\pi$ or 5π , decay rate using current algebra and PCAC 9-3062
- $\tau \rightarrow 3\nu$ decay, current algebra calcs. 9-30764
- $\tau \rightarrow A_2\nu$, branching ratio calc. for possible A_2 decay mode of a spin 3/2 heavy lepton 9-6357
- τ heavy lepton, possible interactions, quark description 9-45054
- τ leptonic decay mode 9-9358
- $\tau \rightarrow \mu\nu_\mu$, branching ratios 9-17703
- $\tau \rightarrow \mu\nu_\mu\nu_\tau$, nature of $\tau-\nu_\tau$ -W coupling, ν_τ mass upper limit and lifetime 9-40824
- $\tau \rightarrow \mu\mu$, branching ratios 9-17703
- τ semihadronic decay rate and branching ratio, QCD calc. 9-36119
- $\tau^\pm \rightarrow \nu_\tau A_1^\pm (\rightarrow \rho^0 \pi^\pm)$, inclusive distrib. of ρ^0 mesons from cascade decays of τ heavy leptons (*Russian*) 9-9390
- $\tau^\pm \rightarrow \nu_\tau \rho^\pm \pi^\pm$, possibility of observing A_1 meson current algebra anal. 9-13176
- τ^\pm production in e^+e^- annihilation 9-6336
- τ^\pm , implications to lepton physics, review (*Chinese*) 9-13121

heavy water

- amine process for heavy water, design 9-615

heavy water continued

- CANDU-PHW reactors, primary and secondary water chemistry, review 9-22382
- dioxane-D₂O mixture, nuclear Overhauser effect factors determ. using dynamic Overhauser enhancement with least square procedure 9-4746
- far IR emission, angular correlation with CO₂ pump radiation, Dicke superradiance theory 9-41370
- Girdler-Sulphide process, developments 9-22397
- heavy stable particles, cosmic ray produced, search in heavy water 9-40048
- HTO, effect on chromosomes of Swiss albino mice 9-2112
- laser, mirrorless, optically pumped, 385 μ m emission 9-31871
- laser, optically pumped far IR, candidate transition identification 9-931
- laser, real-time spectral anal. of far IR pulses 9-45983
- laser, zigzag-pumped, oscillator and superradiance characteristics 9-31873
- laser 385 μ m transition, laser pumped mol. laser theory 9-36868
- laser emission, far IR CW, by optical pumping 9-3687
- liquid structure factor, neutron diff. meas. 9-46547
- low freq. Raman spectra, isotope shifts, ice-like struct. 9-28732
- molecule, cubic anharmonicity constants, normal coord. ab initio calcs. 9-36595
- molecule, electroionisation 9-22849
- molecule, electron impact dissociation, Balmer- α emission obs., Doppler profile meas. 9-31706
- molecule, energy levels and mol. vibr., internal coord. model 9-799
- molecule, Feshbach-reson. and dissoci. electron attachment 9-41246
- molecule, IR and Raman spectra, bonding, vibr., band shapes 9-6938
- molecule, NMR in lyotropic systems 9-22732
- process simulation of heavy water prod. plants 9-22396
- seawater distillation, heavy water concentration, numerical model calc. 9-26514
- sum rules for connecting vibr. freq. parameters of H₂O, D₂O and T₂O 9-36615
- D₂O+Ar, energy transfer isotope effect, rate consts. 9-8422
- D₂O+D₂O, (010) vibr. relaxation 9-36741
- K₂CO₃-D₂O, glass, 4.2K, trapped electron photocond. and optical spectra following radiolysis 9-29378
- NaClO₄-D₂O, glass, 4.2K, trapped electron photocond. and optical spectra following radiolysis 9-29378
- NaOD-D₂O, glass, 4.2K, trapped electron photocond. and optical spectra following radiolysis 9-29378
- T buildup in D₂O of CANDU reactors, due to ³He(n,p)³H reaction 9-22389

HEED see high energy electron diffraction

height measurement

- Geos 3, radar altimeter, data rel. to large-scale Gulf Stream frontal study 9-5488
- Indian Ocean, GEOS-3 radar altimeter geoid profiles compared with 1X1° gravimetric geoid 9-16365
- satellite altimetry, algorithm for subsatellite point position vector length determ. 9-29869
- water wave probe, parallel wire type 9-18979
- wave height meas. using Geos 3 radar altimeter 9-16481
- InPb-covered manganin wire, level detector, depth gauge, demonstration of superconductivity 9-35751

Heisenberg model

- amorphous Heisenberg ferromagnet, spin wave excitations and magnetization curve 9-15292
- anisotropic antiferromag., spectrum and correlation functions 9-28499
- anisotropic antiferromagnet, phase transition, with external mag. field 9-11316
- anisotropic linear chain, spectral density method 9-47222
- antiferromagnetic, triang., spin wave theory 9-7978
- antiferromagnetic chain, Peierls distortion energy, exact limit, renormalisation calc. 9-4643
- antiferromagnets, magnetic susceptibilities in Heisenberg and Ising models 9-24185
- Bose expansion, crit. behaviour of Heisenberg model 9-42785
- classical equivalents of one-dimensional quantum-mechanical systems 9-33448
- continuous spin systems, position-space renormalisation group study 9-38350
- CuBr₂, finite Heisenberg chain effects, temp. depend. 9-47230
- disordered substitutional alloy, mag. props., Heisenberg model 9-38342
- dynamical correlated-effective-field approximation 9-24122
- equivalence of canonical and grand canonical ensembles 9-30360
- ferromagnet, dil. Heisenberg, localisation of excitations near percolation threshold 9-15271
- ferromagnet, diluted classical, crit. props. 9-28536
- ferromagnet, localized magnons in a spin chain with two 'surface' impurities 9-38310
- ferromagnet, nearly two-dimensional and nearly one-dimensional thermodynamic props., Green's function investigation 9-15275
- ferromagnet, randomly noncollinear mag. struct. and spin waves (*Russian*) 9-42764
- ferromagnet, S=1/2, two magnon bound states, redefinition 9-42725
- ferromagnet, spin waves at low temp., method of variational derivatives 9-24152
- ferromagnet, spin-wave renormalisation, consistent linearised Green's function theory 9-4685
- ferromagnet, two-dimensional, Heisenberg model, pseudoparticle solns. 9-47223
- ferromagnet with biquadratic exchange 9-38338
- ferromagnet with higher-order exchange interactions, thermodynamic props. 9-42770
- ferromagnetic linear chain, Heisenberg Hamiltonian, existence of isolated magnon 9-4666
- ferromagnetic phase of three-dimens. quantum Heisenberg models, conditions for T_c=0K 9-38345
- ferromagnetism, singlet ground state, Heisenberg Hamiltonian model 9-11283
- ferromagnets, surface effect on thermodynamic props. and excitation spectra 9-11282
- film, mag. structs. 9-38359
- ground state props. of S=1/2 antiferromagnet 9-15274
- Hamiltonian, generalisation for crystal with allowance for orbital degrees of freedom 9-4644
- Heisenberg-Dzyaloshinsky-Moriya model, high temp. expansions for zero-field susceptibility and specific heat 9-33497

Heisenberg model continued

- Heisenberg-Ising chain, correlation functions at $T=0$ 9-24123
 infinite classical and quantum models, intertwining, Trotter approx., coherent state formalism 9-44713
 lattice spin systems, phase transitions from strong coupling expansions 9-6058
 linear chain, spectral density approach to correlation functions 9-24124
 magnetic crystal, effect of impurity on local density of states 9-33263
 manganese acetate tetrahydrate, Heisenberg ferrimag. magnetisation 9-47304
 metamagnetism, spontaneous, four-ion anisotropy as source 9-47277
 midgal renormalization group approach to quantum spin systems 9-38333
 n-component classical model, low temp. renormalisation group and symm. breaking perturbation 9-15315
 one-dimensional Heisenberg antiferromag., dynamic struct. factor 9-28497
 one-dimensional magnetic system, high-temp. dynamics 9-4716
 paramagnet, spin-wave spectrum, of systems without long-range mag. order 9-33450
 paramagnetic with bond dilution, freq. moments of spin correlation function 9-15272
 plane Heisenberg spin lattice, two-magnon excitations 9-42749
 quadratic-layer antiferromagnets, short range order, optical birefr. obs. 9-11318
 quadrupolar-coupled quasi-Heisenberg system, Green's function theory of phase transitions 9-38340
 quantum mechanics, key to understanding magnetism 9-24125
 quasi-two-dimensional magnet, phase transition at marginal dimensionality 9-38332
 random ferromagnetic-antiferromagnetic alloy, elementary excitations 9-8001
 random isotropic dipolar magnet, absence of ferromag. long range order 9-28546
 renormalization group approach to two-dimensional XY and Heisenberg spin 1/2 models 9-42727
 spin chain with easy plane type anisotropy, coupled magnon states (*Russian*) 9-33469
 spin glass, high temp. series, order-parameter susceptibility 9-15312
 spin glass, high-temperature series for order-parameter susceptibility 9-28534
 spin glasses, quartic operators in Ising, X-Y, and Heisenberg systems 9-33498
 spin glasses, susceptibility, time dependent, rel. to spin self-correlation, Monte Carlo model simulations 9-47290
 spin glasses and other glasses, symmetry and topology concepts 9-28541
 spin wave theory, existence of spontaneous magnetization 9-11281
 spin waves (*Dutch*) 9-1663
 spin-S model, mapped onto interacting Bose field 9-47291
 TCNQ salt, K-TCNQ, spin-Peierls system, paramag. susceptibility, Heisenberg chains 9-38299
 three-dimens. quantum Heisenberg model, multi-neighbour interactions ferromagnetic Curie temp. 9-42786
 TMMC, Heisenberg antiferromagnet, magnetism in one dimension, mag. behaviour 9-28495
 transition metal symmetric clusters, Heisenberg exchange system, ferromagnetic and antiferromagnetic ground states 9-7955
 two-dimens. isotropic spin system, phase transition 9-42716
 two-dimens. XY magnet and Heisenberg antiferromagnet, ground state anal. 9-42728
 variational localised site cluster expansion, wave function higher ansätze, linear Heisenberg model 9-7959
 CdCr_2S_4 , Heisenberg ferromag., obs. of dynamic dipolar crossover, ESR linewidths meas. 9-24209
 $\text{CsMnBr}_2\cdot 2\text{D}_2\text{O}$, mag. phase diagram near bicrit. point 9-15302
 Cu triazole complexes 9-47230
 CuCl_2 , anhydrous paramagnetic phase, mag. susceptibility depend. on temp. 9-7965
 CuCl_2 , finite Heisenberg chain effects, temp. depend. 9-47230
 $\text{CuCl}_2\text{N}(\text{C}_2\text{D}_5)$, one-dimens. antiferromag., mag. excitation line-shape, field depend., neutron study 9-38314
 $\text{Cu}(\text{NH}_4)_2\text{Br}_4\cdot 2\text{H}_2\text{O}$, Heisenberg ferromagnet, phase transition in mag. field 9-7992
 EuS, three dimens. Heisenberg ferromagnet, crit. relax. spectra mag. susceptibility 9-8000
 Fe_{1-x}O , low-energy mag. excitation, spin-wave model 9-4665
 ^3He , solid, magnetism (*Japanese*) 9-19425
 HoZn , mag. excitations near spin rot. temp., neutron scatt. study 9-19731
 $\text{Li}_{0.13}\text{Fe}_{2.87}\text{O}_4$, acoustic spin wave dispersion branch, exchange const., neutron scatt. study 9-47266
 $\text{Mn}(\text{Nb}_{0.5}\text{Ta}_{0.5})_2\text{O}_6$, spin flop magnet, four dimens. phase diagram and multicrit. phenomena 9-15304
 $\text{Tb}_{0.5}\text{Ho}_{0.5}$, ferromag. and helical phase, spin wave dispersion relations 9-24149
 UO_2 , spin wave spectrum, mag. susceptibility, sp. ht. (*Russian*) 9-33470

Heising modulation *see amplitude modulation*

helical dislocations *see screw dislocations*

helicity (elementary particles)

- hadron-hadron high energy collisions, EM-hadronic interference, spin depend. phenomena 9-422
 inclusive lepton pair prod., invariated helicity struct. functions anal. 9-13172
 nonrelativistic free particle, half integral or integral helicity particles by canonical quantisation 9-6020
 s-channel helicity conservation at $\gamma\gamma$, $\gamma\gamma$ and NN vertices, vanishing of spin-zero covariant coupling 9-40691
 Yang-Mills instanton in Taub-NUT space 9-2691
 $\mu^+\mu^-$ oscillations, conditions for observation 9-17636

helicons

see also solid-state plasma

- packet propag. in static mag. field, three-dimens. self-localisation (*Russian*) 9-15176
 piezoelectric semiconductor, acoustohelicon waves, parametric excitation 9-38135
 $\text{Bi}_{88}\text{Sb}_{12}\text{Te}_{0.05}$, helicon dispersion, effect of slope of electron ellipsoids 9-28365
 n-InSb, helicon wave propag., quantum mechanical features 9-42571
 n-InSb, high power helicon, interaction with semiconductor-free space interface 9-38114

helicons continued

- K, helicon-phonon interaction 9-4379
 K, helicon-phonon interaction, numerical study 9-46758

helicopters

- mobile incubator transport for premature and newborn babies (*German*) 9-16336

heliotron *see plasma devices*

heliports *see airports*

helium

see also nuclei with

- see also helium atoms; helium films; liquid helium; solid helium*
 2^1S state, two-photon ionisation, multipole interference 9-22675
 2^3S_1 , metastable state electron impact excitation differential cross section meas. 9-10210
 afterglow, intermediate press., plasma discharge parameter time depend. calc. 9-19102
 air-He binary mixtures, flowing, probe for conc. meas. 9-4098
 atmosphere effect on long-term strength of stainless steel 9-24662
 atom, 4^3D , $^3\text{F}-^2\text{P}$ line struct., in low-press. linear discharge 9-14523
 atom+ H^+ , ang. and energy distrib. of ejected electrons 9-31668
 bombardment, simultaneous with He , H_2 , heavy ions to simulate microstruct. damage from fission or fusion neutrons 9-46723
 concentration profiles meas., using $^6\text{He}(\text{Li},\gamma)^{11}\text{B}$ reson. reaction at 1.68 MeV incident energy 9-5200
 convection, natural, in confined region between two horizontal ducts for variable fluid properties 9-23321
 cooling system large, review of hydrodynamics and heat transfer 9-204
 cryogenic free-precession ^3He magnetometer using a SQUID 9-6153
 cryogenic plasma, recombination decay (*Russian*) 9-4104
 cryopumps, close-loop, design, appl. 9-26062
 dense gas, positive ion excess, ion-induced droplets 9-14925
 desorption from Mo, Mo-He and He-He interaction pots. 9-19459
 dibutyl sebacate diffusivity, from aerosol drop evap. obs. 9-43639
 discharge, atmospheric press., for microwave plasma spectrometry 9-16052
 discharge, high-pressure, rapid formation of He_2 a $^3\Sigma_u^+$ and $b^3\Pi_g$ molecules 9-37571
 electron drift velocity, density dependence, high press., quantum mech. theory 9-1285
 enrichment in planetary nebulae 9-21380
 enrichment in planetary nebulae 9-35326
 fast electron retardation, ionisation cascade, degradation spectra, anal. (*Russian*) 9-27741
 film, dilute two dimensional interacting quantum fluids 9-1538
 free molecule flow and interdiffusion, through porous glass 9-32658
 gas, comparison of 5th and 3rd harmonic conversion 9-18474
 gas, diffusion of Na vapour, diffusion coeffs. meas. by Stefan method 9-41785
 gas, laser-induced breakdown wavelength depend. meas. of threshold 9-41895
 gas, partly ionised, viscosity calc., simplified expressions 9-18983
 gas, temp. fluctuations 9-19414
 gas, viscosity, transition regime, density depend., compared with model predictions 9-1280
 gas bubbles in FCC metals, lattices struct. 9-14858
 GCFR cores, heat transfer with He and Na coolants, review 9-45331
 glow discharge, laser-induced Raman emission source at 569 and 637 Å 9-46024
 glow discharge, short, lateral spread 9-46501
 implantation into Nb, replacement of implanted ^3He by subsequent ^4He bombardment, and vice versa, using $^3\text{He}(\text{d}, \alpha)$ 9-4325
 Incology 800, creep and fatigue props. in high temp. gas cooled reactor He environment 9-47776
 ionisation path formation by laser beam with retractable focus 9-18992
 laser additive effects on pulsed CO TE and CS_2/O_2 chemical lasers 9-31876
 laser plasma optically pumped by focusing CO_2 laser beam with axicon 9-32792
 Lassen Park volcanic gases, He isotope ratios 9-16425
 low-pressure gas discharges, model 9-37560
 Matushiro fault zone, Japan, He spots caused by diapiiric magma from upper mantle 9-8618
 mobile He cooling loop system for post-accident heat removal expts. 9-13403
 optical harmonic generation in gas, fifth harmonic, coherent XUV light 9-46007
 permeability, in glasses and Stycasts (*Japanese*) 9-7715
 plasma, collisional, vortex diffusion, shear effect 9-32773
 plasma, electron-impact widths and shifts of neutral He lines 9-27753
 plasma, ion state and electron temperature in high-current pulsed discharge (*Russian*) 9-27844
 plasma, photon echoes obs., collisional relax. on $2^3\text{S}_1-3^3\text{P}_{012}$ 9-19089
 plasma, shock-radiative recombination rate in afterglow 9-4205
 plasma expansion, supersonic, population inversion 9-27755
 plasma in electron beam-excited discharge, atm. press., relax. obs. and model 9-37569
 positive column, in transverse mag. field, plasma parameter diagnostics 9-19103
 production in stainless steel by neutron effects 9-22282
 pulmonary airways, longitudinal mixing, impulse response of He, SF_6 9-20568
 pure, preparation and purity meas. 9-20496
 quartz, He^+ ion implanted, SAW velocity, influence of annealing 9-14996
 solubility in vitreous silica, 100 to 1350 atm., 5 to 80°C 9-4414
 thermal transpiration, theory and expt. comparison, molecular and transition flow 9-32579
 thermodynamic properties and eqn. of state in stellar conditions 9-35241
 Yellowstone Park volcanic gases, He isotope ratios 9-16425
 Al:He, excited He atom lifetime, optical absorption 9-38578
 Ar ion laser, He, Ne, impurity effects, ignition enhancement and instability suppression 9-13948
 Ar-He plasma, thermal diffusion factors, binary mixture hypothesis 9-27749
 Ar-He plasma, thermal diffusion factor, 2000-4000K, binary mixture hypothesis 9-32743
 Ar-He plasma, thermal diffusion of neutral species in plasma jet, 2000-4000K 9-32742
 Ar-He rarefied mixture in supersonic nozzle and jet, longit. translational nonequib. 9-27678

helium continued

- CO-Xe-N₂-He gas laser power rel. to mixture composition (*Russian*) 9-7114
CO₂-N₂-³He, laser, plasma diagnostics of media capable of lasing in nucl. reactor environment 9-10279
CO₂-N₂-He laser, pulsed microwave discharge pump, skin effect and gain 9-13945
CO₂-N₂-He laser mixtures, electron swarm parameters, Boltzmann eqn. anal. 9-18396
CO₂ + He(Ar), rot. relax. rates and cross sections 9-848
CS₂-He gas binary diffusion coeff. obs. (*Japanese*) 9-10627
Cd-He hollow-cathode laser, small signal gain 9-31881
CO₂-N₂-He, pulsed discharge with temp. and density gradient in cathode sheath 9-41899
D-³He fusion reactor advanced fuel development and confinement 9-13516
ErD₂-He, tailored low Z impurity distrib. in solids, distrib. evaluation by proton backscatt. technique 9-5199
Fe-He, BCC, process of interstitial trapping by impurities 9-46697
H-He, light source, elec. discharge, Doppler effects (*German*) 9-44946
H₂ lines emitted from low-pressure linear discharge 9-14523
HCN compact CW laser, output increased by He, Ar, air and O₂ buffer gases 9-10293
He, bubble formation during injection, system pressure and thermophysical effects (*German*) 9-41745
He⁺ shutter controlled microbeam, with scanning system, for 2-dimens. backscatt. images 9-2879
He-Ar, solubility in Ar, and related functions, three-body forces 9-10776
He-Ar high voltage hollow cathode discharge, new Kr II CW laser lines new Ar II CW laser lines 9-13947
He-Ar mixture, mass separation with rot. plasma 9-13842
He-Ar(N₂), heat of mixing, 2-15 bar (*French*) 9-7436
He-Ar(Xe) mixtures, US vel. meas., phase separation 9-27738
He-As CW laser, excitation mechanism 9-3685
He-Au, UV ion laser, dominant transition at 280 nm 9-942
He-CO₂-Xe, supersonic elec. discharge TEA laser, mag. field effects 9-7110
He-Cd, hollow cathode discharge tube, voltage, ion spectral line intensities and metastable states 9-46505
He-Cd, whitelight hollow-cathode type laser design based on cathode fall theory 9-27282
He-Cd hollow-cathode laser tube, description and performance (*Bulgarian*) 9-27279
He-Cd II hollow-cathode laser, 4416 Å pulse oscillation 9-7122
He-Cd laser, 442 nm, high order mode crossing signals from Cd II 4d⁹5s² ²D_{3/2} state 9-796
He-Cd positive column laser power, effect of I₂ additive (*Japanese*) 9-7121
He-Cd segmental tube laser ageing (*Bulgarian*) 9-18441
He-Cd⁺ laser, cathaphoretic, power noise meas. 9-36885
He-Cd⁺ laser, output radiation, influence of discharge-current fluctuations 9-10289
He-CO₂-Xe plasma discharge electron conc. and temp., optical diagnostics method 9-41871
He-Cs mixture, Cs ion conc. determ. by radn. absorpt. 9-34395
He-Cu hollow cathode discharge, Cu II CW laser oscill. at 8096 Å 9-31878
He-CuCl(Br)(I) gas discharges, CW laser oscills. on Cu⁺ transitions 9-7116
He-H₂ DC discharge, H Balmer- α fine struct. lines, anomalous shifts 9-45677
He-Kr HV hollow cathode laser, gain meas. of Kr II 4694 Å, 4318 Å CW transitions 9-45928
He-Kr high voltage hollow cathode discharge, new Kr II CW laser lines 9-13947
He-Kr hollow-cathode discharge, CW and pulsed lasing at Kr ion lines 9-3679
He-Kr hollow-cathode discharge, CW laser oscills. on Kr II 4694 Å, 4318 Å lines 9-3680
He-Ne, laser, short pulses, self mode-locking (*Rumanian*) 9-13995
He-Ne, low-ionised plasma, electron kinetics, collision processes influence (*German*) 9-14519
He-Ne CW laser nuclear pumping demonstration 9-13949
He-Ne compact LG-78 laser 9-7148
He-Ne gas laser, behaviour in nonsynchronous frequency modulation regime (*Russian*) 9-7161
He-Ne laser, ¹²⁷I₂ saturated absorption stabilised, wavelength meas. (*Russian*) 9-22996
He-Ne laser, 6328 Å, output power, using intracavity rot. reflector 9-7113
He-Ne laser, competitive oscillation mode frequency stabilisation (*Russian*) 9-22962
He-Ne laser, elec. parameters of active element 9-3682
He-Ne laser, I₂ stabilised, design construction and performance 9-13978
He-Ne laser beam, intensity fluctuations, spatial distrib. 9-18458
He-Ne laser two-beam interferometer phase errors (*Russian*) 9-6166
He-Ne laser with anisotropic optical, fluctuations of field polaris. 9-27242
He-Ne laser with external optical resonator, SHG 9-27326
He-Ne lasers, I₂ stabilised, with improved performance 9-22964
He-Ne lasers, life time depend. on impurity gases (*Chinese*) 9-36881
He-Ne mixture, electron beam prod. plasma decay, appl. to laser pumping 9-41847
He-Ne mode-locked binary laser oscillator, bistability induced by optical nutation 9-31958
He-Ne ring laser, freq. shift of 3.39 μ m methane transition 9-27298
He-Ne waveguide lasers, HF discharge stability 9-18401
He-Xe, H₂O-stabilised laser, freq. stability in axial mag. field 9-22991
He-Xe laser, nuclear pumping by vol. source of fission fragments 9-36879
He-Xe laser, Zeeman tuned (*Korean*) 9-7145
He-Xe mixtures, high temp. heat conduction 9-14509
He+Ar⁺ polyatomic fluorides, VUV spark emission spectra 9-3457
He+H₂⁺, endothermic reactive and vibr. inelastic collisions, pot. well effects 9-8430
He+Ne⁺, (n=1, 2, 3, 4), energy spectra of electrons produced 9-45822
He+OCS, rot. lines, collisional broadening 9-18267
He₂, separated electronic pair functions, direct minimisation of energy functional, LCAO-MO SCF, density matrix formalism 9-31392
He₂⁺, mobility and clustering reaction in He 9-10628
He, thermal conductivity, quantum effects 9-14510

helium continued

- ³He/⁴He, high ratios in Hawaii lavas olivine phenocrysts and xenolithic dunites 9-34814
³He-⁴He in liquid ⁴He, non-additive interaction in solvent effect 9-41120
³He-Ar(Xe)(Kr)(Cl) direct nuclear pumped lasers using ³He(n,p)³H reaction 9-31863
³He-Xe, nucl. pumped laser plasma, distrib. functions 9-36880
⁴He charged drops in cryogenic vap., He⁺ mobility, 1.3-2.0K 9-32734
⁴He, thermal conductivity, quantum effects 9-14510
⁴He₂ and ³He₂ dimers in liquid ⁴He, non-additive interactions in solvent effect 9-41120
Kr(He) arc, wall-stabilised, atm. press. 9-46503
Li(2³S), electron loss in passing through inert gases 9-13805
Mo-He, interaction of He with edge dislocation, influence of interatomic pot. 9-33014
N₂-He laser, charge transfer pumping at atm. press., in elec. avalanche discharge 9-10286
N₂O-N₂-He, population inversion of N₂O vibr. levels behind shock wave front 9-31886
Ni-He, defect props., quantum-chemical and lattice-defect hybrid approach 9-4528
O₂-He afterglow, O₂(C¹ Σ_u^- , C³ Δ_u , A³ Σ_u^+) generation from at. recomb. fluoresc. obs. 9-31376
O₂-He(N₂)(CO₂), O₂ electron attachment coeff. meas., O₂ partial press. depend. (*German*) 9-13821
UF₆-He circulating gas critical expts. 9-13488
Xe-Ne-He hollow cathode discharge, laser oscill. at 5314 Å Xe II line 9-3679
Xe+Ar(He)(Ne)(Kr), thermal cond., 800 to 2000K from Wassiljewa's expression 9-27736
- helium, liquid** see liquid helium
- helium, solid** see solid helium
- helium-3 interactions** see helium 3-nucleus reactions
- helium 3-nucleus reactions**
for inelastic helium 3-nucleus scattering, see "helium 3-nucleus scattering"
³⁸Ar(³He,t), 40 MeV, ³⁸K level spectrum and (³He,t) reaction mechanism 9-22229
¹¹B(³He,n)¹³N, ang. distrib. at energies below Coulomb barrier 9-40938
¹¹B(³He,np), 7 MeV, ¹²C negative parity states from ¹³N isospin forbidden p decays 9-26372
⁹Be(³He,n)¹²C, ang. distrib. at energies below Coulomb barrier 9-40938
¹³C(³He, α)¹²C, 2 to 12 MeV, radiative capture reaction, ¹⁶O energy levels 9-9471
⁴⁸Ca+³He, 82 MeV, crbss sections, (³He,t) DWBA anal. 9-13310
⁴⁸Ca(³He,t)⁴⁸Sc, 23 MeV, finite range effects and nonorthogonality corrections in two-step processes 9-3162
⁵⁹Co(³He, α), 34.8 \pm 0.3 MeV, α -particle energy spectra distrib., c.f. pre-equilibrium decay calcs. 9-9598
Cr(³He,d), 18 MeV, ⁵⁴Mn, A=51, 53 small angle cross sections for levels, DWBA anal. 9-22203
D(³He, α)H, background reduction in depth profiling expts. using electrostatic deflector 9-14841
D(³He,p)⁴He, appl. to D depth distrib. determ. in 316 austenitic stainless steel 9-4326
D(³He,p)⁴He, channelling studies on the trapping of deuterium in vanadium by O-interstitials 9-4316
D(³He,p) α , D lattice location in metals for defect-impurity interaction study 9-5206
¹⁶⁴Er(³He,3n), gamma deexcitation mechanism of rot. levels 9-26442
¹⁵¹Eu(³He,3n), 24-32 MeV, ¹⁵¹Tb 11/2 isomer, high spin few-particle states, in beam study 9-17805
⁵⁶Fe(³He, p)⁵⁶Co, 15.15 MeV γ -ray transitions, branching ratios, level lifetimes, spin assignments 9-497
⁵⁴Fe(³He,t) 37.7 MeV, ⁵⁴Co deduced levels, J-depend., two-step processes 9-6412
⁷²Ge (³He,Zn), ⁷³Se production excitation functions 9-39501
³H(³He,⁴He)²H, excitation functions for incident energy 17 to 33 MeV 9-6640
(³He,⁴He), 70 MeV, mass excess and excited states for proton-rich medium nuclei 9-6375
(³He, α), 25 MeV, N=27 nuclei levels and analogue states, DWBA anal. 9-17808
(³He,d), 70, 90, 110 MeV, projectile break-up and d continuum spectra, reaction mechanism 9-13312
(³He,p), proton polarisation meas. with Si polarimetry facility 9-31346
(³He,t), Q-value atomic excitation corrections 9-40918
³He(τ ,p)d, 120 MeV, coincident energy spectra, quasi-free scatt. 9-22303
¹⁷⁴Hf(³He,3n), gamma deexcitation mechanism of rot. levels 9-26442
¹¹⁵In(³He,3n γ), 25 MeV, ¹¹⁵Sb M2, E3 transition reduced matrix elements, EM core polarisation 9-17847
⁶Li(³He, α)³Li(GS), ³B 17.637 MeV state form., α - α coincidence meas. 9-475
⁶Li(³He, γ), ³B level at 17.11 MeV 9-22193
⁶Li(³He,p)³Be_{1/2}(2 γ), ³B level at 17.11 MeV 9-22193
⁶Li(τ ,t)Be, 45 MeV, cross-section calc. by Amado 3-body model 9-6616
⁷Li(³He,n γ), ³Be first T=3/2 states, γ -decay, branching ratios and total widths 9-6489
Mo, activation in cyclotron by p, d, α , ³He 9-30839
¹⁵N(³He,p), 15 MeV, ¹⁶O T-mixed analogue states, (³He,p)/(t,p) cross section ratio 9-9478
²⁴Na(³He,d), 15 MeV, ²⁴Mg states, Nilsson model spectroscopic factors, collective model rot. bands 9-6421
¹⁴⁶Nd(³He,d), 24 MeV, ¹⁴⁷Pm proton states and transitions shell model anal. 9-30781
¹⁵⁰O(³He, γ)¹⁵Ne, E_x=11 to 25 MeV, g.s. giant dipole resonance 9-6539
¹⁵¹O(³He,p), 18 MeV, ¹⁵F 5/10 MeV level parity 9-45155
²⁰⁸Pb(³He, α), 70 MeV, ²⁰⁷Pb inner hole states, spectroscopic strengths DWBA anal. 9-17813
¹⁵²Sm(³Ne,3n), gamma deexcitation mechanism of rot. levels 9-26442
¹⁸¹Ta(³He,3n γ) 24, 28, MeV, ¹⁸¹Re states and transitions, rot. bands and Nilsson states 9-36152
²³⁴U(³He,d), 30 MeV, ²³⁵Np deduced levels and Nilsson band configurations 9-468
W, activation in cyclotron by p, d, α , ³He 9-30839
⁹⁰Zr(³He,t), 80 MeV, ⁹⁰Nb isovector resonance analogues, Gamow-Teller transition 9-9539

helium 3-nucleus scattering

- internal structure influence on elastic scatt. at intermediate energies (*Russian*) 9-30844
- light ion scatt., optical pot. and proximity pot. comparison 9-3121
- $^4\text{Al}(^3\text{He}, \text{He})$, 46 MeV, ang. distrib., optical and DWBA anal., scatt. pots. 9-556
- $^{12}\text{C}(^3\text{He}, ^3\text{He})$, 18, 20, 24.5 MeV, differential cross sections, DWBA anal. 9-6647
- $^{12}\text{C}(^3\text{He}, ^3\text{He})$, incident ion binding energy effects on scatt., qualitative anal. 9-9600
- $^{40}\text{Ca}(^3\text{He}, ^3\text{He})$, 90-120 MeV, cross sections, deduced unambiguous optical pot. 9-13311
- $^3\text{He} + \alpha$ scatt., exchange Coulomb kernel in resonating group formulation 9-6531
- $^6\text{Li}(\tau, \tau)^6\text{Li}^*$, (3.56 MeV), 27 MeV cross-section calc. by Amado 3-body model 9-6617
- $^6\text{Li}(\tau, \tau)^6\text{Li}^*$, 45 MeV, cross-section calc. by Amado 3-body model 9-6616
- $^{58}\text{Ni}(^3\text{He}, ^3\text{He})$, 90-120 MeV, cross sections, deduced unambiguous optical pot. 9-13311
- $^{32}\text{S}(^3\text{He}, ^3\text{He})^{32}\text{S}$, ambiguities in ^3He spin-orbit pot. radius, phenomenological optical-model anal. 9-36250
- $^{40}\text{Si}(^3\text{He}, ^3\text{He})$, 46 MeV, $A=28-30$, ang. distrib., optical and DWBA anal., scatt. pots. 9-556
- $^{28}\text{Si}(^3\text{He}, t)^{28}\text{P}$, 35 MeV, energy levels and spectroscopic assignments (*French*) 9-45167
- $^{116}\text{Sn}(^3\text{He}, ^3\text{He})$, 90-120 MeV, cross sections, deduced unambiguous optical pot. 9-13311
- $^{127}\text{Sn}(^3\text{He}, ^3\text{He})$ (elast. and inelast.), 14.35 MeV, Coulomb-nuclear interference calcs. 9-26444
- $^{47}\text{Ar}(^3\text{He}, ^3\text{He})$ $A=122$, 124 (elast. and inelast.), 12.5 to 21 MeV, Coulomb-nuclear interference calcs. 9-26444
- $^{90}\text{Zr}(^3\text{He}, ^3\text{He})$, 90-120 MeV, cross sections, deduced unambiguous optical pot. 9-13311

helium-3 scattering *see* **helium 3-nucleus scattering****helium atoms**

- $^1\text{S}(1s, 3s)$ state excitation by electron impact, Glauber approx. 9-31696
- collisional radiative model, reson. optical pumping, plasma diagnostics appl. 9-37459
- contact interactions, parity-violating and parity-conserving, new evaluation techniques 9-26872
- DO white dwarfs, atmospheric He/H ratios and effective temps. 9-35249
- doubly excited states classification, for intermediate quantum nos. 9-10046
- elastic electron scatt. phaseshifts, $2s2p$ ^3P autoionisation, $1s2s$ ^3S — $1sep$ ^3P triplet continuum photoionisation 9-31480
- electron and neutral collisions, Rydberg level transitions 9-45821
- electron Compton profiles from energy loss spectra 9-7013
- electron elastic scatt., phaseshift anal. of ang. distrib. 9-22833
- electron elastic scatt. at low energy, exchange effects, natural boundary conditions methods 9-22831
- electron elastic scattering, improved second Born calc. at intermediate energies 9-36770
- electron impact excitation, Bethe approx. modifications, impact radiation polarisation 9-31695
- electron impact excitation, resons., near $n=3$ threshold 9-36773
- electron impact excitation of 1^1S — 2^1P (3^1P), excitation cross section and polarisation fractions, XUV emission 9-22841
- electron impact ionisation, 35 eV, triple differential cross sections 9-36777
- electron impact ionisation, distorted-wave model, 100-400 eV 9-45824
- electron impact ionisation near threshold 9-3578
- electron scatt., effective collision freq. calc. 9-3566
- electron scatt., He $^+$ resonances in post collision interaction 9-13820
- electron scatt., inelastic, cross sections, second Born approx. (*Russian*) 9-36780
- electron scatt. at low energies, phaseshift evaluation by pseudopotential method 9-22830
- electron scatt. resonances during dilatation transformations, reson. eigenvalues stability 9-18291
- electron scattering, 0-16.5 eV, R-matrix calc. 9-36768
- electron scattering, by long-range pots., summation of partial wave expansion 9-41239
- electron scattering, coherent excitation of 2^1P state 9-36775
- electron scattering, excitation of 2^1P and 2^3S states 9-31701
- electron scattering amplitudes for energies less than 19 eV 9-45845
- electronic struct., universal STO basis sets 9-10021
- excitation of simple atomic and mol. systems, long-range force effects 9-10170
- excited state formation from He_2^+ in afterglow, theory 9-22802
- factorized wave function 9-3355
- fine structure, 2nd order contribs. from all intermediate states 9-3354
- fine structure of triplet term of $1s3d$ configuration 9-3595
- frequency depend. multiple polarisability and dispersion energy between interacting pairs 9-18306
- ground and first excited states, electron Hamiltonian, effective one-body, with correct asymptotic behaviour 9-45619
- ground state, electron impact excitation, alignment and orientation parameters calcs. 9-36772
- ground state static polarisability and hyperpolarisability, numerical SCF method 9-36567
- Hartree-Fock electron density, kinetic energy functional 9-26879
- He $^+$, bombardment of second row element target, K-shell X-ray prod. 9-47550
- high-L states, laser driven forbidden transitions, line shapes 9-22638
- isoelectronic sequence, pot. energy relationships 9-22584
- isoelectronic sequence, Schrodinger eqn. finite difference soln. 9-31373
- isoelectronic series, (H^- to C^{4+}), correl. energy calcs. 9-36543
- isoelectronic series, Koopmans' ionis. pot., virial scaling corrections 9-45655
- isoelectronic series, time depend. Hartree Fock theory, reduced Green's function anal., multiple polarisability 9-3358
- isoelectronic spectra autoionisation states $n=3$ hydrogenic threshold, complex rot. method 9-31477
- isotopic shift, $1s2s$ $^1\text{S}_0$, meas. using tunable vacuum UV anti-Stokes light source 9-18149
- Koopmans' ionisation potential relax. correction 9-18308
- lifetimes of doubly excited states, autoionisation and radiative decay 9-18146
- light scattering spectra of gas, collision-induced scatt. 9-18137
- helium atoms continued**
- local interstellar medium, He component anal., UV obs. 9-30100
- metastable, (2^3S), bi- and ter-mol. deexcitation reaction rate coeffs. meas. in afterglow 9-36748
- metastable, two-photon ionisation calc. for linearly and circularly polarised laser light 9-797
- multiphoton ionisation potential, circularly polarized light 9-27101
- one-dimensional atom, bound states, for teachers 9-40317
- orbitals calculations, using extended STO basis sets 9-6844
- oscillator strength calc., allowed np-n'd and nd-n'f transitions 9-31467
- path integral formalism of perturbation theory, simple mols. and atoms 9-6841
- photoionisation, correl. satellites and subshell cross-sections, electron spectrosc. obs. 9-31485
- photoionisation cross-section using UV laser plasma light source 9-19096
- polarisability, freq. depend. polarizability, LCAO SCF perturbation theory 9-31387
- positron scatt., total cross section meas., with positron TOF spectrometer 9-3568
- positron scatt. cross sections 9-3569
- resonance photoabsorption in ($3s3p$) ^1P reson. region 9-45659
- scattering by crossed at. and mol. beams, elastic differential cross section 9-10171
- Schrodinger equation, nonseparable, series solns. and variational principle 9-36504
- Schrodinger equation in symmetric coords. 9-21589
- short range interactions between two rare gas atoms 9-26888
- spectral broadening, of (2^1P - 2^1S) line, 0.3-20 torr. 9-13673
- spectrogram using moderate-resolution spectrometer with interf. selective amplitude modulation 9-30588
- Stark profile in arc plasma, heavy-particle temp. 9-46484
- structure, channel coupling array calcs. 9-31362
- triplet state, excitation energy transfer among upper levels 9-26901
- two-photon light shift and two-photon Lamb dips, cross-saturation method appl. 9-36591
- van der Waals interaction with Al I, line broadening and shifts 9-6912
- $\text{Au} + ^4\text{He}^{2+}$, L-shell ionis. probability, X-ray prod. 9-18276
- $\text{Au} + \text{He}^{2+}$, high energy ionis. probability, semiclassical approx. with relativistic Hartree-Fock function 9-6998
- C_3 , ($^1\text{I}_u$) radical excited state radiative lifetimes and the collisional deactivation 9-27018
- CO^+ , vibr.-excited $\text{A}^2\Pi$ state, radiative and radiationless vibronic deactivation rates with He 9-10134
- $\text{Cs} + \text{He}$, optical pumping, spectral line shape (*Spanish*) 9-22662
- $\text{F}^{8+} + \text{He}$, X-ray prod. cross sections resulting from electron capture and electron excitation of F^{8+} ions 9-3557
- $\text{H} + \text{C}^{6+}(\text{He}^{2+})$, ionis. cross sections 9-22805
- $\text{H} + \text{He}$, long and intermediate range interaction, model pot. calc. 9-22789
- $\text{H} + \text{inert gas atom}$, interaction pot. from electron gas model 9-31637
- $\text{H}^+ + \text{He}$, proton energy degradation, approx. yield spectrum 9-31643
- $\text{H}^+ + \text{He}(\text{Ar})$, charge exchange, differential cross sections 9-7006
- $\text{p-H}_2 + ^4\text{He}$, vibr. relax., 50-200K, coupled channel, coupled states and effective pot. methods comparison 9-6995
- $\text{H}_2 + \text{He}$ potential surfaces, SCF and MRD-CI calcs. 9-10172
- $\text{H}_2^+(\text{H}_3^+) + \text{He}$, Hadamard mass spectroscopy, mass spectra 9-30601
- $\text{He} + \text{H}_2$, vibr. inelastic integral cross-sections calcs. 9-31660
- He 2S metastable state, three-photon ionis. 9-18167
- He (1^1S) and (2^3S), electron loss in passing through inert gases 9-13805
- He beam, fast, formed by 25-90 keV He^+ beam neutralisation, 2^3S population 9-31740
- He, ground state electron correlation visualisation 9-3367
- He I 2^3S — 2^3P transition, rate coeff. for electron impact excitation 9-48664
- He I 584 Å, solar reson. line profile and intensity meas. 9-40153
- He I D $_{\gamma}$ -line in solar prominences, emission line intensities rel. to model calcs. 9-44447
- He I envelope in Hd 151932, single WN 7 type star 9-44493
- He I singlet transitions, polarisation meas. following beam-filled foil excitation 9-13665
- He II 304 Å, solar line profiles 9-12452
- He II 4686 Å emission in spectrum of HDE 226868 (Cygnus X-1) 9-21328
- He II 4686 Å line phase shift from spectrophotometry of DQ Herculis 9-21296
- He ion isoelectronic series, X-ray line excitation 9-44453
- He^- , electron loss in passing through inert gases 9-13805
- He^- , metastable, electron affinity calc. 9-31439
- He^+ , reson. calcs. with correlated target state wave functions, complex coord. method 9-26939
- He^+ abundance in H II regions in Galaxy 9-21389
- He^+ , bombardment of ^{31}Ga (^{33}As)(^{34}Se)(^{35}Br)(^{55}Cs) L-shell X-ray prod. 9-47548
- He^+ , electron scatt. near ionis. threshold, ang. momenta 9-31698
- He^+ escape fluxes from polar ionospheres, calcs. 9-35037
- He^+ excess in dense He gas, ion-induced droplets 9-14925
- He^+ , expt. results on W-values for heavy particles 9-7000
- He^+ in thermosphere, Atmosphere Explorer-C abundances rel. to solar EUV flux 9-16919
- He^{2+} , mobility in He gas 9-7440
- He^{2+} , mobility in parent gas 9-7439
- He-Ar, van der Waals pot. determ. 9-10167
- He-Cs, turbulent plasma, characts., electron energy balance (*Russian*) 9-27779
- He-He, Born-Oppenheimer pot. using Hylleraas-type electronic wave functions 9-31438
- He-like ions, X-ray form factors and total scatt. X-ray intensities 9-10063
- He-like ions in laser prod. plasma, anomalous intensity ratios of reson. to intercombination lines 9-23454
- He-like positive ions, electron impact excitation, electron exchange, CBO approx. calcs. 9-36771
- He-like three-electron atoms and ions, inelastic-reson. quasiprojection operators 9-3581
- He-like two electron atoms, three-body problem 9-3372
- He-O $_2$ (NO), thermal cond. Senftleben effect meas. 9-18985
- He-proton diffusion coeff. in stars 9-16811
- He+Ar, van der Waals pot., from crossed at.-mol. thermal beams scatt. 9-27053
- He+Ar $^+$, 100-550 keV, 3s vacancy production 9-13809

helium atoms continued

- He+Ar(Kr)(Xe), 2¹S and 2³S assoc. and Penning ionisation cross sections vel. depend. 9-3551
 He+Ar(N₂)(N₂O)(O₂)(CO₂), Penning ionisation of target mol., for He(2³S) 9-41228
 He+B⁺(L³⁺)(H⁺), K-shell charge transfer cross sections, Bates-Born formalisms 9-45834
 He+BaCl, intermultiplet energy transfer 9-27063
 He+BaCl(C²II), collisional quenching, laser induced fluoresc. decay meas. 9-27075
 He+Be⁺, charge transfer and excitation, differential cross sections, 2-5 keV 9-36764
 He+CO, intermol. pot. energy surfaces from electron gas model, ang., distance, and vibr. depend. 9-3520
 He+CO₂, anisotropic intermol. pot. for differential scatt. cross-section 9-13788
 He+CO₂, repulsive pot. energy surface, approx. calc. and differential scatt. expt., comparison 9-22788
 He+CO(HF), vibr. relax., unitary distorted-wave approach 9-36738
 He+charged particle, Glauber scatt. amplitude, numerical method in Lommel function 9-22795
 He+Cl⁻(Br⁻), total electron detachment cross sections, near threshold energies 9-3555
 He+Cs(Rb), interatomic pots., hyperfine shifts, diffusion coeffs., perturbation exchange theory 9-41220
 He+H, elastic scatt. cross-section, using model pot. 9-13786
 He+H₂, (2³S₁) at. state, isotope effects, 77 to 300K 9-36752
 He+H₂, anisotropy of long-range interaction 9-36734
 He+H₂, formation of polarised H-atoms in ionising collisions (*Russian*) 9-7002
 He+H₂, vibr. inelastic cross-section, para-H₂, threshold behav. 9-45804
 He+H₂⁺, vibr. and rot. transitions, trajectory calcs. 9-13793
 He+H₂⁺→H+HeH product ion ang. distrib., quantum mech. impulse approx. calcs. 9-24727
 He+H⁺, charge transfer to H(n=2), mixed parity elec.-dipole oscillations 9-31678
 He+H⁺, elastic scatt. and 2¹s and 2³p excitation cross-sections 9-36747
 He+H⁺, electron capture coherent electron density distrib. oscillations 9-10200
 He+H⁺, ionising collision, first-order Faddeev approx. 9-22827
 He+H⁺(He²⁺), K-electron capture, cross section scaling, high energy 9-41236
 He+HCl, mag. transitions, initial-l labelled CS approx. computations 9-3552
 He+HD, relax. and kinetic cross-sections, DWBA calcs. 9-41782
 He+He, (2³S) and (2¹S) metastable states, direct and assoc. ionisation rate consts. in afterglow, electron energy spectra 9-13812
 He+He, isotropic intermolecular forces evaluation using semi-empirical approach 9-36726
 He+He⁺, coherent excitation and decay of autoionising states 9-45789
 He+He⁺, elastic and inelastic collision 9-45785
 He+He⁺ interactions, electronic forces 9-22790
 He+He(Ne)(Ar), dispersion interaction, series coeffs., variation method 9-3518
 He+Li⁺(C⁺)(N⁺)(Ne⁺)(Na⁺)(Mg⁺), slow collision, ionis. obs. 9-10194
 He+methane (NH₃)(H₂O)(SF₆), differential scatt. cross-section, intermol. pot. 9-36728
 He+multiply charged ions, electron capture and impact-ionis. cross sections, Monte Carlo calcs. 9-27083
 He+N₂(O₂)(CO)(NO), anisotropic intermol. pots., crossed beam expts. 9-31639
 He+N²⁺, electron capture, product ion energy loss spectra 9-36762
 He+NH₃, rot. excitation rate consts., semiclassical method 9-3538
 He+NH₃(formaldehyde), rot. excitation, IOS approx. calcs. 9-45801
 He+Na, collision induced dissoci. rate, vibr. distrib. depend. 9-22791
 He+Na, D2 reson. linewidth 9-31647
 He+Ne, fluoresc. spectra, mol. bands, 0.1 to 6 atm., 3000-8200 Å 9-3394
 He+o-H₂, NMR, spin-spin and spin-rot. relax., IOS calcs. 9-18209
 He+O³⁺, electron capture to continuum states, forward ejected electron spectra 9-45831
 He+OH, rot. inelastic collision, microwave spectra 9-45806
 He+one electron ion 9-22812
 He+positron, second-order nonadiabatic polaris. pot. for elastic scatt. 9-22836
 He+SF₆, mol. vibrational-translational energy transfer, mass spectrometric meas. 9-36739
 He+SO₂, Penning ionis. due to He(2³S), SO₂⁺ fluoresc. 9-13758
 He⁺+CO(NO), dissociative ionis. 9-10188
 He⁺+Cd(Hg)(Zn), thermal energy charge transfer reaction, ion states, relative yields 9-45840
 He⁺+e⁻ system, complex quantum defects 9-13622
 He⁺+H, excitation of H to n=2 state, cross-section calc. 9-41229
 He⁺+H₂(He), charge transfer, appl. of atom-photon coincidence meas. 9-45829
 He⁺+He, electron loss cross section 9-27080
 He⁺+He, interference struct., optical emission interpretation 9-45816
 He⁺+He, reson. charge transfer, merging-beam technique 9-41235
 He⁺+He²⁺→He²⁺+He⁺, 10-1700 eV, absolute. cross-sections meas. 9-3560
 He⁺+He(Ne), coherent excitation and decay of autoionising states 9-45789
 He⁺+N₂, K-shell ionisation, total cross-sections calcs. 9-31663
 He⁺+N₂O, rate coeffs. meas. at 300 and 100K in flowing afterglow 9-20346
 He⁺+Ne*→He⁺+Ne⁺, cross sections 9-22821
 He⁺+Ne→He+Ne⁺, He13P polarisation 9-13813
 He²⁺+atom, excitation functions rel. to ionisation (*French*) 9-31669
 He²⁺+H, electron capture into n, l levels, 100 keV/amu 9-22826
 He²⁺+H, excitation, asymptotic cross-sections calcs. 9-18279
 He²⁺+H(1s), charge transfer, 0.025-200 keV/amu 9-22823
 He²⁺+He, diabatic correl. diagrams for quasi-mol. description 9-3525
 He²⁺+He, diatom. quasimolecule form., shielded-orbital model 9-10165
 He²⁺+He, electron capture and impact-ionis. cross sections, Monte Carlo calcs. 9-27083
 He²⁺+He, radiative charge transfer coeffs. 9-7010
 He²⁺+He, radiative single charge transfer cross section 9-7011
 He²⁺+He, two-electron excitation of quasimol. states 9-18274
 He²⁺+Li, electron capture, ionis. cross section, low-vel. He⁺(3l) production, X-ray production 9-22822

helium atoms continued

- He²⁺+Zn(Cd), L- and M-shell Auger electrons 9-27076
 He₂, intermol. interactions, supermol. density, statistical methods calcs. 9-6983
 He₂²⁺, quasimolecular states, radial and rot. coupling terms 9-26896
 HeH⁺+He, 1 keV, collision-induced dissoci., ro-vibr. assignments, proton spectra obs. 9-3556
 He(³S) excitation energy, eqn. of motion method calcs., approx. and error anal. 9-36501
 He(³S) metastable state g_J factor, TOF at. beam mag. reson. obs., rel. to O(³S₂) 9-3593
 He⁺, interstellar, probable detect. and significance 9-25689
 He-rich solar flares, plasma mechanism 9-5795
 He, laser mag. reson., 7/5-9/P energy separation, motional Stark effect, Zeeman tuning parameters 9-6911
 He²⁺+heavy atom, 2-5 MeV, inner shell ionisation cross section 9-45825
 He*, collisional transfer rates between excited levels 9-22793
 He*+Ar(Kr)(Xe), elastic scatt., repulsive rainbows and optical pots. 9-840
 He*+D, Penning and assoc. ionis. with metastable He, 0.01 to 10 eV beams 9-27074
 He*+He, (*=excitation or charge), differential scatt. inversion procedure, symmetric exchange, classical, semiclassical theory 9-13802
 He*(1s2s,3S)+Ar, Penning ionis., discrete-continuum states coupling 9-10193
 He(2S)², autoionising reson., appl. of complex-rotated Hamiltonians 9-31427
 He(2³S)+H(D), Penning and assoc. ionis. cross sections, vel. depend. 9-22815
 He(2³S)+molecule collisions, exit channels rate consts. 9-13800
 He(2³S and 2¹S)+H₂(D₂), Penning, rearrangement and total ionis. cross sections, vel. depend. 9-22816
 He(3³S) decay rates in high-pressure afterglow 9-41898
 KrF+He(Ne)(Xe)(NF₃), quenching rate consts. meas. 9-24718
 NH₃+NH₃(He)(Ar)(N₂)(O₂), ν₂ state vibr. relax., laser induced vibr. fluoresc. obs. 9-18269
 Na-He model pot. calcs., fluoresc. line profile 9-36723
 Na+He(Ne), Rydberg states, cross sections for collisional ang. momentum transfer 9-6997
 Na*(nd, nf)+He, ang. momentum mixing 9-10175
 Ne+He⁺, 2s²2p⁶-2s²2p⁵ radiative transition in Ne III, UV spectra 9-6900
 Ne+Ne(He), population transfer from 2p levels (*French*) 9-851

helium compounds

- He H⁺, formation and destruction in gaseous nebulae, assoc. IR emission line spectrum 9-44589
 HeH⁺, electron impact excitation, rot. transitions 9-41244
 HeH⁺, struct., channel coupling array calcs. 9-31362
 HeH⁺, partial wave treatment, convergence 9-10017
 HeH₂⁺, LCAO MO calcs. using reduced Bessel functions 9-31361
 HeH₂⁺, LCAO method, improvement by directed variation of exponential parameters 9-41101
 HeH⁺+C thin solid target, 50-300 keV, collisional at. physics using mol. projectiles 9-45813
 HeH⁺+He, 1 keV, collision-induced dissoci., ro-vibr. assignments, proton spectra obs. 9-3556
 HeH₂⁺, electronic struct. 9-31414
 HeNe⁺, visible spectrum obs. in discharge 9-13729

helium films

- superfluid, current flow effects (*Dutch*) 9-1534
 superfluid, nonequilibrium statistical mechanics 9-33137
 He, superfluid, sp. ht. of confined sample, near superfluid transition 9-46859
 He, adsorbed film on Grafoil, NMR, intermediate and near-monolayer coverages 9-46878
 He, monolayer film, adsorbed on Grafoil, pulsed NMR meas. 9-33152
 He, superfluid, two-dimensional, phase transitions 9-33143
 He-He, mixture film, superfluidity precipitous onset 9-23802
 He-He liquid solution films, thickness calc. from dielec. const. data (*Russian*) 9-11003
 He monolayer superfluid films, third sound modes, superfluid solitons 9-10998
 He superfluid, strong decay of persistent currents, thickness depend. 9-33133
 He, superfluid, subcooled, heat transport, Kapitza resistance of Al 9-23794
 He, superfluid, superflow, healing and relax. in He II flows, film thinning 9-14976
 He superfluid film, surface electrons, quantum oscill. effects (*Russian*) 9-11105
 He, third sound, two-dimens. hydrodynamics and elementary excitations 9-7721

helium nuclei see nuclei with mass number 1 to 5; nuclei with mass number 6 to 19

Hellman-Feynman theorem see quantum theory

Helmholtz free energy see free energy

Hertzprung-Russell diagram see stellar evolution

heterodyne detection see demodulation

heuristic programming

- BWR control rod programming, heuristic and mathematical approaches 9-9779
 ventricular hypertrophy diagnosis, three-orthogonal-lead ECG criteria 9-44034

h.f. amplifiers see high-frequency amplifiers

HF calculations

see also Xalpha calculations

- A=2, 4, 16, photonuclear sum rule enhancement factor, Hartree Fock, Bethe-Goldstone eqns. 9-3137
 acetylene, effective core potential calcs. 9-31437
 acetylene, near HF dipole polarizability, using EFV GTOs 9-31395
 actinide ions, tetrapositive, nucl. hexadecapole antishielding factors 9-26909
 adiabatic time-depend. theory of collective motion in finite systems 9-486
 alternant hydrocarbons, approx. calc. by spin-extended HF method 9-26889
 approximation with pseudowavefunctions 9-3357
 atom, nonradiative low-energy transitions, exchange and relax. effects, appl. to Zn 9-3396

HF calculations continued

- atomic electron excitation probabilities during orbital electron capture by the nucleus 9-45211
atomic ionisation potential, X_α eigenvalues and Slater transition state 9-31394
atomic structure, relativistic HF eqn. from QED bound states 9-21992
atomic systems, expectation values, correlation effects 9-6821
atoms, hyperfine structure, UHF and PHF methods calcs. 9-36517
bonds, AH and AB (A, B=Li-F), linear momentum operator expectation values calcs. in molecules 9-7566
Born-Oppenheimer adiabatic pot. energy hypersurface gradient, exact formula 9-9992
Bose fluids, normal, conserving evaluation of dynamic struct. factor, HF approx. 9-14975
boson system, 1-D, with δ -function interactions, time-depend. Hartree approx. 9-9184
deformable-jellium model, self-consistent long-range order in terms of non-plane-wave HF states 9-19533
deformation energy dissipation, linear response function HF and HFB approx. 9-26366
deformed nuclei calc. by HF method with Skyrme's interaction (*Russian*) 9-456
diatomic molecules, LCAO Hartree-Fock-Slater method calcs. 9-31374
doubly magic nuclei, giant monopole resonances calcs. using adiabatic HF theory 9-22260
electron density, bulk and surface atoms, from ab initio model calcs. 9-4590
ethane, effective core potential calcs. 9-31437
ethylene, effective core potential calcs. 9-31437
ethylene, near HF dipole polarizability, using EFV GTOs 9-31395
ethylene, photoelectron spectrum, vibronic coupling effects 9-10090
ethylene, reaction heat, HF limit energies, correlation energy 9-8447
ethylenes, substituted, unstable twisted forms, excited states, DODS-NO CI calcs. 9-13643
even-even nuclei, excited states, angular momentum projection method, appl. to ^{162}Er 0- band 9-3069
even-even nuclei in 2p-1f shell, binding energy, quadrupole moment, by HF calc. 9-17843
expectation value variation as linear functions of nuclear charge 9-44776
expectation values, systematic behaviour 9-3365
extended systems, Hartree-Fock orbital and total energies 9-4498
fermion systems, long-range order Hartree-Fock states with different magnetic properties 9-42476
ferrihaemoglobin hydroxide, nucl. hyperfine interaction, HF LCAO calc. 9-2002
ferromagnetic alloy, binary ordered, dynamic mag. susceptibility, spin wave stiffness constant 9-38307
finite nuclei, saturation props. of infinite nuclear matter 9-45198
first-order Hartree-Fock perturbation theory, symmetry calcs. 9-6854
gamma-ray internal conversion coeffs. for all at. shells, $30 \leq Z \leq 104$ 9-45206
generalized Fermi sea for plane-wave Hartree-Fock theory: one dimensional model calculation 9-45196
Hartree-Fock-Bogolyubov approach to nuclear band description (*Russian*) 9-3107
heavy ion collisions, mass asymmetry as collective coord. in Hartree-Fock calcs. 9-17914
heavy-ion collisions, struct. limitations of mass distrib., TDHF calc. 9-30852
Heisenberg anisotropic antiferromag., spectrum and correlation functions 9-28499
heteronuclear molecules, alternant mol. orbitals energies, generalised formula 9-6867
high order partial wave contrib. to nuclear matter binding energy for model interactions 9-45144
highly-charged ions, spectral characs., relativistic effects, theory 9-10061
Hubbard model, magnetic instabilities, influence of short-range correlation effects 9-7963
hyperpolarizability, freq. depend., time depend. HF eqn., second order LCAO SCF perturbation theory 9-31388
III-V semiconductors, deep centres, many-electron effects 9-15117
incomplete basis set problem, perturbative corrections to coupled Hartree-Fock theory 9-18100
inert gas atoms, He to Xe, electron density, kinetic energy functional 9-26879
internal conversion coefficients, $30 \leq Z \leq 104$, Hartree-Fock-Slater model calcs. 9-36199
lanthanide ions, tripositive nucl. hexadecapole antishielding factors 9-26909
LCAO Hartree-Fock-Slater method, evaluation 9-31374
light nuclei, Hartree-Fock calc. accuracy 9-45195
Lipkin model special case for Hartree-Fock and many-body problem solns. 9-13229
m-scheme configuration interaction calcs., interaction integrals 9-45645
magnetic alloy, highly concentrated Kondo effect 9-24134
many body systems, low lying excited states, extension of ground state variational methods 9-36177
many-electron atoms, self-consistent theory of induction and dispersion forces, HF approx. 9-36725
many-electron molecule, self-consistent theory of induction and dispersion forces, HF approx. 9-36725
methane, effective core potential calcs. 9-31437
methane, mag. shielding consts., coupled HF perturbation theory 9-6863
mixed valence compounds, structural phase transitions, effect of electron-phonon coupling 9-33265
molecules, interacting, rigid, HF, self-consistent nonorthogonal group function approx. 9-31430
molecules, relations between matrix elements in relativistic Hartree-Fock-Roothaan theory 9-36521
N=Z even-even nuclei, 2s-1d shell Hartree-Fock calcs. s-wave interaction 9-26385
nonperturbative open shell theory, mol. ionisation pot. and excitation energies, HF multiple cluster expansion 9-22599
nuclear Fermidynamics and time dependent Schrodinger-Hartree Fock theory 9-3105
nuclear matter, correl. between Brueckner-HF and correlated basis functions approaches 9-40869
odd A shell nuclei, positive parity states, collective bands, Hartree-Fock calcs. 9-30778
odd p-shell nuclei, lowest positive parity state from projected HF theory 9-463

HF calculations continued

- one-dimensional homonuclear molecular systems, nature of energy gap 9-11063
open shell restricted HF eqns., role of coupling operators 9-758
open shell SCF MO LCAO method in unrestricted Hartree Fock formalism 9-31389
open-shell ions, coupled HF calc., static dipole polarisabilities and shielding factors 9-6862
organic molecules, relax. phenomena, following core ionis., LCAO MO SCF calc. 9-10030
organic radicals, HFS coupling const. calcs., RHF+CI method in INDO approx. 9-770
oxalic acid, theoretical deformation density, ab initio Hartree-Fock calcs. 9-32982
particle transfer during nuclear deformation, Hartree-Fock calcs. (*Russian*) 9-3079
perturbed energies, 2nd order, coupled HF iterative procedure, geometric approx. 9-9991
polarisability of atoms and molecules, freq. depend. 9-45652
polycyrenes, linear, open-shell ground state wave functions 9-762
polyglycine chain, electronic struct. and transport props., ab initio Hartree-Fock crystal orbital calc. 9-42448
positive atomic ions, orbital SCF energies, rel. to total SCF energies 9-3350
positron + H(He), second-order nonadiabatic polaris. pot. for elastic scatt. 9-22836
quantization of time dependent self-consistent fields and finite boson representations for many-fermion system 9-6048
radical+radical reactions, reaction path calc. using perturbation expansion (*German*) 9-34300
relativistic atomic wave functions, Hartree-Fock calcs. 9-10009
restricted Hartree-Fock method, external instability, theory 9-10001
self-consistent calculations of nuclear properties with phenomenological effective forces, review 9-22218
(Sn), chain, energy band struct., Hartree-Fock and CDW solns. 9-23885
strongly interacting systems, energy decomp. scheme 9-31431
tempered orbital energies, SCF calc., relation to Mulliken-Walsh ordinate and extended Huckel orbital energies 9-763
three-electron model system, unrestricted and projected Hartree-Fock calcs. 9-6850
time depend. Hartree eqn. quantisation, boson expansion, particle hole excitations 9-13230
time depend. Hartree-Fock and functional approaches, anal. using Lipkin model 9-36178
time dependent Hartree eqn. quantisation, finite and infinite boson expansions 9-13231
time dependent Hartree Fock solns., adiabaticity of collective motion 9-9498
time dependent HF polarisability and RPA sum rules, collective model restoring force 9-6461
time dependent HF polarisability and RPA sum rules, isovector giant resonances 9-6462
time dependent HF theory, collective path concept, validity range 9-17844
total HF SCF energy, of ats. and ions, approximation methods comparison 9-31366
transition metal complexes, LCAO Hartree-Fock-Slater method calcs. 9-31374
transition metals, 1st period, at. correlation energies, perturbation calc. 9-36508
trioxolane, methyl substituted, stability, pseudorotation, electronic effects in final ozonide 9-45654
truncated space calcs. of exact bound state energies 9-3090
two-body collisions and time dependent Hartree-Fock theory 9-36208
two-dimensional, Hartree-Fock soln. of CDW in mag. field 9-28302
universal basis set, for Hartree-Fock total energy 9-36502
unrestricted Hartree Fock equation, in mol. systems, group theoretical classification of solns. 9-36522
variation-interaction soln. of Hartree Fock eqns., Green's integral operator, SCF formalism 9-6842
N and Δ resonances in nuclei, coupled channel eqns. soln. for nuclear matter 9-17845
Ag, 4d-subshell absorpt. spectra, ab initio Hartree-Fock calcs. 9-18139
Ar, electron impact ionis., calc. for $3s^2$ subshell 9-31700
Ar, short range interactions between two rare gas atoms 9-26888
 ^{36}Ar , cranked Hartree-Fock-Bogolyubov calcs., p,n pairing correlations 9-6460
Au+He $^{2+}$, high energy ionis. probability, semiclassical approx. with relativistic Hartree-Fock function 9-6998
B $^{3+}$ +He(C)(Ne), K-shell charge transfer cross sections, Bates-Born formalisms 9-45834
BH, ab initio spin-projected EHF method pot. curve calcs. 9-10054
BH, mag. susceptibility calc. 9-868
B(1) hydrides, ab initio calcs., proton and hydride affinities 9-10029
Be, excitation energies and transition moments in a second order polarization propagator approach 9-10051
Be, ionisation energies and oscillator strengths, polarised frozen core approx. 9-36524
Be(2^3P) + methane, reaction, ab initio MO calcs. 9-8431
CO, photoabsorption, photoionisation cross section, separated channel static exchange Stieltjes-Tchebycheff calc. 9-3502
CSiH, matrix Hartree-Fock calcs. 9-5874
 ^{12}C spin-orbit force and deformation, self-consistent HF calc. 9-455
Ca isotopes, nuclear rms radii using Skyrme interaction with state depend. effective mass 9-45147
 $^A\text{Ca}(e,e)$, $A=40,42,44,48$, elastic and inelastic scatt. cross-sections from Hartree-Fock densities (*Russian*) 9-13287
 $^A\text{Ca}(p,p)$, $A=40,42,44,48$, elastic and inelastic scatt. cross-sections from Hartree-Fock densities (*Russian*) 9-13287
 ^{40}Ca , relativistic Hartree-Fock eqns., 1 boson exchange pot., spin orbit splitting 9-3106
 ^{40}Ca , vibrating nucleus, adiabatic anal. of time-dependent HF solns. 9-40863
 $^{40}\text{Ca}+^{40}\text{Ca}$, 2- and 3-dimens. time depend. HF calc. comparison 9-17948
 $^{40}\text{Ca}+^{40}\text{Ca}$, total fusion cross section, time depend. HF calcs. 9-17945
 $^{40}\text{Ca}(\pi,\pi)$, nuclear matter distrib., density depend. HF anal. 9-487
 $^{48}\text{Ca}(\pi,\pi)$, nuclear matter distrib., density depend. HF anal. 9-487
 ^ACd , $A=105,107,109,111$, odd neutron deficient, rotor+particle model anal. 9-36127
Cu isoelectronic series, core polarisation influence on oscillator strengths 9-45672

HF calculations continued

- ¹⁵⁸Er, second backbending using cranked Hartree-Fock-Bogoliubov method 9-13188
- ¹⁶²Er energy spectrum anomalies, rot. bands, cranking model with Hartree-Fock-Bogoliubov theory 9-3064
- Fe, structural stabilisation, influence of C interstitials 9-11611
- Fe, Co_{1-x}S_x, ferromagnetic solid soln., electronic sp. ht. coeff., calc. by CPA and Hartree-Fock approx. 9-7990
- H linear chain, near Hartree-Fock limit study 9-32938
- H+CH₄-H₂+CH₃, transition state, UHF method in INDO approx, 9-43578
- H⁺+He(C)(Ne), K-shell charge transfer cross sections, Bates-Born formalisms 9-45834
- H₂ solid, HF calc. using plane wave basis 9-7772
- H₂O, photoabsorption, Stieltjes-Tchebycheff calculations, Hartree-Fock calcs. 9-18238
- H₂O, valence shell electron pair interactions, VSEPR theory test 9-31393
- H₂O₂, struct. and barrier to internal rot., HF and Rayleigh-Schrodinger perturbation calcs. 9-13636
- H₂O₃, struct., barrier to int. rot., HF and RS-MP perturb. calcs. 9-13637
- H₂S, valence shell electron pair interactions, VSEPR theory test 9-31393
- He, electronic struct., universal STO basis sets 9-10021
- He, isoelectronic series 9-3358
- He-He, Born-Oppenheimer pot. using Hylleraas-type electronic wave functions 9-31438
- He-like atoms, oscillator strength calc., allowed np-n'd and nd-n'f transitions 9-31467
- He₂, short range interactions between two rare gas atoms 9-26888
- ⁴He(α,α), time dependent HF calcs. reaction cross sections 9-26443
- ¹⁷⁴Hf, approximate ang. momentum projection from cranked HFB wave functions, yrast energies 9-30776
- In(²P_{3/2}), at. quadrupole shielding factor 9-10222
- Li, ²P-state, hyperfine structure, UHF and PHF methods calcs. 9-36517
- Li, core charge polarisation 9-45627
- Li isoelectronic sequence, Hartree-Fock eqns., perturbation calcs. 9-6846
- Li isoelectronic sequence, doubly-excited states, relative ordering 9-31424
- Li, isoelectronic series, doubly excited states, Hartree-Fock energy 9-22613
- Li, perturbed Hartree-Fock wavefunctions for ⁷S and ²P states 9-10033
- Li-like atoms, ⁴S⁺ doubly excited states, orbital config. assignment 9-41118
- Li+H₂, inelastic collision, ab initio pot. energy surface 9-10055
- Li³⁺+He(C)(Ne), K-shell charge transfer cross sections, Bates-Born formalisms 9-45834
- Li₃, pot. energy surface, half-projected HF model 9-36564
- LiBeH₃, ab initio calc. of pot. surfaces and geometry 9-10024
- ²⁴Mg(p,p'), 49.5 MeV, consistent folding model, HF calc. for E₂, E₄ transitions 9-22288
- ²⁴Mg(p,p') 17.5 MeV 9-22288
- MnO₄⁻, valence mol. orbital energy, nonempirical pseudopot. 9-22592
- N₂+He⁺, K-shell ionisation, total cross-sections calcs. 9-31663
- NH₃, freq. depend. hyperpolarisability, time-depend. Hartree-Fock calcs. 9-36559
- ¹⁴N+¹²C, 112 MeV, alpha clustering, multiple shape vibr., TDHFC calcs. 9-3164
- ¹⁴N+¹²C, direct inelastic scatt. in 3-dimens. time depend. HF scheme 9-17925
- Ne₂, short range interactions between two rare gas atoms 9-26888
- ²⁰Ne+²⁴Ni, 164 MeV, alpha clustering, multiple shape vibr., TDHFC calcs. 9-3164
- ²⁰Ne(p,p') 24.5 MeV, consistent folding model, HF calc. for E₂, E₄ transitions 9-22288
- Ni-He, defect props., quantum-chemical and lattice-defect hybrid approach 9-4528
- O Hartree Fock pot., truncated space calcs. of exact bound state energies 9-3090
- O₃, conformation, ab initio HFS method calc. 9-36526
- ¹⁶O, relativistic Hartree-Fock eqns., 1 boson exchange pot., spin orbit splitting 9-3106
- ¹⁶O, vibrating nucleus, adiabatic anal. of time-dependent HF solns. 9-40863
- ¹⁶O+¹⁶O, 2- and 3-dimens. time depend. HF calc. comparison 9-17948
- ¹⁶O+¹⁶O, 384 MeV, alpha clustering, multiple shape vibr., TDHFC calcs. 9-3164
- ¹⁶O+¹⁶O, 64, 80 MeV, fusion events, time dependent HF calcs. 9-36292
- ¹⁶O+¹⁶O, direct inelastic scatt. in 3-dimens. time depend. HF scheme 9-17925
- ¹⁶O+¹⁶O, total fusion cross section, time depend. HF calcs. 9-17945
- Pd(CO)₄, valence mol. orbital energy, nonempirical pseudopot. 9-22592
- ¹¹⁸Pd+¹¹⁸Pd, 637 MeV time depend. Hartree-Fock-Bogoliubov calc. for fusion and subsequent ²³⁶U fission 9-36265
- Rb I, 4p subshell excitation spectra, 15 to 19 eV, a new interpretation 9-777
- S₃, conformation, ab initio HFS method calc. 9-36526
- SBr₂, transient species, He(C) photoelectron spectroscopy, discrete variational HFS calc. 9-31594
- SH₃⁺, struct., ab initio HF calcs. 9-31371
- SCl₃, valence mol. orbital energy, nonempirical pseudopot. 9-22592
- ⁴Sc A=44,46,48, HF projection formalism, energy levels, static moments, EM transition probabilities 9-3083
- ⁴Sc, A=45, 47, HF projection formalism, energy levels, EM moments, transition probabilities 9-22199
- Si (111) inversion layers, CDWs, effect of four valley interaction terms 9-33324
- Si, Rydberg series electronic struct. 9-22614
- SiCH₃, matrix Hartree-Fock calcs. 9-5874
- SiO_x, chem. theory of Si 2p core level, relax. contrib. 9-47141
- ²⁸Si, appl. of theory of bi-determinantal intrinsic states 9-9484
- ¹⁵⁰Sm deformation, collective spectra and moments of inertia starting from nuclear force 9-17790
- TiH₃F, valence mol. orbital energy, nonempirical pseudopot. 9-22592
- ⁴⁸Ti(e,e), elastic and inelastic scatt. cross-sections from Hartree-Fock densities (Russian) 9-13287
- ⁴⁸Ti(p,p), elastic and inelastic scatt. cross-sections from Hartree-Fock densities (Russian) 9-13287
- U⁺+U⁺, critical two-centre distance, HFS relativistic calc. 9-22801
- UF₅, electronic struct., Hartree-Fock-Slater and Dirac-Slater calcs. 9-31370
- V₂O₃ insulating phase, realistic Hartree-Fock calc. 9-38306
- Xe II 5s5p ²S_{1/2} state, lifetime meas. 9-13670

HF calculations continued

- Xe, photoelectron branching ratio in 4d subshell 9-18164
- ^AYb, A=168, 170, approximate ang. momentum projection from cranked HFB wave functions, yrast energies 9-30776
- ¹⁶²Yb high spin states with Skyrme interaction, cranked Hartree-Fock calcs. 9-13189
- Zn(CH₃)₂, valence mol. orbital energy, nonempirical pseudopot. 9-22592
- high-energy cosmic ray interactions**
- air, electron-photon cascade curves 9-44322
- atmosphere prompt neutrinos, W-bosons prod. 9-3014
- deuterons and antiprotons production mechanisms 9-29955
- Earth, background rate rel. to nucleon stability tests limits 9-22093
- EAS, 10¹⁵-10¹⁸ eV, experimental data, implications for particle accelerators, review 9-8786
- EAS, scaling incompatibility from pulse profile studies 9-25421
- electrons, ultrahigh energy, traversing cosmic blackbody photon gas, effective penetration distance 9-5742
- EM cascades in air, caused by 10-100 GeV electrons and photons 9-21120
- for interaction in graphite 9-29959
- gamma-ray spectra, high energy, near top of atmos. detection+meas. by emulsion chamber 9-29958
- heavy lepton pair production by cosmic rays 9-36117
- highest-energy cosmic rays, detected by EAS obs. 9-2450
- induced fission of heavy nuclides, influence on apparent ²³⁸U fission track ages 9-40047
- multiplicity distrib. of particles (Russian) 9-5719
- nucleon-photoemulsion hadron interaction, high multiplicity events at >1 TeV (Russian) 9-45124
- photons, ultrahigh energy, traversing cosmic blackbody photon gas, effective penetration distance 9-5742
- stratospheric superfamily with ΣE_e~2.10¹⁵ eV 9-2451
- p-air inelastic cross section and hadron energy spectrum, scaling model of energy depend. 9-44325
- Ge detectors in space, computer spectral anal. of cosmic ray proton induced radioactivity 9-12413
- Pb, electron-photon cascade curves 9-44322
- high energy electron diffraction**
- see also reflection high energy electron diffraction
- Bloch waves, corresponding atomic and mol. orbitals 9-27880
- high stability constant current source, diffraction appl. (Chinese) 9-44991
- imperfect crystal, semiclassical anal. of HEED, stacking faults 9-1373
- Au, Bloch waves, corresponding atomic and mol. orbitals 9-27880
- Mo, Bloch waves, corresponding atomic and mol. orbitals 9-27880
- Ni-Nb (5, 10 at.%), oxidized specimen study using SEM, HEED X-ray diff. and ion backscattering anal. (Japanese) 9-24651
- PbTe(Se) vacuum deposited thin films, struct. and growth 9-19482
- Si, Bloch waves, corresponding atomic and mol. orbitals 9-27880
- high-energy nuclear reactions and scattering** see nuclear reactions and scattering
- high fidelity amplifiers** see audio-frequency amplifiers
- high field effects**
- see also Gunn effect; hot carriers; impact ionisation; limited space charge accumulation; Poole-Frenkel effect; Schottky effect; Zener effect
- amorphous semiconductors props., principles and appl., w.r.t. electronic band state (Japanese) 9-23979
- argon liq., expt. results 9-4587
- chemical relaxation spectrometry, new electric field methods 9-8586
- current density under high elec. field 9-28352
- galvanomagnetic phenomena, difficulties in nonlinear theory 9-11151
- krypton liq., expt. results 9-4587
- noncentrosymmetric crystals, subjected to strong elec. field, theory of transport phenomena 9-11136
- organic liquids, expt. results 9-4587
- piezoelectric semiconductor, acoustohelicon waves, parametric excitation 9-38135
- polycrystalline semiconductors, electrical conductivity theories (Czech) 9-42537
- polyethylene, relation between electrostatic capacity and electronic space charges induced by high field 9-15154
- polyethylene films, low density, γ-irrad., elec. cond., effect of elongation 9-4564
- polyethylene terephthalate, Mylar C film, high field relaxation currents 9-11259
- semiconductor, carrier capture by attractive centres in strong elec. fields 9-11144
- semiconductor, doped photoemission, calc. of escape probability of electrons (Russian) 9-24408
- semiconductor, IR transmission, cond. variations effects 9-15158
- semiconductor modelling, bulk, negative-cond., transverse spreading of high-field domain, two-dimens. simulation and equivalent cct. model 9-1602
- semiconductor spectral noise meas. between 30 and 400 MHz, pulse technique device (German) 9-47134
- temperature sensitive semiconductors, AC thermal theory 9-11131
- xenon liq., expt. results 9-4587
- (As₂S₃)_{2-x}(PbS)_x, 9-42553
- Cd,Hg_{1-x}Te, strong elec. field effect on galvanomagnetic effects 9-11159
- CdInGaS₄Au, single crystal, thermostimulated conductivity (Russian) 9-11142
- CdS, photocond. cryst., stationary and non-stationary temperature-electric instabilities 9-7833
- p-CdTe:Cl, mech. of electron recomb. 9-11176
- Qu, discontinuous film, ageing effect on elec. cond. 9-24084
- EuO, excitation of spin waves by current carriers, magnetisation and elec. cond. reduction (Russian) 9-7981
- n-GaAs, IR transmission, cond. variations effects 9-15158
- GaSe, thin film, photoelectrical props. at high electric field (Russian) 9-11247
- n-Ge, noise, small signal conductivity and diffusion in strong elec. fields 9-11192
- p-Ge, stretched along {111} axis, bulk negative differential cond. and current oscills., 78K 9-19601
- Ge surface, field penetration and band bending in high elec. fields 9-42613
- ³He, liq., positive ion nonlinear behaviour, expt. and parameterless theoretical prediction comparison 9-14978
- InSb, mobility from soln. of Boltzmann eqn. for electron-LO phonon scatt. 9-19586

high field effects continued

- MgO, defect aggregation and thermal-electric breakdown, TEM obs. 9-42069
 MgO, elec. field effects on cond. above 1300K, elec. breakdown 9-42551
 Pb chalcogenides, elec. cond. anisotropy in strong electric fields (*Russian*) 9-38082
 n-Si, electron-phonon scatt. and high-field transport 9-42552
 Si resistors, polycryst., elec. props. in nonlinear regime, grain boundary trapping model 9-38204
 Si surface, field penetration and band bending in high elec. fields 9-42613
 SnCl₂·2H₂O layered single cryst., protonic cond. and crit. behaviour 9-28136
 ZnO, hot-electron microwave conductivity, hot-electron, high DC field 9-38113
 ZnS, refr. index oscills. in strong. elec. field 9-28720
 ZnS_{1-x}Se_x/Cu,B ceramic, current oscills. and electrolum. under high elec. fields 9-38677

high-frequency amplifiers

- see also microwave amplifiers*
 pulse generator, HF oscillator with single coil transducer, for NMR spectrometer 9-2802
 RF preamplifier, tunable, low-dissipation, for low temp. NMR appls. 9-17458

high-frequency discharges

- air, microwave breakdown field calc., resonator and rectangular waveguide expt. 9-41789
 combined RF and LF discharges 9-23477
 density perturbations following pulsed discharge, laser beam obs. method 9-7498
 magnetic field, effect on alternating elec. field of HF discharge plasma (*Russian*) 9-37559
 microwave breakdown in gases, Schwinger variational principle 9-41788
 microwave cavity discharge, behaviour at various press. and flow rates 9-23467
 microwave discharge, plasma probe characts. affected by microwaves 9-10733
 photoelectron spectroscopy for investigation of excited molecules formed by HF gas discharge 9-36455
 plasma, resonantly sustained, by Tonks-Dattner resonance 9-4142
 pulsed microwave inert gas discharge, ion composition, mass spectra 9-14616
 RF discharge, neutral gas entrainment, rot. mag. field 9-10737
 second-step discharge meas. and equivalent cct. 9-7505
 spectral line widths in HF plasma diagnostics 9-10708
 stellarator plasma, drift instability, stabilisation by AC elec. field (*Russian*) 9-7459
 Ar, excited atoms and metastable state densities meas. 9-14606
 Ar HF torch discharge, spectral diagnostics 9-14607
 Ar, high-frequency discharge, spectral parameters meas. (*Russian*) 9-10742
 CO₂, plasma-chemical dissoc. in nonequilibrium. UHF and high freq. discharges 9-15990
 CO₂-N₂-He laser, pulsed microwave discharge pump, skin effect and gain 9-13945
 HCN+acetylene, cyanodiacyetylene form. in RF discharge 9-5156
 He-Ne waveguide lasers, HF discharge stability 9-18401
 Ne, laser fluoresc. spectroscopy in microwave discharge 9-36578
 Ne, RF discharge, emission modulation due to fast electron distrib. time variation 9-41900
 O, RF capacitively coupled low press., spatial and temporal emission spectroscopy 9-27847
 Xe, isotope separation in RF discharge light inert gas admixture effects 9-41250

high-frequency effects

- see also helicons; hot carriers; skin effect; solid-state plasma*
 compensated semiconductors, HF impedance 9-15212
 conducting medium in const. mag. field, two EM waves secondary field generation 9-36828
 conductor, EM wave penetration, effect of impurities and spatial dispersion 9-7813
 degenerate semiconductors, EM absorpt. theory 9-33307
 negative conductivity of media with inhomogeneous distrib. of mobility in crossed E- and H-fields (*Russian*) 9-1606
 piezoelectric semiconductor, acoustohelicon waves, parametric excitation 9-38135
 self-oscillating semiconductor medium, coupled temp. and carrier density self-oscills., photoelectron heating, microwave field 9-11166
 semiconductor, electrical instability, negative differential cond., electron heating by static and alternating elec. fields 9-11165
 semiconductor, inertia of Benedicks effect in carrier heating by microwave field 9-15173
 semiconductor, IR transmission, cond. variations effects 9-15158
 semiconductor, microwave magnetoconductivity in large quantising mag. field, effect of band non-parabolicity 9-47112
 semiconductor, n-type, mag. and elec. dims. reson., gyrotropic sphere problem 9-42570
 semiconductor, possible appearance of negative differential conductance at microwave freq. 9-11164
 semiconductor surface-state props., using field effect anal. 9-24053
 semiconductor with negative differential conductance, amplification of HF waves 9-15177
 superlattice, nonlinear plasma oscillations in high freq. elec. field 9-19612
 TCNQ salts with asymmetric donors, transport props. 9-23953
 type I superconductor, order parameter, influence of HF fields 9-28486
 Ag-Cu eutectic composite wire, HF conductivity and skin effect 9-33305
 Bi, magnetoplasma waves in strong mag. fields at 300 GHz 9-38116
 Bi-Sb, magnetoplasma waves in strong mag. fields at 300 GHz 9-38116
 CdCr₂Se₄/Ag, ferromag. linewidth and eddy current losses 9-33541
 EuO, HF conductivity meas. 9-33304
 EuSe, HF conductivity meas. 9-33304
 n-GaAs, epitaxial, thermoelec. power, temp. depend. in mm wavelength range 9-23996
 n-GaAs, IR transmission, cond. variations effects 9-15158
 GaAs:S(Se), ion implanted, evaluation by contactless mobility meas. 9-1448
 Ge, exciton condensate and electron-hole droplet, metastable state, effect of illumination and high-frequency heating 9-15097
 Ge oscillator, hysteresis effects and N-shaped V-I characts. 9-33306

high-frequency effects continued

- n-InSb, helicon wave propag., quantum mechanical features 9-42571
 p-InSb, oscills. of microwave photocond. and cyclotron reson. of photoelectrons 9-28377
 LiAlSiO₄, β-eucryptite, superionic conductor, order-disorder transition, microwave impedance obs. 9-14966
 MgSO₄, aq. soln., electrolytic conduct. affected by US waves 9-23997
 Nb wire interaction with stationary gases in high vacuum, HF fields effects (*Polish*) 9-34394
 Se, amorphous film, AC conductivity at radio and microwave frequencies 9-11248
 n-Si, nonlinear birefr. and dichroism at microwave freqs. and intervalley scatt. 9-19602
 Sn-SnO-Sn Josephson tunnel junction, temp. depend. of cosφ conductance, plasma reson. expt. 9-33405
 ZnO, hot-electron microwave conductivity, hot-electron, high DC field 9-38113

high-frequency electronic transport *see high-frequency effects***high-frequency heating *see radiofrequency heating*****high-pressure effects in solids**

- see also high-pressure solid-state phase transformations; piezo-optical effects*
 alkali halide crystals, Szigeti effective charge parameter, strain derivative 9-7571
 alkali halides, props. under hydrostatic press. 9-38436
 alkali metal tungsten bronzes, superconductivity at press. up to 20 kbar 9-38226
 benzene, mol. reorientationally disordered phases, thermodynamics 9-46782
 Bridgman anvils, optimal distrib. of stresses 9-23679
 chemostress effect in ionic crystals and metals 9-28193
 diamond, research aimed at production of metallic form 9-42146
 diamond, sintered compact, stress-strain curves using ultrahigh-pressure apparatus 9-43322
 elastically nonlinear medium, self action force of dislocation loops (*Russian*) 9-27979
 equations of state of solids, comparison of theories using high-compression exptl. data 9-20779
 furan, mol. reorientationally disordered phases, thermodynamics 9-46782
 guanidinium aluminium sulphate hexahydrate:Cr³⁺, press. meas. from ESR 9-38375
 guanidinium gallium sulphate hexahydrate:Cr³⁺, press. meas. from ESR 9-38375
 heterophase systems, pressure-induced elastic fields, effective inclusion method 9-10502
 hexagonal crystals, elastic constns., finite strain theory (*French*) 9-1475
 homogeneous isotropic material, high press. eqn. of state and sound vels. to fourth order elastic constns. 9-37806
 hydrostatically compressed crystals, crack nucleation mechanism 9-10893
 longitudinal wave vel. and absorpt. in rocks and minerals at high press. and temp. 9-39704
 metal, Arrhenius plot of diffusion, curvature, disappearance under press. with single-vacancy model 9-10975
 naphthalene-d, press. depend. of lattice freqs. at 100K 9-46768
 polycrystals of anisotropic substances under hydrostatic press., microstresses 9-25231
 polydiacetylene, single cryst., polymerisation under hydrostatic press. 9-20367
 polyethylene, hexagonal, high press. crystn., review 9-23529
 polymer, amorphous, under press., glass transition phenomena, model 9-23706
 rocks, P-V meas., 5 to 45 kb (*Chinese*) 9-23676
 ruby, cryst. struct. and compression up to 46 kbar 9-37682
 seismic effective velocities of minerals, var. with press. and use in vel. prediction 9-44179
 steel, stainless, cylindrical shell reinforced with longitudinal separate ribs under external pressure pulse, critical pulse estimate 9-14884
 TGFB, ferroelec. Curie point press. coeff. tensor 9-33635
 TGS, ferroelec. Curie point press. coeff. tensor 9-33635
 TGSe, ferroelec. Curie point press. coeff. tensor 9-33635
 1,3,5-trichlorobenzene, ³⁵Cl NQR, high press. behaviour 9-33560
 Al, singularities of effect of pressure on stages of creep (*Russian*) 9-29134
 Al-Ge alloy, effect of high press. on phase equilibrium (*Russian*) 9-1844
 β-Al₂O₃·H₂O⁺, high press. thermal stability 9-23678
 β-Al₂O₃·NH₄⁺, high press. thermal stability 9-23678
 Cd, elastic constns., finite strain theory (*French*) 9-1475
 p-CdSb, elastic moduli depend. on hydrostatic press. up to 17 kbar 9-37755
 CeAl₂, electronic transition under pressure, resist. meas., rel. to mag. to nonmag. transition 9-33311
 Cr, anomalous US damping under hydrostatic press. 9-14890
 CsH₂PO₄, ferroelec., press. induced antiferroelectricity 9-4774
 Cu-Mn-Ni alloy, Manganin, elec. resist. under static pressures up to 110 kbar, pressure gauge appl. 9-1594
 CuCl, behaviour under press., possibility of superconductivity 9-38239
 CuCl, possibility of high temp. superconductivity 9-38238
 D₂, solid, equation of state 9-46781
 Er_{1-x}Gd_xRh₂B₄, supercond. and mag. transitions at press. up to 19 kbar 9-38236
 EuO, hydrostatic press. effects on elec. resist. in temp. range 3 to 300K 9-23968
 Fe close-packed phases, eqns. of state and implications for Earth core 9-20780
 Fe, single crystals, effect of hydrostatic pressure on plastic flow props., dislocation distribs. 9-38887
 Fe-C (30 at.%), production of Fe₂C₃ at high press., morphology and microstruct. (*Russian*) 9-38828
 Fe₈₀B₂₀, amorphous, crystn. temp. under press. 9-23523
 GaAs-Pb junctions, electron tunnelling under high press., transition temp., energy gap, phonon energies 9-15257
 Ge transparent IR window design for uniform pressure loading 9-23088
 GeO₂, α-quartz structure, compression mechanism 9-23673
 H₂, eqn. of state of megabar press. using z-pinch method (*Russian*) 9-33071
 H₂, solid, installation for isothermal compression up to 25 kbar, 60 to 130K 9-35769
 H₂, solid equation of state 9-46781
 InSb, hydrostatically pressed, negative differential cond. at room temp. 9-19600

high-pressure effects in solids continued

- KCN, Raman spectra, at very high press. 9-1759
 $K_2Pt(CN)_4Br_{0.3} \cdot 2.7D_2O$, under hydrostatic press., compressibility, neutron diff. 9-46742
 La-Ce, Kondo system, intermediate temp. supercond. under hydrostatic press. 9-24097
 $La_{0.8}Au_{0.2}$, amorphous supercond., T_c and fluctuation cond. under high press. 9-7935
 LaB_6 , elec. cond. under hydrostatic press. 9-7832
 $LaSn_3$, dilute alloy containing light rare earth impurities, press. depend. of supercond. transition temp. 9-47184
 Mg , elastic consts., finite strain theory (*French*) 9-1475
 MgO , thermal cond. up to 40 kbar 9-1533
 $Mg[Pt(CN)_4] \cdot 7H_2O$, high press. tuning of optical transitions 9-28813
 Mo , anomalous US damping under hydrostatic press. 9-14890
 N_2 , solid, far IR 4.2K absorption apparatus 9-30583
 $NaBr:Cu^{+}$, absorpt. spectra, pressure effects up to 6 kbar, comparison with $NaCl:Cu^{+}$ 9-4826
 $NaCN$, Raman spectra, at very high press. 9-1759
 $NaCl$, high press. eqn. of state and sound vels. to fourth order elastic consts., 270 kbar 9-37806
 $NaCl$, thermal cond. up to 40 kbar 9-1533
 Nb_3Ga , critical data, under hydrostatic pressure to 15 kbar 9-47217
 $NbLi$, metallic state, resistivity anomaly 9-15136
 NbN , critical data, under hydrostatic pressure to 15 kbar 9-47217
 NbN diffusion wires, crit. currents and supercond. crit. field under high press. 9-38287
 NbO_2 , semiconducting, elastic const., press. depend. at 296K 9-23672
 NbS , supercond. props. at press. up to 20 kbar 9-24111
 Nb_3Sn , critical data, under hydrostatic pressure to 15 kbar 9-47217
 Ne , phonon dispersion relation, Gruneisen parameters at high press. 9-42179
 Pb , P-V meas., 5 to 45 kb (*Chinese*) 9-23676
 $PbSe$, pressure tunable CW injection laser, emission spectra 9-18419
 $PbTe$ -based cpds., thermoelec. power and Hall effect under hydrostatic press. 9-23990
 $Pb(Zr,Ti)O_3:Nb$ ceramic, stress effects on ferroelec. hysteresis, macroscopic strain, US vel. 9-4778
 Pd , electronic states, effect of hydrostatic press. 9-11055
 $Pd-H$ system, thermodynamic props., 245-352°C, up to 34 atm. 9-23749
 $RbCl:Li^{+}$, new off-centre defect system, studied with dielec. techniques under hydrostatic press. 9-19834
 Ru , Fermi surface, influence of press. (*Russian*) 9-4501
 S , new form from decomposition of S_8N_4 9-10911
 S , transition to supercond. state at high press. (*Russian*) 9-7923
 S , transition to supercond. state obs. at high press. (*Russian*) 9-7922
 Sb , electronic structure change with press., pseudopot. calcs. (*Russian*) 9-47006
 $SbSi$, tricrit. point, NQR under press. 9-38469
 Sc , superconducting high-pressure phase 9-33378
 ScS , supercond. props. at press. up to 20 kbar 9-24111
 Se , amorphous, elastic props. at high press. 9-37753
 $\alpha-Si_3N_4$, lattice and atomic position parameters, neutron diff. study 9-42040
 SiO_2 , α -quartz structure, compression mechanism 9-23673
 SiO_2 , coesite, thermal cond. up to 40 kbar 9-1533
 SiO_2 , stishovite, thermal cond. up to 40 kbar 9-1533
 Sm monochalcogenides, semicond.-metal phase transition 9-47017
 $Sm_{1-x}R_x^{+3}S$, (R is rare earth metal), semicond.-metal phase transition 9-47017
 SmS , high-pressure mixed-valence phase, diagram and electronic entropy, neutron diff. obs. 9-33267
 TaS_2-NH_3 intercalation complex, press. induced diffusion effects, NMR study 9-19797
 TiN single crystals, supercond. T_c at high press. 9-38228
 TiO_2 , uniaxial stress depend. of direct-forbidden and indirect-allowed transitions, absorpt. edge obs. 9-42990
 Ti_2O_3 , press. depend. of elastic consts. at 296K 9-42134
 W , P-V meas., 5 to 45 kb (*Chinese*) 9-23676
 $WC-Co$ cemented carbide, stress-strain curves using ultrahigh-pressure apparatus 9-43322
 WF_6 , effect of high hydrostatic press. in reorientation and internal motion, ^{19}F NMR spectra 9-15364
 Xe , metallic state at static press., elec. cond. meas. 9-33313
 Xe , solid, high press. equation of state 9-37809
 ZN , anomalous US damping under hydrostatic press. 9-14890
 Zn , hydrostatically compressed single crystal, work hardening studied by stress relax. method 9-20069
 Zn , singularities of effect of pressure on stages of creep (*Russian*) 9-29134

high-pressure phenomena and effects

- see also high-pressure effects in solids
 asymmetric mixture vapour-liquid equilibrium calc. 9-4408
 basalt-seawater alteration reactions, studies via dynamic hydrothermal experimental system 9-5686
 benzene-toluene and benzene- α -xylene mixtures, US vels., compressibility, expan. coeff. 9-33038
 chloroform and -d, Raman spectra study of mol. reorientation 9-24303
 chlorotrifluoromethane, compressibility, 298 to 348K, Burnett expansion obs. 9-27733
 conference, Darmstadt, Germany (Mar. 1977) 9-23677
 cyano Schiff bases, high press. reentrant nematic bilayer smectic-A transition 9-28087
 cyanobiphenyls, high press. reentrant nematic bilayer smectic-A transition 9-28087
 cylindrical shells, dynamic behaviour under transient inner pressures 9-23215
 trans-decahydronaphthalene-polystyrene system, press. and mol. wt. depend. of polymer solubility 9-23734
 diamond formation from hydrocarbon dissociation, Hugoniot data, high temp. and press. 9-47927
 dynamic and static high-pressure event differences 9-21557
 Earth upper mantle, rare earths partitioning between silicate melt, amphibole and garnet peridotite 9-20775
 ethylene, pure, IR absorption obs. of C-H stretching fundamentals up to 2 kbar and 200°C 9-22701
 ethylene-polyethylene mixtures, phase behaviour under high-pressure, polymer mean mol. wt. influence 9-24745
 gas discharge prebreakdown processes, electrode surface inhomogeneity effects 9-14628

high-pressure phenomena and effects continued

- liquid, under high press., refr. index vs. density 9-28712
 liquid, under high press., refr. index vs. press. and strain 9-33668
 liquid crystal, viscosity-pressure behaviour rel. to transition pts. 9-23707
 melting-pressure curves, press.-temp. analysis 9-23697
 metals, contact melting, state of cryst.-liq. boundaries, influence of impurities and hydrostatic pressure (*Russian*) 9-37812
 nitrobenzene-aniline, US vel., sp. ht. and compressibility 9-33037
 oil, density change meas. at high pressure, using impact viscometer 9-14872
 OOBPD, smectic, DTA obs. of phase transitions to 3 kbar 9-23708
 optical fibre, multimode, optical loss changes caused by hydraulic pressure 9-41440
 organic compounds, high-pressure thermodynamics, review 9-24500
 oxidation-reduction reactions, thermal effects, appl. to undifferentiated earth 9-25218
 phase diagrams of specimens at high temp. and under tensile used for shear stress, theoretical exam. 9-7674
 polymer systems, phase dualism, gas-, liq.-like, appl. to compression effects 9-1388
 PWR pressure vessel vibration excitation, noise correlation and modelling 9-13442
 quinoline, liq., depolarised light scatt., 1-1800 bar 9-24327
 space charge limited current in N_2 and air, high pressure effect 9-32735
 thermometer, Pt resistance, up to 100 MPa, 294 to 1095K 9-6124
 vapour-liquid equilibrium, high press., quantitative description 9-14923
 vapour-liquid equilibrium, high pressure experimental technique 9-42227
 vapour-liquid equilibrium, quantitative description 9-1486
 Ag, adsorption of O, surface species identification by XPS, high press. 9-28191
 CO_2 , fugacity at high temps. and press. from exptl. decarbonation reactions 9-16439
 $CaO-Al_2O_3-H_2O$ system, chemical degradation under high gaseous pressure and temp. 9-20464
 H_2 , viscosity meas., 25-100°C, up to 120×10^5 Pa 9-32731
 H_2-NH_3 mixture, viscosity meas., 25-100°C, up to 120×10^5 Pa 9-32731
 3He -superfluid 4He mixture, dispersion law of 3He quasi-particles under press. (*Russian*) 9-42336
 NH_3 -ethylene (propylene) mixtures, crit. curves at high-pressure. 9-23715
 $NaAlSi_3O_8$ melts quenched at high press., struct. from IR and Al K-radiation data 9-32907
 $NaAlSi_3O_8$, albite, melt, viscosity and struct. changes at high press. 9-29754
 $Ne-Kr$, partially miscible mixture, high press. mol. dynamics using Lennard-Jones pot. 9-14929
 SF_6 thermal cond., 230-350K, up to 50 MPa 9-33123
- high-pressure solid-state phase transformations**
 alloy steels N30 and N29T, press. effect on reverse martensitic transform. and mech. props. (*Russian*) 9-38824
 benzene, cryst., press. depend. of nuclear spin-lattice relax. time 9-28635
 benzene derivatives, solid, phase transition under press., IR spectra 9-38531
 Bi, polymorphic transition up to 30 kbar, neutron diff. investigation 9-14723
 coke, pressure effects on structure, polymorphic transitions X-ray diff. anal. 9-1859
 ferroelectrics, hydrostatic press. effect on phase transitions 9-15413
 graphite, pressure effects on structure, polymorphic transitions, X-ray diff. anal. 9-1859
 Gruneisen parameter, influence of press.-induced phase transitions 9-1497
 Gruneisen parameter in Landau theory for pressure-induced phase transitions 9-34807
 hexafluorobenzene, cryst., press. depend. of nuclear spin-lattice relax. time 9-28635
 inorganic compounds, polymorphic phase transform. rel. to temp. and press. 9-8289
 intermetallic compounds, press. depend. of martensitic and supercond. transition temp. 9-19681
 methane, solid, high press. PMR, second moment 9-8059
 plastic crystal, DTA obs. 9-23540
 PTFE, Raman spectra obs. of high press. phase conformal deform. 9-1757
 pyrophyllite, phase transform. promoted by water under ultra-high press., high temp., technical appl. (*Chinese*) 9-1499
 quartz, shock-loaded, IR spectroscopic studies, solid-state glass prod. 9-19157
 RbBr, structural phase transition, Born-model and effects of hydrostatic and non-hydrostatic stresses 9-23721
 semiconductor, homologous series, semicond.-metal transitions, homeomorphous, polymorphous and morphotropic transitions 9-37988
 Solenhofen limestone, II-III transition rel. to high press. US propag. 9-29756
 tetracene: pentacene, pressure-induced phase transition, mag. field effect on guest fluoresc. 9-33083
 tetramethylammonium tetrachlorocobaltate, ferroelec., effects of hydrostatic press. on successive phase transitions 9-47402
 tetramethylammonium tetrachlorozincate, ferroelec., effects of hydrostatic press. on successive phase transitions 9-47402
 BN, martensitic character of transition from wurtzite-type to graphitelike modification 9-43248
 BN, polymorphic modifications form. under low and high press. 9-15597
 $Ba_2NaNb_2O_{15}$, high-pressure phase transitions, ferroelastic phase 9-7687
 C, polymorphic modifications form. under low and high press. 9-15597
 $Ca_2Al_2SiO_7$, gehlenite, new high-pressure phase, rel. to Earth interior 9-29753
 Ca_2GeO_4 , with K_2NiF_4 -type struct., high press. decomp. 9-1507
 Ca_2MnO_4 , with K_2NiF_4 -type struct., high press. decomp. 9-1507
 CdS, porous, dynamic phase transition at high press. 9-23723
 Ce, α' high pressure phase cryst. struct. 9-23565
 Ce, thermopower behaviour under press. up to 7500 MPa γ - α and α' -transitions 9-47083
 Cu-Pd alloy, pressure effect on β -phase transition by elec. resist. meas. 9-15660
 CuCl, high press. phases and anomalous props. 9-7689
 Fe-Mn (22 wt.%), ϵ - γ transformation, effect of H_2 pressure up to 23 kbar on transition temp. (*Russian*) 9-24517
 Fe-Ni alloys, influence of hydrostatic press. on γ to α' transform. during plastic deform. (*Russian*) 9-15663
 GaSb, single crystal, stress-induced phase change 9-23720

high-pressure solid-state phase transformations continued

- Ge, single crystal, stress-induced phase change 9-23720
 H_2 , eqn. of state of solid and liq. phases, metallic state (*Russian*) 9-19354
 InAs, single crystal, stress-induced phase change 9-23720
 In₂Bi, press.-induced supercond. phase transform. 9-24099
 InSb, single crystal, stress induced phase change 9-23719
 InSb, sputtered NaCl-type compression 9-46751
 K₂PO₄, struct. at high press. in rel. to effect of press. on T_c 9-42915
 KF, high press. B1 to B2 phase transition, X-ray diffr. obs. 9-23722
 KH₂PO₄, struct. at high press. in rel. to effect of press. on T_c 9-42915
 KH₂PO₄, tricrit. point, neutron diffr. study under high press. 9-33624
 KH₂PO₄-type crystals, H bond in ferroelectricity, role of high pressure research 9-15414
 KMnF₃, exciton line and magnon satellite in UV spectrum at high press. (*Russian*) 9-4517
 K₂Mn₂(SO₄)₃, phase transition press. effect, dielectric const. meas. 9-37834
 K₂SeO₄, incommensurate phase transition, stress depend. of T_c 9-4391
 K[Ag(CN)₂], Raman scatt., press.-induced phase transitions and phonons 9-33698
 LaF₃-La(OH)₃, high pressure phases, X-ray diffr. and IR spectroscopic anal. 9-47679
 LiND₄SO₄, ⁷Li and ²D NMR exam. of high-pressure phase 9-11396
 LiNH₄SO₄, ferroelect. and press. induced phase transitions 9-38473
 MgF₂ (rutile), high-pressure phase transformations 9-44181
 MgVO₃, high-pressure modification, struct. and mag. props. 9-23727
 MnNiGe, coupled nature of mag. and struct. transition under press. 9-8033
 ND₄I, Raman spectra at high press. 9-47459
 NH₄Br, order-disorder phenomena, high press. US investigation 9-37835
 NH₄LiSO₄, ferroelec., hydrostatic press. effect on I-II phase transition, dielec. meas. 9-38496
 Ni(NH₃)₆(NO₃)₂, jumpwise vol. change in structural phase transition 9-42233
 P, red to black conversion in quasiisotropic compression 9-33036
 PbZrO₃ based ceramic, press. induced ferroelec. to antiferroelec. transition 9-23723
 RbCl, sp. ht., at phase transition 9-7701
 RbCl, structural phase transition, Born-model and effects of hydrostatic and non-hydrostatic stresses 9-23721
 RbCl:Li⁺, new off-centre defect system, studied with dielec. techniques under hydrostatic press. 9-19834
 RbF, high press. B1 to B2 phase transition, X-ray diffr. obs. 9-23722
 RbI, press. depend. of λ nucl. relax. press. induced polymorphic transform. study 9-1720
 RbMnCl₃, high-pressure cubic phase, mag. props. 9-47260
 Se, amorphous, struct. and elec. cond. transitions under high press. 9-42237
 Si-O bonds, cryst. chem. at high press., rel. to Earth mantle mineralogy 9-48470
 SiC, phase transition under isostatic press., microhardness meas., -196 to 1700°C 9-19318
 SmS-GdS system, crit. effects and phase equilibria 9-7692
 TiMnCl₃, sp. ht. and latent heat, under press. 9-7694
 WF₆, effect of high hydrostatic press. in reorientation and internal motion, ¹⁹F NMR spectra 9-15364

high-pressure techniques

- ampoule for NMR meas. of self-diffusion coeffs. of liquid molecules under pressure 9-35773
 apparatus for low-temp./high pressure Mossbauer absorber study, modified 9-17591
 apparatus for magneto-transport and far IR magneto-optical expts. 9-35708
 autoclave process for high-press. polymerisation of ethylene 9-24744
 cell for depolarised light scatt. from liquids (*German*) 9-21799
 compression device for high-pressure production in elastoplastic media 6-piston 100 kbar 9-35774
 compression installation, isothermal, for solid H_2 up to 25 kbar, 60 to 130K 9-35769
 conference, Darmstadt, Germany (Mar. 1977) 9-23677
 cubic-anvil type pressure apparatus, resistance meas. of Manganin wire 9-44919
 diamond anvil cell, for high press. far IR obs. 9-12874
 diamond-window pressure cell, sustained static generation at 1.36' to 1.72 megabars 9-17438
 dynamic hydrothermal experimental system, for seawater-basalt reactions study 9-35686
 ethylene polymerisation plant, high-press. equipment design 9-24746
 fluid pressure generation and measurement equipment, up to 2700 MPa 9-21763
 gas-discharge tubes, device for filling and sealing 9-35772
 hydrostatic liquids for obs. of NMR of ¹H at high press. and low temp. 9-2801
 hydrostatic pressure cell, up to 90 kbars, elec. and mag. meas. appls. 9-17436
 laboratory for chem. engng. development 9-21507
 materials synthesis at high press. 9-47645
 micron-thick specimen preparation 9-17408
 multichannel surface spark gaps 9-18436
 optical chamber with fixed pressure up to 16 kbar, single-window, 1.5-300K 9-35770
 oxidation process development (*Japanese*) 9-29249
 porosimetry technique for up to 6 kbar, Hg porosimeters design 9-21761
 pressure balance standards of NPL and PTB, intercomparison expts. 9-21764
 pressure-jump apparatus suitable for repetitive experiments 9-17437
 pumps, piston and diaphragm type, for high press. use (*German*) 9-21762
 tetrahedral type high press. apparatus, effect of intensification plate on press. (*Japanese*) 9-40590
 thermal neutron high press. sample container for diffr. and spectroscopy on fluids 9-46513
 thermal neutron scatt. of condensed matter under high press. 9-37592
 ultimate shear stress meas. by modified impact viscometer at high pressures 9-18980
 ultramicrospectroscopy, mid IR, using gasketed diamond anvil cell 9-44955
 vapour-liquid equilibrium, high pressure experimental technique 9-42227
 X-ray diffraction, oscillating diamond anvils for high press. work 9-4209

high-pressure techniques continued

- X-ray diffractometer, automatic four-circle, for high-press. struct. investig. 9-23495
 O_2 , isotopically enriched, prep. and storage under press. 9-29620
high-temperature phenomena and effects
see also refractories
 baddeleyite-corundum refractories, fused, elec. resist., 1300-2300°C 9-28345
 crack growth at high-temp., fracture mech. appl., review 9-41628
 diamond formation from hydrocarbon dissociation, Hugoniot data, high temp. and press. 9-47927
 Earth upper mantle, rare earths partitioning between silicate melt, amphibole and garnet peridotite 9-20775
 glass tank furnace, physical models, selection criteria for liquids to simulate melted glass 9-8263
 LMFBR, post-accident containment, high-temp. behaviour of concrete 9-31000
 longitudinal wave vel. and absorpt. in rocks and minerals at high press. and temp. 9-39704
 PVC, rheology, viscoelasticity, panel discussion 9-3984
 pyrophyllite, phase transform. promoted by water under ultra-high press., high temp., technical appls. (*Chinese*) 9-1499
 Ukrainian shield rocks, correls. of electrical parameters at high temps. (*Russian*) 9-8628
 Ag₂Te, liq., elec. cond. at high temps. and pressures 9-11119
 CO₂, fugacity at high temps. and press. from exptl. decarbonation reactions 9-16439
 Fe close-packed phases, eqns. of state and implications for Earth core 9-20780
 FeV₂O₆, free energies of form., 1400-1750K, electrochem. method determ. 9-43613
 NaCl:Sr, Cottrell effect and thermal decomposition 9-20351
 Nb₂O₅, carbothermal reduction in N₂ intermediate phases 9-11773
 Rb₂ZnCl₄, ³⁵Cl NQR, incommensurate struct. phase transition 9-47401
 TmSe, nonstoichiometry, high temp. chem. and valence instability (*German*) 9-23743
 W, surface, self-diffusion coeff., determ. from van der Mast's expt. data between 3000-3600K 9-11011
 ZrC-TaC solid solns., high-temp. creep 9-11661
 ZrN-NiO, solid-phase reactions 9-11774

high-temperature techniques

- see also pyrometers; refractories*
 acoustic thermometers with W resonators 9-32153
 education, positron annihilation in solids, high temp. vacuum chamber for source protection, crystal defect obs. 9-9068
 IR spectroscopic measuring cell, appl. to benzene adsorption on γ -alumina (*German*) 9-28757
 laser Doppler anemometry of high-temp. industrial gas flow (*German*) 9-10618
 liquid chromatography, automatic, Waters GPC 150C equipment, polymers appl. 9-10806
 LMFBR safety application of US thermometry 9-45400
 measuring chamber for high-temp. investigations of opt. characts. of materials 9-21798
 metallography, high temp., attachment, appl. to graphite form. on super-saturated solid soln. surfaces 9-29306
 metals, thermal props. at high temps. meas., acoustic method 9-14222
 optical cuvette, high temp., for transmission spectra meas. over 2-13 μ m, 300-1600K ranges 9-2839
 reflectivity measurement of specular sample, Fourier transform spectrometer alignment 9-17498
 semiconducting ceramic, meas. cell and setup for elec. resist. meas. 300-1400°C 9-30488
 solution calorimetry, appl. to enthalpy of formation of B₄C at 1320K 9-11814
 thermal conductivity meas. of refractories above 1000°C 9-202
 thermostat system, automatic, for high temps. 9-6112
 vapours and gases, high-temp. characterisation, conf., Gaithersburg, USA (Sept. 1978) 9-40579
 X-ray diffractometer furnace, temp. calibration using eutectic transitions of alloys (*Japanese*) 9-6128
 Ga and alloy high-temp. couplants for acoustic transducers 9-14195
 LaAlO₃ perovskite electrolytes for high-temp. fuel cells 9-29467

high vacuum gauges see vacuum gauges**high-voltage engineering**

- see also high-voltage techniques*
 superconducting magnet HV insulation problems 9-30512
 SF₆-gas mixtures electric breakdown 9-37438

high-voltage techniques

- air gap corona pulse delay obs. and HV insulation design 9-19117
 DC voltage meas., transducers using solid-state sensors 9-44916
 electron gun power supply protection 9-44989
 electron microscopy, total scatt. cross-section obs. 9-21859
 HV pulse controller and temp. monitor microcomputer-based, Kerr effect study appl. 9-6103
 particle radiation therapy constraints and requirements 9-20622
 pulsed corona meas. in coaxial electrode structures 9-19114

history

- albumen paper, manufacture and use 9-35515
 ancient Mesopotamia, barley harvest dates rel. to temp. 9-5597
 angle-resolved photoemission, exptl., Adelaide Univ., 1908 9-30187
 astrolabes, Setalala collection in Ambrosian picture gallery, Milan (*Italian*) 9-35132
 asymmetric C atom, case history for independent discovery, inductivist model 9-25821
 atomic physics, in USSR, development 9-9069
 calotypist-photographer correspondence (1841-7) 9-21515
 charged cosmic ray particles, fiftieth anniversary of discovery, review 9-2448
 chemical compound structure, historical review (*Danish*) 9-9071
 chemisorption on metals, historical review 9-46920
 chronometers for maritime use, 1770-1920 9-39
 climatology, review 9-16641
 continental drift, Arthur Holmes' convection hypothesis 9-12559
 continuity of scientific ideas, problems rel. to evaluation and assessment, review 9-44694
 continuum mechanics and field theory, role of Thomson and Maxwell 9-17179
 cosmologies of Lemaître and Freidman in the modern context (*French*) 9-2581

history continued

covariance principles, Einstein study, 1912 to 1916 9-40343
 Dancer microphotographic emulsion identification 9-17177
 de Saussure, H.-B., first mountain meteorologist 9-21513
 dilution refrigeration 9-41
 Duane, William (1872-1935), life and work 9-30183
 Earth density structure, Bouguer formula of 1749 rel. to gravity corrections 9-29692
 Einstein and general relativity, historical perspectives 9-40316
 elasticity, its development during the 17th and 18th centuries 9-17167
 electrocardiological work of W. Einthoven (1861-1927) 9-35514
 EM induction discovery, teaching 9-44682
 energy science and technology in Belorussian SSR, historical review (*Russian*) 9-35516
 Europe, climatic and human history rel. to Latin American comparison 9-2590
 extraterrestrial radio emission detection, Jansky's original 1932 data 9-17144
 Faraday's denial of electrostatic action at a distance, conceptual and expt. bases 9-17180
 free electron devices for light prod., history, book contrib. 9-27147
 fundamental physics research in India in last three decades 9-17178
 Gay-Lussac, biography 9-25815
 geology, methodologies of Gilbert and Chamberlin 9-17182
 glaciers structure, obs. by Forbes and Agassiz and dispute over priority 9-17181
 Harriot, Thomas, 1560-1621, biography, astronomical instruments and obs. 9-35512
 Johann Georg von Soldner and the gravitational bending of light, with an english translation of his essay on it published in 1801 9-17176
 Joseph Everett, and King's College Observatory, Nova Scotia 9-34
 Joseph Henry (1797-1878) (*Czech*) 9-44689
 Lambert, Johann Heinrich, 1728-1777, contribs. to philosophy, mathematics, astronomy and cartography (*German*) 9-17174
 laser development, recollection by Townes 9-21517
 Latin America, climatic and human history rel. to European comparison 9-2590
 Lichtenberg figures 9-44693
 Liege, Meteorological events in the 15th century (*French*) 9-2328
 liquefaction of air, from Cailletet and Pictet to microkelvin 9-40
 lunar megalithic sites in Britain, reconsideration 9-8854
 lunar transient phenomena, catalogue of observations, 1178-1977 period 9-21208
 magnetism from Maxwell to discovery of electron spin (*German*) 9-25816
 Marconi's scientific activity, role of his discoveries in radio research 9-17172
 Mayer waves, history and methodology 9-29537
 meteorite falls, science and social intelligence about anomalies 9-40346
 meteorological notes from Charles Darwin's voyage on the Beagle 9-17173
 Michelson experiment seen 90 years after first execution (*Italian*) 9-17175
 N-particle problem, reduced density operators, theory, historical review 9-5945
 neutron scattering research, early developments 9-44696
 Newton's views about space and time 9-38
 nuclear energy, historical review of peaceful use in Belorussia (*Russian*) 9-35517
 nuclear reactor pressure vessels, pre-stressed concrete, historical review 9-601
 Oklo natural nuclear reactor, discovery and reactor parameters, geological formation 9-2240
 palaeoclimatology, overview, and European air temp. trends (*German*) 9-16639
 pendular motion theory, pre-Galilean era 9-37
 Periodic Comet Halley, historical records rel. to orbital evolution tendency (*Chinese*) 9-16886
 phase transitions, theory 9-44695
 phoenix of nature, fire and evolutionary cosmology in Wright and Kant 9-5764
 physics teaching methods, of Joseph Henry, biographical review 9-44692
 ponderomotive forces, past controversies, discussion 9-41263
 Ptolemy, Galileo, and scientific method 9-25819
 radiation chemistry in Czechoslovakia, past history and present status (*Czech*) 9-21516
 radioastronomy, pioneering work by Jansky, and Penzias and Wilson 9-44655
 radioastronomy evolution and Cygnus A (*French*) 9-40287
 rainfall recording at Oxford, England, since 18th century 9-29810
 Royal Meteorological Society 9-2376
 'Siderius nuncius' composition, dating from Galileo's lunar observations 9-8853
 simple fluids, dynamics, history of inelastic neutron scatt. determ. 9-46539
 solar cycles during 1540-1700 period, from solar and auroral obs. 9-21267
 superconductivity (*French*) 9-7931
 supernovae, historical records, book 9-17002
 tesla (T) unit acceptance in SI system for magnetic induction (*Slovenian*) 9-40526
 tree-ring evidence of past climatic variability 9-16642
 ultrasonics, historical aspects 9-46105
 United Kingdom Climatological Network, history and role of co-operating observers 9-5618
 Venus 1151 year period discovery, Babylonian or Persian? (*German*) 9-35166
 wet printing systems development and future 9-21826
 wireless transmission, 1900-1935, early ionospheric research 9-9070
 X-ray crystal optics, diffraction topography and interferometry (*German*) 9-46508
 X-ray photoelectron spectroscopy, development (1900-1960) 9-12560
 Young Avestan and Babylonian calendars and the antecedents of precession 9-48693
 ^3He , superfluid phase discovery (*Polish*) 9-37894
 O I and N I forbidden lines emission in nightglow, historical review 9-5699
 Pd, discovery and elemental nature, Wollaston/Chenevix controversy 9-30185
 ^{236}U , as extinct natural parent of Th, premature falsification of correct theory 9-30186

HIxE see ion microprobe analysis

HMO calculations

alternant hydrocarbons, polarisabilities rel. to bond orders using Huckel's method (*French*) 9-31405
 1,2-dicyanocyclopropane, stereomutations, isomerizations, reaction rate consts., extended Huckel calcs. (*Italian*) 9-20348
 quantum chemistry, simple approximation method (*Hungarian*) 9-3341
 quantum chemistry, spin-free, particle-hole and pairing symmetries 9-6812
 three-centre systems, charge transfer effects and Huckel parameters, mapping concept (*German*) 9-22604

H_3O^+ see hydroxonium ion

hobby computing see personal computing

hodoscopes see cosmic ray apparatus

hole mobility see carrier mobility

hole theory of liquids see liquid theory

hole traps

see also electron traps

amorphous material, trap-controlled transient current injection, models of trapping level 9-23984
 MOS, charge build-up due to radiation, mathematical model 9-19667
 MOS capacitors, irradiated and avalanche injected, trapping effects 9-19669
 multilevel trapping fluctuation processes spectral props. of physical processes of Markov-correlated events 9-21665
 naphthalene, deep exponential distrib. of traps, long-time decay of surface pot. 9-47041
 α -quartz, X-irrad., paramag. $\text{Ag}_2^+/\text{AlO}_4$ centre, EPR obs. 9-28612
 semiconductor, photo-EMF during charge carrier trapping (*Russian*) 9-42574
 semiconductor, recombination and generation mechanisms, band-type models exhibiting phase transitions 9-47049
 semiconductor, recombination at deep traps, review 9-38100
 semiconductors, Auger recombination processes 9-38091
 semiconductors, capture of carriers by attractive centres 9-7836
 semiconductors, recombination processes, review 9-38088
 AgBr, Stark effect on I-bound exciton 9-28719
 Al_2O_3 , X-irrad., electron and hole traps, TSC and optical bleaching meas. 9-28356
 $(\text{As}_2\text{S}_3)_{0.55}(\text{Sb}_2\text{S}_3)_{0.45}$ vitreous film, dispersive charge transport, time-of-flight meas. 9-19594
 As_2Se_3 :Ag, amorphous, doping effect of gap states and elec. cond., dielec. relax. and DC cond. meas. 9-47098
 As_2Te_3 , charge screening length 9-23974
 $\text{As}_{40}\text{Te}_{40}\text{Si}_{12}\text{Ge}_{10}$, charge screening length 9-23974
 CdS, hole-capture coeff. of deep charged centres, temp. depend., photocurrent meas. 9-7804
 GaAs, LPE, deep levels rel. to growth conditions 9-28314
 GaP:N VPE layers, thermal emission energies, trapping, and carrier lifetimes, deep level capacitance spectroscopy 9-42487
 n-Ge, electron irradiated, energy levels 9-28316
 Ge FET, fabrication on high purity substrate 9-45579
 Ge, high purity, carrier trapping 9-47104
 Ge, light scattering, by pure single cryst., influence of photoexcitation 9-28780
 Ge p-n diodes, deep level transient spectroscopy 9-47105
 $\text{Ge}_{1-x}\text{Se}_x$ chalcogenide glasses, trap-controlled carrier mobility, time of flight meas. 9-4557
 $\text{Ge}_{1-x}\text{Se}_x$ chalcogenide glasses, drift mobility of optically injected carriers 9-19627
 KCl:TL, effective cross sections ratio of charged and neutral centres for holes and electrons (*Russian*) 9-28319
 KCl:TL, low-temp. ionisation of activator, photoexcitation, in region of interzone transitions (*Russian*) 9-28320
 MgF_2 : Fe^{2+} , γ -irrad., F-centres, Fe^{2+} ion hole traps, absorpt. and EPR meas. 9-7598
 Si, deep level transient spectroscopy (*French*) 9-11079
 Si, neutron-produced defects, deep level transient spectroscopy 9-47047
 Si:B, hole trapping by B atoms at low temps. 9-7837
 Si:B effect of elec. field on carrier capture by attractive centres. 9-11145
 p-Si- As_2S_3 isotype crystalline-amorphous heterojunctions, electrophysical props. 9-24063
 Si-SiO₂ interface, inversion layer transport, radiation hardness effects, review 9-19673
 ZnP₂, trapping levels, TSC and thermolum. meas. 9-15115

hollow cathodes see cathodes

holmium

see also nuclei with

atom, keV electron impact, L X-ray prod. cross section 9-18293
 elastic constants, 80-140K, 95K anomaly and annealing 9-46734
 electron irradiated, defect annealing, recovery spectra 9-23648
 germanate glass: Ho^{3+} , absorpt. and emission 9-11439
 liquid, struct. factors, high temp. X-ray diff. obs. 9-7544
 rare earth compound: Ho^{3+} , phosphors, active layer effective thickness calc. (*Russian*) 9-43039
 thermophysical properties at high temps., exam. (*Russian*) 9-28105
 X-ray L_{III} absorption edge, white line struct. 9-15560
 $3\text{Al}_2\text{S}_3\text{La}_2\text{S}_7\text{Ho}^{3+}$, radiative and multiphonon relax. 9-33794
 $3\text{Ga}_2\text{S}_3\text{La}_2\text{S}_7\text{Ho}^{3+}$, radiative and multiphonon relax. 9-33794
 Ho^{3+} :K₂Gd(WO₄)₂, stimulated emission by subsidiary transitions 9-3696
 Ho^{3+} :LiYbF₄, laser converter for 2.06 μm radiation, ND primary laser 9-18427
 ^{67}Ho - ^{19}F (^{28}Si), target La X-ray prod., projectile charge state depend. 9-47549
 LaF_3 : Ho^{3+} , single crystals, multiphonon relax., fluoresc. obs. 9-47495
 LiYF_4 : Ho^{3+} , optical absorpt. and luminesc. spectra 9-4844
 $\text{Na}_2\text{O}\cdot\text{TeO}_2$: Ho^{3+} (Er^{3+})(Yb^{3+}) glass, luminesc. quenching by OH and OD (*Russian*) 9-28839
 SrF₂:Ho, far IR spectra 9-33736
 YAG: Ho^{3+} , oscillator strengths of impurities, 5000 to 30000 cm^{-1} 9-4830
 Zn tellurite: Ho^{3+} glass, visible green emission 9-15523

holmium alloys

Au-Ho nuclear orientation thermometer for use from 1-30 mK 9-17419
 $\text{Fe}_2(\text{Tb}_{0.2}\text{Dy}_{0.22}\text{Ho}_{0.58})$, highly magnetostrictive alloy, vibrating-reed meas. of ΔE effect and internal friction 9-42819
 Ho-Cd, dil., elec. field gradient, at ^{111}Cd impurities, temp. depend. 9-28642

holmium alloys continued

- Ho-Ga, exam. of phase diagram, using differential thermal and X-ray phase anal. (*Russian*) 9-11555
 HoAl₂, cryst. field volume magnetostriction calc. 9-8029
 HoAl₂, Ho moment reorientation, polarized neutron diffr. study 9-42761
 Ho₂Au, mag. props., 4.2-300K 9-7972
 HoCo₂, sublattice magnetisation, powder neutron diffr. meas. 9-19725
 HoCo₂, effect of absorbed H₂ on mag. behaviour 9-33483
 HoFe₂, amorphous, small angle neutron scatt. study of mag. order and mag. microstruct. 9-15283
 Ho₃Pt₄, isotopic with Pu₃Rh₄, X-ray cryst. struct. refinement anal. 9-4271
 HoSm elec. props. in temp. range near zero to 150K (*Russian*) 9-11098
 HoZn, mag. excitations near spin rot. temp., neutron scatt. study 9-19731
 Tb-Ho, paramag., anomalous thermal expansion, up to 273K 9-7967
 Tb-Ho, thermal expansion in vicinity of Curie temp. 9-28524
 Tb-Ho (50%), antiferromagnetic, thermal expansion, US attenuation anomalies 9-47319
 Tb_{0.5}Ho_{0.5}, ferromag. and helical phase, spin wave dispersion relations 9-24149
 Y-Ho, mag. susceptibility, 4.2 to 300K, Neel temps. 9-19735

holmium compounds

see also holmium alloys

- CdF₂:HoF₃ films, electroluminesc. meas. (*French*) 9-11471
 Er_{1-x}Ho_xRh₄B₄, ferromagnet, sp. ht anomaly at lower superconducting transition temp. 9-47194
 Er_{1-x}Ho_xRh₄B₄ type cpds., supercond., phase stratification (*Russian*) 9-42685
 HoAl₂[BO₃]₄, thermal stability, X-ray struct. anal., refractive indices 9-4297
 HoCl₃, white line struct. in X-ray L_{III} absorption edge 9-15560
 HoCoO₃, ⁵⁹Co NMR, quadrupolar and hyperfine interactions 9-15366
 HoF₃, mol. force, compliance and Coriolis consts. 9-31726
 HoF₃, single cryst., Ho³⁺ energy level spectrum calc. 9-1586
 HoFe₂B₂, compounds with CeAl₂Ga₂ structure type (*Ukrainian*) 9-32970
 Ho_{1-x}Mg_xS₈, low temp. magnetisation meas., and supercond. props. 9-8018
 Ho_{1-x}Mg_xS₈, supercond. transition temp., upper critical field, local spin fluctuations 9-38250
 HoN, vaporization enthalpy, Knudsen cell vaporization of rare earth nitrides 9-10936
 Ho₂O₃, white line struct. in X-ray L_{III} absorption edge 9-15560
 Ho₂O₃, XPS, charging effects on core-level binding energies 9-24409
 Ho₂O₂SO₄, antiferromag., mag. props. and Zeeman effect meas. 9-33464
 Ho₂O₂SO₄, antiferromag., specific heat, 0.6 to 30K 9-33487
 Ho_{0.58}Tb_{0.22}Fe₂ magnetoelastic surface wave dispersion obs. 9-47321
 HoVO₃, antiferromag., at. and mag. struct., neutron diffr. meas. 9-24142
 Ho₂(WO₄)₃, mag. props., 300 to 900K 9-28510
 LiHoF₄, NMR shift tensors, temp. and field depend. 9-38391
 (Li_{1-x}Ho_x)Rh₄B₄, interaction between superconductivity and magnetism 9-38248
 Sc₂O₃-Ho₂O₃, solid solution, use of segregation phenomena to exam. solidification phase diagrams (*French*) 9-8293

holographic gratings

- achromatic holographic optical elements 9-22917
 boundary conditions for diffracted EM fields 9-3660
 concave diffr. grating, fabrication by holographic method, astigmatism compensation 9-32067
 concave holographic grating, automatic design, for Seya-Namioka monochromators 9-10390
 contour mapping of 1st and 2nd derivatives of plate deflection using modulated diffr. gratings 9-6086
 crossed-beam diffraction gratings theory 9-23071
 dephasing measure in plane wave diffraction by hologram grating 9-3659
 design considerations (*Japanese*) 9-45914
 design techniques advancement 9-7202
 dichromated colloid layer holographic diffraction grating characteristics 9-27424
 dye CW laser, tunable by holographic grating 9-27288
 dye laser, narrow linewidth short pulse operation, using dual prism beam expander and grating 9-971
 evanescent wave holograms, diffraction efficiency 9-18375
 interference diffraction gratings, holographic hallmarkings 9-911
 one-dimensional kinoform preparation using photographic template (*Russian*) 9-22914
 polarisation characteristics, concave gratings mounted in Seya-Namioka monochromator 9-18526
 solar selective thin film absorbers, interf. films deposited on diffr. gratings 9-14103
 spatial filtering properties of volume holograms 9-27211
 spectrophotometer, high-energy, 0.25-2.4 μ m, for rapid food constituent anal. 9-17508
 thick grating, recorded in absorptive medium, characts. 9-18372
 toroidal holographic gratings, design and performance (*Japanese*) 9-27412
 volume holograms as frequency-selective elements 9-27212
 volume phase grating, reflection, Mathieu functions theory 9-14113
 Al surface, light diffr., photon excitation of compound plasmon resonances 9-28307
 As₂S₃ focusing diffraction grating with const. spacing 9-23096
 CdTe, dynamic holograms, diffr. characts. using laser beam 9-46048
 LiNbO₃ electrooptic crystal, dynamic holographic light beam conversion, geometric factors 9-13928

holographic instruments

see also holography

- achromatic lens system, design using ray tautochronism principle 9-3759
 Bragg diffraction imaging, aspect ratio restoration by holographic lenses 9-46122
 holocamera for particulate studies 9-22919
 hologrammetric plotter for three-dimensional meas. 9-7103
 laser light deflector, operational holographic, document scanner appl. 9-10268
 scanner, computer-generated hologram, for laser materials processing 9-18367
 viewers for synthetic aperture radar imagery 9-31843

holographic interferometry

- absolute retardation accurate meas. 9-27201
 bolted joints in wood, photomech. stress determ. 9-32406
 brass plate, corrosion by HNO₃ vap., holographic interferometry 9-3658

holographic interferometry continued

- chest motion due to heart action, imaging by holographic interferometry 9-20699
 cochlear model vibration mode visualisation 9-2083
 concrete, stress determ. by holographic and speckle techniques (*French*) 9-27603
 contour mapping of 1st and 2nd derivatives of plate deflection using modulated diffr. gratings from double exposure holography 9-6086
 corrosion process, holographic interferometry 9-3658
 cylinder distortion measurement (*German*) 9-34273
 cylindrical surface shape meas., artificial holograms by photographic method 9-7095
 deformation anal. with additional degrees of freedom during reconstruction 9-32411
 depolarising diffusers, autocorrelation by holography (*French*) 9-31801
 displacement anal., three-dimensional from image plane hologram 9-17385
 displacement component determ., holographic method using image plane techniques 9-44901
 displacement field eval., 3 dimensional, exact general theory (*German*) 9-32409
 displacement measurement, using double exposure holograms 9-40537
 double exposure, NDT and breaking point mech. appls. 9-6175
 double exposure holography, many-component motion anal. 9-7329
 double exposure/double direction illumination, nondestructive testing 9-27206
 embedded interacting defects in transparent model, holographic meas. of magnification factor 9-32413
 extrapolation of strain and stress from holographically measured surface displacement 9-32410
 eye deformation due to intraocular press. changes, holographic interferometry meas. 9-20720
 flame, singing, struct. investig. (*Russian*) 9-29361
 flat surface vibration meas. appl. (*Polish*) 9-183
 four-point bending machine assessment by meas. of steel bar deform. 9-34266
 fringe multiplication, appl. to crack detection 9-41357
 gas flows, low density, multipass hologram interferometry 9-32724
 general displacement field measurement 9-17397
 holographic interferometry for vibrations investigation, beam modulation methods (*Polish*) 9-3649
 holography table effective size increase 9-35694
 Homalite, stress intensity factor measurement, dynamic fracture toughness determination from isopachics of a running crack [holographic interferometry] 9-34257
 hydrostatic stress and deformation meas. appl. 9-7353
 information content enhancement by controlled rotation during lighting (*German*) 9-31838
 interference fringes, of equal inclination and thickness (*Rumanian*) 9-13926
 isopachic fringe compensation, using two reference beam interferometry 9-41356
 length standards, by holographic interferometry with phase heterodyne 9-6095
 light beam optical distortions in disc amplifier, double-exposure holographic interferometry meas. 9-10338
 liquid diffusion, double exposed hologram meas. 9-37861
 lithography for integrated optics 9-14116
 localisation geometry of interf. fringes in classical and holographic interferometry 9-30536
 materials testing, defect detection by holographic interferometry 9-15935
 measurements by optically generated patterns 9-3648
 medical and biological applications 9-8528
 methods and applications (*French*) 9-7099
 moire fringes, multiple beam interferometry 9-18371
 MTF and wavefront aberration meas., Francon's method meas. of MTF, wavefront aberration 9-3647
 multichannel data processor using holography and integrated optics 9-36853
 multislit one-step rainbow holographic interferometry 9-31835
 NDT, holomole interferometry appl. 9-20294
 NDT 9-43497
 NDT of structures and materials holographic interferometry 9-8420
 optical holographic microscopy, for investigation of polymers 9-17474
 optical separation, of displacement components by holographic-moire technique, extension to 3D 9-35661
 particle velocity measurement in Fraunhofer plane using double exposure holograms 9-44904
 phase variation testing in large transparent objects 9-3654
 photoelastic material, holographic method for matching and measuring refractive index 9-17466
 photoelasticity, interferometric and holographic fringe patterns, unified interpretation 9-18844
 photometric standard lamp gas flow visualisation 9-12835
 photorefractive effect, appl. to optical memories, holographic interferometry, and integrated optics 9-3756
 pipe under internal press., lens holographic moire technique for displacement component determ. 9-44900
 plate, cantilever, strain meas. from holographic data 9-20303
 radiation pressure effects, double exposure holographic interferometric demonstration 9-5943
 rainbow interferometry, one-step multiwavelength technique and appls. 9-31836
 shearing interferometry for plane stress state determ. in models (*German*) 9-32426
 sound reduction in small elec. appliances, investigation using time average holography (*German*) 9-37086
 space-time optics in shape and surface metrology 9-6093
 strain analysis, expt. implementation of fringe-vector theory 9-18839
 strain meas. by combined two-beam and holographic interferometry 9-3650
 strain studies on flat metal plates, holographic interferometry, high-freq. moire technique, and speckle correlation 9-32421
 stress, variable, residual, meas. by holographic interferometry 9-29312
 stress analysis, expt., conf., Munich, Germany (Sept. 1978) 9-34256
 stress measurement of plate vibrating in water 9-3653
 stroboscopic, for mech. vibrs. anal. in industrial environment 9-32422
 surface deformations of transparent fluids 9-7094
 surface displacement meas., stress determ. in components (*German*) 9-32425
 system path length difference controller (*Russian*) 9-22916

holographic interferometry continued

- Takiwax films for pulsed IR holography 9-18363
- theta-pinch, fast, double-frame hologram interferometer meas. of density 9-19097
- tightness inspection, sensitivity determ. 9-36862
- tissue change detection in rabbit urinary bladder (*German*) 9-34625
- turbine-engine component, photoelastic and holographic anal. 9-37257
- US field visualisation in optically transparent media 9-18643
- vibrating plate like struct., displacement and strain meas. using time average holography 9-46272
- vibration analysis, 3D, from time-averaged holograms 9-18840
- vibration detection of living bodyparts (*Swedish*) 9-43981
- vibrational modes in compression blades, exam. of holographic technique 9-41355
- visualisation of US travelling waves, by linearised subfringe interferometric holography 9-1036
- white light interferometric microscopes 9-223
- Zr-Nb (2.5 wt.%), meas. of crack growth at elevated temp. by holographic interferometry 9-38933

holographic storage

- associative access to data, memory with controlled transparency 9-31841
- associative parallel-search memory, correlation search using coded key words 9-10265
- boracites, spontaneous birefr., meas. and appl., light gates 9-15434
- bulk holographic store controller (*Russian*) 9-22915
- capacity, photochromic and photorefractive media 9-27203
- data readout reliability by optoelectronic channel 9-27216
- electro-optic crystals (*German*) 9-27198
- Fourier high-data-density hologram recording, using glass fibres 9-10271
- Fraunhofer subhologram array, simple permanent memory system 9-18366
- matrix-addressable controlled transparency, spatial modulation in holographic memory recording 9-10401
- one-dimensional Fourier hologram line data recording scheme (*Russian*) 9-22912
- optical arrangements, generalised design method 9-7098
- phase mask fabrication and testing 9-27195
- prototype systems and appl., using photographic or optically reversible materials 9-27208
- reversible media development, 1978 state of art 9-18377
- Co-Pt films, mag. and magneto-optic props., appl. to holographic and bit-by-bit storage 9-33512
- Fe-Pt films, mag. and magneto-optic props., appl. to holographic and bit-by-bit storage 9-33512

holography

- see also acoustic holography; computer-generated holography; holographic gratings; holographic instruments; holographic interferometry; holographic storage; microwave holography
- aspectrogram filtering, multiplying mask prod., photographic method 9-27196
- astronomical negative information processing using thick-film holograms 9-48690
- chromate gelatin props. for holographic recording 9-18381
- chromatic Fourier hologram as matched filter, for spatially coherent white light correlator 9-3642
- cinematograph systems for three-dimens. colour images (*Russian*) 9-26169
- coherent imaging, speckle power spectrum, effect of moving diffuser 9-31811
- color motion picture preservation with holographic process of 3 lasers 9-17530
- colour blur of rainbow hologram 9-13922
- colour film archival storage by rainbow holographic technique 9-18373
- convex spherical mirror appl. (*Russian*) 9-18379
- copying of holograms, review 9-45915
- depolarising diffusers, autocorrelation by holography (*French*) 9-31801
- dichromate gelatin, information recording (*German*) 9-27207
- discrete phase binary holograms, diff. efficiency 9-3656
- disdrometry for disperse system particle size determ. 9-7104
- dispersion photorefraction due to triplet state processes in prod. 3D phase holograms 9-27210
- dynamic, rel. to wavefront reproduction in stimulated scatt. 9-10361
- electro-optic crystals, photo-induced electron and hole transport holographic method for determ. 9-28375
- electron holography, high resolution, with field emission electron microscope 9-30614
- fibre optic illuminators for hologram recording and reconstruction 9-41353
- fibre tape for image and hologram transmission, using chromatic encoding (*French*) 9-3785
- filter for three dimens. object recognition (*French*) 9-18359
- fog, improved visibility using holography, new technique 9-912
- grating equation, Hilbert's independence integral 9-899
- hyperbolic mirror virtual image, for teachers 9-35476
- ice crystals, holographic meas. of shapes, sizes and concs. 9-25364
- image digital reconstruction with limited-length arithmetic register (*Russian*) 9-22910
- image reconstruction, unconditionally stable algorithms (*Russian*) 9-22909
- in-line absorption holograms, improved microimages, particle size analysis appl. 9-36857
- integrated optical multichannel data preprocessor, using holographic subtraction 9-3813
- IR holography at 10.6 μm , use of TEM₁₀ laser mode 9-27199
- Laplacian formation by holographic zone plate moiré patterns 9-13917
- laser beam, diverging, conversion into plane wave by dynamic vol. hologram 9-18376
- laser speckle reduction by US modulation 9-3638
- lens-hologram optical system, monochromatic aberrations 9-3760
- light wave transformation by reflection 3D holograms 9-3657
- Lippmann hologram recording technique 9-31840
- liquid crystal controlled transparency, information optical recording in microholograms 9-10406
- magnification of object image, dynamic holograms in nonlinear media 9-913
- matched-filter optical processor using holographic Fourier transform lenses 9-45913
- measurement of fan vibration using double pulse holography 9-30462
- medical and biological applications 9-8528

holography continued

- motion picture sound recording and reproduction using a holographic method (*Russian*) 9-10273
- moving object, using Q-switched ruby laser freq. chirp 9-7093
- multifrequency hologram matrix, appl. to two-dimens. imaging, computer simulation 9-22921
- multiple Fourier holography for processing optical data matrices 9-13910
- multiple recording, dynamic range limits of photographic layer 9-7097
- multiple-beam hologram, resolution 9-13927
- multiplex holography with chirp-modulated binary phase-coded reference-beam masks 9-27202
- multiplexing technique 9-18369
- multiplexing technique 9-13925
- NDT, using holographic techniques, book contrib. 9-18380
- noncoherent illumination, elimination using amplitude mask (*Russian*) 9-45917
- objective for holographic recording devices 9-32028
- oil films for dynamic IR holographic recording (*French*) 9-18364
- oligourethaneacrylate photopolymerised layers, production of holograms (*Russian*) 9-7102
- one-step rainbow holography with field lens 9-13923
- optical processor with variable operators, operation of hologram recording, readout units 9-13920
- optics applied to metrology, conf., Strasbourg, France (1977) 9-6159
- pattern recognition of Korean alphabet using matched spatial filters (*Korean*) 9-22920
- phase plate consisting of bleached holographic lens, for noise-free coherent imaging systems 9-31817
- phase-reflective Fourier hologram transparency images restoration (*Russian*) 9-27204
- photochemical reaction kinetics use 9-29383
- photoconductive-thermoplastic devices appl. 9-31837
- photographic emulsions used in optical correlators, laser damage 9-27303
- photographic materials, determ. of freq.-contrast charact. by multibeam method (*Russian*) 9-27219
- photothermoplastic devices, conventional and self-developing, sensitivity and development 9-44958
- photothermoplastic film, high resolution, meas. of sensitivity and transmissivity (*Russian*) 9-46022
- photothermoplastic films, effect of latent image formation on band-pass transfer charact. 9-18382
- photothermoplastic layer, diffraction effectiveness, registration of discrete holograms (*Russian*) 9-7100
- photothermoplastic layers, optical transmission function, charge carrier drift effects (*Russian*) 9-3661
- prosthesis mechanical efficacy determ. by holographic strain meas. (*German*) 9-8573
- pseudocolor encoding, spatial filtered imaging technique 9-18370
- reconstruction, near region, fast algorithm based on fast convolution (*Chinese*) 9-18368
- reconstruction of two stacked Fourier holograms 9-18374
- recording in nonideal conditions, techniques (*Czech*) 9-31839
- recording materials, reversible (*Japanese*) 9-3651
- reflected-light holograms, photoinduced anisotropic recording media 9-41354
- reflection hologram preparation by interf. copying of transmission holograms 9-45916
- refractometer for refractive index increments for macromolecules in soln. 9-27205
- review of work at Ukrainian SSR Acad. of Sci. (*Russian*) 9-45950
- S-parameter representation of lossy volume-holograms 9-36858
- screen aberrations, effect on a 3 dimensional image (*Russian*) 9-18378
- small particle analysis 9-13924
- spatial filtering properties of volume holograms 9-27211
- spatial inverse filters, simplified holographic fabrication 9-23077
- speckle averaging, imaging step, subchannel holography 9-22918
- spectral selectivity of 3D holograms 9-27209
- summation using thermoplastic photographic plate (*Russian*) 9-22911
- Takiwax films for pulsed IR holography 9-18363
- TEM, holographic method for recording electron image 9-6224
- thermoplastic-photoconductor media, charge carrier behaviour, microscopic response 9-28370
- thin holograms recorded with oppositely directed beams 9-13930
- vibration analysis by wavefront modulated holography 9-3652
- viscosity measurement by holographic method, appl. to amorphous Se 9-37263
- volume hologram, finite beam reflection-type, properties 9-10269
- volume hologram reading-out, transient self-enhancement (*Russian*) 9-27217
- volume phase holographic recording media, organic materials 9-3755
- volume phase holography, crystal two light wave interaction, photoexcited, photogalvanic effects 9-27214
- white light hologram technique 9-10267
- white light holographic portraits, still or animated 9-18365
- X-ray incoherent holography (*Korean*) 9-6250
- X-ray microscopy, possibility of utilizing holographic schemes 9-36861
- AgBr polydispersed particles in unsensitised holographic emulsion, bulk attenuation and absorpt. (*Russian*) 9-2865
- As-S, glassy film optical props., photostimulated effects and hologram recording 9-27215
- As-S chalcogenide glassy semiconductors, induced anisotropy 9-32013
- B₁₂SiO₂₀ crystals, phase-conjugate wavefront generation via real-time holography 9-27213
- Hg₁₂, low temp. luminesc. spectra by holographic spectroscopy 9-33820
- InSe film, photochem. production of holograms on surface (*Russian*) 9-7101
- KBr, additively coloured crystal, depend. of bleaching kinetics on F-light intensities, holographic storage (*Russian*) 9-27351
- KCl, cryst. γ -irrad., holographic information recording appls. (*Russian*) 9-27218
- KNbO₃:Fe photorefraction and photocurrent effects (*Russian*) 9-7091
- LiNbO₃, light diffraction from volume phase holograms 9-36860
- LiNbO₃, pure and Fe doped, photorefraction kinetics under irradiation and heating 9-42934
- LiNbO₃:Fe, electron irrad., photoinduced charge transfer and hologram recording 9-36859
- LiNbO₃:Fe, recording dynamical holograms in crystals with photovoltaic effect, nonstationary energy exchange (*Russian*) 9-31842
- LiNbO₃:Fe crystals, reflection hologram recording 9-10272
- MnBi film, hologram form. at 2.76 μm , using CaF₂:Er³⁺ crystal laser 9-10270

holography continued

- NaCl, hologram recording, F-centre bleaching by 633 nm light 9-22922
 NaCl:Na, diff. efficiency and self-amplification 9-7096
 VO₂ film, dynamic holography, coherent props. of Cu vapour laser 9-13929
 VO₂ film based recording medium, holographic characteristics calc. (*Russian*) 9-7092

homopolymers see *polymers***hopping conduction**

- AC conductivity due to intimate pairs of charged defect centres 9-4563
 amorphous semiconductor, electrical conductivity, super-linear freq. depend. 9-28348
 Anderson localised states, negative magnetoresistance 9-28357
 anthracene, temp.-independent mobilities, phonon-induced electron hopping 9-28347
 Brownian motion in periodic potential, hopping to free conduction transition 9-44860
 disordered solids, dispersive transient transport, expt. and theory 9-28342
 disordered system, Hall mobility due to hopping-type cond. 9-15167
 glass systems, electronic props. 9-42495
 heavily doped semiconductor, compensated, hopping photoconductivity 9-38130
 impurity bands, in inversion layers 9-47171
 ionic compounds, hopon mechanism for ion transport 9-14957
 methylglyoxal-protein complexes, hopping conduction, theory 9-24935
 molecular crystals, electron mobility, temp. depend., hopping model 9-19588
 naphthalene, temp.-independent mobilities, phonon-induced electron hopping 9-28347
 polyethylene, carrier mobility determ. by current oscillation method 9-28344
 polynylcarbazole, amorphous, hopping transport, reinterpretation of mobility meas. 9-42563
 proteins, hopping conduction, theory 9-24935
 PTFE films, plasma-polymerized, cond. mechanism, AC cond. and capacitance meas. 9-24093
 rare earth chalcogenides, cond. mechanism and thermoelec. efficiency 9-38110
 semiconductor, disordered, hopping thermoelec. power, temp. depend. 9-23995
 simulation of hopping transport for random spatial distrib. of localised sites 9-23971
 superionic conduction, hopping model 9-37869
 TCNQ salt, N,N'-di(n-propyl)-4,4'-bipyridylium²⁺(7,7,8,8'-TCNQ)₄²⁻, cryst. struct., elec. props. 9-27971
 TCNQ salt, Qn(TCNQ)₂, non-optical elec. cond. 9-4553
 TCNQ salts organic semiconducting polymers, electron transfer mechanisms 9-42544
 trinitrofluorenone, amorphous, hopping transport, reinterpretation of mobility meas. 9-42563
 As-Te-Cu system glasses, elec. cond. and thermo-EMF 9-42540
 As₂S₃, temp.-independent mobilities, phonon-induced electron hopping 9-28347
 BaO-B₂O₃-V₂O₅ glasses, polaron hopping cond., optical absorpt. and ESR spectra 9-23966
 C, elec. cond. at low-temp. as function of freq., hopping cond. between localised states 9-23965
 FeAl_{2-x}Cr_xO₄, spinel, elec. cond. behaviour during oxidation 9-19593
 γ-(Fe_{1/3}Al_{2/3-x}Cr_x)₂O₃, lacunar spinels, elec. cond. behaviour during oxidation 9-19593
 FeCoCrO₄ spinel, elec. resistivity, temp. var. 9-38065
 FeO-P₂O₅ glass, elec. props. effect of high energy γ-radiation 9-11173
 GaAs, heavily doped, strongly compensated 9-47180
 Ge amorphous films, self-ion bombard., electronic props. 9-28422
 Ge, heavily doped, multiplex AC hopping conduction 9-11122
 n-Ge, hopping magnetoresistance percolation analysis 9-38106
 n-InP, hopping cond., nonohmic nature 9-23976
 n-InSb, heavily compensated, hopping cond. in mag. field 9-7842
 n-InSb, sub mm photocond. (*Russian*) 9-38134
 InSb:Cr:Zn, nonparabolicity of band and p-type contrib. from hopping cond. 9-15169
 KNbO₃, elec. and thermoelec. singularities due to small polaron hopping motion cond. transition 9-42565
 Pb₂Nb₂O₇, electric cond. and dielect. props. of cathodic-sputtered films (*French*) 9-33371
 Pb_{1-x}Zn_xNb_{0.15}Na_{0.05}Nb_{0.65}F_{0.05}, electric cond. and dielect. props. of cathodic-sputtered films (*French*) 9-33371
 Se, amorphous film, AC conductivity at radio and microwave frequencies 9-11248
 Si, amorphous, AC cond., bipolaron hopping 9-23928
 Si, amorphous, doping effects on cond. in hopping transport regime 9-28424
 Si, amorphous, hydrogenated pure and B doped, annealing effect on cond. (*Korean*) 9-15142
 Si, amorphous, ion-implanted, hopping parameter at natural phonon freqs. 9-15152
 Si amorphous films, self-ion bombard., electronic props. 9-28422
 Si, amorphous ultrahigh vacuum evaporated films, ESR obs., deposition effects 9-33534
 Si, electron-beam-evaporated amorphous thin films, noise meas. 9-24091
 Si, inversion layer, 1/f noise and percolation in impurity bands 9-24029
 Si-Au amorphous film, metal-nonmetal transition, elec. cond., thermoelectric power meas. 9-47132
 Si-SiO₂ interface, hopping conduction, anal. in impurity bands in inversion layers 9-47171
 V₂O₅, amorphous hopping small polarons, effect of random glass struct. 9-23972

horology see *time measurement***hospital administration** see *medical administrative data processing***hot carrier conduction** see *hot carriers***hot carriers**

- fluctuation spectra near the threshold of a current instability 9-24037
 III-V semiconductors, optical heating of electrons at 78K 9-15185
 layered struct., interaction of spin waves with hot carriers 9-15291
 narrow gap semiconductor with symmetrical carrier spectra, hot electrons 9-23982
 noise, expt. and theoretical aspect, survey 9-28389
 semiconductor, doped photoemission, calc. of escape probability of electrons (*Russian*) 9-24408

hot carriers continued

- semiconductor, gapless, magnetophonon reson. for hot electrons and holes (*Russian*) 9-4565
 semiconductor, hot electrons, photoexcited in quantizing mag. field, energy distrib. calcs. 9-42586
 semiconductor, inertia of Benedicks effect in carrier heating by microwave field 9-15173
 semiconductor, second harmonic generation by hot-electron and electron transfer effects, optimum conditions 9-41491
 semiconductor, spatially inhomogeneous, effect of heating field on reflection of EM waves 9-15157
 semiconductor in nonlinear region, spectral noise meas. between 30 and 400 MHz, pulse technique device (*German*) 9-47134
 semiconductor plasma, EM wave instability, effect of density gradient 9-1607
 semiconductors, semimetals, electron heating by phonons, acoustic absorpt. and acoustoelectric current quantum oscils. (*Russian*) 9-19639
 thermal noise, effects in p-Si and SCLC diodes 9-24036
 TTF-TCNQ, pure and irradi. crystal, nonlinear transport at low temp. 9-4552
 AgCl(Br), hot electron population inversion, in crossed elec.-mag. fields, 4.2K 9-38128
 n-Cd_{1-x}Hg_xTe alloys, x=0.19 to 0.21, electron optical heating influence on photoelec. effects 9-11183
 CdTe, excitation spectra, resonant Raman scatt. versus hot electron effects 9-38645
 GaAs, diffusion coeff. of hot electrons 9-15156
 n-GaAs, epitaxial, thermoelec. power, temp. depend. in mm wavelength range 9-23996
 n-GaAs, freq. depend. of effective temp. of hot carriers 9-11135
 n-GaAs, hot electron distrib. function with LO phonon kink, photoluminesc. 9-19925
 p-GaAs, linear polarisation of hot photoluminescence 9-38661
 n-GaAs, non-Maxwellian electron distribution function, from electric field-depend. photolum. spectrum 9-11450
 GaAs p⁻n diode, radiative hot carrier recomb., photoluminesc. and electroluminesc. meas. 9-38676
 GaAs:Cr, hot electron relax. process and ionization of traps (*Russian*) 9-28354
 Ge, hot hole distribution function, effect of impurity and hole hole scatt. 9-11139
 Ge, hot hole distribution function at low densities 9-11138
 n-Ge, noise, small signal conductivity and diffusion in strong elec. fields 9-11192
 n-Ge, nonlinear absorption of CO₂ laser radiation by nonequilib. carriers 9-32000
 p-Ge, optical cooling and carrier heating, intraband photocond. meas. 9-11174
 n-InSb, high power helicon, interaction with semiconductor-free space interface 9-38114
 InSb plasma, EM wave instability, effect of density gradient 9-1607
 n-InSb, recomb. of hot electrons, photoelectromag. and dynamic photocond. meas. 9-38081
 NaCl, thin single-crystal film, hot electron emission 9-15244
 n-Si, electron-phonon scatt. and high-field transport 9-42552
 n-Si, hot carrier noise and generation-recomb. noise 9-38140
 Si, many-valley semiconductor, linear galvanomag. effects of hot electrons 9-11154
 n-Si, noise and hot carrier diffusion in mag. fields 9-11193
 SiO₂-Si interface, hot electron capture process, expt. method for study 9-38180
 ZnO, hot-electron microwave conductivity, hot-electron, high DC field 9-38113
- hot cathode tubes** see *thermionic tubes*
- hot cathodes** see *thermionic cathodes*
- hot electrons** see *hot carriers*
- hot pressing**
- automated sintering and hot pressing system 9-33961
 continuous hot press, design and construction (*Chinese*) 9-33963
 isostatic hot compaction, review 9-33960
 reactive, identification of stages 9-11542
 refractory, dense, sintered, role of isostatic pressing 9-28995
 steel, low-C, bond form. between powder layer and dense basis during hot pressing 9-24669
 steel, maraging, inert gas atomised, hot isostatic pressing temp. effect 9-24460
 steel welded joint impact strength, preheating and tempering effects 9-24542
 superalloy, hot consolidation of rapidly solidified powders, review 9-33965
 AlN, hot pressed, effect of O₂ content on flexural strength and compact density 9-11668
 AlN powder, effect of O impurity on sintering and thermal cond. (*Japanese*) 9-20017
 β-Al₂O₃-Na₂O, hot pressing and phys. props. 9-4940
 B₂O₃-SiO₂, glass synthesis by hot pressing of gels 9-15637
 C fibre reinforced Ni, hot pressed and electrodeposited, strength 9-38898
 Cu-Ni, powder, sintered, effect of cold and hot dynamic pressing, upon structure and props. 9-33970
 La-Si-O-N system, new compound form. with fluorapatite struct. 9-4941
 La₂O₃-SiO₂, glass synthesis by hot pressing of gels 9-15637
 MnZn ferrites, hot pressed, mechanism of protective action of ZnO coating (*Russian*) 9-15822
 Na_{0.3}Bi_{0.5}Ti_{0.2}O_{1.5}, hot-forged ferroelec. ceramic with layer struct. 9-43175
 Ni-Al₂O₃ cermet, fabrication and mech. characts. 9-38781
 NiZnCo ferrites, temp. stability, effect of Fe content and processing conditions 9-28993
 PLTZ, exam. of grain growth in hot pressing, and liquid phase sintering 9-33981
 PLZT, transparent ferroelectric, ceramics obtained by hot pressing, optimum conditions (*German*) 9-43176
 (Pb,Sr)(Zr,Ti)O₃, piezoceramic, effect of glass additions on props. during hot pressing 9-24475
 PbBi₂Nb₂O₉, hot-forged ferroelec. ceramic with layer struct. 9-43175
 PbBi₄Ti₄O₁₅, hot-forged ferroelec. ceramic with layer struct. 9-43175
 PbBi₂Ti₂O₁₃, hot-forged ferroelec. ceramic with layer struct. 9-43175
 PuO₂, fuel prod. by powder techniques 9-9846
 Si₃N₄, hot pressed, effect of powder composition and sintering temp., on phase transformation kinetics, microstructure and mech. strength (*German*) 9-4939

hot pressing continued

- Si₃N₄, impurity phases, TEM obs. 9-8260
 Si₃N₄ powder, high press. hot pressing 9-38772
 Si₃N₄, starting powder requirements, review 9-33987
 Si₃N₄ with Y₂O₃ and Al₂O₃ additions, hot pressed, exam. of mech. props., grain boundary crystallization 9-20009
 β -Si₃N₄-AlN-Al₂O₃-MgO, insolubility of Mg in β -Si₃N₄ 9-10953
 Si₃N₄, hot pressed MgO fluxed grain boundary impurity phases, lattice fringe imaging obs. 9-11540
 SiO₂, glass synthesis by hot pressing of gels 9-15637
 TiC-TiB₂, preparation and high temp. antifriction props. 9-1918
 ZrB₂, hot pressing, applied press. effect (*Japanese*) 9-38780
 ZrC-ZrB₂, preparation and high temp. antifriction props. 9-1918
 ZrSiO₄-Al₂O₃ mixture, reaction hot pressing 9-38775

hot shortness *see* **brittleness****hot strength** *see* **tensile strength****hot working**

- alloy, vacuum rolling at high temp. (*Russian*) 9-15708
 austenite, hot-worked, subgrain struct., X-ray diff. and electron microscope obs. (*Russian*) 9-15698
 cordierite, dense ceramic prep. with sintered condition over 300°C interval 9-33983
 helical shape extrusion from round billets 9-29102
 hot rolled T-section finite element anal. of temp. field (*Russian*) 9-29101
 metal, vacuum rolling at high temp. (*Russian*) 9-15708
 multilayer materials, vacuum rolling at high temp. (*Russian*) 9-15708
 Ni-Cr-Mo and Ni-Cr, impact strength, effect of modified ausforming (*Japanese*) 9-11692
 polypropylene monofilaments, draw rate effect on long period 9-47726
 PVC, reaction with maleic anhydride in heated roll mill (*Japanese*) 9-38856
 recrystallisation, conf., Leeds, England (April 1978) 9-47706
 rolling, torque calc., mechanical model 9-20078
 steel, austenitic, 30KhGSA, heat treatment, preliminary, cold deform., elec. heating rel. to mech. props. 9-24554
 steel, austenitic, 45Kh2N12GS, post deformation holding at deform. temp. effect on struct. and strength of austenite and martensite (*Russian*) 9-1880
 steel, austenitic, metastable, 0Kh14AG12M, Cr-Mn and Cr-Mn-Ni, phase transform. kinetic effect on mech. props. (*Russian*) 9-34024
 steel, austenitic stainless, recrystallization after hot rolling 9-47734
 steel, C, crack prop. and sealing, effect of thermal working (*Russian*) 9-34078
 steel, C-Mn and C-Mn-Nb, weldable, high temp. thermomechanical treatment 9-15709
 steel, high-speed, cast, mech. props. at high temps. 9-20135
 steel, high-temperature thermomechanical treatment, holding after deform. effect on strengthening 9-38868
 steel, hot-rolled high quality sheet use of stat. maths. for NDT determ. of mech. props. 9-11749
 steel, impact and tensile props., Si effects 9-24614
 steel, low alloy, high strength, residual stresses during low cycle fatigue 9-29201
 steel, low C, crack propagation energy rel. to temp., time factors 9-29179
 steel, low C, Mn, recrystallisation and grain growth in hot rolling 9-47714
 steel, stainless, 304, deformed in torsion, annealed, static recrystallization and restoration after hot deform. 9-47735
 steel, stainless, Cr (17 wt.%), recrystallisation texture, effect of N (*Japanese*) 9-4978
 steel, stainless, Kh18N10T, struct. and mechanical props., effect of previous deform. in rolling (*Russian*) 9-29099
 steel, stainless Cr (17 wt.%), hot rolled sheets, martensite distrib. effect on ridging phenomena 9-1887
 β -III Ti alloy, powder compacted by hot swaging, tensile and toughness prop. 9-38764
 Ag-Ga (27 at.%), cooling rate depend. of thermal arrest, transform. temp. 9-29053
 Al alloy, dil., recrystallisation during hot rolling 9-47732
 Al alloy, recrystallisation during hot deform. and after cold working 9-47715
 Al alloy 7050, fatigue, effect of intermediate thermomech. treatments 9-8352
 Al-Mg-Si, effect of quenching on recrystn. after hot working 9-43289
 Al-Mn(Cu)-Zr, particle stabilized structures, hot deform. 9-47733
 n-Bi₂(Te,Se)₃ semiconducting solid solns., plastic deform. during hot extrusion 9-20143
 p-Bi₂Te₃-Sb₂Te₃ semiconducting solid solns., plastic deform. during hot extrusion 9-20143
 Cd-Zn (1.5 wt.%), warm worked, effect of grain size, texture, on mech. props. 9-4988
 Fe-C (0.64 wt.%), quasicleavage during fatigue crack prop., pearlitic microstruct. effect 9-11702
 Fe-Ni (15, 25 at.%), longitudinal forces in the hot torsion test (*German*) 9-38889
 Fe-Si (3.1 wt.%), solubility product of BN 9-10955
 Mn-Al-C alloy, anisotropic, permanent magnet appl., properties and production (*German*) 9-8309
 Ni-Cu (30 wt.%), cast cold- and warm-worked, recrystallization 9-29092
 steel, C, eutectic, YU8, effect of segregating structurally free ferrite (*Russian*) 9-15677
 W fibres, dependence of fine struct., on processing parameters 9-34082
 Zn, plasticity under hot deform. conditions, temp. depend. (*Russian*) 9-29133

household appliances *see* **domestic appliances****Hubbard model**

- canonical perturbation expansion 9-38296
 charge-transfer organic salts, strongly correlated, interband absorpt., long-range Coulomb interaction 9-4525
 computer renormalisation-group technique 9-19716
 Falicov-Kimball model, intermediate soln. 9-47015
 ferromagnetic instability in two-band Hubbard model 9-1653
 hamiltonian, functional formulation, symmetry props. 9-47225
 indirect exchange interaction through narrow conduction zones (*Russian*) 9-4538
 itinerant ferromagnet, spin wave stiffness const., electron correl. effects 9-19733
 magnetic instabilities, influence of short-range correlation effects 9-7963

Hubbard model continued

- Mott transition in the multidimensional Hubbard model (*Russian*) 9-28282
 Mott-Hubbard insulator, one-dimens., charge transfer absorpt. 9-37958
 neutral, appl. of information theoretical model to metal-insulator transition 9-47014
 one-dimensional homonuclear molecular systems, nature of energy gap 9-11063
 Peierls transition, electron-spin coupling, relative importance 9-28280
 phase transition due to CDW (*Russian*) 9-4526
 quasi-particle energy in weak correlation regime 9-28305
 random one-body approx., higher dimens. lattices 9-37945
 random one-body approx., one-dimens. case 9-37944
 random one-body approximation, formalism 9-37943
 semiconductor, doped, Coulomb repulsion term in Hubbard model for impurities 9-42492
 system with two parameters, Mott and ferromagnetic transitions, phase diagram of the extended Caron Pratt model 9-15083
 thermoelectric power near atomic line 9-47086
 transition metal alloys, disordered, density of states, elec. cond., extended Hubbard model 9-37948
 transition metals, partial resonance, Hubbard's theory of phase shifts 9-28264
 two-site extended Hubbard Hamiltonian with arbitrary electron density, mag. susceptibility 9-38297
 Ni, ferromagnetic state, energy bands, self-consistent calcs. 9-19509
 VO₂, first principles calc. of intra-atomic correlation energy 9-23920

Hubble model *see* **cosmology****Huckel molecular orbital calculations** *see* **HMO calculations****hue** *see* **colour****Hugoniot diagrams** *see* **equations of state****human engineering** *see* **ergonomics****human factors***see also* **biocybernetics; ergonomics**

- education, risk of dehumanisation 9-17155
 loss of contrast in visual tasks using a visual and physical photometer, aspects 9-9234
 LWR power plant human errors 9-13459
 plant information measures selection criteria nuclear reactor monitoring appl. 9-41006
 university entrants, cognitive level by Piagetian tasks 9-4

human relations *see* **social and behavioural sciences****humidity***see also* **atmospheric humidity; hygrometers**

- aerosol centrifuge, calibration at unmatched relative humidities between stream and aerosol air 9-41775
 dielectric materials, complex, effect on elec. characts. (*Russian*) 9-42881
 sandpaper, standardised, for Taber abraser, influence of relative humidity an abrasive quality (*Japanese*) 9-8369
 stratification, effect on conditions for free convection (*Russian*) 9-10562
 Al-As₂Se₃-Al, photographic process based on electrochem. reactions (*Russian*) 9-6213
 BN films, elec. resist., depend. on relative humidity 9-4609
 NO_x, surface reaction on Cu, relative humidity depend. 9-5176

humidity control

- aspirator saturator, performance, dew point' data of air (*Japanese*) 9-40580
 fuel cell, H-O, with self-control of external humidity exchange, operation analysis 9-34429

humidity measurement*see also* **hygrometers**

- atmosphere, from effects on IR and microwave prop., optimization of conditions (*Russian*) 9-34898
 digital ventilated psychrometer, direct reading relative humidity meter using thermistors 9-2777
 digital ventilated psychrometer for direct reading 9-35763
 environment protection when siting power station, temp. and humidity meas. methods (*French*) 9-12318
 psychrometer, direct indication, of temp. difference and temp. type (*Japanese*) 9-40581
 psychrometric determ. of relative humidity and dew point using microprocessor-based instrument (*German*) 9-29875
 psychrometry, Lewis factor effect on accuracy (*German*) 9-12808
 sensor based on thin film capacitor, Finnish development of meteorological instruments 9-12310
 CO laser driven spectrophone, humidity trace detection in H₂ and air 9-20477

h.v. engineering *see* **high-voltage engineering****hybrid computer methods** *see* **hybrid simulation****hybrid integrated circuits***see also* **flip-chip devices**

- implantable 8-channel stimulation system for labyrinthine deafness (*German*) 9-16347
 IR/CCD focal planes, performance, appls. 9-3798

hybrid simulation

- indoor natural radiation environment and dose distribution in man, multi-compartment models 9-12015
 multidimensional quasineutral plasma simulation model 9-7481
 PWR power plant self-tuning control and simulation 9-9827
 ship structure, stress fields hybrid simulation 9-41637

hydrated electrons *see* **solvated electrons****hydraulic amplifiers***No entries***hydraulic control equipment***see also* **hydraulic amplifiers**

- micromanipulator for biological experiments, versatile remote control, economic construction 9-25163

hydraulic systems

- artificial heart designs compared 9-48367
 volumetrically controlled hydraulic drive dynamics calc. 9-35571

hydraulic turbines

- reversible pump-turbine, axial, for tidal power plants 9-43735
 wave power generation, Mauritius 'passive' project, electro-mechanical aspects 9-43724

hydroacoustics *see* **underwater sound****hydrodynamics***see also* **jets; liquid oscillations; liquid waves; viscosity of liquids**

- ablating material surface, hydrodynamic boundary conditions 9-10939

hydrodynamics continued

- accretion disc, selfgravitating, model 9-25466
 accretion onto binary stars, numerical simulation 9-21358
 artificial viscosity, nine-point, for two-dims. hydrodynamics 9-3989
 N.Atlantic, fluid-parcel vels. and paths calc. with aid of diagnostic models 9-29780
 axisymmetric potential flow in ducts 9-14480
 Basset-Langevin equation, impulse waveform and duration effects on solution 9-41653
 black holes, primordial, self-similar growth for general sound speed case 9-5856
 body moving in liquid, dynamic density measurement and viscosity effects 9-6097
 Bondi accretion, linear stability problem 9-44359
 boundary-layer flows from fixed to moving surfaces, gap effects 9-14377
 classical two fluid process, relationship with Schrodinger quantum theory 9-40385
 closed torus, virtual mass in axisymmetric motion 9-32437
 clusters of galaxies, cluster wind driven by viscous heating 9-9011
 clusters of galaxies, intracluster gas dynamics rel. to X-ray source evolution 9-17133
 collisionless spherical stellar system in steady state 9-5865
 contained water bodies, wind-induced drift 9-48512
 continental drift 9-44386
 continuity equation solutions 9-61
 convective motion in a porous medium near equilibrium instability threshold 9-14398
 deep ocean, bottom boundary layer short-term variability 9-2269
 degenerate accretion disc model 9-25467
 Earth mantle, shallow global flow due to lithospheric plates accretion and subduction 9-44163
 Earth mantle flow, one-dimensional modelling 9-39698
 elastohydrodynamic lubrication of elliptical contacts for materials of low elastic modulus 9-20214
 electrolytes, complete conductance eqn., hydrodynamic terms 9-23755
 FBR safety analysis, multicomponent hydrodynamics, implicit Eulerian technique 9-634
 fermion systems, superfluid, microscopic derivation of hydrodynamic equations, appl. to $^3\text{He-B}$ 9-46865
 floating zone melting using reduced gravity environment, floating zone structure 9-28909
 fluids, corrections to linear hydrodynamics eqns., low-freq. sound dispersion (*Russian*) 9-3990
 form drag of in-line tube banks in water cross-tlow (*Russian*) 9-7412
 galactic corona, origin and dynamics 9-25709
 galactic winds, supernovae-driven, rel. to Hubble sphere 9-8989
 galaxies discs, second-harmonic oscils. of Maclaurin spheroids in halos 9-8993
 galaxies spiral structures origin, magnetotidal and hydromagnetic models 9-25714
 gas clouds in Seyfert galaxies and quasars, containment by particle flux 9-8820
 general relativistic fluid spheres, physical solns. 9-21169
 generalised, extension to molecular dimensions 9-25864
 glass tank furnace, physical models, selection criteria for liquids to simulate melted glass 9-8263
 gravitating systems, spherical stellar models, stability and normal modes 9-29983
 Gulf Stream, fronts and wave disturbances compared with atmospheric jet stream 9-2268
 Gulf stream ring frontal zone, asymmetric disturbances obs. 9-2267
 heaving cylinders, added mass and damping coeffs. 9-3988
 hydroextrusion under hydrodynamic lubrication conditions (*Russian*) 9-38852
 incompressible flow influenced by gravitation, hydrodynamic soln. 9-41648
 interface between immiscible liquids, convection induced by chem. react.-hydrodynamic coupling (*French*) 9-41682
 interstellar cylindrical clouds, two-dimensional collapse calcs. 9-40247
 Langmuir circulations, controlled laboratory expts. 9-23330
 linear hydrodynamics exterior problems, variational formulation 9-32434
 liquid jet hydrodynamic development, surface active materials effect 9-46883
 lubricant, glass transition rel. to elastohydrodynamic lubrication 9-29227
 lubrications, roughness effect 9-20207
 mass exchange in filter medium, hydrodynamics (*Russian*) 9-37292
 meteorology dynamical topics, vorticity and divergence 9-12226
 mixtures, motion of, generalized diffusion theory 9-17233
 nematic liquid crystal, extensible, micropolar continuum theory 9-4244
 ocean, frontal circulation due to cabbelling and double diffusion 9-2263
 ocean, low-freq. momentum, heat, salt and nutrients fluxes at Scotian Shelf edge 9-2242
 ocean, slope/shelf water intrusions obs. via remote acoustic monitoring 9-2241
 ocean, trace metal enhancements in estuarine tidal front rel. to advective transport 9-2265
 ocean free surface vibrations caused by internal waves, experimental investigation (*Russian*) 9-16478
 ocean frontal zones, light scatt. obs. 9-2266
 ocean large-scale density anomalies, non-linear evolution (*Russian*) 9-16479
 ocean oil spill trajectory modelling, wind and current forcing functions 9-5509
 ocean surf zone, hydrodynamic instability as mechanism for horizontal gyres form. 9-2244
 ocean surface intrusions, fronts and internal waves, numerical study 9-2262
 ocean waves energy absorption 9-43726
 partial differential eqns., hydrodynamic type, lowering of order of system of eqns. 9-17234
 pipeline hydrodynamical resistance reduction by dynamical effects (*Ukrainian*) 9-32670
 plane Couette flow hydrodynamic stability rel. to finite amplitude perturb. (*Russian*) 9-37291
 plane harmonic Dirichlet problems, soln. for canonical domains 9-21548
 planetary atmosphere banding 9-44386
 polyatomic chemically reacting gases, hydrodynamic eqns. 9-32711
 polymer solutions, concentrated, transport properties, hydrodynamic mean field theory of viscosity of sphere suspension 9-4422
 polymers, flexible rings, nondraining, intrinsic viscosity, translational friction coeff. 9-18855

hydrodynamics continued

- primordial black holes formation, hydrodynamics 9-21324
 prosthetic heart valve models, effect of channel diffusion, cut-off element on hydrodynamic resistance (*Russian*) 9-44053
 protostellar clouds evolution, three dims. dynamics 9-16929
 quantum fluid, hydrodynamics equations in presence of vortices (*Russian*) 9-33141
 Sedov-Taylor blast wave solns. stability 9-35104
 self-similar spherical expansion, Rayleigh-Taylor instability., astrophysical apps. 9-8823
 shallow sound, energy balance and wind effects 9-2243
 ship planing hulls, model tests using recirculating water channel, resistance characts. 9-18978
 shock wave decay, Maxwell-like relations in condensed materials 9-41702
 shock waves, astrophysical, post-collisional propag. and amplification (*Russian*) 9-44360
 sliding interfaces and impact, numerical treatment 9-41631
 solar faculae, mag., vel. and brightness struct. 9-25557
 solar granulation, physical model 9-30026
 solar photosphere, vel. field spatially averaged props. and hydrodynamics 9-16912
 solar wind, corotating streams, three-dims. model, theory 9-35086
 sound generation mechanism 9-32172
 sphere approaching permeable wall, hydrodynamic force 9-46383
 spherically symmetric accretion of gas with self-gravitation 9-8834
 stellar collapse and explosion, massive star core hydrodynamics 9-16995
 stellar models, complete viscous polytropes, linearized theory validity 9-35244
 stratified water circulation, forecasting for water quality management planning in coastal zone 9-5543
 superfluid systems, hydrodynamics with account for ponderomotive forces (*Russian*) 9-19409
 supernovae, self-similar oscillations of gas (*Russian*) 9-17001
 thin disc galaxies, stellar hydrodynamics 9-25706
 thin films, role of disjoining pressure in equilib. and flow 9-14984
 turbulence formation during flow around elastic membrane (*Russian*) 9-41666
 vortex motion, integrals of hydrodynamic equations, Helmholtz 1858 paper 9-9072
 vortices on sphere (*Russian*) 9-32529
 water bodies, wind effects on surface to bottom fronts 9-2261
 water tunnel turbulence measurements behind a honeycomb 9-18874
 water waves, oscillatory boundary layer meas. using laser Doppler anemometry 9-27719
 wave and force measurement system 9-41780
 wave diffraction theory appl. to free floating and moored rigid structs. 9-7321
 He cooling systems, large, review of hydrodynamics and heat transfer 9-204
 ^3He , superfluid, B-phase, appl. of two-fluid hydrodynamic equations 9-46865
 ^3He , superfluid, hydrodynamic modes interaction, sound propag. and spin waves (*Russian*) 9-37897
 ^4He film, third sound, two-dims. hydrodynamics and elementary excitations 9-7721
 ^4He , liq., hydrodynamic theory, variational methods 9-42331
 ^4He , superfluid, appl. of hydrodynamic eqns. accounting for ponderomotive forces for superfluid systems (*Russian*) 9-19409
 Lu_2Pt_4 , isotypic with Pu_5Rh_4 , X-ray cryst. struct. refinement anal. 9-4421

hydroelectric power stations

- see also dams; hydraulic turbines; pumped-storage power stations; tidal power stations; water supply; wave power generation
 electric power generation technology, reviews 9-24883
 Italy's electric power requirements, nuclear programme, pumped storage hydroelectric integration 9-26733
 steel penstock, large diameter, embedded in rock, strain measurements, using strain gauges 9-43544

hydrogen

- see also nuclei with
 see also deuterium; hydrogen ions; hydrogen neutral atoms; hydrogen neutral molecules; protons; solid hydrogen; tritium
 absorption, by CeRu_2 , change of valence of Ce ions 9-47185
 absorption, by LaRu_2 , supercond. disappearance 9-47185
 absorption by FeTi , catalytic effect of surface segregation 9-11626
 absorption by LaNi_5 , NdCo_5 , and ErCo_5 , 77-300K 9-23737
 absorption by $\text{Ti}(\text{Al}_x\text{B}_{1-x})_2$, ($\text{B}=\text{Cr, Mn, Fe, Co}$) 9-28198
 adsorbed layer on Ni surface, laser induced desorption 9-1548
 adsorbed on jellium surface, charge density oscils. and adatom-adatom interaction 9-42389
 adsorbed on Ni (111) surface, Raman spectra 9-28769
 adsorbed on W (011) face, bidimensional lattice (*Russian*) 9-7744
 adsorbed on W (100) face, fluctuation, thermal impurity depinning and commensurate-incommensurate transition of CDWs 9-42611
 adsorbed on W (100) surface, induced lattice reconstruction, surface vibr. obs. 9-19445
 adsorption, on Ni (100), LEED, work function meas. and thermal desorpt. obs. 9-23843
 adsorption, on Pt-graphite catalyst, ESR obs. 9-24818
 adsorption in Si vacuum-crushed surface, EPR meas. 9-46957
 adsorption on BeO , effect on thermally stimulated exoelectron γ max. 9-43109
 adsorption on LiH (100) surface, FSGO calcs. (*German*) 9-33196
 adsorption on NaCl, electrostatic interaction energies 9-23831
 adsorption on Ni, activation mechanism, extended Huckel calc. (*French*) 9-42379
 adsorption on Ni (111), LEED intensity spectra, 173K 9-28192
 adsorption on W (001), surface reconstruction and reordering 9-23835
 adsorption on ZrC and ZrC-Re alloys 9-19467
 analysis in different materials problems, using ^1H (^{15}N , α) and ^1H (^{19}F , α) reactions 9-5196
 atomic beam, optical diagnostics of high-power neutral beam 9-17556
 atoms, in crystals, X-ray high-order refinements, theoretical approach 9-19121
 bombardment, simultaneous with He , H_2 , heavy ions to simulate microstruct. damage from fission or fusion neutrons 9-46723
 catalytic production, highly concentrated, using Clusius separation column 9-24832
 cathodic impregnation in stainless steel, austenite stabilisation (*German*) 9-47680

hydrogen continued

chemisorbed on Ni(111) face, geometry, LEED anal. 9-28200
 chemisorbed on W(100), vibr. excitation of hydrogenic modes, angle dependent electron energy loss meas. 9-46914
 chemisorbed on W(100), isotope effects obs. by SIMS 9-5234
 chemisorption, on Pd(111), bonding, photoemission spectra, SCF electron struct. 9-33320
 chemisorption, on W(100), adsorbate-induced surface reconstruction 9-4472
 chemisorption in KC_8 intercalation compound (French) 9-43624
 chemisorption on Al, Mg, Na, calc. of adsorption sites and binding energy 9-46953
 chemisorption on flat and stepped Pt surfaces, calcs. 9-28208
 chemisorption on jellium surface, contraction of mol. band 9-28202
 chemisorption on metals, surface sp-conduction electrons, spin-density functional formalism 9-33321
 chemisorption on Ni, interaction between adsorbates, model Hamiltonian calc. 9-46964
 chemisorption on Ni, Pd, and Pt, model, comparison with UPS data 9-46932
 chemisorption on Ni cluster surface, bond energy, HF calc. 9-39204
 chemisorption on Pt electrodes, anion effects on multiple states, reflection spectra obs. 9-43634
 chemisorption on Si(111) surfaces, formation of monohydride and trihydride phases, LCAO model appl. 9-15004
 coadsorption with CO on Fe, effect of preadsorption of one on adsorption of other 9-19451
 coadsorption with CO on Rh, thermal desorption mass spectroscopy meas. 9-46948
 coadsorption with CO on W(100), CO/H surface complex obs. 9-4478
 concentration profile, in Si_3N_4 , chem. bonding 9-33205
 depth profiling in solids, using neutron TOF from H(t, n) 9-5198
 desorption, from Ni(100), Ni(111), Pd(111) and Pt(111), preexponential factors 9-46918
 determination, in molten Al and Al alloys, electrochem probe method 9-11843
 diffusion, in Nb, Ta and V single crystals, Debye-Waller factor, neutron spectroscopy 9-37881
 diffusion in β Ti-Fe alloys (Korean) 9-42312
 diffusion in Ag, using membrane permeability method 9-37879
 diffusion in metals, neutron scatt., studies 9-42316
 diffusion in molten Cu, stationary method determ. (German) 9-10974
 diffusion in Nb, theory of Gorsky effect for low interstitial H conc. 9-10896
 diffusion in $NbH_{0.04}N_{0.07}$, interstitial trapping by quasiclastic neutron scatt. 9-42298
 diffusion in Ta, Zr and Ti, effect on thermo EMF 9-23950
 diffusion of protons in noble metals, config. and activation energies 9-37878
 discharge plasma, resonant multiphoton optogalvanic spectroscopy, diagnostics appls. 9-23448
 distribution in plate subjected to external stresses, kinetics (Russian) 9-14836
 effect on steel 12 MKh strength, ductility at 1000 kg/cm² press., 450°C (Russian) 9-15723
 electrical breakdown condition in JFT-2 Tokamak 9-14569
 electrical energy and hydrogen production from fission product decay heat 9-18005
 electrochemical storage, of H in $LaNi_5$ alloys, nature of H bond 9-24917
 electromigration in Ni, effective valency effects (French) 9-23781
 electromigration measured by resistance method in Nb and V 9-23783
 electron cyclotron resonance plasma, for metal surface cleaning 9-47821
 electron cyclotron resonance plasma, for metal surface cleaning of Cu 9-47822
 electron drift velocity, density dependence, high press., quantum mech. theory 9-1285
 energy storage, using metallic hydrides 9-43792
 energy storage, wind energy conversion schemes, South African feasibility study 9-43714
 flame, Na-seeded H_2 -O₂-Ar, population inversion, two-photon laser excitation 9-34307
 flame in air, laminar diffusion, Raman spectra diagnostics 9-47928
 fusion reactor-high temperature electrolysis system for H₂ prod. 9-18041
 gas, coherent Raman scattering with three lasers 9-23016
 gas, laser-induced breakdown wavelength depend. meas. of threshold 9-41895
 gas, lateral diffusion to electron mobility ratio 9-1284
 gas, partly ionised, viscosity calc., simplified expressions 9-18983
 gas, stimulated Raman scatt., creation of laser source, near IR to submillimetric waves (French) 9-31993
 gas, stimulated Raman scattering, tunable coherent radiation source, 185 to 880 nm 9-31980
 glow discharge, H penetration of Mo cathode, point defect depend. 9-41903
 hardening of Fe, effect on struct., anodic behaviour (Russian) 9-15855
 hydrogenation of steel, influence of conc. depend. of anilines (Russian) 9-15854
 hydrogenation of Zr-N system, phases form. 9-43200
 impurity in CoGd, H₂ and N₂ contaminated amorphous films, mag. props. 9-1690
 impurity in FeGd, H₂ and N₂ contaminated amorphous films, mag. props. 9-1690
 interstitial, in Na, thermodynamics, rel. to delocalised particles 9-46653
 interstitial, ordering in α -Fe 9-7597
 ionisation path formation by laser beam with retractable focus 9-18992
 isotope ratio, determ. in microwave induced plasma 9-41868
 laser, tunable IR waveguide Raman type pumped by dye laser, 0.7-7 μ m range 9-45959
 liquid, eqn. of state of solid and liq. phases, metallic state (Russian) 9-19354
 liquid, localisation of electrons on surface (Russian) 9-33322
 liquid, thermodynamics below Debye temp., thermal capacity temp. depend. (Russian) 9-10999
 liquid, vibr. energy transfer, isotopic impurities, relax. 9-6993
 liquid metal, electron kinetic eqn. with exchange, elec. resist. 9-15131
 maser, time-dependent freq. shifts obs. 9-21713
 metallic, liquid state, ground state energy at zero temp. 9-38006
 methane-hydrogen mixture, flow through glass bead bed, axial dispersion coefficients 9-46378
 nuclear bombardment target, liq., for neutron scatt. 9-706

hydrogen continued

ortho to para conversion on paramag. and antiferromag. surfaces 9-34362
 oscillator, wall induced frequency shift measurement, F-10 polymer flexible accumulator vessel 9-2749
 oxidation, reaction kinetics calc. using thermodynamic model (German) 9-5130
 permeability and solubility in Pd-Ag, Pd-Ce, and Pd-Y alloys, comparative study 9-23738
 permeability in steel Kh18N10T, effect of surface treatment (Russian) 9-15853
 permeation in high temp. nuclear reactors (German) 9-3204
 plasma, discharge, laser-induced transient striations obs. 9-27785
 plasma, in DIVA Tokamak, Au impurity X-ray emission 9-32820
 plasma, in mirror trap, drift loss-cone instability stabilisation by cold ions addition 9-32800
 plasma, MHD and transverse ionising shock waves, jump conditions, ions. effects 9-32775
 plasma, neutral H ats. penetration, kinetic theory 9-32782
 plasma, radial density and temp. profiles, using magnetoacoustic oscills. 9-19082
 plasma, thermodynamic functions, composition, and elec. cond., calc. method 9-32738
 production, by thermolysis of water in solar reactor, thermal calculations 9-39319
 profiling using ¹⁵N bombardment, method and appl. 9-5195
 purity effects on steel Kh18N10T fatigue characs. (Russian) 9-15764
 reaction with CO, C₂FeCl₃ behaviour, effect of activation 9-43623
 recombining plasma, population inversion using collisional-radiative model 9-46423
 solid, secondary electron emission, electron and ion induced 9-1803
 solid pellet ablation in rotating plasma, density meas. by laser interferometry 9-4188
 solid-liquid mixture, nonstationary diffusion of neutrons 9-4212
 solubility in dil. Pd-Fe alloys 9-33091
 sorption by Laves phase AB₂ intermetallic compounds, capacity and preferred location 9-43791
 steel, carbide phase determ. by annealing in moist H₂ (German) 9-39231
 storage in interstitial alloys, review 9-10956
 surface layer anal., influence of ion beam bombardment 9-37731
 thermal conductivity, quantum effects 9-14510
 thermo-electrochemical prod. using solar energy (French) 9-24918
 thermodynamic properties and eqn. of state in stellar conditions 9-35241
 Townsend discharge, transverse diffusion and ions. coeffs. 9-1367
 trapping in Fe alloys, electrical analogue model 9-46841
 trapping mechanisms, by permeation techniques 9-37880
 BB₇-H₂ mixtures, B CVD, thermodynamic anal. 9-47634
 CsI:H⁺, U-centres, force consts. using Green's functions 9-46775
 H adsorption and desorption, self-consistent model calc. 9-46943
 H₂ discharge lamp light source, Doppler effects (German) 9-44946
 H⁺ polarised ion sources, recent advances 9-45498
 H-He, light source, elec. discharge, Doppler effects (German) 9-44946
 H₂⁺, polarisability, numerical two-centre calc. 9-10232
 H₂-Ar, liq.-vapor equilib. 83 to 141K, to 52 MPa 9-42226
 H₂-D₂ vacuum deposited solid films, struct. study transmission electron diff. obs. (Russian) 9-11035
 H₂-N₂, low-ionised plasma, electron kinetics, collision processes influence (German) 9-14519
 H₂-N₂ plasma, transport coeffs. and collision processes (German) 9-23395
 H₂-NH₃ mixture, viscosity meas., 25-100°C, up to 120×10⁵ Pa 9-32731
 H₂+D₂(O₂)(N₂O), Wassiljewa coeffs., thermal conds., 50 and 100°C 9-37437
 H₂+F, in pulsed HF chem. laser, kinetic modelling, rot. nonequilibrium 9-36888
 H₂+He⁺, 25-90 keV, fast beam form. He(2³S) population 9-31740
 KI:H⁺, U-centres, force consts. using Green's functions 9-46775
 L_α reson. line Stark broadening in dense equilib. plasma 9-32823
 LiF:H, neutron irradi., ENDOR meas. 9-11356
 Li₃N:H, ionic cond. 9-42305
 N₂-H₂, mixed plasma, elastic collision energy loss (German) 9-41793
 NaI:H⁺, U-centres, force consts. using Green's functions 9-46775
 O₂-H₂-Ar flame, atm. press., Na(3²P) lifetime obs. 9-39149
 Pd-H, solid soln., excess entropies, variation of H solubility with pressure 9-46846
 RbCl:H⁺, defect pairs of F-centres and U-centres, Raman meas. 9-7599
 RbI:H⁺, U-centres, force consts. using Green's functions 9-46775
 Si, H⁺ and H₂⁺ ion implantation profiles determ. by SIMS 9-4334
 Si:H, amorphous, annealing effect on cond. (Korean) 9-15142
 Si:H, amorphous, doped, Fermi level position, photoelectron spectra 9-47592
 Si:H, amorphous, electronic states of hydrogenated Si, theory 9-42494
 Si:H, evaporated amorphous film, prep. elec. cond. and photocond. 9-38201
 Si:H, ion implanted, anal. of methods used for H profiling in materials using ion beams 9-5197
 Si:H amorphous films, effects of glow-discharge prep. conditions on H content 9-46969
 Si+H, solid surface and low-pressure plasma, reactivity 9-47968
 a-Si_{1-x}H_x, oxygenated thin film, sputtered, elec. cond. and optical props. 9-15239
 SrTiO₃:H(D), controlled doping, IR spectra 9-28007
 Ta:H, recovery after cold working at 4.2K, resist. meas. 9-4977
 V-H, H on polycrystalline V, H detection by SIMS, flash-desorption obs. 9-24405
 ZnO:Cu, H, and ZnO:Cu, H, D, IR absorpt. line spectra, OH and OD vibr., optical excitation 9-15498
 ZnO:Cu,H, OH and OD centres, IR-active absorpt. line spectra 9-15496
 α -Zr:H, energy of interstitial H calc. 9-23596

hydrogen bonds

absorption spectra, interaction between two harmonic oscills. 9-6929
 acetic acid, cryst., and isotopic species, H-bond, ν_a - ν_s coupling and ν_a anharmonicity, IR spectra at 10K 9-15450
 acetic acid, liquid, intermolecular distance 9-7596
 anilines, free and H-bonded, Hammett freq. factors, effects of non-monotonic $\nu(XH)$ function variations (French) 9-22690
 anisole, in cyclohexane-ethanol mixtures, UV spectra, solvent effect 9-22770
 aqueous mixtures, lower crit. soln. pt. theory 9-4415

hydrogen bonds continued

biradical, photogenerated in Norrish type II reaction, solvent effects on lifetime 9-11804
 bond length and vibr. freq., deuteration effect 9-26911
 t-butanol and -d₁, deuteration effect on self-assoc., dielectric polar meas. 9-28672
 calcium di-DL-glycerate dihydrate, Ca binding, X-ray cryst. struct. determ. 9-46642
 carboxylic acid dimer, Fermi reson. 9-31501
 complexes, geometries, CNDO/2 and EHT calcs. 9-36530
 complexes, H-bonded, PCILO method calcs. 9-10035
 complexes with H-bonds, PCILO method 9-10036
 dimethylammonium manganese tetrachloride, H-bonding, struct. transition, neutron diffr. study 9-42004
 dimethylether-HCl(I)(Br) mixture in N₂ matrix, IR induced proton transfer isotope effects, bond strengths 9-29335
 elastin, hydrated, dielectric relax. 9-5247
 electrochemical storage, of H in LaNi₅ alloys, nature of H bond 9-24917
 electrostatic molecular potentials for H-bonded systems 9-3356
 ethanol, effect of hydrogen bonding on Raman spectrum 9-18197
 ethylene-vinyl alcohol (<36.3 mol.%) copolymer, elastic moduli of crystalline region (*Japanese*) 9-15715
 ethylene-vinyl alcohol (>40 mol.%) copolymer, elastic moduli of crystalline region (*Japanese*) 9-15716
 ferroelectric transformation 3-d H-bond model with two critical points (*Chinese*) 9-24268
 graphite-DNO₃, intercalation cpd., mol. dynamics 9-28631
 hydrazinium hydrogen oxalate, electron and proton distrib. in the short O-H-O bond 9-14789
 hydroquinones, H-bonded, zero-phonon photochem., hole burning obs. 9-11802
 ice, cryst. binding, H-bonding pot. function 9-32940
 ice, Ih, polycryst., vibr. spectrum anal., OH stretching region 9-11412
 ice, rel. to UPS, valence band struct. 9-33890
 imidazoline nitroxide radical, H-bonding with H donors, NMR, DNP and spin lattice meas. 9-15971
 IR spectra, theoretical interpretation 9-31519
 Ising model and config. heat capacity 9-33096
 isobutyl alcohol, adsorpt. on Al₂O₃, gravimetry, IR investigs. 9-1546
 lipid extract from lung surfactant, IR spectra, H-bond lengths 9-24941
 lithium thallium tartrate monohydrate, paraelectric phase structure by neutron diffraction data 9-19238
 2,6-lutidine, H bonding to iso- and tert-butyl alcohols, PMR obs. 9-27008
 methanol, effect of hydrogen bonding on Raman spectrum 9-18197
 methanol solns., IR spectroscopic detection of free lone-pair groups or terminal methanol molcs., PMR 9-19869
 methanol-d₁, H-bonded in soln., $\nu_2(\text{OD})$ band 9-18183
 2-methyl-1-propanol, liq. struct. at 20°C 9-32873
 MINDO/3 approximation unsuitability 9-31400
 nifontovite, cryst. struct., H bonds 9-19232
 nylon 6, effect of moisture content on glass transition temp. and Young's modulus 9-4401
 nylon-6 dilute soln., gelation and crystallisation, struct. determ. 9-37635
 oxalic acid, theoretical deformation density, ab initio Hartree-Fock calcs., emphasis on lone pairs and hydrogen bonds 9-32982
 oxalic acid diamide, mol., PMR and IR spectra, easy polarisable H-bonds 9-31516
 phenetole, in cyclohexane-ethanol mixtures, UV spectra, solvent effect 9-22770
 phenol, H bonds to proton acceptors, PCILO calcs. 9-26895
 phenol, in cyclohexane ethanol mixtures, UV absorption, solvent effects 9-22767
 phenol-cyclohexane (-ether), UV spectra, solvent effects, matrix rank anal., species determ. 9-22768
 phenols, substituted, in cyclohexane-ethanol mixtures, UV spectra, solvent effect 9-22770
 phthalic acid diamide, mol., PMR and IR spectra, easy polarisable H-bonds 9-31516
 pivalic acid(-d₁, d₃), liq. and soln., Raman assignments, CH₃ rot. barrier, dimerisation 9-26991
 pivalic anhydride, liq. and soln., Raman assignments, CH₃ rot. barrier, dimerisation 9-26991
 polyamide, directionally solidified, X-ray diffr. 9-10809
 polyesteramides, H-bond network disruption and glass transition 9-4402
 polymethacrylic acid-polyethylene oxide polymer complex, H bond form., thermal behaviour (*Japanese*) 9-15454
 polystyrene, intermol. interaction, conform. (*Russian*) 9-23539
 pyrogallol, PMR, OH group rot., H-bonds 9-47339
 solvents H-bonded ionic solvation entropy calcs. 9-47959
 sorbitol, relax. processes, optical probe obs. 9-47430
 styrene-methacrylic acid copolymer, intermol. interaction, conform., composition depend. (*Russian*) 9-23539
 succinic acid diamide, mol., PMR and IR spectra, easy polarisable H-bonds 9-31516
 sulphonyl compounds, H-bonding by methyl groups, Raman spectra obs. 9-24320
 TMNC, phase transition, low temp. far IR spectra 9-24309
 two-dimensional model dynamics, vibr. freq. rel. to equi. interatomic distances 9-26910
 water, low-density amorphous solid, Raman spectra, OH stretching region 9-11410
 γ -AlOOH, boehmite, lattice vibrs., evidence for C_{2v} space group 9-28756
 BaBr₂·2H₂O, pure and deuterated, low temp. IR and Raman spectra (*German*) 9-19874
 C-H-X H bonded systems, ab initio MO calcs. 9-6835
 α -CaCl₂·4H₂O, redeterm. of cryst. struct., H bonding and Ca coordination (*French*) 9-37676
 Co complex, monofumaratotetraaquocobalt(II) monohydrate, cryst. struct. and cryst. binding 9-37681
 Cs₂GeF₆·4HF, cryst., H bond geometry, NMR obs. 9-42844
 CsH(NO₃)₂, inelastic neutron scatt. spectra, H bonds bending vibrs. 9-14893
 Cs₂SnF₆·4HF, cryst., H bond geometry, NMR obs. 9-42844
 D₂O, IR and Raman spectra, bonding, vibr., band shapes 9-6938
 Fe(II), multilayer condensation of hydrazine, strong interaction via H-bonding 9-46956
 α -D-glucose, struct. refinement, mol. conformation and H bonding 9-42043
 H bonded systems, IR spectra, theoretical interpretation 9-31519

hydrogen bonds continued

H-bonded complexes, in polystyrene matrix, mol. relax. processes 9-24259
 H-bonded systems, cyclic and bifurcated, ab initio MO calcs. 9-41100
 H-bonded systems, MINDO/3 geom. optimis. calcs., heats of form. of monomer and dimer 9-31399
 H₂⁺ (n=5 to 13), ion-induced dipole clusters, binding energies and geometries 9-41261
 HBr, cryst. binding, H-bonding pot. function 9-32940
 HCl and (HCl)₂, matrix isolated, pulsed NMR 9-22730
 HCl, cryst. binding, H-bonding pot. function 9-32940
 HF, cryst. binding, H-bonding pot. function 9-32940
 H₂O, warm fog and steam clouds, emission spectra variations, evidence for clusters in vapour phase 9-39849
 H₂O₂⁺, aq. soln., IR continua with polarisable H-bonds 9-26979
 KHCO₃, inelastic neutron scatt. spectra, H bonds bending vibrs. 9-14893
 K₂H(H₂P₂O₇)₂, single cryst., X-ray cryst. struct. determ., direct method (*French*) 9-14742
 KH₂PO₄-type crystals, H bond in ferroelectricity, role of high pressure research 9-15414
 KH₂PO₄-type ferroelectrics, IR and Raman spectral interpretation of ferroelectric phases 9-24312
 KMgCl(ClO₄)₂·nH₂O, IR spectra and struct. features 9-15452
 KMgCl₃·nH₂O, IR spectra and struct. features 9-15452
 K₂SnF₆·4HF, cryst., H bond geometry, NMR obs. 9-42844
 La₂(SO₄)₃·9H₂O, and isotopic forms, water librations, Raman obs. (*French*) 9-28754
 Li₂Cr₂O₇·2H₂O, cryst. struct. 9-32980
 MgCl₂·nH₂O, IR spectra and struct. features 9-15452
 NH₃, solid, rel. to UPS, valence band struct. 9-33890
 (NH₄)₂BeF₄, ferroelectric, cryst. struct., phase transition, X-ray study 9-28689
 NH₄H₂AsO₄, H positions, paraelectric phase 9-19210
 Na(H₂O)(OH)₂(O₃), pyroelec., cryst. struct. at room temp. 9-10835
 Na₂H(SO₄)₂, cryst. struct. refinement, short asymmetrical H bond, S-OH vs. O-H...O correlation 9-37663
 Na₂SbS₄·9D₂O, Schlippe's salt, H bonds and cryst. struct. refinement, by neutron diffr. 9-19191
 Na₂SbS₄·9H₂O, Schlippe's salt, H bonds and cryst. struct. refinement, by X-ray diffr. 9-19191
 Zn₂AsO₄OH, paradamite, X-ray cryst. struct. determ. H bond strengths 9-42016

hydrogen compounds

see also deuterium compounds; hydroxonium ion; ice; steam; tritium compounds; water
 diatomic hydrides of first and second row elements, PNO-CI and CEPA calc. 9-768
 dimethylether-HCl(I)(Br) mixture in N₂ matrix, IR induced proton transfer isotope effects, bond strengths 9-29335
 group IV hydrides, pseudopot. FSGO calc. 9-22591
 halogen hydride lasers, vibr. energy transfer, from metastable diatomic molecules 9-31882
 hydride of Z=106, hexavalent, Dirac-Fock one-centre calcs. 9-6837
 hydrides of BCC metals, geometric and electronic contribs. to thermodynamic props. 9-46815
 hydrocarbon prod. from H₂ and CO, C₈FeCl₃ behaviour, effect of activation 9-43623
 linear triatomic hydrides, ab initio SCF CI electric dipole moments 9-31410
 molecule+ molecule, medium distance interaction, SCF LCAO MO, supermol., perturbation and MCF calc. 9-837
 transition metal hydride complexes, struct. geometry bonding, neutron diffr. studies 9-46641
 β -Al₂O₃·H₂O⁺, high press. thermal stability 9-23678
 β -Al₂O₃·H₂O⁺ protonic cond., struct. investig. 9-19213
 CH₄, triple point, International Practical Temp. Scale, comparisons 9-40566
 GaAs/HBr system, heterogeneous reactions, modified entrainment method appls. 9-23551
 HAlCl₂, IR matrix spectrum, vibrs. and force consts. (*German*) 9-11786
 H₂BO₃ evaporation from seawater, major source of atm. B 9-2293
 HBS, force consts., Coriolis const., vibr. amplitude, shrinkage and isotope effect 9-22863
 HBr, cryst. binding, H-bonding pot. function 9-32940
 HBr high-energy laser, parametric and engineering studies 9-41391
 HBr, IR matrix isolation spectra, N₂ matrix effects 9-36634
 HBr, purely chemical laser 9-10294
 HBr, triple-point temp. and pressure, vapour pressure of liquid to 205K 9-7683
 HBr+H₂, collinear collisions, anharmonicity effects, vibr. excitation 9-31656
 HBr+HBr, vibr. energy transfer, dissimilar isotopic species 9-27067
 (HBr)₂, IR matrix isolation spectra, N₂ matrix effects 9-36634
 HCN (A'⁺→X'⁺), fluoresc. spectrum, using ArF laser excitation 9-36675
 HCN, and isotopic forms, l-type doublet transitions 9-13704
 HCN CW laser, auxiliary DC discharge effects 9-31925
 HCN compact CW laser, output increased by He, Ar, air and O₂ buffer gases 9-10293
 HCN confirmed in galaxies M82 and NGC 253, 89 GHz obs. 9-44582
 HCN, dimer form., identification 9-10095
 HCN, dipole moment derivatives of CH and CN, CI method 9-45863
 HCN far IR laser, chem. pumping, 337 μ m and 311 μ m stimulated emission obs. 9-13958
 HCN, gaseous, radioactivity meas. by internal counting method 9-36483
 HCN, HNC, in Orion Molecular Cloud, J=3-2 lines detect. 9-25669
 HCN, IR and Raman vibr. intensity changes due to Li⁺ interaction 9-45712
 HCN, inner shell electron energy loss obs. 9-45853
 HCN, ionis. by mol. orbital method, many-body calc. 9-36512
 HCN, ionisation pot., Koopman's theorem, corrections using energy shifted perturbation theory 9-6845
 HCN, J=1-0 transition obs. in southern interstellar mol. clouds 9-8983
 HCN, K-shell excitation by electron energy loss spectroscopy 9-31712
 HCN, mol. electron correl., quadrupole excitation in correl. energy theories 9-36538
 HCN, nucl. spin-spin coupling, diagm. contrib. 9-36665
 HCN, predissociation, photofragment excitation spectra measurement 9-45777

hydrogen compounds continued

- HCN, valence shell correl. energies, pair correls., unlinked cluster effects, CPA calc. 9-13648
 HCN, vertical ionisation pots., CI calcs. 9-13645
 H(CN)₂⁺, IR spectra, rel. to mol. geom. 9-22702
 HCO, prod. by formaldehyde photolysis, vibr. relax., chem. kinetics and spectra 9-11808
 HCO⁺ detected toward M82 galaxy, 89 GHz obs. 9-44582
 HCO⁺ isotopes, interstellar anomalous line intensities towards dark clouds 9-17054
 H₂CO stabilised He-Xe laser, freq. stability in axial mag. field 9-22991
 HCS⁺ formation in interstellar clouds 9-17038
 H₂CS, potential energy surfaces and equilibrium geometries for ground and excited states 9-45634
 HCl, 3.8 μm, 10.6 μm CW laser emission based upon CI atom chem. generation 9-947
 HCl and (HCl)₂ matrix isolated, pulsed NMR 9-22730
 HCl and HBr, low-lying reson. states in 0.25-1.15 eV electron scatt. 9-45844
 HCl, anharmonic molecular vibrations, coherent spectroscopy 9-18187
 HCl, Ar-perturbed rot. linewidths, temp. depend. 9-45766
 HCl collection using impregnated filters, simulation 9-12257
 HCl, elimination of distributed fixed charge in CVD-oxide 9-42661
 HCl gas, stimulated Raman scatt., creation of laser source, near IR to submillimetric waves (*French*) 9-31993
 HCl, IR matrix isolation spectra, N₂ matrix effects 9-36634
 HCl in DMSO-H₂O soln., ion assoc., US absorpt. obs. 9-23513
 HCl, in dil. solution IR absorpt. fundamental shape temp. depend., solvent-solute interaction 9-26977
 HCl, matrix isolated, vibr. relax., IR fluoresc. obs. 9-45749
 HCl, mol. XPS and KLL Auger effect, line shifts 9-31602
 HCl solid film, contaminant on cryocooled Ge optical window, IR transmission 9-32007
 HCl, spectral line parameters in IR 9-22766
 HCl, tunable far IR generation by stimulated Raman scatt. 9-31983
 HCl⁺, effective Hamiltonian, ab initio calc. 9-45632
 HCl:Bi³⁺ solution, characts. of luminesc. spectra, 82 to 130K (*Russian*) 9-28835
 HCl:Bi³⁺ soln., luminesc. quantum yield and lifetime (*Russian*) 9-33834
 HCl:CoCl₂-H₂O, activity coeffs., 298.15K, electrostatic terms effects 9-24812
 HCl-D₂, vibr. relax. time meas., by coherent Raman-induced IR fluoresc. 9-7038
 HCl+Ar, rot. excitation, quasiclassical close coupling approx. 9-27068
 HCl+Ar, shock-heated, collision induced dissociation 9-34290
 HCl+Ar(Xe), spectral line shift of vibr.-rot. lines. press. shift 9-18237
 HCl+CO₂, vibr. relax., 300-900K, by laser fluoresc. 9-31658
 HCl+HCl, vibr. energy transfer, dissimilar isotopic species 9-27067
 HCl+HCl-SF₆, nonequilib. rot. distrib. relax., fluoresc. obs. 9-36673
 HCl+He, mag. transitions, initial-l labelled CS approx. computations 9-3552
 HCl+K, ion pair form., energy loss spectra 9-34286
 HCl+Kr(Ar), pot. energy surface determ. from rot. line broadening data 9-13784
 HCl+N₂O, vibr. relax., 300-900K, by laser fluoresc. 9-31658
 HCl+O₃, nonreactive vibr. relax. rate of O₃ (001), 173-419K 9-3545
 (HCl)₂, IR matrix isolation spectra, N₂ matrix effects 9-36634
 HCl(DCl)+He, cross sectional factorization expressions, close coupling input tested in sudden approximation 9-43571
 HDS, CO₂ laser pumped, high power far IR superfluorescent emission 9-27243
 HF CW chemical laser, design of multipass telescopic amplifiers 9-27289
 HF, CW chemical laser for remote pollution monitoring and process control, HF conc. in Al plant 9-48200
 HF chemical laser, pulsed, evolution, kinetic model, rot. nonequilibrium 9-36888
 HF chemical laser, pulsed, evolution, irreversible thermodynamic anal. 9-31887
 HF, cryst. binding, H-bonding pot. function 9-32940
 HF efficient electron-beam-pumped chem. laser with high specific energy output 9-45963
 HF electron beam initiated chem. laser 9-13959
 HF, electron spectroscopy of resonances 9-3583
 HF, fluoromethanols (mono and tri), decomposition activation of HF, non-statistical energy partitioning, laser emission 9-945
 HF, geometries, props. and protonation, ab initio mol. orbital study 9-22588
 HF ground state, as vac., in many-electron system cluster expansion calcs. 9-26912
 HF, IR dispersion, refractive index meas., vibr.-rot. fundamental intensities, dipole moment 9-37441
 HF, IR laser spectra 9-45936
 HF laser, rotational nonequilibrium efficient model 9-22945
 HF, low-impedance Blumlein discharge initiated laser, efficient operation 9-36919
 HF master oscillator-amplifier system based on chain H₂+F₂ reaction 9-22947
 HF, minimal basis set localised orbitals, conjugate gradients method calcs. 9-6849
 HF, mol. nucl. spin-spin coupling, diamag. contrib. 9-36665
 HF molecules in crystalline solvates, mol. diffusion and spatial symmetry of arrangement 9-42313
 HF oligomers, Gibbs free energies, gas. equilib., ab initio calc. 9-20456
 HF, one-dimens. cryst., ground state energy PCIOCC method 9-10056
 HF, photopreionised atm. press. laser operation 9-967
 HF, polarisation model representation for chem. reactions 9-39131
 HF rotational line shift, far IR Fourier transform spectrometry improvement 9-30582
 HF, short laser pulse generation possibility by cooled H₂-F₂ mixture photolysis 9-22946
 HF, tunable far IR generation using resonantly enhanced stimulated Raman scatt. 9-14031
 HF, vibr. excited, chemical laser design 9-31947
 HF, vibr. relax., microscopic and macroscopic anal. of non-linear master eqns. 9-36743
 HF⁺, ab initio valence band calcs. 9-6869
 HF/HCl ratio in stratosphere, comparison between theory and meas. 9-16568
 HF+Ar, rot. relax. of high rot. levels at 1 torr press. 9-10181
 HF+F⁻, proton transfer reaction, polarisation model 9-39131
 HF+H⁺, reaction, ab initio pot. energy surface calcs. 9-39127

hydrogen compounds continued

- HF+He, vibr. relax., unitary distorted-wave approach 9-36738
 (HF)₂, intermol. pot. function, ab initio 6-31G calc. 9-18254
 (HF)₂, polarisation model representation for chem. reactions 9-39131
 H₂F+F⁻, proton transfer reaction, polarisation model 9-39131
 HFCS, potential energy surfaces and equilibrium geometries for ground and excited states 9-45634
 HF(DF)+He, cross sectional factorization expressions, close coupling input tested in sudden approximation 9-43571
 HF*+NH⁺, microscopic vibrational-electronic energy transfer, IR chemiluminesc. obs. 9-31662
 HF(1≤n≤7)+DF(0), vibr. deactivation calc., 300-3000K 9-31655
 H⁺(H₂O)_n, secondary electron emission from charged clusters on 2.4 keV Ar bombarded surfaces 9-15580
 HI, anhydrous, reduction of SO₂ClF 9-5150
 HI+Br-HBr+I, thermal rate const., 220-400K, H/D isotope effect 9-47906
 α-HIO₃, electrogyration coeff. meas. 9-19859
 α-HIO₃, nonlinear conical refraction, second-harmonic cone 9-27329
 α-HIO₃, optically active biaxial crystal, conical diff. intensity patterns 9-4785
 α-HIO₃, thermal radiation recording by two-stage freq. conversion detects. 9-46002
 H₂MoO₃ (0.3<x<2.0), synthesis and phase characterisation 9-1416
 HN₃+F, production of NF⁺(a¹Δ and b¹Σ⁺) 9-11770
 HNC and HN¹³C in interstellar clouds temp. effects and D fractionation producing DNC 9-44578
 HNC, valence shell correl. energies, pair correls., unlinked cluster effects, CPA calc. 9-13648
 HNC, vibronic coupling and linear to bent transitions 9-45694
 HNCO, barrier to linearity, ab initio SCF and CI calcs. 9-3363
 HNCS, a-type rot. spectrum in excited bending vibr. states 9-3437
 HNCSe, struct., microwave spectrum 9-18178
 H⁺(NH₃)_n, secondary electron emission from charged clusters on 2.4 keV Ar bombarded surfaces 9-15580
 HNO⁺, ab initio pot. surface, and isomerisation barrier of lowest states 9-22622
 HNO₃, atmospheric monitoring, chemiluminesc. method 9-16062
 HNO₃, diffusion coeff. in graphite 9-42310
 HNO₃ intercalation of graphite, chemistry 9-43564
 HNO₃, ν₃ band rot. struct., anal., band centre and rot. consts. 9-10109
 HNO₃ vapour line parameters meas. by CO laser transmittance 9-26976
 HNO₃-graphite intercalation compounds, differential scanning calorimetry investigation 9-42234
 HNO₃-H₂O, liq. and glass, mol. assoc., ion pairs, Raman obs. 9-28749
 HNO(A⁺A⁻), state-selected fluoresc. lifetimes, collisional quenching rates 9-36674
 HNO₃-H₂O glassy form, stochastic rot. motions 9-7551
 HO₂, IR spectra, 1.43-1.51 μm emission bands 9-36635
 HO₂+ClO-HOCl+O₂, reaction rate consts. 9-5140
 HO₂+NH₂, rate const., in NH₃+O₂ flash photolysis 9-47943
 HO₂+NO₂ form. and react. in aq. soln., pulse radiolysis 9-24805
 HO₂+NO-OH+NO₂, rate constant determination in Arrhenius form 9-47904
 HO₂+OH-H₂O+O₂, gas flow reaction, upper bound and probable value of rate const. 9-24730
 H₂O, insolation absorption and thermal excitation of atmospheric tides 9-34890
 H₂O interstellar masers, high vel. structures, origin (*Russian*) 9-25697
 H₂O maser emission from NGC 4945 galaxy 9-40271
 H₂O masers near OB associations, 22 GHz obs. 9-25649
 H₂O vertical distrib. in stratosphere, UV fluorescence meas. 9-34891
 (H₂O)-HF complexes, (x=1 or 2), geometry, CNDO/2 calc. 9-36531
 H₂O⁺+diatomic (polyatomic) molecule, reaction, ICR obs. 9-8429
 H₂O₂, behaviour during RBMK reactors startup and shutdown, investigation 9-9822
 H₂O₂, internal rot., pot. energy calcs. 9-3521
 H₂O₂, struct. and barrier to internal rot., HF and Rayleigh-Schrodinger perturbation calcs. 9-13636
 H₂O₂, struct., barrier to int. rot., HF and RS-MP perturb. calcs. 9-13637
 H₂O₂⁺, aq. soln., IR continua with polarisable H-bonds 9-26979
 HOCl, photodissoc. cross-sections rel. to prospects as atmospheric Cl reservoir 9-12207
 HOCl, UV spectrum, stratospheric lifetime rel. to photodissoc. 9-36661
 HO₂NO₂, form. by reaction of HO₂+NO₂, pulse radiolysis 9-24805
 HO₂NO₂, gas phase, UV and IR absorpt. cross sections 9-13733
 HO₂NO₂, thermal decay kinetics 9-5135
 (H₂O)₂⁺(PW₁₂O₄₀³⁻), struct., X-ray and neutron diffr. study 9-42037
 H₂O₂-H₂S, IR spectra of complex in solid nitrogen, 20K 9-10102
 H₂(PMo₁₂O₄₀), decomp., in aq. soln., Raman spectra obs. 9-13719
 H₂PO₄, broad-band picosecond light generation by mode-locked ruby laser 9-31989
 H₂PO₄, wet process, influence of high-intensity US 9-15993
 H₂PO₄+Ga, interaction in aq. soln., ⁷¹Ga and ³¹P NMR obs. 9-22729
 H₂PO₄(WO₃)₁₂ electrochromic cells 9-15436
 H₂S, adsorpt. on ice surface, gas capture by crystallising aq. aerosols investig. 9-39191
 H₂S, adsorpt. on Ti(Ta)(Nb) evaporated films, 195 to 473K 9-33197
 H₂S, air pollutant, conc. in remote continental and oceanic areas 9-20983
 H₂S, air pollution, new anal. method for remote areas 9-21028
 H₂S, dissociative electron attachment, H⁺ energy and ang. distrib. 9-31710
 H₂S effect on methyl Hg in River Mersey estuary sediments 9-2295
 H₂S, electron impact, vibr. elastic scatt. and vibr. excitation 9-13822
 H₂S, energy levels and mol. vibr., internal coord. model 9-799
 H₂S in N. equatorial Atlantic Ocean atmosphere rel. to global S cycle 9-12165
 H₂S, large-scale spatial and temporal distrib. of air pollutant 9-20981
 H₂S, liq., optical absorption transients produced by ns pulse radiolysis 9-11803
 H₂S, marine pollution in Kuwait 9-5510
 H₂S, mol., XPS and KLL Auger effect, line shifts 9-31602
 H₂S, proton affinity, ab initio HF calcs. 9-31371
 H₂S, reaction with alkaline minerals in coal, pulsed differential reactors appl. 9-20465
 H₂S, VB minimal Slater basis set calcs., comparison with H₂O, MO calcs. 9-36536
 H₂S, valence and Rydberg excited states, SCF-Xα-SW mol. orbital study 9-36550

hydrogen compounds continued

- H₂S, valence momentum distrib., binding energies, binary (e,2e) spectrosc. meas. 9-31713
 H₂S, valence shell binding energy spectrum, 8-34 eV, electron scatt. simulation of photoionis. 9-10213
 H₂S, valence shell electron pair interactions, VSEPR theory test 9-31393
 H₂S⁺, reaction rate const., product distrib., ICR obs. 9-8428
 H₂S-hydrocarbon mixtures, phase equilib. calcs., modified Soave eqn. of state 9-19353
 H₂S+NO₂, SO chemilumesc. in Ar matrix 9-5146
 HSO₄, thermochem. props. 9-5173
 H₂SO₄, aerosol particles props. in subsiding air over Japan 9-20986
 H₂SO₄, Ag graining, comparison with colour image (*German*) 9-29380
 H₂SO₄, air pollution determ. in Netherlands, 1971-76 period 9-21031
 H₂SO₄, pure, IR and Raman spectra in liq. state, assignments and cryst. spectra comparison (*French*) 9-33699
 H₂SO₄, secondary particles form. and growth, kinetic aerosol model 9-29492
 H₂SO₄:Fe²⁺, frozen soln., photo- and radiation-produced H-atoms obs. 9-39162
 H₂SO₄/H₂O aerosol formation, growth simulation using general dynamic eqn. 9-47990
 H₂SO₄+K₂Cr₂O₇, in spectrophotometric determ. of reducing agents 9-39234
 H₂SeO₃, and deuterated analog, vibr. spectra 9-24311
 H₂SeO₃, IR overtone spectra and temp. depend. 9-47456
 H₄(SiMo₁₂O₄₀), decomp., in aq. soln., Raman spectra obs. 9-13719
 HTO, rain scavenging 9-16563
 HUO₂PO₄·4H₂O, H⁺ ion solid electrolyte, cryst. struct. 9-14759
 HUO₂PO₄·4H₂O proton conductor applications 9-29466
 O₃+H₂S(OCS), SO chemilumesc. in Ar matrix 9-5146
 (SNH)₂, density of states, CPA calcs., effect of H impurities 9-42431
 Sr+HF→SrF+H, product state distrib., reagent orientation and rot. effect 9-20361
 Th₇Fe₃H₃₀, H induced change from supercond. to mag. ordered state 9-28525

hydrogen embrittlement

- enhancement by implanted He 9-28016
 metal, hydrogen crack development 9-20189
 metals, H₂ embrittlement, kinetics, review (*Russian*) 9-15762
 near surface region of solid, H₂ effect on deform. and fracture, Rebinder-Westwood effect 9-39001
 Pyrex glass, near-surface H embrittlement, effect on deform. and fracture props. 9-29180
 steel, AISI 4340, subcrit. crack growth, fracture mech. and surface chemistry obs. 9-3892
 steel, alloy, JIS SNCM8, crack propagation vel. in delayed failure under cyclic load, temp. and freq. depend. 9-43381
 steel, austenitic, ASTM A533B and A542, H₂ embrittlement behavior of unirrad. steels for nuclear reactor press. vessels 9-8340
 steel, blister-crack array extension 9-24613
 steel, C-Mo-P, intergranular fracture and grain boundary segregation, P, H, Mo effects (*Japanese*) 9-15775
 steel, Cr-Ni, hydrogen effect on strength, ductile and fracture characts. 9-38960
 steel, lattice hardening and anomalous softening caused by electrolytic H₂ charging (*Japanese*) 9-43398
 steel, maraging, Hart's model in hydrogen embrittlement 9-24621
 steel, Mn-V and Cr-Mo, for pressure vessels, hydrogen embrittlement evaluation (*Czech*) 9-38950
 steel, Ni-Co-Cr-Mo-C (10.14,2.1,0.16 wt.%), stress corrosion cracking at 22°C in 3.5% NaCl 9-8390
 steel, pressure vessel type, H₂ effect on corrosion, fatigue strength and embrittled (*French*) 9-47770
 steel, structural H₂ embrittlement and H₂S cracking resist., effect of alloying elements and struct. 9-38953
 steel A-106, yield point suppression by H₂ 9-8368
 steel H₂ embrittlement resist., selection of test conditions (*Russian*) 9-15883
 steel H-dislocation interactions rel. to H₂ embrittlement 9-42097
 steel high strength, Cd plated, effect of composition and thermal treatment, on hydrogen embrittlement susceptibility (*Russian*) 9-15769
 steels, C, H₂ embrittlement after patenting and cold deform. (*Russian*) 9-29175
 steels, low alloy, grain boundary anal., H₂ embrittlement, scanning AES 9-43256
 steels, mechanism of H₂ entry in acid environments 9-39023
 test condition selection for resistance (*Russian*) 9-15883
 Fe, H₂ induced cracking, crystallographic and fractographic studies 9-5052
 Fe, H₂ adsorption at dislocations and cracks 9-20146
 Fe, H₂ induced cracking, stress state effect 9-20147
 Fe, lattice hardening and anomalous softening caused by electrolytic H₂ charging (*Japanese*) 9-43398
 Fe-C, effect of H on elastic props., due to internal microcracking (*Russian*) 9-24561
 Fe-Si, H₂ induced cracking, crystallographic and fractographic studies 9-5052
 Fe-Ti alloys, kinetic trapping model for H₂-induced grain boundary cracking 9-29164
 H-dislocation, interactions rel. to H₂ embrittlement 9-42097
 Nb, hydrogen embrittlement, deformation behaviour of Nb-H alloys 9-11687
 Ti alloy, H₂ embrittlement, directional diffusion of H₂ (*Russian*) 9-15763
 Ti-Al-V-Sn (6.6,2 wt.%), H₂ induced crack growth, in-situ scanning Auger anal. 9-8355
 Zr-Nb (2.5 wt.%), fractographic aspects of H₂ induced delayed cracking 9-47767
 Zr-Nb (2.5 wt.%), hydride TEM obs. in pressure tubing 9-8338

hydrogen ion activity see pH

hydrogen ion concentration see pH

hydrogen ions

- concentration meas., process control by ion-selective electrodes (*German*) 9-16083
 cytochrome *a* interaction with mitochondrial matrix H⁺ ions 9-43806
 fluxes, electroanalysis polarisation, rotating disc systems 9-47933
 hydrogenlike ions, electron impact excitation, Coulomb-Born-Oppenheimer calcs. 9-10211
 interstellar H II, prod. through Cl chemistry 9-40245
 isoelectronic series, X-ray line excitation 9-44453

hydrogen ions continued

- molecular beams, appl. to prompt nucl. react. anal. 9-36452
 transport in immobilised protein membranes, assoc.-dissoc. time-scale factor 9-34529
 D+H⁺(D⁺)(He⁺)(Ne⁺)(Ar⁺)(Kr⁺), reson. charge charge transfer from photoexcited donor state 9-22820
 H⁺ beam, intense, from Penning surface-plasma source, ion-optical characts. 9-13892
 H⁺, electron loss in passing through inert gases 9-13805
 H⁺, electronic structure, stabilisation calcs. using big mol. Gaussian SCF/CI program 9-18121
 H⁺, energies and widths of ¹P^o(1) and ¹S(2) resonant states 9-18130
 H⁺, ground state electron correlation visualisation 9-3367
 H⁺, H², bound states calc. 9-13646
 H⁺, ion source, CW plasma device, current maximisation 9-22521
 H⁺, metastable, electron affinity calcs. 9-31439
 H⁺, photodetachment cross section, perturbation-variation method 9-6921
 H⁺ radiation in acoustic dissipation and solar chromosphere 9-30029
 H⁺, shape reson., Stark effect, complex coords., translation and dilatation transforms 9-18141
 H⁺ short bunch shaping at entrance of linear accelerator, calcs. 9-700
 H⁺ beam, control using laser radiation 9-27112
 H⁺, beam-tilted C foil interactions, charge-state distrib., photon emission, 100-400 keV 9-22814
 H⁺, bombardment of ³¹Ga(³³As)(³⁴Se)(³⁵Br)(³⁵Cs) L-shell X-ray prod. 9-47548
 H⁺, bombardment of second row element target, K-shell X-ray prod. 9-47550
 H⁺, expt. results on W-values for heavy particles 9-7000
 H⁺ field-aligned downward vels. in mid-latitude ionosphere 9-40015
 H², metastable, electron affinity calcs. 9-31439
 H-like ions, elastic electron (positron) scatt., relativistic Glauber amplitudes 9-31681
 H-like ions, scaled Coulomb-Born-Oppenheimer collision strengths 9-22839
 H-like ions, spectral broadening in plasma 9-46431
 H-like ions+H⁺, charge transfer cross sections 9-18286
 H+H⁺, coupled state calc., charge transfer and direct ionis. 9-22810
 H+H⁺, fast proton total electron capture cross section, fixed scattered approx. 9-22819
 H+H⁺, interaction energy, perturbation theory, Pade approximants and convergence 9-31635
 H+H⁺, quantum theory of ionisation in fast collisions 9-3553
 H⁺+He²⁺, electron capture cross sections 9-10198
 H⁺+Ar, 0.5 MeV H(H⁺) ionisation comparison 9-41230
 H⁺+H collisions, assoc. detachment process theory 9-44351
 H⁺+H⁺, charge exchange, one or two electrons, symmetry effects (*Russian*) 9-3562
 H⁺+H⁺, double charge transfer, 30-200 eV 9-45837
 H⁺+H⁺, electron detachment cross sections 9-13818
 H⁺+H⁺→H(1S)+H, level degeneracy effect on charge exchange at term pseudointersection 9-27084
 H⁺+HF, reaction, ab initio pot. energy surface calcs. 9-39127
 H⁺+N₂ (inert gas), charge transfer, ejected electron spectra 9-45828
 H⁺+hydrogenic ion, electron capture in highly excited s-state 9-45839
 H⁺+atom, excitation functions rel. to ionisation (*French*) 9-31669
 H⁺+Au(Eu)(Ag)(Rb)(Cu), atomic K-shell ionis., X-ray emission 9-18280
 H⁺+CO(NO), dissociative ionis. 9-10188
 H⁺+Ca(Se)(Ti)(V)(Cr)(Mn)(Fe), K X-ray production, 0.2-0.5 MeV, ionis. cross-section 9-31459
 H⁺+H, charge transfer, variationally consistent approximation scheme 9-22825
 H⁺+H, electron capture into n, l levels, 100 keV/amu 9-22826
 H⁺+H, excitation, asymptotic cross-sections calcs. 9-18279
 H⁺+H, excitation, pseudostate expansions and second Born approx. 9-45796
 H⁺+H, high-Rydberg state high-impact-velocity forward charge transfer as classical process 9-22824
 H⁺+H, interaction energy, perturbation expansion, symmetry forcing 9-22785
 H⁺+H₂, elastic of rot. excitation, semiclassical treatment 9-31657
 H⁺+H₂, elastic scatt. and rot. excitation, multistate semiclassical orbital method 9-27058
 H⁺+H₂, electron capture cross-section, anal. evaluation 9-36756
 H⁺+H₂, rot. quantum transitions 9-845
 H⁺+H₂, double charge transfer, 30-200 eV 9-45837
 H⁺+H₂, merged beams, double charge transfer cross section 9-22818
 H⁺+H₂→H₂⁺+e, 0.001 to 3 eV assoc. ionisation cross-sections meas. 9-3512
 H⁺+H-like ion, electron capture, Coulomb-Born approx. 9-45838
 H⁺+H(He)(Ar), K-electron capture, cross section scaling, high energy 9-41236
 H⁺+H(1s), charge transfer, 0.025-200 keV/amu 9-22823
 H⁺+He, elastic scatt. and 2's and 2'p excitation cross-sections 9-36747
 H⁺+He, electron capture and impact-ionis. cross sections, Monte Carlo calcs. 9-27083
 H⁺+He, ionising collision, first-order Faddeev approx. 9-22827
 H⁺+He, proton energy degradation, approx. yield spectrum 9-31643
 H⁺+He(Ar), charge exchange, differential cross sections 9-7006
 H⁺+He(Ar)(O₂), charge transfer to H(n=2), mixed parity elec.-dipole oscillations 9-31678
 H⁺+He(C)(Ne), K-shell charge transfer cross sections, Bates-Born formalisms 9-45834
 H⁺+He(Ne)(Ar), ang. and energy distrib. of ejected electrons 9-31668
 H⁺+inert gas, charge transfer into excited states, 10-150 keV, target at. struct. depend. 9-45830
 H⁺+lanthanide atom, L-subshell ionisation cross-section, 150-400 keV 9-45665
 H⁺+molecule (C, F- or O-containing), K X-ray yields 9-45736
 H⁺+S(K)(Ni)(Cu)(Ga)(Br)(Ag)(Cs)(W), 4 MeV beam-foil X-ray production cross-section 9-7003
 H⁺+Zn(Cd), L- and M-shell Auger electrons 9-27076
 H₂, core-excited Σ reson. state, ab initio CI LCAO calcs. 9-31385
 H₂, variational calcs. of resonant states 9-3571
 H₂, 400 keV beam dissoci. collisions in air, ang. distrib., vibr. state effects 9-10197
 H₂, binding energy, MINDO/3 calcs. (*German*) 9-31666
 H₂, calc. of lowest vibr. states where L=0, P=+ 9-31502

hydrogen ions continued

- H_2^+ , coupled-channel Schrodinger eqn. bound states, renormalised Numerov method 9-13627
 H_2^+ , dissociative recombination in low energy electron collisions 9-3563
 H_2^+ , electron elastic scatt., two-centre variational calc. of s-wave phase-shift 9-3570
 H_2^+ , electronic stopping power of slow mol. ions in solids 9-10888
 H_2^+ , energy spectra of emergent dissociation and recombination products from C film 9-45819
 H_2^+ , ground state, asymptotic primitive function, symmetry adapted perturbation calcs. 9-6855
 H_2^+ , hyperfine structure, allowed transition freqs. 9-13630
 H_2^+ , individual orbital contributions to SCF virial 9-3349
 H_2^+ , LCAO method, improvement by directed variation of exponential parameters 9-41101
 H_2^+ , mol. energy in strong magnetic field, MO SCF calcs. 9-6858
 H_2^+ , muonic, three-body Coulomb interaction, adiabatic representation 9-31640
 H_2^+ , nonseparable Schrodinger eqn., series solns. and variational principle 9-36504
 H_2^+ , one centre partial wave treatment, Coulomb versus electron exchange intermol. forces 9-6839
 H_2^+ , path integral formalism of perturbation theory, simple molecules and atoms 9-6841
 H_2^+ , quantum mechanics (Hungarian) 9-757
 H_2^+ , reson. states, complex basis functions methods 9-6887
 H_2^+ , satellite line shape, classical broadening theory including Doppler effect, potential effect 9-22764
 H_2^+ , vibr. excitation, cooling mechanism for hot protogalactic gas (Russian) 9-17149
 H_2^+ , inelastic forward scattering, vibr. excitation, glory oscills. 9-22799
 H_2^+ +C thin solid target, 50-300 keV, collisional at. physics using mol. projectiles 9-45813
 H_2^+ + H_2 - H_3^+ +H, state selected, threshold electron-secondary ion coincidence method obs. 9-5190
 H_2^+ +He- H + HeH^+ , product ion ang. distrib., quantum mech. impulse approx. calcs. 9-24727
 H_3^+ , correl., ionisation and attachment operators, diagrammatic method calcs. (French) 9-22607
 H_3^+ , dissociative recombination in low energy electron collisions 9-3563
 H_3^+ , photofragmentation, time depend. formulation 9-831
 H_3^+ , potential surface, GTO config. expansion 9-26907
 H_3^+ , sputtering of 304 stainless steel Tokamak wall, ang. effects 9-46458
 H_3^+ + H_2 , 10 keV electron capture, electronically excited H_3 form. 9-41204
 H_3^+ + H_2 charge transfer collisions, 10 keV, H_2 -H fragmentation 9-853
 $H_2^-(n=5$ to 13), ion-induced dipole clusters, binding energies and geometries 9-41261
 H_2D^+ , interstellar and circumstellar search, upper limit determ. 9-2562
 HH ion, hydrogenium ion, metastable states, ground state energy, bound states, lifetimes 9-45868
 $H_2^+(H_3^+)+He$, Hadamard mass spectroscopy, mass spectra 9-30601
 $H_2^+(HD^+)$, g-factors and related mag. props., calc. theory 9-41124
 $He+H_2^+$, vibr. and rot. transitions, trajectory calcs. 9-13793
 $He+H_2^+$, electron capture coherent electron density distrib. oscillations 9-10200
 He_2^++He , endothermic reactive and vibr. inelastic collisions, potential well effects 9-8430
 H (muonic)+ H^+ , elastic scatt., cross section 9-871
 $^{58}Ni+p$, K-shell X-ray photon proton coincidences, nucl. time delay 9-18281

hydrogen neutral atoms

- absorption at 21 cm within 3C 178 radiogalaxy 9-5910
 adsorption on perfectly imaging metal, variational calc. 9-33188
 atom, in diatomic mol., nuclear mag. shielding LCAO MO functions and gaussian expansion calcs. 9-36548
 backscattering from Mo in the presence of O, ion form., line emission 9-3388
 Balmer α and β in solar prominences, emission line intensities rel. to model calcs. 9-44447
 Balmer α and β line profile rapid vars. in Be-stars (Russian) 9-16992
 Balmer α emission in southern beat Cepheid stars 9-21301
 Balmer α emission line var. in M-type dwarf stars 9-21313
 Balmer line formation in rotating white dwarfs 9-30059
 Balmer- α fine structure lines, anomalous shifts, in He- H_2 DC discharge 9-45677
 bound states, so(2,1) algebra 9-10016
 charge exchange involving excited states, Born cross sections 9-45836
 chemisorption on Be(0001) surface, mol. orbital cluster theory 9-15002
 in clusters of galaxies 9-5896
 combustion products, appl. in CO₂ gasdynamic laser 9-27240
 Compton profile and X-ray scatt. factors, elec. field and elec. field gradient effects 9-31458
 Debye screening, no evidence for H γ red shift 9-31369
 determination, in fast flow discharge systems, titration methods 9-34393
 diffusion in electrolytic Ni, coeff. determ. (Russian) 9-8441
 dipole static polarizability for any state, modified Coulombic Green's function Sturm expansion 9-7031
 direct obs. of the transversal Doppler-shift 9-18151
 distribution in early type disk galaxies from 21 cm line obs. 9-35357
 Einstein's unified field theory, field equations soln. for H-atom space-time struct. 9-21634
 elastic electron (positron) scatt., relativistic Glauber amplitudes 9-31681
 elastic electron scattering, eikonal Born series calc. 9-36766
 electron and positron bremsstrahlung, differential cross sections 9-18294
 electron coincidence ionisation spectroscopy, rel. to impulse approx. calcs. 9-31715
 electron elastic scattering, fixed scatterer approx. 9-10204
 electron impact excitation, Bethe approx. modifications, impact radiation polarisation 9-31695
 electron impact excitation, electron-photon ang. correl., for H(2p) 9-31699
 electron impact excitation, two-pot. eikonal approx. 9-22847
 electron impact ionisation, expt. and theoretical 9-22842
 electron impact ionisation, triple differential cross section 9-36776
 electron inelastic scatt. in intense EM field, one photon absorpt., 1s-2s transition 9-36765
 electron scatt., complex optical pot. methods 9-22844

hydrogen neutral atoms continued

- electron scatt., distorted wave expansion with off diagonal pots., local approx. 9-31694
 electron scatt., inelastic, cross sections, second Born approx. (Russian) 9-36780
 electron scatt. in EM field, reson. emission and absorpt. of photons 9-27087
 electron scattering, differential cross-section and oscillator strength 9-36774
 electron scattering transition amplitude from 1st Landau level, in homogeneous mag. field 9-10218
 electron/positron elastic scatt., least squares calcs. 9-3572
 energy levels of light hydrogen like and muonic atoms, nuclear size corrections 9-36549
 Europa, H cloud rel. to UV emissions 9-5775
 exchange reactions, low temp., tunnelling dynamics 9-29340
 excited state electron and ion quantum scatt. cross sections, dipole approx. (Russian) 9-6996
 excited states relax. in glow discharge (French) 9-849
 excited states relax. rates in glow discharge 9-7001
 form factors and cross sections for nl-n'l' direct collisional transitions 9-31636
 frequency depend. multipole polarisability and dispersion energy between interacting pairs 9-18306
 galactic column densities 9-5875
 gaseous, spin aligned, low-density props. 9-18255
 ground state energy in interacting system 9-18255
 hydrogenic atom in weak mag. field, polarisability, ground-state energy 9-3594
 interaction and bound states on liquid He surface 9-18131
 interplanetary atomic H, parameters from OSO-8 meas. of solar H Lyman-alpha profile 9-2452
 interstellar clouds, H to H₂ transition region 9-25672
 interstellar H, absorpt. on grain surfaces rel. to H₂ form. 9-21367
 isotopes, transition radiation from neutral beams, beam foil ionization 9-18299
 Lamb shift, temp. depend. 9-787
 Lamb shift microwave determ. 9-45676
 Lyman α and β lines, in solar spectra, exptl. obs. and theoretical profiles. 9-8888
 Lyman α emission meas. at solar minimum 9-12417
 Lyman α formation in expanding spherical nebulae with dust 9-8975
 Lyman α line profile of active solar limb filament 9-44446
 Lyman α /Balmer β intensity ratio interpretation in quasars 9-35418
 Lyman alpha coronagraph 9-25486
 Lyman- α emission from photodissoc. of H₂O 9-10158
 mechanical system with second order constraints, quantisation procedure, nonrelativistic H atom appl. 9-75
 modulated beam of atoms, 3 to 15 keV, produced using voltage pulse generator 9-18315
 monothioformate anion, protonation site, ab initio SCF calc. 9-47894
 multiphoton ionisation potential, circularly polarized light 9-27101
 multiplicative baryon number conservation, H \rightarrow H oscill. upper limit, baryon to lepton transform. 9-298
 NGC 4038/39, interacting galaxy pair, H I kinematics and distrib. 9-35365
 oscillator strength sums, one term approx. 9-45656
 parity mixing, relativistic neutral current interactions and nonrelativistic pots. 9-26908
 parity nonconservation in emission spectra 9-10086
 path integral formalism of perturbation theory, simple molecules and atoms 9-6841
 plasma, spectral line broadening, ion dynamic effects 9-46432
 population inversion of H levels, in supersonic H-Ar plasma jet 9-3417
 positron elastic scatt. lengths and phase shifts, variable phase method 9-22838
 positron scattering, analytic model, complex scaling 9-18257
 positron scattering, elastic, Schwinger variational principle 9-45780
 positron scattering, elastic and 1s-2s excitation, two-pot. eikonal approx. 9-31685
 quadratic Zeeman effect, perturbative approach 9-22649
 relativistic quantum mech. as weak-field limit of nonlinear theory 9-6878
 resonant pole trajectories in complex scaling, stationarity 9-18126
 reversible chemical reactions involving H atoms, formation rates and lifetimes of intermediate complexes 9-15956
 in ring galaxies, H I survey 9-5901
 Saturn rings vicinity, origin of Lyman-alpha emission 9-12430
 scalar relativistic approximation 9-26899
 Schrodinger eqn. appl. (Hungarian) 9-3339
 spectra, homogeneous mag. field, variational approach 9-22629
 spectral line time, average, asymptotic expression 9-45671
 Stark effect, complex coords., translation and dilatation transforms 9-18141
 Stark effect, existence and Borel summability of resonances 9-13668
 Stark effect, perturbation theory 9-22652
 Stark effect, theory, teaching appls. 9-5933
 Stark effect in Lyman α -line wings 9-22648
 Stark-Zeeman effect, dilatation transformation 9-3398
 submillimetre lines in solar prominences (Russian) 9-35228
 subnatural linewidth resolution $2^2S_{1/2}$, $2^2P_{1/2}$ level crossing, Lambshift, pulse technique 9-22669
 transition probabilities and expectation values, in intense mag. field 9-10066
 Venus exosphere, H transport due to temp. day-to-night var. 9-35164
 Venus exosphere non-thermal H, ionospheric source and H budget 9-12416
 wavefunctions, parabolic, polar, unitary transform. coeffs. (Russian) 9-3344
 Cd(3P_1)(1P_1)+H₂ reacts., CdH(CdD) yields, quenching cross sections 9-1948
 D/H ratios of natural serpentines, rel. D/H fractionation factors between serpentine and water at 100-500°C 9-34803
 H ($2^1S_{1/2}$), metastable state two-photon decay, Laplace transform method 9-10084
 H I, galactic, high angular resolution emission spectra, self absorpt. and other chars. 9-35350
 H I emission line profiles obs. in α Ceti spectrum (Russian) 9-16990
 H I emission lines rapid variability in U Orionis spectrum (Russian) 9-16989
 H I Lyman α line formation in expanding spherical planetary nebula 9-30110

hydrogen neutral atoms continued

- H-like atom, Stark effect on fine struct. 9-26929
 H-like atom near metal surface, quasi-stationary spectrum 9-18132
 H-like atoms, electron exchange scatt., high impact vels. 9-22846
 H-like atoms, radiational displacement of energy levels in fields of extended nucleus (*Russian*) 9-10045
 H-like system, hyperfine interactions, modified delta-function pot. 9-3378
 H+Ar, 0.5 MeV $H(H^+)$ ionisation comparison 9-41230
 H+Ar(methane), differential collision cross sections, diffraction oscills., data anal. 9-22783
 $H+B^+(C^{3+})(O^{7+})$, excitation distrib. following electron capture 9-36763
 $H+Be^{2+} \rightarrow H^+ + Be^+$, charge transfer total cross-sections 9-3559
 $H+C^+(N^+)(O^+)$, 0.1-13 keV electron capture cross-sections meas. 9-36761
 $H+C^6+(He^{2+})$, ionis. cross sections 9-22805
 $H+CH_4 \rightarrow H_2 + CH_3$, transition state, UHF method in INDO approx. 9-43578
 $H+CO$, total different collision cross section meas., interstellar gas clouds appl. 9-45786
 $H+ClO_2 \rightarrow OH + ClO$, primary energy disposal, laser-induced fluoresc. 9-24726
 $H+Cs \rightarrow H^- + Cs^+$, low energy cross sections 9-7009
 $H+D$, excitation transfer, thermal energy, dipole-dipole interaction 9-31666
 $H+e^+$, moment T-matrix approach, ang. distrib., total cross section, below pickup threshold 9-3573
 $H+e^+$, moment T-matrix approach, elastic scatt., total cross section, intermediate energy 9-3582
 H+ethylene=ethyl radical, pot. energy surface, analytic function 9-11779
 $H+H$, excitation transfer, thermal energy, dipole-dipole interaction 9-31666
 $H+H$, multipole-multipole dispersion interaction, Pade approximants 9-31638
 $H+H_2$, 3-dimens. exchange reaction, surprisal theory, quantum dynamics 9-15964
 $H+H_2$, collinear, collision-induced dissoc., quantum mech. probabilities calcs. 9-20359
 $H+H_2$, collinear exchange reaction, quantum dynamics, surprisal theory 9-6988
 $H+H_2$, collinear exchange reaction, unified statistical model 9-34295
 $H+H_2$, H_3 dynamics, on accurate H_3 pot. surface 9-5139
 $H+H_2$, interstellar collisions rel. to hot gases cooling by H_2 9-12505
 $H+H_2(HD)(D_2)$, exchange reaction rate consts. meas., vibr. effects 9-5134
 $H+H_2 \rightarrow H_3 + H$, classical three-body problem. calcs., effective reaction cross section (*Russian*) 9-39144
 $H+H^-$ collisions, assoc. detachment process theory 9-44351
 $H+H^+$, coupled state calc., charge transfer and direct ions. 9-22810
 $H+H^+$, excitation, pseudostate expansions and second Born approx. 9-45796
 $H+H^+$, fast proton total electron capture cross section, fixed scattered approx. 9-22819
 $H+H^+$, interaction energy, perturbation expansion, symmetry forcing 9-22785
 $H+H^+$, interaction energy, perturbation theory, Pade approximants and convergence 9-31635
 $H+H^+$, K-electron capture, cross section scaling, high energy 9-41236
 $H+H^+$, quantum theory of ionisation in fast collisions 9-3553
 $H+H^+(He^{2+})$, excitation, asymptotic cross-sections calcs. 9-18279
 $H+H^+(He^{2+})(Be^{4+})(O^{8+})$, electron capture into n, l levels, 100 keV/amu 9-22826
 $H+He$, elastic scatt. cross-section, using model pot. 9-13786
 $H+He$, long and intermediate range interaction, model pot. calc. 9-22789
 $H+He^+$, excitation of H to n=2 state, cross-section calc. 9-41229
 $H+He(2^3S)$, Penning and assoc. ionis. cross sections, vel. depend. 9-22815
 $H+Hg$, differential cross sections, orbiting contribution 9-41221
 H +highly stripped ions, energy gap and couplings at pseudocrossings 9-3526
 H +highly stripped ions, S-matrix construction 9-3527
 H +inert gas atom, interaction pot. from electron gas model 9-31637
 $H+NO \rightarrow OH + NO$, primary energy disposal, laser-induced fluoresc. 9-24726
 $H+Na$, D2 reson. linewidth 9-31647
 $H+OH$, interstellar, role in OH 18 cm maser lines pumping 9-48892
 H +positron, second-order nonadiabatic polaris. pot. for elastic scatt. 9-22836
 H +proton, charge transfer, variationally consistent approximation scheme 9-22825
 H +proton, high-Rydberg state high-impact-velocity forward charge transfer as classical process 9-22824
 $H+T$, excitation transfer, thermal energy, dipole-dipole interaction 9-31666
 $H+X^{n+}$, sub-barrier charge exchange cross section calc. (*Russian*) 9-7004
 H_α , polaris. spectroscopy, Rydberg const. determ. 9-9202
 H_β , Stark broadening, wings calc. 9-31464
 $H_\gamma(D_2)$ Stark broadening in Ar arc plasma 9-36582
 $H(1s)$ and $(2s)$, electron loss in passing through inert gases 9-13805
 $H(1s)+O^{8+}(He^{2+})(H^+)$, charge transfer, 0.025-200 keV/amu 9-22823
 $H(2S) \rightarrow (2P)$ conversion on photodissociation of H_2 , (H_2O), determ. 9-45775
 $H(muonic)+H^+$, elastic scatt., cross section 9-871
 $H(n=2)$ excitation by ion impact, precision doubly differential cross section meas. 9-45811
 Lyman α line profile in Ar plasma 9-22658

hydrogen neutral molecules

- $2^2_{g^+}$ state, improved adiabatic energy, dissoc. energy 9-10011
 adsorbed layer on Al_2O_3 , diffusive motion, neutron scatt. study 9-42394
 AMO method at small internucl. distances 9-6838
 angular distribution He I (Ne I) photoelectron spectra 9-31606
 anharmonic spectral density of librons in o- H_2 and p- D_2 9-14899
 $B^1_{2u^+}$ state; selectively excited continuous vac. UV emission obs. 9-13667
 binding energy, MINDO/3 calcs. (*German*) 9-3366
 coherent anti-Stokes Raman scatt., linewidth determ. by integrated power meas. 9-3744

hydrogen neutral molecules continued

- concentration in near-surface air and dissolved in seawater, tropical N.Atlantic 9-39729
 dissociation 9-6992
 dissociative attachment cross sections, interference struct. around 14 eV 9-45856
 electron Compton profiles from energy loss spectra 9-7013
 electron correlation, dynamic description using boson Hamiltonian 9-26897
 electron elastic scatt., static exchange approx., variational correction 9-7015
 electron impact, cross sectional factorization expressions, close coupling input tested in sudden approximation 9-43571
 electron impact, dissociative attachment, vibr. and rot. state depend. 9-18298
 electron impact, dissociative attachment, vibr. and rot. state depend. 9-13829
 electron impact, energy deposition and energy degradation, 2, 10 and 30 keV 9-31709
 electron impact excitation, transfer of moment impulses, vibration-rotation states (*Russian*) 9-7024
 electron impact partial absolute ionis. cross section, 20-350 eV, rel. to H_2O and NH_3 (*French*) 9-861
 electron momentum distributions from valence-bond wave functions 9-6868
 electron scatt., elastic and pure rot. excitation 9-22854
 electron scatt., iterative static-exchange calc. 9-18290
 electron scatt., vibr. and vibr.-rot. excitation, ab initio calcs. 9-22853
 electron scattering, continuum wave functions, discrete basis set method 9-22829
 electron scattering, exchange effects in independ. atom model 9-22837
 electron wave function calc. with Weinbaum function supplemented by floating function 9-26882
 electronic struct. calc., improving Σ perturbation approach, Green's function 9-13642
 electronic structure, generator coord. method for wave function 9-26880
 enhanced self diffusion, incoherent neutron scatt. study 9-46417
 Europa, H_2 cloud rel. to UV emissions 9-5775
 fast electron retardation, ionisation cascade, degradation spectra, anal. (*Russian*) 9-27741
 formation by associative detachment in $H+H^-$ collisions, theory 9-44351
 formation in interstellar cloud, reaction rates and chemical kinetics 9-17070
 Fulcher system ($3p^3\Pi_u \rightarrow 2s^3\Sigma_g^+$), electronic-rot.-vibr. emission spectra, relative intensities calc. 9-6932
 ground state calcs. 9-22595
 ground state second-order energy lower bound, new variation-perturbation principle 9-10006
 H_2 dynamics, on accurate H_3 pot. surface 9-5139
 interstellar, densities from CO obs. 9-25687
 interstellar, ortho/para abundance ratio 9-40252
 interstellar clouds, H to H_2 transition region 9-25672
 interstellar giant H_2 clouds, collisional growth 9-48877
 interstellar H_2 , form. on interstellar grain surfaces 9-21367
 interstellar H_2 , rot. transitions rel. to hot gases cooling 9-12505
 interstellar H_2 emission from Orion Nebula, interstellar extinction meas. 9-25668
 ionisation by electron bombard., empirical and semi-empirical calcs. 9-36784
 limited MC SCF calculations 9-36537
 long-range force effects on photon and electron impact excitation 9-10170
 metastable state, mol. beam reson., vibr. anal., spin-rot. interaction 9-22731
 optical susceptibility, dynamical, third-order 9-31724
 Orion Molecular Cloud, H_2 densities from HCN J=3-2 line obs. 9-25669
 Orion Nebula, search for H_2 ground state $S(2)$ line 9-8961
 ortho=para conversion, on CoO, MnO mag. surfaces 9-47969
 pair equations, perturbation contribs. to correl. energy 9-6874
 pairwise correlated GVB model, multiconfig. overlap approx. calcs. 9-31408
 path integral formalism of perturbation theory, simple mols. and atoms 9-6841
 photodissociation, formation of excited H atoms (*Russian*) 9-3506
 photoelectron angular distribution, 304 Å line, vibr. state depend. 9-45764
 photoionisation cross-sections, involving vibr. states 9-18242
 polarisability, CI and Gaussian geminal calcs., using explicitly correlated elec.-field-variant functions 9-36561
 positron scattering, 50-800 eV, total cross-section meas. 9-31680
 primordial matter cooling by H_2 , rel. to star form. 9-35440
 quantum mechanics (*Hungarian*) 9-757
 radiation polarisation, electron-impact excited, Lyman and Werner emissions and Lyman- α 9-36681
 Raman spectra of molecules dissolved in vitreous SiO_2 9-33707
 recombination on interstellar grains, translational and rot. energy 9-17045
 rotation-translation relax. rates and electron impact. dissoc. in glow, discharge (*French*) 9-849
 Schrödinger eqn. appl. (*Hungarian*) 9-3339
 separated electronic pair functions, direct minimisation of energy functional, LCAO-MO SCF, density matrix formalism 9-31392
 short range intermolecular forces, scattering of molecular beam 9-36727
 Stark effect, resonances, Bender-Wu formula 9-36695
 structure, channel coupling array calcs. 9-31362
 Sun, H_2 EUV emission lines obs. 9-16908
 sunspots, H_2 reson. fluoresc. with Lyman α 9-8821
 triplet state, screening and susceptibility 9-41117
 vibrational force constant, quadratic, from X-ray scatt. factors 9-45864
 vibrational relax. time meas. (*French*) 9-13791
 vibrational relaxation, optical dispersion (*Spanish*) 9-23394
 CS_2-H_2 gas binary diffusion coeff. obs. (*Japanese*) 9-10627
 $F(^3P_{1/2})+H_2$, quenching, classical path calcs. 9-22800
 $H+H_2$, excited states quenching in glow discharge 9-7001
 $H+H_2(HD)(D_2)$, exchange reaction rate consts. meas., vibr. effects 9-5134
 H^++H_2 , rot. quantum transitions 9-845
 H_2 2.121 μ emission line vel. and width meas. towards Orion Nebula 9-17061

drone neutral molecules continued

- H₂ (4,0) and (3,0) S(1) lines, absorption strengths 9-16852
H₂ dissociation fronts in circumstellar dense cloud 9-5881
H₂, Fulcher bands, radiative decay consts. 9-22722
H₂, H(2S)→H(2P) conversion, efficiency measurement 9-45775
H₂, intermolecular pair potential, from solid-state data 9-14727
H₂ matrix shift, CoM freq., in solid Ar, Kr and Xe 9-6969
p-H₂+⁴He, vibr. relax., 50-2000K, coupled channel, coupled states and effective pot. methods comparison 9-6995
H₂+C⁺(N⁺)(O⁺), 0.1-13 keV electron capture cross-sections meas. 9-36761
H₂+C⁺(N⁺)(O⁺), total charge transfer cross section, 5-100 keV 9-3561
H₂+CO, thermal energy collision, ab initio pot. energy surface 9-45788
H₂+CO₂, vibr. de-excitation of CO₂*(ν_2), 200K 9-45802
H₂+D, pot. surface, isotropic part determ. 9-36729
H₂+F, electronic-rot. energy transfer, for F(2P) 9-36740
H₂+F, in pulsed HF chem. laser evolution, irreversible thermodynamic anal. 9-31887
H₂+F, reaction quantum dynamics, reson. model, transition state props. 9-11781
H₂+F+h ω , reactive scatt. and inelastic collision, semiclassical calc. 9-47948
H₂+H, 3-dimens. exchange reaction, surprisal theory, quantum dynamics 9-15964
H₂+H, collinear, collision-induced dissoc., quantum mech. probabilities calcs. 9-20359
H₂+H, collinear exchange reaction, quantum dynamics, surprisal theory 9-6988
H₂+H, collinear exchange reaction, unified statistical model 9-34295
H₂+H, H₃ dynamics, on accurate H₃ pot. surface 9-5139
H₂+H₂, elastic scatt., rigid rot. approx. 9-31642
H₂+H₂, isotropic intermolecular forces evaluation using semi-empirical approach 9-36726
H₂+H₂, rot. energy transfer, classical trajectory calc. 9-31652
H₂+H₂⁺→H₃⁺+H, state selected, threshold electron-secondary ion coincidence method obs. 9-5190
H₂+H₂(HBr), collinear collisions, anharmonicity effects, vibr. excitation 9-31656
H₂+H₂(He), anisotropy of long-range interaction 9-36734
H₂+H₃⁺, charge transfer collisions, 10 keV, H₂-H fragmentation 9-853
H₂+H⁺, electron capture cross-section, anal. evaluation 9-36756
H₂+H⁺, inelastic forward scattering, vibr. excitation, glory oscils. 9-22799
H₂+H→H+H₂, classical three-body problem. calcs., effective reaction cross section (*Russian*) 9-39144
o-H₂+He, NMR, spin-spin and spin-rot. relax., IOS calcs. 9-18209
H₂+He, vibr. inelastic cross-section, para-H₂, threshold behav. 9-45804
H₂+He, vibr. inelastic integral cross-sections calcs. 9-31660
H₂+He potential surfaces, SCF and MRD-CI calcs. 9-10172
H₂+He⁺, charge transfer, appl. of atom-photon coincidence meas. 9-45829
H₂+He(2²S and 2¹S), Penning, rearrangement and total ionis. cross sections, vel. depend. 9-22816
H₂+He(2²S₁), isotope effects, 77 to 300K 9-36752
H₂+hexafluoroethane, multiphoton induced chemistry 9-20382
H₂+Li, inelastic collision, ab initio pot. energy surface 9-10055
n-H₂+Li⁺, rot. excitation, 150-750 eV 9-45805
H₂+Li⁺, vibr. excitation cross sections, 100-1200 eV 9-27077
H₂+Li⁺(H⁺), elastic of rot. excitation, semiclassical treatment 9-31657
H₂+Li⁺(H⁺), elastic scatt. and rot. excitation, multistate semiclassical orbital method 9-27058
H₂+N₂, rot. excitation, fixed nuclei approximation calcs. 9-6990
H₂+N₂, vibr. relax. in liquid phase 9-847
H₂+N⁺, charge exchange, 1-3 keV, N⁺(²P) and (¹D) states 9-36760
H₂+N⁺, rotational vibrational product excitation 9-47901
H₂+NH₂⇌NH₃+H⁺, chem. equilib., ab initio calcs. 9-34282
H₂+Ne⁺, thermal energy, reaction rate coeffs. and product distrib. 9-29333
n-H₂+O₃, vibr. relax. quenching rate consts. meas. 9-13792
H₂+OH, rot. inelastic collision, microwave spectra 9-45806
H₂+SiBr₄, SiH₄Br_{4-n} heat of form., mass spectrometric determ. 9-20455
H₂+Xe²⁺, charge transfer from ground and metastable states 9-31677
H₃, correl., ionis. and attachment operators, diagrammatic method calcs. (*French*) 9-22607
H₃, electronically excited state obs., vibr. level struct. determ., predissoc. 9-41204
H₄, FGSO open-shell calcs. 9-10025
H₄, square config., ¹B_{1g}, ¹B_{2g} states, quantum chem. calcs., random walk method 9-36518
HD, interstellar rotationally excited, towards ζ Ophiuchi, column density 9-25674
HD, nucl. spin-spin coupling, diamag. contrib. 9-36665
HD+He, relax. and kinetic cross-sections, DWBA calcs. 9-41782
HH, hydrogenium metastable states, ground state energy, bound states, lifetimes 9-45868
H₂(¹ $\Sigma_g^+, ³ Π_u) excitation, electron-polarised-photon coincidence 9-22852
HT, atmospheric concs. rel. to water vertical transport in stratosphere 9-2347
H₂(X¹ Σ_g^+), semiempirical Morse pot. extension, fitting procedure appl. 9-36560
H₂-D₂ separation by Taylor diffusion 9-18303
H₂(a² Σ_g^+ →b² Σ_g^+) continuum emission excited by low-energy Ar⁺ collisions, UV laser appl. 9-41200
He+H₂, formation of polarised H-atoms in ionising collisions (*Russian*) 9-7002
LaNi₅+3H₂⇌LaNi₅H₆ reaction, absorpt. capacity and reaction kinetics 9-43626
Li+H₂, vibr. excitation, rotationally sudden calcs. 9-22797
Li⁺+H₂, vibr.-rot. excitation at intermediate energies 9-3534
NH₃-N₂(H₂)(Ne)(Ar)(Kr)(Xe), as R(1,1) vibr.-rot. line parameters, ν_2 band, using CO₂ laser light 9-3444
OH($\nu=0, 1$)+H₂($\nu=1$), rate consts., 298K 9-11768
S₂(B ³ Σ_g^-)+inert gas (H₂)(N₂)(S₂), collision-induced energy transfer 9-3544$

hydrological techniques

- boundary integral eqn. method for two-dimens. steady groundwater problems 9-16718
data networks, design 9-21022
evaporimeters, thermal insulation calc. 9-29803

hydrological techniques continued

- flood warning system, on-line, based on adaptive model, desk-top computer appl. 9-34977
freshwater acidification meas. 9-43802
groundwater contaminant arrival distribts. as general evaluation requirements 9-16533
groundwater contaminant arrival distribts. for steady flow in heterogeneous systems 9-16535
groundwater contaminant arrival distribts. in transient flow systems 9-16536
groundwater contaminant location/arrival time/outflow distribts. for steady flow 9-16534
groundwater flow pathways determ. from satellite altitudes, apparent radiance data appl. 9-16522
hydrometeorological information, optimum conversion to digital form 9-29903
inland wetland photointerpretation evaluation, cell analytical method 9-29898
lake sediments, E_b meas. reliability conditions 9-48528
lakes, suspended solids, anal. using Landsat multispectral data 9-16523
neutron soil moisture meter, design and operation 9-44280
nitrate determ., improved hydrazine reduction method for freshwater samples 9-34467
nitrate determ. in estuarine waters, UV absorption technique 9-16719
nuclear radiation appls. 9-39981
radioactivity meas., very sensitive sampling method 9-39768
radiotracer studies at Mangi for subsoil hydrological investigations 9-34869
rain throughfall under a forest, estimation methods 9-2307
resource system, time variable, recursive estimation techniques appls. 9-5538
River Main, County Antrim, sampling freqs. for N and P loads determ. 9-44213
river water quality modelling and operational control 9-16555
salinity/temperature sensor chain for estuarine meas. 9-5670
sediments, polymodal, of river-lake system, grain size curves partitioning and interpretation 9-25273
snow, accuracy of water equivalent meas. with standard densitometer 9-29796
soil stored productive moisture, remote determ. technique 9-29795
streamflow changes estimation after reclamation, errors 9-29794
suspended solids in water, macerated glass fibre filter paper appl. 9-8454
turbidimetry instrumentation, light scattering techniques appl. 9-12150
USSR Hydrometeorological Service, automation of data collection and processing 9-34994
volatile organohalogen analysis in water purification processes 9-21080
³⁶Cl in environmental water samples, anal. using electrostatic accelerator 9-20895
P, reactive, in natural waters, low concs. automated determ. in presence of As, Si and HgCl₂ 9-44277
- hydrology**
see also groundwater; lakes; rivers
agricultural land, losses of N₂O dissolved in drainage water 9-43797
agricultural water demand information, remote sensing 9-2315
S.America, water balance rel. to water vapour transport in atmosphere 9-29820
aquatic systems, surface films and foams 9-16549
Box-Jenkins models and rescaled adjusted range 9-16544
catchment model design and parameter estimation using optimisation method 9-5536
channel factors simulation in numerical computations of flow (*Polish*) 9-25280
computer-supported research into water resources 9-20892
drainage basin characts., flood study, British Isles 9-20878
drainage basin parameters, patterns of variability, India 9-39769
drainage density and channel network geometry, post-Hortonian studies 9-20874
drainage density changes during rainfall 9-20881
drainage headwater development, modelling 9-20875
drainage runoff hydrograph calc. for loamy soils in Lithuanian SSR 9-39781
drought in California and western Europe, 1976, atm. and oceanographic factors 9-48560
El Tatio geothermal field waters, N.Chile, isotopic comp. rel. to sources 9-16525
feature prediction model in synthetic hydrology based on concepts of pattern recognition 9-5527
field data, objective anal. 9-12321
flood frequency analysis with a generalized skew coefficient 9-5531
flood wave propagation in channels with storage areas, diffusion eqn. 9-25277
flooding assoc. with probable maximum hurricane 9-20941
floods, 1975 August, in Orissa, India 9-20886
floods, Queensland, Australia, LANDSAT imagery interpretation 9-25283
floods, severe, in River Burhi Gandak, 1974 and 1975 9-20891
fractional Gaussian noise algorithms and rescaled adjusted range 9-16545
freshwater environment, inorganic As stability and solubility, theoretical aspects 9-16553
grazing, hydrologic impact on infiltration 9-2325
gypsum hydration water, isotopic comp. 9-20829
hillslope topography role in throughflow generation control 9-48520
Hurst phenomenon and rescaled adjusted range appl. 9-16543
hydraulic conductivity of unsaturated porous media 9-5526
hydraulics of water flows, terrestrial equivs. of Martian outflow channels 9-40112
hydrometeorological information in USSR, economic effectiveness 9-29909
infiltration during an unsteady rain 9-16538
infiltration model 9-16548
inland wetland photointerpretation evaluation, cell analytical method 9-29898
instrumentation, review (*French*) 9-39979
irrigation, influence on radiation balance of Earth surface and components 9-29863
Lake Oroville, reservoir-induced pore pressure and seismic activity 9-2190
land drainage, errors in post reclamation streamflow changes estimates 9-29794

hydrology continued

- landslip/debris flow, Bilsdale, North York Moors, 1976 September 9-48524
- Late Wisconsin flood into Gulf of Mexico 9-29775
- liquid phase mass transfer coeffs. at natural air-water interfaces 9-20922
- lysimeter for W.Australian cereal belt 9-12276
- maximum discharge from basin area, calc. 9-39773
- mineral dissolution under Earth surface conditions, rate control 9-20817
- moist soil, emissivity in microwave range, temp. effect 9-29797
- mountain watershed, ski basis impact, heavy metals pollution 9-20903
- muldise potential situations, meteorological parameters critical values, Caucasus mountains 9-39782
- natural streamflow control coeff., analytical calc. method 9-39777
- Nicaraguan geothermal resource utilisation 9-29448
- nuclear 'in situ' methods used in hydrology and hydrogeology (*Rumanian*) 9-39982
- overland flow equations soln., comparison of finite element methods 9-12152
- Pearson type III distrib. curves comp., analytical formula 9-29800
- pore water, effect on stress relaxation in sandstone 9-16453
- rain, heavy, basic characts. determ., max runoff calc. 9-29802
- rainfall runoff from multiple watersheds system, computer model 9-29805
- Ralston Creek hourly precipitation model 9-16542
- reservoir design and management, SESLP model 9-2314
- reservoir management for irrigation, chance-constrained linear programming 9-2317
- reservoirs, thermal stratification during winter season 9-5532
- resources management, systems anal. and modelling techniques appl. 9-5518
- river basin management system 9-25288
- rivers, winter regime, ice-covered streams, water discharge meas. 9-12160
- rock permeability changes due to stress 9-16452
- snow cover in Great Britain 9-12161
- speleochem fluid inclusions, D/H ratio rel. to meteoric precipitation 9-44201
- stochastic models of floods 9-5528
- streamflow calc. from discharge vols. for winter periods 9-25285
- streamflow data, empirical, fitting of multivariate gamma distribution 9-34878
- summer drought and autumn rainfall, England, 1976, effects on stream solute levels 9-48523
- surface irrigation, kinematic model 9-5529
- surface runoff two dimens. models 9-34874
- thermal IR scanning appls. 9-8723
- tracer theory, nonsteady state systems 9-5646
- Tsimlyansk Reservoir, hydrometeorological studies 9-39784
- turbulent current model with sliding on watercourse bottom 9-29801
- turbulent flow into homogeneous porous media on inclined bedrock 9-10609
- unit hydrographs for Barakar and Yamuna catchments, flood forecasting 9-20887
- urban flood control programs, ecological and social aspects 9-2316
- urban runoff pollution rel. to land use 9-5530
- Vajont rock slide (Italy, 1963) analysis, new approach 9-8633
- velocity estimation from hydrographic data 9-21040
- water balance of lower Sutlej catchment, estimation by Thornthwaite's method 9-48525
- water resource research using Pennsylvania State Univ. reactor 9-12159
- water resources policy, scientific and technological considerations 9-8642
- watershed models, sensitivity of optimised parameters 9-5523
- watershed stream network run-off anal. model, appl. to Nagara River (*Japanese*) 9-16529
- weirs, linear, proportional, datum line fixation 9-20898
- world water resources, prospects and problems 9-39779
- C. mass transfer and isotope evolution in natural water systems 9-20882
- ³⁶Cl in environmental water samples, anal. using electrostatic accelerator 9-20895
- Pb in hydrosphere, global and regional distrib. 9-16517

hydromagnetic waves *see magnetohydrodynamic waves***hydromagnetics** *see magnetohydrodynamics***hydrometers***see also density measurement*

No entries

hydrophones*see also sonar*

- fibre optic, sensitivity anal. 9-14191
- optical, for sonar, using optical fibre, development 9-3832
- passive ranging, errors due to receiving hydrophone position uncertainty 9-41522
- piezoelectric, US output assessment 9-23176
- small-aperture directional, with piezoelec. dipole elements, principle 9-3828
- spherical multimode hydrophone, improved design 9-14189
- towed hydrophones, location system 9-2401

hydropotometers *see photometers***hydrostatics**

- celluloid, nonlinear viscoelastic deform. under superimposed hydrostatic pressure 9-34116

hydrothermal crystal growth *see crystal growth from solution***hydroxonium ion**

- D-region, positive ion chemical scheme for $H^+(H_2O)_n$ abundance profile 9-40007
- water cluster ions in mesopause region during winter anomaly, temp. and NO density vars. effect 9-21087
- β -Al₂O₃·H₂O⁺ protonic cond., struct. investig. 9-19213
- H(H₂O)_n⁺ macromol. clusters, detect. by SIMS 9-39239
- H₃O⁺(H₂O)_n formation in vacuum spark, mass spectrometer expt. 9-32844

hydroxyl group *see oxygen compounds***hygiene***see also medicine*

No entries

hygrometers*see also humidity measurement*

- digital ventilated psychrometer 9-2777
- frost-point, for horizontal soundings of lower stratosphere 9-21048
- IR, meas. of attenuation by atm. H₂O vapour 9-34943
- standard, precision salt, metrological support suite 9-17430

hyperfine field interactions (condensed matter)*see also crystal hyperfine field interactions; nuclear screening*

- ESR spectra, exchange effects and lineshape (*French*) 9-4717
- BaO·Fe₂O₃·B₂O₃ glass, Mossbauer study of struct. and mag. props. 9-47369
- Fe-B (15-25 at.%) glass, quasicryst. struct. Mossbauer expts. 9-4255
- Fe₇₃B₁₇Si₁₀, amorphous, continuous versus discrete hyperfine field distrib., Mossbauer spectra 9-33583
- Fe₄₀Ni₄₀B₂₀, amorphous, hyperfine field distrib., Mossbauer effect meas. 9-4755
- Fe₄₀Ni₄₀B₂₀, amorphous, hyperfine field distrib., Mossbauer study 9-28657
- Fe₄₀Ni₄₀P₁₀B₁₀, amorphous, continuous versus discrete hyperfine field distrib., Mossbauer spectra 9-33583

hyperfine field interactions in crystals *see crystal hyperfine field interactions***hyperfine structure, atomic** *see atomic hyperfine structure***hyperfine structure, molecular** *see molecular hyperfine structure***hyperfragments** *see hypernuclei***hypernuclei**

- Σ , search for dibaryon states with $s=-1, -2$, review 9-22224
- ground state prod. and props., present status of experimental research, review 9-30799
- P-shell hypernuclei, formation, γ -radiation, and spin values, shell model 9-22223
- p-shell hypernuclei with effective Λ -nucleon potentials, binding energy and well depth 9-36184
- production in relativistic ion-nuclei reactions (*Russian*) 9-45298
- review of general properties and experimental methods, book contribs. 9-22161
- Λ s-shell hypernuclei, general props. and developments in experimental methods, review 9-22224
- Λ -N interaction and hypernuclei spectroscopy, book contrib. 9-21889
- Λ N, reaction-matrix calc. of Λ binding energy in nuclear matter 9-36185
- $^{\Lambda}B$, new decay mode, 1.8 GeV/c K^- nucl. emulsion expt. 9-36186
- $^{\Lambda}Be$, binding energy calcs., clustering 9-9501
- $^{\Lambda}He$, $^{\Lambda}H$ separation energy difference, Coulomb energy contribution 9-491
- $^{\Lambda}He$, Λ -particle induced excitation probability, ang. pot. functions method (*Russian*) 9-26389
- ^{16}O , spin orbit interactions of Λ hyperons, obs. in (K^-, π^-) 9-9628

hyperon absorption

No entries

hyperon capture*see also hypernuclei*

No entries

hyperon decay

- Cabbibo fit, generalised, appl. to quark mixing ang. in sequential Weinberg-Salam model 9-17655
- non-leptonic decay in (8,8) model of broken chiral symmetry 9-36072
- non-leptonic hyperon decays and the baryon spectrum, S- and P-waves, quark model description 9-36073
- nonleptonic decays, $\Delta I=1/2$ rule violation 9-45087
- nonleptonic hyperon decay, octet dominance in nonrelativistic quark model 9-388
- nonleptonic hyperon decays and lightlike chiral struct. of hadrons 9-36074
- quark-diquark model of nonleptonic decays 9-13120
- weak EM decays, 27th Hamiltonian component contribution 9-22101
- $C^+(2.26)$ search in 45 GeV/c neutron beam, C^+ hadronic and semileptonic decay (*Russian*) 9-22145
- $\Lambda_e^+ \rightarrow p K^+ \pi^-$, kaonic decay observation, prod. rates 9-26332
- Ω^- production in 4.2 GeV/c K^-p reactions, lifetime, mass, decay asymm. parameter 9-3044
- $\Sigma^0 \rightarrow \Lambda e^+ e^-$, parity violating effects, standard and pure vector Weinberg Salam model 9-36075
- $\Sigma^+ \rightarrow p \gamma$, radiative weak decays of baryons as single-quark transitions 9-40776
- $Z^- \rightarrow \Sigma^- \gamma$, radiative weak decays of baryons as single-quark transitions 9-40776

hyperon detection and measurement

No entries

hyperon-deuteron interactions*see also hyperon-deuteron scattering*

No entries

hyperon-deuteron scattering*see also hyperon-deuteron interactions*

No entries

hyperon effects

No entries

hyperon interactions *see hyperon-nucleon interactions; hyperon-nucleus reactions; kaon-hyperon interactions; lepton-hadron interactions; photon-hadron interactions; pion-hyperon interactions***hyperon magnetic moment**

- SU(3) subalgebras of SU(4), generalised U-spin charmed baryon magnetic moment 9-36078
- Λ^0 , mag. moment meas. 9-6340

hyperon mass

- Ω^- production in 4.2 GeV/c K^-p reactions, lifetime, mass, decay asymm. parameter 9-3044
- $\Sigma^{\pm}(1385)$, masses and widths from partial wave anal. of $K^-p \rightarrow \Sigma^{\pm} \Sigma^{\pm}(1385)$ 9-6348

hyperon-nucleon interactions*see also hyperon-nucleon scattering*

- $\Delta p \rightarrow \Delta p$, high energy collisions, EM-hadronic interference, spin depend. phenomena 9-422

hyperon-nucleon scattering*see also hyperon-nucleon interactions*

- slope parameter, quark model anal. 9-9399

hyperon-nucleus reactions*for inelastic hyperon-nucleus scattering, see "hyperon-nucleus scattering"**see also hyperon capture; hyperon-nucleon interactions*

- 180-1600 MeV 9-6538
- CERN School of Physics, Austerlitz-Zeist, Holland (June 1978) 9-30857
- fast particle production on nuclei in quark model (*Russian*) 9-6612
- hadron \rightarrow nucleus cross-section, energy depend., multiplicity, scaling violation model (*Russian*) 9-22350
- hadron-nucleus interactions, existence of slowly moving sources, vel. depend. frictional sources 9-6690

peron-nucleus reactions continued

hadron-nucleus reactions, multiple production, expt. results, review (*Russian*) 9-3118

high energy particle-nucleus interactions, discussion 9-30858

momentum space method for hadronic atoms including relativistic

hadron-nucleus reactions 9-872

relativistic hadron+ nucleus reactions, degree of collectivisation 9-40956

ΔN , reaction-matrix calc. of Δ binding energy in nuclear matter 9-36185

peron-nucleus scattering

see also hyperon-nucleon scattering

inelastic scattering, evidence for giant resonances 9-17883

optical model, for total cross-section, 180-1600 MeV 9-6538

two-channel optical model of high energy hadron-nucleus collisions 9-36210

peron production

Λ and $\bar{\Lambda}$ polarisation 9-45122

e^+e^- annihilation, inclusive Λ and p yield 9-9369

$e^+e^- \rightarrow \Delta(1232)X$, struct. functions and nucleon longitudinal polarisation (*Russian*) 9-22121

$ep \rightarrow e\Delta X$, electroprod. of forward Λ baryon near/along virtual photon direction 9-22116

$K^-d \rightarrow \pi^- \Delta p$, anal. of Δp enhancement at 2.129 GeV in cross section meas. 9-22141

K^-d scatt., effect of hyperon channels, <120 MeV/c 9-9406

$KN \rightarrow \pi +$ hyperon, hypercharge exchange reactions in quasidekonal model (*Russian*) 9-3041

K^-n reactions, quasi two-body final states at 8.25 GeV/c 9-22139

$K^-p \rightarrow \eta \Lambda$, 4.2 GeV/c, total and differential cross sections, forward production peaks 9-40801

$K^-p \rightarrow \eta' \Lambda$, 4.2 GeV/c, total and differential cross sections, forward production peaks 9-40801

$K^-p \rightarrow \Delta^0 \pi^+$, strong reaction asymmetry and mass quantisation, particle struct. (*French*) 9-3043

$K^-p \rightarrow \Lambda +$ pions, 4.2 GeV/c, multiplicities, hadronic temps. and ang. distrib. in KK , pp annihilations 9-45101

$K^-p \rightarrow \pi^0 \Lambda$, 4.2 GeV/c, total and differential cross sections, forward production peaks 9-40801

$K^-p \rightarrow \pi^+ \Sigma^0$, cross-sections, 1470-1550 MeV 9-13154

$K^-p \rightarrow \pi^+ \Sigma^0(1385)$, 1775-2170 MeV, partial wave anal. 9-6348

$K^+p \rightarrow \Sigma^+ \pi^+$, strong reaction asymmetry and mass quantisation, particle struct. (*French*) 9-3043

$K_L^+p \rightarrow K_S^0 p(\pi^+ \pi^0)(\pi^+ \pi^0 \Lambda)$, differential and polarisation cross sections near 550 MeV/c 9-17757

Λ , in K^-p 8.25 GeV/c, study of inclusive Λ , Σ^0 and $\Sigma(1385)$ prod. 9-30749

Λ^0 , neutral strange-particle prod. by 300 GeV protons in Be, Cu, Pb 9-17905

Ω^- production in 4.2 GeV/c K^-p reactions, lifetime, mass, decay asymm. parameter 9-3044

$\bar{p}p$, 22.4 GeV/c, inclusive γ , K_S^0 , Λ , $\bar{\Lambda}$ production, KNO scaling test (*Russian*) 9-30759

pp , $\Sigma^+(1385)$ inclusive prod. at 12 and 24 GeV/c 9-6356

$pp \rightarrow K_S^0 X(\Delta X)$ (ΔX), 3.6 GeV/c, cross section anal. and Λ polarisation 9-45095

$pp \rightarrow \Delta \Lambda$, 6 GeV, cross sections and polarisations 9-407

$pp \rightarrow \Delta \Sigma^0$, 6 GeV, cross sections and polarisations 9-407

$pp \rightarrow \Delta + X$, 4.6, 9.1 GeV/c, inclusive total, topological and invariant differential cross sections 9-408

$pp \rightarrow \Delta$ missing mass, trigger accepted polarisations 9-407

π^+ nucleus, inclusive at 3.9 GeV/c, Λ Feynman scaling obs. (*Russian*) 9-9635

$\pi N \rightarrow K +$ hyperon, hypercharge exchange reactions in quasidekonal model (*Russian*) 9-3041

π^-p , 16 GeV/c, Ξ^- and anti- Ξ^+ prod. 9-45113

π^-p , 16 GeV/c, strange particle production, CERN 2m H_2 bubble chamber data (*Russian*) 9-9413

$\pi^-p \rightarrow K^0 \Lambda^0$, up to 1334 MeV/c, differential cross sections and polarisation, phase shift anal. 9-412

$\pi^-p \rightarrow K^0 \Sigma^0$, threshold to 1334 MeV/c, differential cross section and polarisation data 9-17755

$\Sigma(1385)$, in K^-p 8.25 GeV/c, study of inclusive Λ , Σ^0 and $\Sigma(1385)$ prod. 9-30749

Σ^0 , in K^-p 8.25 GeV/c, study of inclusive Λ , Σ^0 and $\Sigma(1385)$ prod. 9-30749

$^4He + K^- \rightarrow \Lambda + \pi^- + p + d$, 180 MeV, final state study, double impulse model 9-30855

$Xe + \pi^-$ 3.2 GeV/c, intermediate Δ^- prod. in π^0 and η prod. (*Russian*) 9-36280

peron resonances

$\Sigma^-(1385)$, prod. in K^-n reactions to quasi two body final states 9-22139

Ξ^* , enhancement at ΣK threshold (1680) MeV obs. in K^-p reactions 4.2 GeV/c 9-17756

^{32}S , kaonic, Y^* resonance nonlocal effects, kaonic shifts and widths 9-7039

peron scattering see hyperon-nucleon scattering; hyperon-nucleus scattering; kaon-hyperon scattering; lepton-hadron scattering; photon-hadron scattering; pion-hyperon scattering

peron spin and parity

No entries

perons

see also hyperon resonances

Λ magnetic moments, rel. to quark mass and hadron mass 9-13050

magnetic moments, transition moments, $SU(3)$ calcs. 9-13128

Λ , binding energy in nuclear matter, reaction-matrix calculation 9-36185

hypersonic flow

aerodynamic ablation of spinning steel shells, side force 9-37347

air, dissociated, hypersonic flow over blunt axisymmetric body, nonsteady heat exchange 9-37319

air, hypersonic wake, electron recomb. coeff., temp. depend. meas. 9-27834

air wake, hypersonic, ionised, free electron attachment coeff. meas. 9-27835

airfoil in supersonic and hypersonic flow, wedge problem 9-41705

airfoils, oscillating, power-law shocks, Newtonian flow theory appl. 9-41706

blunt body flow, stagnation region, heat transfer and wall accommodation 9-41708

bodies at high attack angle, shock-layer eqns. 9-4042

body form for minimum heat transmission (*Russian*) 9-37131

cone at large attack angle, parabolised Navier-Stokes eqns. 9-1210

hypersonic flow continued

conical wing-body combination, thin shock layer theory appl. 9-46339

corner flow, viscous-inviscid interaction of laminar boundary 9-32563

cross-sectional shock shape meas. using columnar and plane discharges 9-27666

free molecular heating of micron size particulate 9-4058

gun tunnel, two-stage, optimum operating technique 9-41707

heat transfer, laminar boundary layer of cone at ang. of attack 9-1211

jets, hypersonic, high temp., noise rel. to gas parameters (*Russian*) 9-32132

nonequilibrium gas mixtures past blunt bodies, Navier-Stokes equation (*Russian*) 9-18909

radiating laminar boundary flow over flat plate at large free stream Mach no. 9-1270

rarefied hypersonic flow on wedge, numerical anal. (*Japanese*) 9-32580

shock layer, screening of selective heat radiation in boundary layer (*Russian*) 9-32497

shock tunnel development for aerospace simulation 9-41777

slender cones, drag meas. in hypersonic flow using mag. suspension and balance 9-4039

slender wing, 3-D flow (*Russian*) 9-10588

supersonic/hypersonic flow past an oscillating flat plate at high angles of attack 9-14424

unsteady hypersonic flow past a weakly curved profile (*Russian*) 9-32566

viscous, iterative methods, convergence rate, comparative study 9-40374

wake, free electron distrib., RF method 9-27833

hypersorption see sorption

hypertrons see hypernuclei; tritons

hyperviral theorem see quantum theory

hypochromism see light absorption

hypothesis formation see heuristic programming

hypothetical particles

see also charm particles; heavy leptons; intermediate bosons; magnetic monopoles; quarks; tachyons

axions, astrophys. constraints on axion mass and number of quark flavours 9-36009

axions, evidence against, from $\bar{\nu}e$ and $\bar{\nu}d$ scatt. 9-13108

axions, possible evidence from existing expts. 9-436

axions and Higgs particles, astrophysical mass bounds 9-5745

dynamion model, space reflection operator and boson fermion puzzle 9-36118

heavy stable particles, cosmic ray produced, search in heavy water 9-40048

quantum soliton operators for monopoles and Fermionization mechanism of dyons 9-35940

stable heavy neutrinos, dynamical interactions and astrophys. effects 9-5743

$\nu_\mu N \rightarrow \mu^+ e^+ +$ hadrons, up to 30 GeV, possible heavy neutral lepton prod. 9-36061

hysteresis

see also coercive force; dielectric hysteresis; elastic hysteresis; magnetic hysteresis; remanence

stimulus-response relation, multivalued, in isolated elasmobranch utricle 9-24979

superconductor longitudinal acoustic wave absorpt., nonlinear effects, hysteresis (*Russian*) 9-19691

$Rb_2Hg(CN)_4$, spinel, ferroelasticity and phase transformation 9-7646

I-II-VI₂ semiconductors see ternary semiconductors

I-III-VI₂ semiconductors see ternary semiconductors

IC see integrated circuits

IC engines see internal combustion engines

ice

see also glaciology; snow

accretion calc. 9-29799

adsorption of CO_2 , H_2S , propane, gas hydrate form. investigs. 9-39191

amorphous ice on Saturn rings and satellites, formation, stability and observability 9-35188

Antarctic ice, 1000 and 5000 yr old, ^{10}Be content meas. 9-2305

aqua-atomic, UV-radiation illuminated, nuclear-electron effects in EPR, of atomic protium and deuterium (*Russian*) 9-20388

Arctic fjord, ice form. rel. to waters mixing 9-48504

Arctic ice cover evolution rel. to climatic changes 9-29781

Arctic ice pack heat and mass balance 9-39750

atmosphere, ice cryst. props. rel. to halos 9-2373

atmosphere, natural and man-made ice forming nuclei 9-48530

atmosphere snow and ice particles, influence on elec. field above Arctic Ocean (*Russian*) 9-48537

Bolivia, evidence for glaciation 3.27 Myr BP 9-34865

cirrus clouds, ice content determ. from radiative props. in NOAA 4 VTPR channels 9-39853

climatic warming effect on W. Antarctic ice sheet 9-34864

cloud, microphysical properties from lidar obs. 9-39811

continental ice sheet model, spectral response to insolation vars. 9-2300

creep rupture at depth in cold ice sheet, obs. 9-2306

crystal binding and lattice dynamics, H-bonding pot. function 9-32940

crystals, holographic meas. of shapes, sizes and concs. 9-25364

cumulus clouds, aircraft meas. if ice, Florida 9-12213

dangerous weather phenomena prediction, research prospects 9-34932

dentritic growth rates, evidence for a universal law 9-4496

Devon Island ice cap, Canada, theoretical and observed temp. profiles comparison 9-16524

droxtals grown from supercooled water droplets, morphology 9-24426

Duluth-Superior Harbour, ice growth meas. 9-2299

epitaxial ice crystals, influence of environmental saturation and elec. field on growth and evaporation 9-42408

Europa, water ice dissoc. rel. to O and H clouds and UV emissions 9-5775

foreign object motion, liq.-like layer model, wire regelation, particle migration appls. 9-46893

frost heaving in soils, role of disjoining press. 9-29791

in geological conductors, influence on elec. props. (*German*) 9-5472

geophysical timescales from absolute-dated ice cores from Greenland (*Danish*) 9-34776

glacial ice melting effects on Antarctic surface water 9-34866

graupe development, numerical simulation 9-5573

Great Lakes, shore ice rel. to W. Lake Michigan shoreline erosion 9-5542

Greenland ice cores, gas parameters, historical atm. comp. and climate determ. 9-8681

ice continued

- growth in laminar flow through a channel with two parallel flat walls 9-3908
- hail nuclei determ. in clouds by radar and radiometric combined meas. (*Russian*) 9-12195
- hail probability rel. to radar echo heights, South African Highveld 9-20925
- hail size sorting in three-dimens. updraught, rel. to hail suppression 9-20926
- hail suppression, crop protection, involvement of society 9-8677
- hailstone size determ. from dents in cold-rolled Al sheet 9-39890
- heterogeneous nucleation, lattice misfit, hydrophilic sites on hydrophobic surface 9-48530
- hexagonal, Raman spectrum of translational lattice vibrs., press. effects 9-24304
- hydrometeors, radiative props. at microwave freqs. 9-20940
- ice domes, time dependent deformation 9-37152
- ice-water interface, dynamic light scatt. during freezing 9-33074
- icebergs underwater profiling using unmanned submersibles, echo sounder and scanning sonar 9-5673
- iceicles, examination between crossed polarizers, growth mode determination 9-41995
- Ih, polycryst., IR spectrum, OH stretching region 9-11411
- Ih, polycryst., Raman spectra, OH stretching region 9-11410
- Ih, polycryst., vibr. spectrum anal., OH stretching region 9-11412
- interstellar ice, 45 μ m signature possible identification in Orion 9-17068
- intrinsic surface order near melting point 9-14986
- IV, thermal expansion anomaly rel. to order/disorder transition at 115K, 10.54 kbar 9-46819
- lakes, ice-covered (North Slope, Alaska), radar return differences 9-2298
- liquidlike layer on ice surface, thermal expansion meas. 9-19381
- Lithuanian lake water temperature rise (spring 1974) (*Russian*) 9-8644
- noctilucent clouds, circularly polarised light detect. rel. to ice crystals, growth 9-48568
- NQR of ^{17}O in ice Ih, double NMR for ^1H tunnelling, 1.3 and 4.2K 9-47353
- nucleation in atmosphere, natural nuclei origin 9-48531
- nucleation mechanisms of submicron aerosol particles 9-20947
- nuclei conc. meas., filtration theory appl. 9-39887
- one-dimensional crystal, ground state energy, PCILQCC method 9-10056
- ρ Ophiuchi dark cloud, ice mantles and abnormal extinction 9-21376
- permafrost, effect of seepage flow on thawing and freezing 9-1241
- permafrost, neutron moisture gauge for water detection (*Chinese*) 9-34997
- permafrost, shallow, mapping, EM methods 9-16694
- polarisation processes, in lattice, Kirkwood's theory rel. to thermodynamics of irreversible processes 9-38447
- polarisation processes, in lattice, thermodynamics of irreversible processes, universal relation 9-38446
- polycrystalline matrices, electron spin-lattice relax. of radiation-produced Ag atoms, temp. depend., tunnelling relax. 9-34331
- radiative melting of horizontal clear ice layer, rel. to atm. icing (*German*) 9-18679
- radiowave forward/backward scattering from liquid/solid hydrometeors, Rayleigh approx. 9-25321
- riming electrification as a charge generation mechanism in thunderstorms 9-34917
- rivers, ice-jam backwater levels cutoff period 9-39778
- sea ice, airborne laser profiles, interactive correction and anal. system 9-25338
- sea ice, ocean waves SAR imaging 9-5496
- sea ice, radar anisotropy due to horizontal c axes preferred aximuthal orientation 9-34836
- sea ice, sidescan sonar imagery, Arctic Ocean 9-25339
- sea ice chemistry 9-12128
- sea ice crystal orientation along Arctic Ocean margins 9-16486
- sea ice distribution determ., appls. of satellite ocean-related imagery programme 9-5681
- sea ice large-scale numerical model 9-48490
- splintering mechanism during rime growth 9-39788
- steady flow of viscous nonlinear fluid (Glen body) around perfectly smooth sphere (*French*) 9-7387
- subglacial lake, Antarctica, radar sounding 9-29798
- subsea permafrost heat and mass transport processes, mol. diffusion and consequences anal. 9-2302
- undergraduate experiment on ionic cond., elec. cond. temp. depend. and dielec. props. 9-35503
- UPS, valence band struct. 9-33890
- UPS study 9-43101
- X-irradiated, EPR spectra, obs. of thermally reversible radical, g-value 9-5144
- Ag solvation, in ice matrix 9-5166
- Ag solvation, in ice matrix, ESR and irradiat. at 4.2 and 77K 9-8444
- AgI aerosol particles, influence of cryst. struct. on their ice-forming activity 9-16048
- D $_2$ O, ^2H quadrupole resonance, double transitions 9-3465
- H $_2$ O:D $_2$ O, ice Ic, vibr. decoupling, IR spectrum 9-13706

inoscopes see television camera tubes

identification

- see also control theory; correlation methods; frequency response; modelling; parameter estimation; simulation; state estimation
- distributed parameter system control, conference, Coventry (1977) 9-3897
- earthquake model, nonstationary, identification, nonlinear filtering approach 9-5458
- EEG isolated events identification, automatic system 9-5400
- environmental system, conf., Ghent, Belgium (Aug.-Sept. 1977) 9-25250
- fluorescein tracer model, determination of flow rate of aqueous humin in eye 9-43943
- nonparametric identification for diffusion processes 9-30374
- nuclear power system and fuel channels stochastic identification and parameter estimation 9-3201
- physiological system, nonlinear, Volterra kernels representation determ. 9-2034
- rainfall-runoff process identification, Semois river appl. 9-5537
- respiratory system model, identification via mathematical pattern recognition 9-2096
- thermokinetics of coupled radiative and conductive transfer, Kalman filtering identification (*French*) 9-41558

identification continued

- upper extremity prosthesis online control based on EMG signal identification using microprocessor hardware 9-2166
- water quality system, biological process models 9-5540
- iets see tunnelling spectra; tunnelling spectroscopy
- IEXE see ion microprobe analysis
- i.f. amplifiers see intermediate-frequency amplifiers
- i.g.f.e.t. see insulated gate field effect transistors
- ignition
- see also electric ignition
- sparks of minimum ignition energy, spark formation 9-10729
- stagnation-point ignition, premixed combustible 9-16000
- II-III $_2$ -VI $_4$ semiconductors see ternary semiconductors
- II-IV-V $_2$ semiconductors see ternary semiconductors
- II-VI semiconductors
- defect structure, electron microscopic investigations 9-32864
- direct gap, highly excited, radiative recomb. involving free particle scatt. 9-38648
- dislocation motion obs. by SEM in cathodolum. (*Japanese*) 9-46666
- electronic dielectric constant, correlation with interionic separation 9-4758
- excitonic polarons, Pollmann-Buttner variational method, donor and exciton binding energies 9-42469
- film, vacuum deposition (*Polish*) 9-47630
- IR luminescence of Co $^{2+}$ impurities, local density of phonon states 9-33778
- Jahn-Teller effect, average phonon energy 9-15122
- mixed crystal, comp. disorder-induced broadening for free excitons 9-15479
- scattered light intensity variation under secondary illumination 9-33718
- self-interaction dynamics of Nd laser radiation 9-27342
- semiconductor, ionic, ionisation of doubly charged centres 9-11085
- zincblende (110), surface relaxation 9-38143
- ZnS:Mn,Cu, thin-film phosphors, LV DC electroluminescence 9-11472
- Al-CdTe-Al thin film VLF dielectric props. (*Slovak*) 9-7907
- Cd,Hg $_x$ -Te, photodetectors, recomb. processes, photoconductive decay obs. 9-38129
- Cd,Hg $_x$ -Te, x=0.2 and 0.26, photomagnetolectric effect in strongly excited samples 9-47124
- Cd,Hg $_x$ -Te, carrier mobility, 4.2 to 300K, scatt. mechanisms 9-4561
- Cd,HgTe detectors, high-performance, for thermal imaging 9-40616
- Cd,HgTe detectors for CO $_2$ laser apps. 9-40615
- Cd $_0.2$ Hg $_{0.8}$ Te, annealing in saturated Hg vapour (*German*) 9-43447
- Cd $_{0.24}$ Hg $_{0.76}$ Te, mag. quantum oscils. in photovoltaic effect 9-19619
- n-Cd,Hg $_x$ -Te, action of laser pulses, elec. characts. 9-11212
- n-Cd,Hg $_x$ -Te alloys, x=0.19 to 0.21, electron optical heating influence on photoelec. effects 9-1183
- Cd,Hg $_x$ -Te, Auger effect, temp. depend. of Auger lifetime 9-38097
- n-Cd,Hg $_x$ -Te, conductivity inversion under laser radiation (*Russian*) 9-15198
- Cd,Hg $_x$ -Te films, epitaxial growth, optical, elec., and photoelec. props. 9-11512
- Cd,Hg $_x$ -Te, homogeneous mixed crysts. with large segregation tendency, Bridgman growth (*German*) 9-33923
- Cd,Hg $_x$ -Te magnetoresistor prep. and props. 9-7844
- Cd,Hg $_x$ -Te, magnetoresistance in range 4.2 to 300K 9-11156
- Cd,Hg $_x$ -Te narrow gap semiconductor, charge transfer device for IR detection appl. (*French*) 9-30563
- Cd,Hg $_x$ -Te, strong elec. field effect on galvanomagnetic effects 9-11159
- n-Cd,Hg $_x$ -Te, thermal EMF, in transverse quantised EM field (*Russian*) 9-23993
- Cd,Hg $_x$ -Te, X-ray topographic assessment 9-37716
- Cd,Hg $_x$ -Te, Auger and radiative recombination of acceptor bound excitons 9-47023
- CdS, acoustoelectric current fluctuations 9-24020
- CdS, acoustoelectric fluctuations 9-7866
- CdS, anomalous behaviour of transient Langmuir dissociation 9-28092
- CdS, anti-Stokes excited crystals, luminescence band at 12K 9-19922
- CdS, Auger excitation mech. of 1.6-2.0 micron luminesc. band 9-8184
- n-CdS, bipolar photocond. and acoustoelectric current 9-19636
- CdS, Brillouin scatt. of forbidden polaritons 9-33722
- CdS, chemically precipitated film, optical spectra, annealing effects (*Russian*) 9-11424
- CdS, cryst. growth from vapour in sealed silica tubes, emission and mass spectra 9-43117
- CdS, deep level transient spectroscopy (*French*) 9-11079
- CdS detector, Voyager Sun sensor, evaluation of radiation interference, simulation 9-23644
- CdS, diffusion length determ., resolution limit of EBIC technique 9-21865
- CdS, dislocation effects on radiative recombination processes 9-8186
- CdS, domain elec. instabilities, elec. field and temp. distribs., optical meas. 9-11405
- CdS, exciton spectrum of high-density gas of nonequilib. carriers 9-38567
- CdS, exciton-phonon interaction, interpretation of optical absorpt. data 9-14897
- CdS, excitonic polariton reflectance, quantitative anal. in spectral range of A-exciton 9-15480
- CdS film, ellipsometry of natural boundaries (*Russian*) 9-4866
- CdS film, exciton exhibiting spatial dispersion, reflectivity, polariton standing-wave struct. 9-4865
- CdS film, polycrystalline, photosensitive, struct., pseudoreplica method, using electron microscopy and microdiff. 9-15030
- CdS film, precipitation from solns., form. characts. 9-11524
- CdS film, strain-induced modulation of photoconductivity 9-24009
- CdS film growth, with smooth surfaces through boundary layers 9-28244
- CdS, granulated films, optical reson. 9-4863
- CdS, heavily doped compensated piezoelectric semiconductor, sound absorpt. coeff. calc. (*Russian*) 9-15194
- CdS heteroepitaxial films on ZnS, surface-wave acoustoelectric domain excitation and probing 9-46904
- CdS, highly excited cryst., biexciton, impurity transition and electron-hole plasma 9-15092
- CdS, highly photoexcited, picosec. luminesc. spectrosc. 9-47517
- CdS, hole-capture coeff. of deep charged centres, temp. depend., photocurrent meas. 9-7804
- CdS, ion irradiat. damage, obs. using SEM in cathodolumin. mode 9-7633

VI semiconductors continued

- CdS large- and small-signal lattice attenuation, Brillouin scatt. obs. 9-47130
- CdS, laser thresholds and stimulated emission, intrinsic recomb. processes 9-15489
- CdS, light scatt. by Bleustein-Gulyaev waves on refl. and transmission 9-24288
- CdS, local cathodolum. of single cryst. under colour contrast conditions in SEM 9-8191
- CdS, luminesc. and gain spectra of two-photon excited excitons 9-33815
- CdS, magnetoabsorption, explained by D^- centres 9-38019
- CdS, nonlinear electronic absorption of US waves 9-15196
- CdS, nonlinear refr. index meas. by nonlinear lens method (*Russian*) 9-26111
- CdS, optical activity in exciton spectra region, reflectance spectra 9-28707
- CdS, optical axis inversion (*Russian*) 9-24284
- CdS, photocond., acoustoelec. fluctuations 9-24022
- CdS, photocond. cryst., stationary and non-stationary temperature-electric instabilities 9-7833
- CdS, photocond. cryst. characterisation of electron-trap responsible for acoustic holographic echoes (*French*) 9-19544
- CdS, photoconductive, transverse electric current effect on SAW propagation 9-47127
- CdS, photoexcitation, effect of elec. field (*Russian*) 9-1751
- CdS, photoexciton waves, restrictions imposed on nature of additional boundary conditions 9-28789
- CdS plate, amplification of elastic waves by transversely drifting injected carriers 9-7868
- CdS, polycryst., photoelec. props., pressure time influence (*Russian*) 9-19615
- CdS, porous, dynamic phase transition at high press. 9-23723
- CdS, props. of shallow acceptors, photocurrent meas. 9-7805
- CdS, psec time resolved spectroscopy, electron-hole plasma 9-47500
- CdS pulsed optically detected resonance, time depend. recomb. processor study 9-38411
- CdS, reson. Brillouin scatt. by longitudinal acoustic phonons 9-38555
- CdS, reson. Brillouin scatt., book contrib. 9-42983
- CdS, reversible threshold modification of luminesc. spectrum by uniaxial compression 9-38662
- CdS screen, laser electron-beam tube under scanning conditions 9-13983
- CdS, single cryst., band parameters from optical exciton spectra 9-47021
- CdS single cryst., melt growth, improvement of elec. characts. 9-38734
- CdS single crystals, depend. of radiative props. on equilib. carrier density 9-19932
- CdS, spectral anal. of luminesc. of high density excitons 9-11451
- CdS sprayed film, heat treatment effect on props. 9-7916
- CdS sprayed layers for solar cell prod. (*French*) 9-24901
- CdS, sputter-deposited, electrical and optical props. 9-47181
- CdS, stimulated emission and optical gain in dense exciton system 9-33731
- CdS, submillimetre laser emission due to transitions between free exciton level 9-27261
- CdS, surface state meas. by SAW convolver 9-42617
- CdS, thermoreflectance spectra, additional boundary conditions in terms of optical constants 9-15478
- CdS, thin film, dark- and photo-currents, annealing time effect 9-38199
- CdS:Ag, orange luminesc. at 77K and induced impurity photoconductivity 9-43035
- CdS:Cu, IR photolum. at 10K 9-28824
- CdS:Cu, US absorpt. in heavily doped piezoelec. semicond. 9-11189
- CdS:Cu,Pb reflectivity of Ni-salt coated powder, pre-irrad. effect on defect form. 9-27973
- CdS:In, two-photon absorpt. spectra exam. of effects of screening of exciton continuum 9-8166
- CdS:Li, TSC and optical photocurrent quenching spectra, Auger excitation of recomb. centres 9-33294
- CdS:Li, thermochemical changes in microstructure of anisotropic centres, polarisation modulation method meas. 9-38027
- CdS:Mn gamma-irradiated ESR meas. 9-11342
- CdS:Mn²⁺, temp. depend. of rate of spin-lattice relax. 9-42832
- CdS:Na, thin film, dark- and photo-currents, annealing time effect 9-38199
- CdS-Au Schottky diode, elec. props. under stress 9-15222
- CdS-CuInSe₂ solar cells, grain boundary and interface recomb. effects 9-39311
- CdS-metal interface, chemical reactions and local charge redistrib. 9-19661
- CdS-PET photoreceptors, air space effects on electrophotographic props. (*Japanese*) 9-44962
- CdS-PbTe and CdS-Te heterojunctions, electron irrad. effect on electrophys. props., prep. conditions depend. 9-28421
- CdS(Se) films, electron irrad. effect on electrophys. props., prep. conditions depend. 9-28421
- CdS_{1-x}Se_x, comp. disorder-induced broadening for free excitons 9-15479
- CdS_{1-x}Se_x, gradient cryst., pseudointersection of dispersion curves $n_0(\lambda)$ and $n_e(\lambda)$ 9-15487
- CdS_{1-x}Se_x triode cathode sputtered films, electrophysical props. (*Russian*) 9-42642
- CdS_{1-x}Se_x triode sputtered films, photoelec. props. (*Russian*) 9-15179
- Cd_{1+y}(S_{1-x}Se_x) single crystals, vapour phase transport and stoichiometry control 9-28940
- CdS(Se)(Te), evap. onto electron bombarded NaCl substrates, epitaxial growth and characts. 9-28948
- CdS(Se)(Te), excitons detect., precision method 9-19906
- n-CdSe, bipolar photocond. and acoustoelectric current 9-19636
- CdSe, diffusion of Cu, effect of laser radiation on diffusion 9-10983
- CdSe, heavily doped compensated piezoelectric semiconductor, sound absorpt. coeff. calc. (*Russian*) 9-15194
- CdSe, optical gain spectra, exciton collision processes and electron-hole plasma 9-28814
- CdSe photoelectrode, immersed in polysulphide soln., S/Se substitution, XPS obs. 9-19656
- CdSe, psec time resolved spectroscopy, electron-hole plasma 9-47500
- CdSe, radiative recomb. process, P-band, 2-psec time resolution 9-24346
- CdSe, resonant Brillouin scatt. via free and bound excitons 9-24330
- CdSe, saturation of optical absorpt. and photocond. 9-18487
- CdSe, signal and idler beam mixing device for optical parametric oscillator 9-14029
- CdSe, single cryst., band parameters from optical exciton spectra 9-47021

II-VI semiconductors continued

- CdSe, thin films, exciton-piezotransmission 9-24380
- CdSe, wave propag. 9-28042
- CdSe:Cu,Cl film, induced impurity photocond., 0.6 to 1.2 eV 9-24012
- CdSe-metal interface, chemical reactions and local charge redistrib. 9-19661
- CdSe-SiO₂ thin film transistors, fabrication and electronic characts. 9-33351
- CdSe-ZnTe single cryst. film heterojunctions, prep. and props. 9-19652
- CdSe(Te), laser calorimetric meas. of two-photon absorpt. coeffs. at 1.06 μ m 9-44934
- CdSe(Te), NMR, chemical shift and linewidth determ. 9-19792
- CdSe,Te_{1-x}, triode sputtered films, photoelec. props. (*Russian*) 9-15179
- CdSe,Te_{1-y} triode cathode sputtered films, electrophysical props. (*Russian*) 9-42642
- CdTe, amphoteric behaviour and solubility of Sn 9-33008
- CdTe, anodic oxidation as thin-layer removal technique for impurity distrib. profile determ. 9-34169
- p-CdTe, bipolar photocond. and acoustoelectric current 9-19636
- CdTe, diffusion of Sn and intrinsic defects role 9-33116
- CdTe, dynamic holograms, diff. characts. using laser beam 9-46048
- CdTe epitaxial layers on GaAs, cryst. struct. and phys. props. 9-33202
- CdTe, excitation spectra, resonant Raman scatt. versus hot electron effects 9-38645
- n-CdTe films, uniform trap distrib., transient photocond. effects 9-28423
- CdTe, films grown by hot wall epitaxy, elec. props. 9-28420
- CdTe metal-semicond.-metal detectors, degradation characts. due to e and γ irradiation 9-45543
- CdTe, n- and p-type, elec. and galvanomag. props. 9-7830
- CdTe, near-edge absorpt., effect of light illumination and elec. field 9-38547
- CdTe, phonon conductivity, 2 to 300K, scatt. mechanisms 9-4436
- CdTe, photoelectron spectra at Schottky barrier (*Korean*) 9-11220
- n-CdTe, photolum., plastic deform. effects 9-15509
- CdTe, picosecond absorption spectroscopy 9-47482
- CdTe, reson. Brillouin scatt., book contrib. 9-42983
- CdTe, Schottky diode, AC small signal capacitance 9-7899
- CdTe, single crystals, plastic deformation and dislocation struct. 9-8321
- CdTe, sputter-deposited, electrical and optical props. 9-47181
- CdTe:Ag, with microscopic p-n junction, photopolarisation in anomalous photovoltage 9-11175
- CdTe:Ag film, photoelectret effect (*Russian*) 9-28676
- p-CdTe:Cl, mech. of electron recomb. 9-11176
- CdTe:Ge, negative thermally stimulated cond. 9-19621
- CdTe:In, photoconductivity exam. and IR quenching 9-11181
- CdTe:In, shift optical absorpt. edge with temp. and doping level 9-8165
- CdTe:Li, excitation spectrum of Li acceptor and valence band parameters 9-28795
- CdTe-HgTe, neutron irrad. rel. to elec. props. 9-15141
- CdTe-ZnSe pseudobinary system, phase diagram and equil., Bridgman single cryst. growth method 9-43213
- Cd_{1-x}Zn_xS, film, technical data, for low cost solar cell 9-48127
- Cd_{1-x}Zn_xS spray deposited film, for low cost solar cells 9-7915
- Cd_{1-x}Zn_xS, use of parallel and monochromatic beams for comp. determ. by X-ray fluorescence 9-48000
- Cd_{1-x}Zn_xTe, solid soln., vibr. spectra restructuring anomalies 9-4803
- P-Cu_{2-x}1-n-CdS, heterojunction, energy band diagram 9-24070
- Cu₂S-CdS, solar cell, photocurrent, spectral depend. 9-7853
- Cu₂S-CdS solar phototiles, tunnel conduction mechanism (*French*) 9-29480
- Ge-ZnSe p-n heterojunctions, effect of interfacial condition on optoelectronic props. 9-24061
- (Hg,Cd)Te IR detector array, 72-element, 8-12 micron, performance, FLIR system appl. 9-2829
- Hg_{1-x}Cd_xSe, ($x=0$ to 0.15), Shubnikov-de Haas oscillations, influence of level broadening 9-11155
- n-Hg_{0.61}Cd_{0.39}Te single crystals, flicker noise due to grain boundaries, meas. 9-1611
- Hg_{0.69}Cd_{0.32}Te photodiode, minority carrier lifetime determ. 9-38084
- Hg_{0.75}Cd_{0.25}Te semiconductor, two-mode reson. polaron 9-15105
- Hg_{0.75}Cd_{0.25}Te, resonant four-photon and higher order mixing 9-41415
- Hg_{1-x}Cd_xTe, acceptor levels due to local impurity potential 9-11084
- Hg_{1-x}Cd_xTe, far IR cyclotron reson., band edge effective mass and relax. time 9-19781
- Hg_{1-x}Cd_xTe films, Tamm surface states, Kane model 9-28395
- Hg_{1-x}Cd_xTe photoconductors, gamma ray effects on surface props. and detector props. 9-17489
- nHg_{1-x}Cd_xTe, single-phonon and plasmon recomb. lifetime effect, with magnetically tuned bandgap 9-38098
- Hg_{1-x}Cd_xTe photodiodes, backside-illum., LPE growth and thermal noise characts. 9-40610
- HgCdTe(Se) MIS junction, phonon-assisted tunnelling 9-47170
- HgS, photo-stable semicond. in electrolyte soln., photo-EMF and photocurrent obs. 9-42637
- HgSe, interband absorpt. and Γ -point band structure parameters 9-47010
- HgSe(Te), NMR, chemical shift and linewidth determ. 9-19792
- HgTe, freq. tripling and self-interaction of strong EM wave in zero-gap semicond. 9-10355
- HgTe, self diffusion of Hg and defect struct. 9-23775
- HgTe, self-diffusion of Te, layer stripping technique 9-37873
- HgTe single crystals, crystn. from vapour phase, thermodynamical conditions 9-33908
- HgTe, zero gap semiconductors, Coulombic resonance states 9-38020
- HgTe-CdTe, mixed semiconductor with comp. fluctuation, kinetics of intraband absorpt. and magnetoabsorption coeff. 9-19865
- Mn chalcogenides-II-VI compound solid solutions, cryst. growth and physicochem. props. 9-14711
- Pb-Al₂O₃-HgSe junction, asymmetry of tunnelling characts. 9-47169
- p-PbTe, Fermi surface parameters depend. on carrier density, Shubnikov-de Haas oscils. 9-42435
- PbTe films, thermal cond. and elec. props., 4.2 to 300K 9-28162
- p-PbTe-M, M=In, Pb, Zn, Cu, barrier props. 9-7898
- ZnCdS:Cu, high field photoconduction in binder layer 9-47121
- Zn,Cd_{1-x}S, granulated films, optical reson. 9-4863
- Zn_{1-x}Cd_xS, platelet single cryst. one-photon optical excitation, spatial distrib. and mode struct. of laser emission 9-31912
- Zn_{1-x}Cd_xS:Cu, photoluminesc., Birman effect (*Russian*) 9-28837
- Zn_{1-x}Cd_xTe, reson. Brillouin scatt., acoustic domain injection 9-38557
- Zn_{1-x}Cd_xTe, resonant Brillouin scattering (*Japanese*) 9-15474
- ZnO (000 $\bar{1}$) and (0001), Ar field ion microscopy 9-47601

II-VI semiconductors continued

- ZnO, (0001) surface, clean and O adsorbed, AES and refl. electron energy loss spectra 9-46927
 ZnO (1010), surface struct. from LEED anal., matrix inversion method 9-46897
 ZnO, black, possible use as spectrally selective coating for low temp. solar collectors 9-994
 ZnO, c-direction cryst. growth and crystallographic polarity 9-28902
 ZnO ceramic varistors, I-V charact., single grain junction meas. 9-15225
 ZnO ceramic varistors, trapping by localized states, effect on dielec. and elec. props. (*Russian*) 9-28671
 ZnO, electron irradi., vacancies and interstitials, EPR meas. 9-14803
 ZnO, electron-hole recombination emission, temp. depend. and phonon repetitions (*Russian*) 9-15521
 ZnO epitaxial film, UV luminesc. due to one-, two-photon excitation, laser possibility 9-11468
 ZnO heteroepitaxial films, grown on Al_2O_3 substrates, X-ray topographic study of struct. 9-15048
 ZnO heteroepitaxial film, orientation relations for growth on Al_2O_3 substrates, X-ray diff. anal. 9-15049
 ZnO, high field Faraday rotation, 6.5K 9-38522
 ZnO, high rate epitaxy on sapphire by planar magnetron RF sputtering 9-28916
 ZnO, hot-electron microwave conductivity, hot-electron, high DC field 9-38113
 ZnO, laser thresholds and stimulated emission, intrinsic recomb. processes 9-15489
 ZnO, luminescent, phonon detection by shallow electronic trap states 9-14902
 ZnO, microcryst., surface microscopic modes, IR detection 9-38527
 ZnO monolithic SAW device, separation of storage effects 9-18611
 ZnO, negative photocond. by excitation of exciton-impurity complexes, recomb. mechanism (*Russian*) 9-28379
 ZnO, photoelastic consts., absolute sign determ. by Biegelsen method 9-1749
 ZnO photoelectret, recomb. and trapping kinetics determ. 9-38083
 ZnO, pure and rare earth doped, photo- and electroluminesc. 9-28803
 ZnO single crystals, with stoichiometry deviations, intrinsic defects, thermodynamic analysis 9-42485
 ZnO, stimulated two-photon emission from excitonic molecules 9-28815
 ZnO, surface exciton polaritons, ATR obs., book contrib. 9-42620
 ZnO surfaces, work function, band bending, and electron affinity 9-47145
 ZnO thin-film transducer, bulk wave generation due to nonlinear interaction of SAW 9-42359
 ZnO, varistor, low temp. AC props. 9-38434
 ZnO, with chemisorbed neutral red, photocond. meas. (*Japanese*) 9-42572
 ZnO:Cu, excited state, zero phonon lines in emission and Zeeman spectra 9-38026
 ZnO:Cu, H(D), IR absorpt. line spectra, OH and OD vibr., optical excitation 9-15498
 ZnO:Cu, H(D), OH and OD centres, IR-active absorpt. line spectra 9-15496
 ZnO:Nd, electrolum. brightness waves, 93 to 363K 9-33839
 ZnO:Pr(Gd)(Er), phosphors, photoluminesc. and electroluminesc. spectra 9-11457
 ZnO-polystyrene photoreceptors sensitised by β -Cu phthalocyanine 9-17552
 ZnO-resin photoconductive layers, impedance-freq. charact. meas. (*Japanese*) 9-38120
 ZnO-ZnS powder mixtures, elec. cond. and Hall effect meas., percolation effects 9-7828
 ZnO(S)(Se)(Te) 9-19906
 ZnS, dependence of hexagonal layer formation on dopant conc. 9-19265
 ZnS, electrolum. phosphors, surface phenomena occurring during ageing (*Russian*) 9-33842
 ZnS epitaxial growth, in H_2 , mass transport processes and effects of bypass flow 9-23860
 ZnS, epitaxial layers on Ge and GaAs substrates, exam. of growth 9-1828
 ZnS evaporated film optical props. 160 to 2000 Å 9-15544
 ZnS, film, laser evaporation synthesis, surface struct. 9-28954
 ZnS film free carrier absorption for laser beam modulation (*Japanese*) 9-7164
 ZnS, heteroepitaxial growth on GaP by closed space technique 9-28939
 ZnS, high field Faraday rotation, 6.5K 9-38522
 ZnS, high-voltage photovoltaic effect in polycryst. layers 9-42573
 ZnS, horizontal epitaxial growth systems, transport kinetics 9-4920
 ZnS, low temp. equilibrium compensation limit of intrinsic-defect hole conductivity (*Russian*) 9-1598
 ZnS, pulsed optically detected resonance, time depend. recomb. processor study 9-38411
 ZnS, refr. index oscills, in strong. elec. field 9-28720
 ZnS, reson. Brillouin scatt., acoustic domain injection 9-38557
 ZnS Schottky-barrier diodes, blue light emission 9-38671
 ZnS, self activated emission, spin depend. donor acceptor pair recombination, ODMR exam. 9-42870
 ZnS, self energy effects of valence and conduction electrons 9-37980
 ZnS, thermoreflectance spectra, at energies from absorption edges to 9 eV (*Japanese*) 9-11436
 ZnS, time resolved ODMR, electron-hole recombination 9-42872
 ZnS, VPE on GaP in open tube system 9-28938
 ZnS with substitutional impurity, dipole and weak-dipole vibr. 9-14904
 ZnS: ^{90}Sr , continuously acting luminous solid for photoelec. meas. over 300-800 nm range 9-3757
 ZnS:Ag, Al and ZnS:Cu, Al, LV cathodoluminesc. 9-33844
 ZnS:Ag, photon counting statistics of cathodoluminesc. light emission 9-24371
 ZnS:Ag phosphors, luminesc. of glow surface centres (*Russian*) 9-28836
 ZnS:Al, IR studies of Al complexes 9-33741
 ZnS:Au, phosphor, 'blue' and 'green' centre form. (*German*) 9-38665
 ZnS:B, new luminesc. centre 9-38635
 ZnS:Cl, self-activated, blue emission band 9-38633
 ZnS:Co $^{2+}$, EPR and spin-lattice relax. of Co $^{2+}$ centres (*Russian*) 9-1706
 ZnS:Cr, anomalous temp. depend. of near IR absorption 9-28794
 ZnS:Cu, film effect of Cu valency on cond. 9-11246
 ZnS:Cu, Gudden-Pohl effect, flash kinetics 9-24367
 ZnS:Cu,Co, phosphor luminesc. screen, spectral charact. determ. of IR pulsed lasers 9-10341

II-VI semiconductors continued

- ZnS:Cu,Er,Cl film, ageing and forming, DC electroluminesc., impact excitation 9-47522
 ZnS:Cu 9-24350
 ZnS:Er diodes, electrolum. 9-33840
 ZnS:Er $^{3+}$, luminesc. centres with cubic symmetry 9-38636
 ZnS:Mn, AC thin film electroluminesc., filamentary emission and memory effect 9-38672
 ZnS:Mn, Cu powder devices, DC electroluminesc. 9-38674
 ZnS:Mn film, AC electrolum., memory effects 9-38673
 ZnS:Mn film, electroluminescence theory 9-11470
 ZnS:Mn films, photoluminesc. and electroluminesc., excitation mechanism of luminesc. centres 9-11459
 ZnS:MnF $_2$ films, effect of Mn conc., XPS obs. 9-33886
 ZnS:Mn(Al)(Te), luminesc., exciton struct. 9-33801
 ZnS:Pb, luminescence, polaris. emission 9-38634
 ZnS:Pb current pulses due to elec. field liberation of electrons from trapping centres by tunnel processes 9-28378
 ZnS:RF $_3$ film, AC electrolum., memory effects 9-38673
 ZnS:Al $_2\text{S}_3$, phase relationships, 720 to 1110°C 9-1852
 ZnS-Cu, polycryst., influence of alternating elec. field and UV light on struct. defects, electrolum. expts. 9-43041
 ZnS-CuGaS $_2$ heterodiodes, LPE, emission spectra 9-33335
 ZnS-CuGaS $_2$ n-p heterojunction, for LED appl., prep. and characterisation 9-1831
 ZnS-CuInS $_2$, phase relations, 400 to 1300°C, X-ray and microscopic exam. 9-1853
 ZnS-GaAs, n-p heterojunction, struct., multibeam electron microscopy obs. 9-11031
 ZnS-Mn crystal, polarisation meas., luminesc. and Raman spectra 9-8138
 ZnS-MnS, phase relations, 400 to 1300°C, X-ray and microscopic exam. 9-1853
 ZnS(Se), ionicity trends in diamagnetism and its temp. depend. 9-19717
 ZnS: $_{-}\text{Se}_x\text{Cu}$, Br ceramic, current oscills. and electrolum. under high elec. fields 9-38677
 ZnS: $_{-}\text{Se}_x\text{Fe}$, photolum. meas. 9-19921
 ZnS: $_{-}\text{Te}_x$, polypeptide single cryst. grown from melt 9-14762
 ZnSe 9-38457
 ZnSe (100) surface, electronic struct., scattering-theory formulation 9-42607
 ZnSe, blende type struct., luminesc. under high excitation 9-19928
 ZnSe crystal, difference freq. generation of 2 CO $_2$ lasers 9-10362
 ZnSe, cubic, anomalous photovolt. effect in absorpt. tail 9-42583
 ZnSe, dislocation motion, influence on elec. cond. 9-15149
 ZnSe, electroluminesc. exam. high voltage pulses 9-15533
 ZnSe, electron irradi., dislocation climb, TEM obs. 9-1461
 ZnSe, epitaxial, organometallic CVD, on GaAs, and photolum. 9-8249
 ZnSe, epitaxial layers, close-spaced technique, preparation and optical props. 9-47637
 ZnSe, evap. onto electron bombarded NaCl substrates, epitaxial growth and charact. 9-28948
 ZnSe, exciton energy determ., electron beam excited luminesc. 9-38680
 ZnSe, exciton-impurity complex, electroabsorption meas. 9-15484
 ZnSe film, struct., influence of laser beam 9-7761
 ZnSe, growth centres, crystallographic parameters and etching patterns study (*French*) 9-41998
 ZnSe, high field Faraday rotation, 6.5K 9-38522
 ZnSe in insulator-semicond.-insulator struct., induced birefr., influence of kinetics of transient processes 9-24294
 ZnSe, LPE from Zn-Ga soln., charact. 9-28965
 ZnSe, luminesc., reson. Raman scatt. due to excitonic mols. 9-33816
 ZnSe MOS diodes, injection luminesc., edge emission 9-28842
 ZnSe, mech. of electroplastic effect 9-28035
 ZnSe, self-consistent localised electronic struct. 9-42445
 ZnSe single crystals, birefringence due to native defects and electro-optic effect (*French*) 9-24293
 ZnSe, single crystals., grown from melt under Ar pressure, defects form. 9-4312
 ZnSe surface barrier diode, hot charge carriers, elec., photoelec., and electroluminesc. props. (*Russian*) 9-33841
 ZnSe:Ag(In)(Cu), melt growth, dopant partition coeffs. 9-14837
 ZnSe:Al, current switching mechanism (*German*) 9-28385
 ZnSe:Al, thermally stimulated transients, new approach 9-38086
 ZnSe:Al(As), and pure single cryst., defect struct., Hall effect and Zn self-diffusion meas. 9-1427
 ZnSe:Cu,Al, LV cathodoluminesc. 9-33844
 ZnSe:Ga, defect struct., Hall effect and resist. meas. 9-1428
 ZnSe:Ga, p, optically detected mag. reson. of $\text{P}_{3/2}$ -centre 9-33566
 ZnSe:In, single crystals., new vapour phase growth method, elec. cond. props. and photoluminesc. spectra 9-19982
 ZnSe:Mn thin film, AC electrolum. 9-47519
 ZnSe:Mn(Al)(I), Schottky diode, direct impact excitation of luminescent centres 9-7900
 ZnSe:Pb, luminescence photocond. 9-38634
 ZnSe/metal, dielectric phonon-metal electron interaction, effect on optical props. (*Russian*) 9-19663
 ZnSe-In system, residual conductivity, cathode quenching 9-7902
 ZnSe-ZnS semiconductor waveguide laser, electron beam excited, blue emission 9-18447
 ZnSe-ZnTe amorphous thin-film p-n heterojunction, fabrication and charact. 9-47154
 ZnSe-ZnTe heterojunction, epitaxial, photosensitive, photoelec. props. 9-11203
 (ZnSe) $_x$ (GaP) $_x$, reaction of Zn with Se during Czochralski growth and LPE 9-8238
 (ZnSe) $_x$ (GaP) $_x$, two-photon absorpt. at ruby laser freq., clarification (*Russian*) 9-15505
 ZnSe: $_{-}\text{S}_x$, luminescence, polaris. emission 9-38634
 ZnSe(Te), NMR, chemical shift and linewidth determ. 9-19792
 ZnSe,Te $_{1-x}$, MBE, comp. ratio control 9-28947
 n-ZnSe-p-GaAs heterojunction high-detectivity threshold photodetectors 9-6181
 p-ZnTe 9-43028
 ZnTe (110) and (111) surfaces, electron energy loss spectra, bulk and surface losses 9-43080
 ZnTe (110) and (111) surfaces, O $_2$ adsorption, electron energy loss and Auger spectra 9-47568
 ZnTe, blende type struct., luminesc. under high excitation 9-19928
 ZnTe, effect of quenching on electrical props. 9-1920
 ZnTe, electro- and cathodoluminesc., impurity segregation 9-43042

II-VI semiconductors continued

- ZnTe, exciton localisation at impurity pairs 9-37999
 ZnTe film, electron irradiation effect on electrophys. props., prep. conditions depend. 9-28421
 ZnTe high-purity single cryst. growth by sublimation travelling heater method 9-28901
 ZnTe, laser thresholds and stimulated emission, intrinsic recomb. processes 9-15489
 ZnTe, photoluminesc., donor and acceptor excited states 9-38622
 ZnTe, radiative recombination involving free particle scatt. 9-38648
 ZnTe, Raman scatt. and exciton luminesc. under reson. excitation 9-38617
 ZnTe, relax. times of secondary radiations, circular polarisation correlation 9-28816
 ZnTe, reson. Brillouin scatt., acoustic domain injection 9-38557
 ZnTe, SEM and luminesc. study of Li segregation 9-38657
 ZnTe, single cryst., electron-hole drop conc. (Russian) 9-11460
 ZnTe single crystal, excitonic reflectance 90 to 300K 9-11430
 ZnTe, wavelength modulated reflectivity spectra (Japanese) 9-11435
 ZnTe, wavelength-modulated reflectance spectrum, electron-phonon and exciton-phonon interactions 9-11434
 ZnTe:Cu, voltage depend. on precip. contrast 9-1433
 ZnTe:In(Al), pure and doped, Zn vacancy energy levels, elec. and optical props. 9-4827
 ZnTe:P(Li), luminesc. transitions, quantum efficiency 9-1783
 ZnTe-CdSe single cryst. film heterojunctions, prep. and props. 9-19652
 ZnTe-CdSe solid solutions phase equilibria (Russian) 9-43224
 ZnTe-In Schottky diodes, photocapacitance determ. of electron-hole recomb. (French) 9-47119

III-V semiconductors

- acceptor levels, anisotropy of Zeeman splitting and polarization of luminesc. in mag. field 9-24365
 adamantane family of semiconductors, props. and commercial appl. 9-42447
 alloys, disorder-enhanced Auger recomb. 9-43014
 amorphous, local order as determined by electronic and vibrational spectroscopy 9-37627
 atomic diffusion in semiconductors, review 9-4423
 Auger coefficients calculation 9-15160
 average energy gap, calc. (French) 9-33228
 C GaP on GaAs substrate, heteroepitaxial layers, struct. defects (German) 9-23865
 [CC] In_{1-x}Ga_xAs-GaSb_{1-x}As_x superlattice, optical absorption 9-19887
 conduction-band struct. from reflectivity meas. when subject to mechanical strain 9-42449
 crystal growth of optical device materials for 1.0-1.6 μ m region, by LPE and CVD 9-43161
 CVD crystal growth mechanisms (French) 9-33939
 deep centres, many-electron effects 9-15117
 deep centres exam., review 9-11086
 dislocation motion (Japanese) 9-42074
 education, Shubnikov-de Haas oscil., InSb degenerate semiconductor, third-year undergraduate expt. 9-9051
 electronic dielectric constant, correlation with interionic separation 9-4758
 energy gap and static dielectric const. 9-11062
 epitaxial layers, determ. of lattice consts. of III-V compounds 9-19479
 epitaxial layers, dislocations nature, origin and effects 9-28232
 exciton dispersion law, hyperbolic singularity 9-42466
 film, nonintrinsic, magnetoconc. effect (Russian) 9-47113
 film, vacuum deposition (Polish) 9-47630
 GaAlAs diode sources for laser-doppler anemometry 9-14499
 GaAlAs-GaAs heterostruct. solar cells, Al, P, Zn incorporation by LPE (French) 9-24899
 GaAs:Fe, superparamagnetism, spontaneous magnetization 9-11285
 n-GaAs, semidegenerate, acoustoelec. gain and lattice attenuation, X-ray Brillouin scatt. and elec. meas. 9-15193
 GaAs-Al_{0.3}Ga_{0.7}As strip buried heterostructure laser densely packed monolithic linear array 9-45956
 N-GaP and p-GaP, photon drag-optical rectification detectors, performance in 2 to 33 μ m range 9-35834
 homojunction solar cell, temp. depend. of photovolt. solar energy conversion 9-43768
 III-V semiconductors, optical heating of electrons at 78K 9-15185
 InP film, prep. by low press. reactive deposition process 9-24449
 lattice thermal conductivity, high temp., role of optical phonons 9-33129
 low O₂ exposure effects on electronic surface props. 9-47146
 magnetic susceptibility calc. using MOLCAO approx. 9-42732
 MIS devices, large-amplitude hysteresis, model 9-19665
 mixed crystal, energy band calc., using LCBO method, compositional disorder effect determ. 9-42442
 phosphide semiconductors, ³¹P nuclear mag. shielding 9-33549
 plates, semicond., scribing marks rel. to sclerometric microhardness 9-15891
 quaternary, A_xB_yC₂D or AB_xC_yD₂, energy band gap and lattice constant 9-4296
 semiconductor, ionic, ionisation of doubly charged centres 9-11085
 superconductor-semicond. device research, future prospects 9-28467
 surfaces, adatom interactions, photoemission obs. 9-33898
 transport phenomena, review 9-19587
 vapour transport reactions and kinetics 9-28931
 VPE using organometallics and hydrides (French) 9-33936
 (Al,Ga)As DH diode laser, double-dovetail constricted, single mode CW operation 9-22949
 Al-Ga-As heterostructure photocell with a transition layer 9-19655
 AlAs-GaAs heterostructure, fabrication by selective liq.-phase epitaxy 9-15618
 AlAs-GaAs stripe heterojunction laser, O⁺ implantation effect on threshold characts. 9-41383
 Al_{0.5}Ga_{0.5}-GaP structure, LPE, double heterostruct. light modulator appl. 9-28963
 (AlGa)As, CW laser diodes, long-term lifetests at room temp. 9-22963
 AlGaAs DH, temp. depend. of intensities and times of radiative transitions 9-38660
 AlGaAs DH stripe geometry lasers, spontaneous radiation, carrier conc., and threshold current, luminesc. meas. 9-36898
 AlGaAs laser mode, fractional spontaneous emission coupling, power fraction, expt. evaluation 9-959
 AlGaAs-GaAs, DH semiconductor laser, influence of struct. parameters on lasing characteristics 9-45942

III-V semiconductors continued

- AlGaAs-GaAs cascade solar-cell structure, fabrication and characteristics 9-43758
 AlGaAs-GaAs concentrator solar cells of high-efficiency characts. 9-48125
 AlGaAs-GaAs DH lasers, coupling efficiency between gain-induced guides 9-23094
 AlGaAs-GaAs heterostructure, minority carrier lifetime, photon recycling effect (Japanese) 9-42556
 AlGaAs-GaAs lasers, defects and degradation (Japanese) 9-31899
 AlGaAs-GaAs lasers for optical fibre transmission, defects and degradation 9-41382
 Al_{0.5}Ga_{0.5}-xAs CSP laser, analytical waveguide study 9-10302
 Al_{0.5}Ga_{1-x}As, DH, defect generation in active regions at high optical excitation rates 9-23845
 Al_{0.5}Ga_{1-x}As epitaxial diode, neutron and γ -irrad. effects on cathodolum. in SEM 9-11473
 Al_{0.5}Ga_{1-x}As epitaxial films, microanal. in photoemissive electron microscope 9-16068
 Al_{0.5}Ga_{1-x}As, graded band-gap heterostruct., photo-EMF 9-24072
 Al_{0.5}Ga_{1-x}As heterojunction LED 9-28403
 Al_{0.5}Ga_{1-x}As, indirect, exciton-phonon coupling, photolum. meas. 9-47511
 p-Al_{0.5}Ga_{1-x}As, LED in red and IR region, multiple-pass heterostruct. 9-19653
 Al_{0.5}Ga_{1-x}As MBE layers, ionized beam doping, elec. and optical characts. 9-37721
 Al_{0.5}Ga_{1-x}As, metalorganic-CVD, photopumped laser operation meas. GaAs quantum well 9-10303
 Al_{0.5}Ga_{1-x}As, mode-stabilized injection laser, longitudinal-mode behaviour 9-962
 Al_{0.5}Ga_{1-x}As thick epitaxial layer production, by zone recrystn. in temp. gradient 9-15619
 Al_{0.5}Ga_{1-x}As, valence and core level photoemission spectra 9-19973
 Al_{0.5}Ga_{1-x}As variable gap thin structs., radiative recomb. photoluminesc. spectra 9-43036
 n-Al_{0.5}Ga_{1-x}As, variable-gap solid solns., diffusion length, photolum. meas. 9-38659
 Al_{0.5}Ga_{1-x}As, waveguide heterostruct. epitaxial growth with gradual composition change 9-42416
 Al_{0.5}Ga_{1-x}As:N, photoluminesc. and optical absorpt. spectra of N impurity bound-excitons 9-47496
 Al_{0.5}Ga_{1-x}As-GaAs, diode pump system for YAG:Nd³⁺ laser 9-41396
 Al_{0.5}Ga_{1-x}As-GaAs, quantum-well MO-CVD heterostructure lasers, band-filling props. 9-22954
 Al_{0.5}Ga_{1-x}As-GaAs linear-gradient heterostruct., photoelec. props. 9-11205
 Al_{0.5}Ga_{1-x}As-GaAs multilayers, LPE, using addition of GaCl vapour and new boat struct. 9-33950
 Al_{0.5}Ga_{1-x}As-GaAs quantum-well heterostructure laser, metalorganic CVD growth, CW operation 300 to 337K 9-10304
 Al_{0.5}Ga_{1-x}As-GaAs-Al_{0.5}Ga_{1-x}As quantum well, carrier collection 9-15211
 Al_{0.5}Ga_{1-x}As_{1-y}Sb_y, LPE, strain effects near miscibility gap, importance 9-7759
 Al_{0.5}Ga_{1-x}N epitaxial layers, growth and props. 9-11522
 Al_{0.5}Ga_{1-x}Sb, LED, 1.54 μ m efficient emission at 300K reproducible fabrication 9-42636
 Al_{0.5}Ga_{1-x}Sb, photolum. intensity increase due to composition variation 9-15528
 Al_{0.5}Ga_{1-x}Sb, surface flatness depend. on LPE condition 9-15042
 AlN, nonlinear susceptibilities 9-27312
 AlN:Mn, vol. and surface excited luminesc. 9-38630
 AlP, semicond., ³¹P nuclear mag. shielding 9-33549
 AlP(As)(Sb), refractive index dispersion 9-24280
 BN films, elec. resist., depend. on relative humidity 9-4609
 BN, hexagonal, electronic struct. from X-ray emission and XPS 9-47009
 BP, epitaxial growth using B₂H₆-PH₃-H₂ system 9-28937
 BP, semicond., ³¹P nuclear mag. shielding 9-33549
 CC GaAs, n- and p-types, optical consts., 2.5-3.5 eV, normal incidence reflectance meas. 9-15428
 (Ga,Al)As injection laser parameters, homogeneous degradation calc. from initial rates 9-22951
 Ga-Al-Sb, liq. phase epitaxy, phase diagram, X-ray microanal. 9-19491
 Ga-In-As-Sb quaternary system, phase equilib. and heterojunctions 9-34016
 Ga-Sb-Te, props. of ternary solid solution based on GaSb 9-7826
 GaAs, (110) oriented, preferential chemical etching of blazed gratings 9-37067
 GaAlAs DH laser, optimum p-n junction depth, photoluminesc. method 9-4598
 GaAlAs DH laser, stripe geometry, spatially resolved emission 9-27257
 GaAlAs DH lasers, electron-hole recomb. effects 9-45944
 GaAlAs DH lasers, nonlinearity, second and third harmonic distortion 9-31898
 GaAlAs DH photovoltaic detectors, high efficiency 9-11198
 GaAlAs oxide, plasma grown, anal. by combined ion beam techniques 9-7760
 (Ga,Al)As system, automated system for growth of multilayered structs. by LPE 9-38752
 n-GaAlAs:Sn LED DH donor-level analysis, DLTS obs. 9-47040
 GaAlAs/GaAs heterostructures, ellipsometric assessment of epitaxial layer during growth in organometallic VPE system 9-37933
 (Ga,Al)As-GaAs, DH laser, degradation in water due to facet deterioration 9-22970
 (Ga,Al)As-GaAs, double heterostructure laser, TEM study of dark line defect growth from dislocation clusters 9-33206
 (Ga,Al)As-GaAs deep proton-isolated lasers 9-36923
 GaAlAs-GaAs n-n heterojunction, rectification 9-28402
 (Ga,Al)As-GaAs twin-transverse-junction stripe laser with linear light/current characteristic and low threshold 9-36893
 Ga_{0.5}Al_{0.5}-GaAs:(Ge) DH structure, minority carrier lifetime and internal quantum efficiency of surface-free GaAs 9-43013
 Ga_{1-x}Al_xAs DH laser hybrid device, reliability 9-27281
 Ga_{1-x}Al_xAs, DH stripe geometry laser, lasing-induced change in differential resistance 9-45943
 Ga_{1-x}Al_xAs electrodes, interface capacitance meas., flatband pot., conduction and valence band boundaries (French) 9-33339
 Ga_{1-x}Al_xAs, epitaxial layers, on GaAs substrates, X-ray double-cryst. diffractometry, state of strain 9-19480
 Ga_{1-x}Al_xAs, LPE, growth mechanism and morphology on channelled substrates 9-28960

III-V semiconductors continued

- Ga_{1-x}Al_xAs LPE crystals for DH laser, LEDs, TEM obs. of Ge, Si-doped epitaxial layers 9-1556
- Ga_{1-x}Al_xAs laser, buried heterostruct., stable operation during accelerated ageing at 70°C 9-7125
- Ga_{1-x}Al_xAs laser diode end facet protection by parylene coating 9-36921
- Ga_{1-x}Al_xAs, MBE, state-of-the-art 9-24450
- Ga_{1-x}Al_xAs, STEM techniques for simultaneous electronic anal. and obs. of defects 9-14812
- Ga_{1-x}Al_xAs, solar cells appl., technology advancements 9-43776
- Ga_{1-x}Al_xAs, solid solution, synthesized by ion implantation, Raman scattering 9-42972
- n-Ga_{1-x}Al_xAs, variable gap photodetector, quantum efficiency 9-7903
- Ga_{1-x}Al_xAs-GaAs, injection lasers, defects, TEM anal. 9-23866
- Ga_{1-x}Al_xAs-GaAs channel guide laser grown by metalorganic CVD 9-10317
- Ga_{1-x}Al_xAs-GaAs heterostructure lasers grown by metalorganic CVD, prep. and props. 9-36918
- Ga_{1-x}Al_xAs-GaAs high-efficiency solar cell 9-29469
- Ga_{1-x}Al_xAs-GaAs LPE multilayer heterostructure photovolt. solar cells, fabrication and performance 9-48128
- Ga_{1-x}Al_xAs-GaAs p-n structures, variable-gap front layer, photoelec. props. 9-7884
- Ga_{1-x}Al_xAs-GaAs p-n solar cell, with thin variable gap layer, high efficiency 9-24064
- Ga_{1-x}Al_xAs-GaAs-GaAs, p-p-n junctions, variable gap solar photocell with coordinate depend. band gap gradient 9-11213
- Ga_{1-x}Al_xAs-Ge, MBE of ultra thin film superlattices on GaAs substrates, TEM study 9-37932
- Ga_{1-x}Al_xAs_{1-y}P_y layer of uniform composition grown on GaAs by LPE, temp. diff. method appl. 9-23864
- Ga_{1-x}Al_xAs_{1-y}P_y-GaAs heterojunctions, light-induced misfit dislocation motion, photoluminesc. and X-ray diff. meas. 9-11200
- Ga_{0.72}Al_{0.28}Sb avalanche photodiodes, ionization coeff. 9-17488
- Ga_{1-x}Al_xSb variable-gap p-n structures, wide-band photoelec. effect 9-42635
- Ga_{0.1}Al_{0.9}Sb, VPE, closed tube transport technique 9-28935
- GaAs (100) surface, chemisorption of O₂, electronic struct. theory, oxidation, electron spectra interpretation 9-42376
- GaAs, (100) surfaces, struct. and stoichiometry during molecular beam epitaxy, RHEED anal. 9-4921
- GaAs (100)surface, electronic struct., scattering-theory formulation 9-42607
- n-GaAs (110) surface, Cs adsorption, work function meas., adsorption site model 9-23839
- GaAs, (110) surface, trned in energy distrib. of Ga dangling orbital surface states 9-28397
- GaAs (110) surface oxidation process, XPS study 9-15585
- GaAs (110) surface states, surface relax. models, tight-binding calcs. 9-4594
- GaAs (111), MBE prep., angular resolved UPS of surface states 9-47598
- GaAs, adsorption of O₂, adsorption states and Ga depletion, UPS, AES, and thermal desorption meas. 9-46952
- GaAs, amorphous, EXAFS, evidence for inequivalent environments of Ga and As 9-15558
- GaAs, amorphous, switching obs. 9-11190
- GaAs amorphous film, composition, study by nondispersive X-ray anal. (French) 9-8457
- GaAs amorphous film, effective medium theory and freq. depend. of conductivity 9-24090
- n-GaAs, and Te doped, homogeneity, IR introspect. investig. 9-15446
- GaAs, anodic oxidation in nonaqueous electrolyte and MOS characts. 9-38183
- GaAs anodic oxide, electrical props. 9-38170
- GaAs, boat-grown, deep levels (Japanese) 9-47043
- GaAs, Brillouin scatt. from surface ripples 9-15472
- GaAs, CVD on W coated graphite, characterisation, and Schottky barrier solar cell characts. 9-28930
- GaAs, CVD using Ga-As-H-Cl system, theoretical anal. of equil. adsorption layers 9-23858
- GaAs, chemisorption and oxidation states of (110) surfaces 9-24049
- n-GaAs, compensated, LF current instabilities 9-7859
- GaAs conducting MIS structures and metal-semicond. structures, effects of ultrathin oxides 9-1626
- GaAs, crystal pulling of semi-insulating material, liquid encapsulated compounding and Czochralski growth 9-43136
- GaAs, diffusion coeff. of hot electrons 9-15156
- GaAs diode, high temp. and freq. characts., made by gas-transport method 9-19654
- GaAs diode, with Schottky barrier, photoluminesc. (Russian) 9-28410
- GaAs, dissociation of dislocations 9-46665
- n-GaAs, donor-acceptor pair recomb., isolated-pair model revisited 9-28825
- GaAs, donor-acceptor type complex, mag. field splitting of photolum. line 9-15512
- GaAs, doped, photoemission, calc. of escape probability of electrons (Russian) 9-24408
- n-GaAs, electrical instability, negative differential cond., electron heating by static and alternating elec. fields 9-11165
- GaAs, electroabsorpt. avalanche photodiode waveguide detector, freq. demultiplexing 9-17486
- GaAs electrodes in acetonitrile solns., photoelectrochem. behaviour 9-4600
- GaAs electrodes in aqueous electrolytes, localised avalanche breakdown 9-4599
- GaAs electrolyte interface, energetic barrier height hypothesis 9-19657
- GaAs, electron bombardment, absorption of energy 9-14847
- GaAs, electron scattering interaction with coupled plasmon-polar-phonon modes 9-42536
- GaAs, electron-hole liquid form., luminesc. 9-33804
- GaAs, electronic states associated with 60° dislocations, tight-binding calc. 9-15114
- GaAs, electronic struct., mol. cluster model, SCF multiple scatt. method 9-42446
- GaAs epilayer, for FET, hot carrier noise 9-24035
- GaAs epilayers and p-n junctions, anisotropic phonon generation 9-37784
- GaAs, epitaxial, polycryst., monocryst. layers and whiskers growth by CVD, SEM obs. electron diff. study (French) 9-43150
- n-GaAs, epitaxial, thermoelec. power, temp. depend. in mm wavelength range 9-23996

III-V semiconductors continued

- GaAs, epitaxial film, positron annihilation, impurity centre study 9-15554
- GaAs epitaxial layer, comparison of compensation ratios determ. by photolum. and elec. methods 9-28818
- GaAs epitaxial layer, strain induced optical waveguiding 9-27388
- GaAs epitaxial layers, growth below 700°C electrophysical props. 9-1827
- GaAs, exam. of magnetic susceptibility and absorption spectra 9-1778
- GaAs, exciton ground state and oscillatory absorption spectra in mag. fields, variational calc. 9-11071
- GaAs, exciton-polariton reflectance spectra, exciton impact ionization and illum. intensity effects 9-42943
- GaAs, excitons detect., precision method 9-19906
- GaAs FET buffers, high purity LPE growth by sliding boat method (Japanese) 9-28955
- n-GaAs, far IR propag. of surface EM waves 9-42615
- GaAs, fast neutron irradi., effect on cryst. lattice period, X-ray diff. meas. 9-37743
- GaAs film, electroreflectance effects 9-43055
- GaAs, film, selective anodisation, grain boundary edge passivation 9-11711
- n-GaAs, freq. depend. of effective temp. of hot carriers 9-11135
- GaAs, growth of noncrystalline Si₃N₄ layers by CVD for encapsulation 9-19994
- GaAs, Gunn effect, carrier generation-recomb. processes 9-38080
- GaAs, heavily doped, strongly compensated, hopping cond. 9-47180
- GaAs, heteroepitaxial layers on Si substrates by LPE 9-1832
- GaAs heterolaser, active layer, photoluminesc., temp. depend. (Russian) 9-10310
- GaAs, highly deformed samples, absence of dislocation-induced luminescence 9-4835
- n-GaAs, hot electron distrib. function with LO phonon kink, photoluminesc. 9-19925
- n-GaAs, IR transmission, cond. variations effects 9-15158
- GaAs, ideal vacancy, electronic struct., tight-binding calc. 9-4529
- GaAs, impact ionisation rates, temp. depend. 9-38077
- GaAs, impact ionisation of excitons 9-38079
- GaAs injection lasers, spectral output, influence of diffusion and spontaneous emission 9-13965
- GaAs integrated multijunction photodetector with high output voltage 9-6178
- GaAs integrated optical circuits by wet chemical etching 9-32092
- n-GaAs, interband transition times, luminesc. depolarisation obs. (Russian) 9-33831
- GaAs, ion-bombarded, energy band struct., electrorefl. obs. 9-19517
- GaAs LED, minority carrier lifetime determ. 9-42560
- GaAs LED, optimum p-n junction depth, photoluminesc. method 9-4598
- GaAs LED absorption effect on freq. characteristic 9-8189
- GaAs, LPE, deep levels rel. to growth conditions 9-28314
- GaAs, LPE, gaseous impurity source and effect on purity 9-28959
- GaAs, LPE, residual impurities and deep levels, FET fabrication 9-28964
- GaAs, LPE growth rate calc., model of LPE growth 9-19485
- GaAs LPE on polycrystalline Mo 9-43157
- GaAs large-grained solar cell film recrystallisation 9-38737
- GaAs laser, broadening mechanism, limitations to single mode power emission 9-961
- GaAs laser, photopumping of quantum well heterostruct. Al_xGa_{1-x}As-GaAs-Al_xGa_{1-x}As 9-22956
- GaAs, laser annealed, donor implanted, elec. props. 9-4556
- GaAs laser array, integrated, Si substrate package fabrication 9-18555
- GaAs laser convex micromirror mode control 9-36920
- GaAs laser diode, fabrication and characts. (Korean) 9-7144
- GaAs laser diode, SEM, electron beam induced current study, contamination effect 9-43773
- GaAs, laser-induced recrystallisation and damage of ion-implanted amorphous samples 9-47557
- GaAs, layer growth by electroepitaxy, thickness profiles 9-4486
- GaAs layers, grown by electroepitaxy and LPE, surface morphology 9-19478
- GaAs, lightly doped, p-n junctions, forward branches of current-voltage characts. 9-7890
- GaAs, lightly doped, p-n structure, parameters of nonequilibrium carriers, transient photoeffect method 9-11143
- p-GaAs, linear polarisation of hot photoluminescence 9-38661
- GaAs, liquid-phase electroepitaxial growth kinetics, Peltier effect and solute electromigration 9-42401
- n-GaAs, longitudinal magnetophonon reson. and Fourier anal. 9-4569
- GaAs, MBE, growth temp. depend. and characts. 9-28946
- GaAs, MBE, technology and epitaxial layers props. 9-33945
- GaAs, MBE layers, H₂ effect on residual impurities, photolum. obs. and elec. characts. 9-47636
- GaAs MBE physical characteristics and applications (German) 9-7618
- GaAs MIS Schottky barrier diodes, radiation effects 9-24078
- n-GaAs MIS struts., native oxide, effect on interface props. and removal by sputter etching 9-11228
- GaAs MOS and Schottky systems, electromodulated reabsorption of luminesc. 9-15524
- GaAs MOS capacitor fabrication and transient response for minority carrier lifetime meas. 9-47103
- p-GaAs MOS capacitors, and antiod, C-V characts., surface pot. 9-11227
- GaAs n⁺2n⁺ epitaxial multilayers, carrier conc. from Fourier transform anal. of magnetoresist. signal 9-38205
- GaAs, n-i-n junctions, simulation of long-term relax. of nonequilibrium conductivity 9-38156
- GaAs, negative electron affinity, optically pumped, depolarization of emitted photoelectrons 9-8223
- n-GaAs, non-Maxwellian electron distribution function, from electric field-depend. photolum. spectrum 9-11450
- GaAs, ohmic contact form. to n- and p-type samples by MBE, characts. 9-47159
- n-GaAs ohmic planar contacts formation and elec. props. on basis of Au and Au-Ge alloys 9-15223
- GaAs, optical inhomogeneity, physical basis 9-15430
- GaAs, optical meas. of semicond. temps. (French) 9-35743
- GaAs, oscillatory electron drift rel. in non-ohmic regime at low temp. 9-33291
- GaAs, oxide film influence on adsorption and electrophys. props. 9-42369
- GaAs oxide films grown by anodization in electrolytes, electron spectroscopy exam. (German) 9-15837

III-V semiconductors continued

- GaAs oxides, appl. of selective chemical reaction concept for controlling props. 9-47790
 GaAs, p- and n-type, and Zn-diffused, spreading resist. meas. 9-28343
 GaAs p⁺-n diode, radiative hot carrier recomb., photoluminesc. and electroluminesc. meas. 9-38676
 GaAs p⁺-(p_i)-n⁺ structures, S-shaped I/V characteristics based on laminated semicond. cryst. structures (*Russian*) 9-42628
 GaAs, p-i-n avalanche photodiode, temp. depend. characts. 9-35835
 GaAs p-n junction, HV, current induced by electron probe in space charge region 9-24065
 GaAs photocathode with Cs-O adlayer, negative electron affinity, core-level photoemission of adlayer 9-19965
 GaAs, photoconductivity and photomagnetic effect spectra 9-11178
 GaAs photoemission characteristics, parameters of emitters with negative electron affinity 9-4898
 GaAs, photoexcited, band edge absorpt. dynamics 9-19879
 p-GaAs photon drag optical rectification detectors, performance in 2 to 33 μ m range 9-35834
 GaAs, picosecond absorption spectroscopy 9-47482
 n-GaAs, piezoelec. semicond., nonlinear interaction of acoustic waves with microwave elec. fields 9-42593
 GaAs, piezoelectric constant due to bond bending, electron redistribution effect 9-38457
 p-GaAs, piezoresistance, relax. time for heavy and light holes determ. 9-19599
 GaAs, point defect generation by electron-hole recombination at dislocations 9-37699
 GaAs, polariton fluoresc., spatial and spectral features 9-33760
 GaAs, polycryst. for terrestrial photovoltaic energy conversion 9-15242
 GaAs polycrystalline film growth for solar cells 9-33941
 GaAs powder, RF field depend. of memory echoes 9-8095
 GaAs, produced by pyrolytic synthesis, photoemission 9-43100
 GaAs, psec time resolved spectroscopy, electron-hole plasma 9-47500
 GaAs, qualitative anal. of oxygen in thin epitaxial layers by SIMS 9-5233
 GaAs, reflection spectra, optical const. (*Russian*) 9-38571
 GaAs, reson. Brillouin scatt., book contrib. 9-42983
 GaAs, SIMS, energy distrib. of sputtered ions 9-38706
 GaAs Schottky barrier diodes, strain sensitivity mechanism 9-38165
 GaAs, self-consistent localised electronic struct. 9-42445
 GaAs, shallow donors, screening, energy spectrum of electrons and cond. mech. 9-7831
 GaAs shallow junction solar cells damaged by electron irradi., recovery of short cct. current 9-29471
 GaAs single-channel injection laser, radiative characts., single longit. mode 9-10309
 GaAs single-frequency injection laser, coherence of emitted radiation 9-31904
 GaAs, solar cell, thin film, prep. by Peeled Film Technology 9-29472
 GaAs, surface polaron in mag. field 9-23912
 n-GaAs, surface recomb. vel. meas., diff. from transient optical grating 9-1604
 GaAs, surface recombination velocity, diff. from picosecond transient free carrier gratings 9-47109
 GaAs, technique for doubling electron speed 9-38076
 GaAs technology, ion implantation 1978 state of art review 9-42089
 n-GaAs tunable far IR Landau emission with subnanosecond rise time 9-32015
 GaAs, two-photon electroabsorption by excitons 9-42944
 GaAs, two-photon interband transitions, carrier drag 9-7858
 n-GaAs, undoped, proton radiation defect detect. by transient capacitance spectroscopy 9-11089
 GaAs, use of ion induced X-rays for lattice location of S and Mn implanted in single crystals 9-4332
 GaAs, VPE, growth method at low H₂ press. 9-28936
 GaAs, VPE, multi-wafer growth technique using AsCl₃-Ga-N₂ system with horizontal reactor 9-28934
 GaAs, VPE, partial press. diagrams use for thermodynamic represent. 9-33201
 GaAs, VPE, review of growth techniques (*French*) 9-33935
 GaAs, VPE, thermodynamic factor influencing growth rate and layer purity in Ga-AsCl₃-H₂ system 9-28933
 GaAs, VPE, thermodynamic analysis of Si contamination 9-28932
 GaAs, VPE by CVD, vapour-solid interface, expt. anal. (*French*) 9-33940
 GaAs, VPE in Ga-AsCl₃-H₂ system at reduced temp. 9-11519
 GaAs, vapour phase epitaxy using computer control 9-38744
 GaAs wafer, defect studies by ASLEEP, SEM and scanning AES 9-19256
 GaAs wafer, H₃PO₄-H₂O₂-H₂O etching solution system and its kinetics 9-20229
 GaAs wafer diagnostics, using computer automated scanning low-energy electron probe 9-4214
 GaAs, wide-gap semicond., HV diodes, current-voltage characts. 9-24068
 GaAs, with anodic oxides, leakage currents 9-38169
 GaAs, X-ray and Rutherford backscatt. yields from channelled ⁴He⁺ ions 9-46730
 GaAs, Zeeman split acceptor levels, calc. method 9-28322
 GaAs:Be, implanted, determ. of Be concentration profiles by ⁹Be(p, α) reactions and SIMS anal. 9-4335
 p-GaAs:Be, ion implanted, annealing characts., defect cond. profiling, electron diff. obs. 9-4318
 GaAs:Cr, Zeeman effect of effective mass acceptor, polarised luminesc. 9-4541
 GaAs:Cd, time depend. of Cd diffusion from gaseous phase 9-46844
 GaAs:Co²⁺, piezoabsorption meas. tunnel splitting and Jahn Teller effect in ⁴T₁(P) state 9-15494
 GaAs:Cr, current voltage characterisation, deep levels and Fermi level determ. 9-7823
 GaAs:Cr, hot electron relax. process and ionization of traps (*Russian*) 9-28354
 GaAs:Cr²⁺, US attenuation meas. of Jahn-Teller distorted Cr²⁺ centres 9-28048
 GaAs:Cr(O), photocapacitance of deep levels obs. 9-38021
 n-GaAs:Cu, electron-phonon interaction in optical transitions between deep impurity level and allowed bands 9-42591
 GaAs:Cu, sensitivity of impurity photocond., ordered surface irregularities 9-24018
 p-GaAs:Cu(Zn), carrier drag by photons, carrier scatt. mechanisms 9-11185

III-V semiconductors continued

- GaAs:Fe, exchange-coupled pairs, ESR 9-11343
 GaAs:Fe, impurity atom charge exchange, Mossbauer spectroscopy 9-47050
 GaAs:Ge, stress depend. of donor-acceptor recomb. energy 9-15113
 GaAs:O, deep traps, photocapacitance meas., complementary transition energy threshold determ. 9-19550
 GaAs:O, oxygen-compensated single GaAs cryst., photoelec. memory 9-11184
 n-GaAs:O film, influence of O on elec. props. 9-11252
 GaAs:O(Cr), relax. semicond., Dember effects meas. 9-28372
 GaAs:p⁺(N⁺), struct. characts. of radiation damage produced by high energy ion implantation 9-4340
 GaAs:S(Se), ion-implanted, evaluation by contactless mobility meas. 9-1448
 GaAs:S(Se), MBE grown, surface exchange doping using SiO₂(Se) captive sources 9-10864
 GaAs:Se, implanted, multilayered encapsulation using SiO₂:As and Si₃N₄ 9-11715
 GaAs:Se, LPE growth, Ga-As-Se phase diagram 9-1849
 GaAs:Se depth profiles, Cs⁺ SIMS anal. appl. 9-39265
 GaAs:Se⁺, Cs⁺-SIMS and negative ion spectrometry 9-12882
 GaAs:Si, electrical activity of Si 9-15145
 GaAs:Si, encapsulated by SiO₂ and Si₃N₄, ion-implanted As profiles 9-4319
 GaAs:Si, ion-implanted, elec. props. 9-46686
 GaAs:Si, LED, effect of struct. defects on quantum efficiency 9-11211
 GaAs:Si, single crystals, asymmetric deform. 9-23616
 n-GaAs:Si, thermally treated, photolum., acceptor levels obs. 9-38587
 GaAs:Si,Cr, under layer of SiO₂, effect of annealing, on electron concentration and mobility, and impurity distrib. 9-4323
 GaAs:Si LED, with anti-Stokes phosphor 9-11204
 GaAs:Si LED p-n structures, speed (*Russian*) 9-43044
 GaAs:Si LEDs grown from restricted soln.-alloy bulk, props. (*Russian*) 9-43043
 GaAs:Sn, doping characts. during LPE 9-10866
 n-GaAs:Sn, heavily doped, nonalloyed ohmic contact form. by MBE and metallisation 9-7895
 GaAs:Sn, nature and conc. of point defects over conc. range 10¹⁷ to 6.10¹⁸ cm⁻³ 9-14802
 n-GaAs:Sn, photoluminesc. spectra 9-43031
 GaAs:Sn films, MBE grown, doping profiles, carrier mobilities, RHEED and AES obs. 9-1447
 n-GaAs:Sn(Te), pure and doped, diffusion of Sn, radiotracer profiles 9-23782
 GaAs:Te, amorphous, ion implanted layers, optical refl., 1.5-7.0 eV 9-8152
 n-GaAs:Te, elec. cond. and Hall coeff. temp. depend. meas., three band model 9-33287
 GaAs:Te, microcathodoluminesc. of effect of struct. defects on radiative recomb. 9-11475
 GaAs:Te, preferential precipitation on dislocation loops 9-7612
 GaAs:Te-implanted by laser-annealing, ohmic contacts 9-19658
 GaAs:Zn, Se, double doping during LPE, exam. of elec. cond. and Hall effect 9-4923
 GaAs:Zn films, VPE growth and photoluminesc. props. 9-38642
 GaAs:Zn MBE layers, ionized beam doping, elec. and optical characts. 9-37721
 n-GaAs:Zn substrate, ion implantation as predeposition process 9-19268
 GaAs:Zn(S), LPE, and doping characts. 9-33948
 GaAs/Au-Ge/Au structure, ohmic contact behaviour, alloying time effect 9-19659
 GaAs/HBr system, heterogeneous reactions, modified entrainment method appls. 9-23551
 n-GaAs/Pt/Cr Schottky contact, barrier height change due to heat treatment 9-47165
 GaAs-(SN)_x semiconductor-polymer solar cell 9-15219
 p-GaAs-Al interface, produced by diffusion method using heavily doped GaAs, rectifying props. 9-28409
 GaAs-Al interfaces, chemically induced charge redistrib. 9-33342
 GaAs-Al,Ga_{1-x}As, film waveguide, heterojunction lasers with Bragg mirrors, threshold characts. 9-23095
 GaAs-Al,Ga_{1-x}As, carrier transport across heterojunction interfaces 9-47158
 GaAs-Al,Ga_{1-x}As double heterojunctions, dark-line defects and recomb. centres, scanning photocurrent microscopy 9-35822
 GaAs-Al,Ga_{1-x}As heterojunctions, MBE grown, photocollection efficiency and interface charges 9-11199
 GaAs-Al,Ga_{1-x}As heterostruct., photon recycling, diffusion length and lifetime determ. 9-47499
 GaAs-Al,Ga_{1-x}As modulation-doped heterojunction superlattices, electron mobilities 9-7877
 GaAs-Al,Ga_{1-x}As structures for DH lasers, LPE (*Polish*) 9-4922
 GaAs-AlGaAs heterostructure thyristors, operation and elec. characts. 9-7891
 GaAs-anodic oxide interfaces, struct. and chem. props., Raman scatt. obs. 9-47168
 GaAs-Au Schottky barriers, PES and depth profiling obs. 9-42641
 GaAs-Au Schottky diode, electroless plating of Au, fast characterisation of epitaxial layers 9-33347
 GaAs-Cr Schottky diode, I-V characts., inverse branch, effect of dislocation defects (*Russian*) 9-15217
 GaAs-Ga_{1-x}Al_x-Ga_{1-x}Al_xAs n⁺-i-n heterostructure, electroluminesc. characts., 80 to 330K (*Russian*) 9-28404
 GaAs-Ga_{1-x}Al_xAs double heterojunction laser structures, LPE growth with double source method 9-28962
 GaAs-Ga_{1-x}Al_xAs superlattice, photoconductor with high sensitivity and reduced dark current appl. 9-7881
 GaAs-GaIn_{1-x}P multilayer epitaxial films MBE technology and epitaxial layers props. 9-33945
 GaAs-GaAlAs DH laser, beam scanning with twin-stripe injection lasers 9-10334
 GaAs-GaAlAs double heterostructures for CW injection lasers, LPE growth 9-31931
 GaAs-GaAlAs heterostructure, GaAs preferential etching, using O₂ and CCl₂F₂ mixture 9-8373
 GaAs-GaAlAs heterostructure lasers on semi-insulating substrates 9-13977
 GaAs-GaAlAs injection laser sources for fibre optic communications, design 9-31923

III-V semiconductors continued

- GaAs-GaAlAs laser, high-spectral radiance source using integrated optics 9-36931
- GaAs-GaAlAs multiple-stripe phase-locked laser array, behaviour 9-45955
- GaAs-GaAlAs stripe injection laser, CW double heterostruct., technology 9-31933
- GaAs-GaAlAs stripe injection laser, high performance, design and characts. 9-31932
- GaAs-GaAlAs superluminescent diodes for optical fibre links, modulation bandwidth 9-36993
- GaAs-Ga₂Sb_{1-x} heteroepitaxial structs., mismatch dislocation nets 9-10855
- GaAs-Ge heterojunction, band discontinuities, angle-resolved UPS obs. 9-7878
- GaAs-Ge heterojunctions, electronic struct., tight-binding and pseudopot. models 9-42633
- GaAs-Ge interface, surface and interface states of (111) surfaces 9-15206
- GaAs-Ge interfaces, heteroepitaxial, misfit dislocations, TEM obs. 9-23610
- GaAs-Ge n⁺n-p junction, I-V characts., inverse branch, effect of dislocation defects (*Russian*) 9-15217
- GaAs-metal junction stabilisation by transition metal diffusion barrier 9-38161
- GaAs-metal junction stabilisation by intermetallic diffusion barrier 9-38160
- GaAs-metal junctions, thermal stability improvement, with and without near noble metals 9-7143
- GaAs-metal struct., photoresponse spectra, electron thermalisation (*Russian*) 9-15221
- GaAs-plasma grown oxide interface, new resonant ellipsometric technique for characterisation 9-40606
- GaAs-Pt interface states, energy distrib. and relaxation time 9-33345
- GaAs-Pt-air system, far IR propag. distances of surface EM waves 9-42616
- GaAs-Si_{1-x}Ge_x n⁺n-p junction, I-V characts., inverse branch, effect of dislocation defects (*Russian*) 9-15217
- GaAs-SiO₂ MIS structures, fabrication and elec. props. 9-47166
- GaAs-ZnS p-n heterojunction, struct., multibeam electron microscopy obs. 9-11031
- Ga_{1-x}As_x(AlIn)_x heterojunction solar cells, optimum bandgap, computer anal. 9-43767
- GaAsP epitaxial films, planar waveguides for integrated optics appls. 9-10416
- GaAsP epitaxial waveguide, electro-optic phase modulation of laser radiation 9-10417
- GaAs_{0.6}P_{0.4} CVD growth for LEDs 9-19998
- GaAs_{1-x}P_x electrodes, interface capacitance meas., flatband pot., conduction and valence band boundaries (*French*) 9-33339
- GaAs_{1-x}P_x SIMS, energy distrib. of sputtered ions 9-38706
- GaAs_{1-x}P_x solid solution, synthesized by ion implantation, Raman scattering 9-42972
- GaAs_{1-x}P_xN, photoluminesc. and optical absorpt. spectra of N impurity bound-excitons 9-47496
- GaAs_{1-x}P_xSiO₂N₂Zn ion-implanted multiple layers, ion range distrib., secondary ion microprobe meas. 9-42129
- GaAs_{1-x}P_{1-x} surface phonon polaritons, total internal refl. (*Russian*) 9-38688
- GaAs_{1-x}P_{1-x} liquid phase epitaxial growth on GaP, growth and properties 9-47641
- GaAs_{1-x}P_x heteroepitaxial solid soln., defects of struct 9-28223
- GaAs_{1-x}Sb_x epitaxial n-n heterostructures, gap energies and interface pots., modulation electroabsorpt. meas. 9-11201
- GaAs_{1-x}Sb_{1-x} lattice-matched LPE growth in InP substrates 9-42402
- GaAs_{1-x}Sb_{1-x}GaAs epitaxial films and multilayer heterostruct., SEM obs. under cathodolum. conditions 9-11023
- GaAs_{1-x}Sb_{1-x} miscibility gap, rel. to LPE 9-33090
- GaInAs photocathode with negative electron affinity, photoemission, influence of strong elec. field 9-8227
- Ga_{0.47}In_{0.53}As homojunction photodiode, avalanche photodetector for 1.0-1.6 μ m region 9-6179
- Ga_{0.7}In_{0.3}As photodiodes, fibre optic appls. 9-40613
- Ga_{1-x}In_xAs photocathode, negative electron affinity, photoelectron scatt. in Cs-O film 9-28899
- Ga_{1-x}In_xAs solid solns., electron scatt. by isoelectronic impurities in covalent crysts. 9-11129
- Ga_{1-x}In_xAs VPE grown, refractive index, reflectance meas. 9-4780
- Ga_{1-x}In_{1-x}As-InP heterostructure, growth by MBE 9-8251
- GaInAsP DH laser diode CW modelocking 9-7126
- GaInAsP/InP DH lasers, with (100) substrate, 1.2-1.5 μ m, LPE growth conditions 9-15617
- GaInAsP-InP buried stripe DH laser, fabrication using meltback method and CW operation 9-3708
- GaInAsP-InP buried heterostructure laser with mesa substrate, linear light/current characts. 9-36894
- GaInAsP-InP DH layers, lattice deform. and misfit dislocations 9-19473
- GaInAsP-InP DH lasers with low threshold, narrow-beam divergence 9-36892
- GaInAsP-InP DH lasers, for fibre optic communications 9-31924
- GaInAsP-InP lasers and detectors, for fibre optic communications at 1.0-1.6 μ m 9-3803
- Ga_{0.08}In_{0.92}As_{0.18}P_{0.82} band struct., optical studies 9-47013
- Ga_{1-x}In_{1-x}As_{1-x}P_x film, energy band struct., photolum. meas. 9-7784
- Ga_{1-x}In_{1-x}As_{1-x}P_{1-x}Ge(Sn)(Te), epitaxial film, elec. and optical props. 9-11251
- Ga_{1-x}In_{1-x}As_{1-x}P_{1-x} thermal expansion coefficients, 25-400°C 9-46817
- Ga_{1-x}In_{1-x}As_{1-x}Sb_{1-x} laser, efficient room temp. stimulated emission, 1.8 to 2.4 μ m spectral range 9-10307
- Ga_{1-x}In_{1-x}P:Mn, ESR of Mn 9-11341
- Ga_{1-x}In_{1-x}Sb, epitaxial, vapour-phase growth using open-tube flow system 9-33943
- Ga_{1-x}In_{1-x}Sb-GaSb, lattice parameter meas. in epitaxial layers 9-11040
- GaIn, epitaxial growth on sapphire substrates, elec. props., X-ray diffr. anal., photoluminescence spectra 9-4919
- GaIn film, heteroepitaxial deposition, growth kinetics and catalytic effects 9-4487
- GaN single crystals, growth and morphology (*Japanese*) 9-43112
- GaN VPE for blue LEDs (*French*) 9-28928
- GaN:Zn, cathodolum. obs., recomb. model 9-11474
- GaN:Zn, cathodoluminesc., photocapacitance 9-38679

III-V semiconductors continued

- GaN:Zn, violet bipolar LED 9-38190
- GaP, (110) surface, trined in energy distrib. of Ga dangling orbital surface states 9-28397
- GaP (110) surface oxidation process, XPS study 9-15585
- n-GaP, CO₂ laser induced photon drag effect 9-42589
- GaP, camel's back induced stabilisation of electron-hole liquids 9-19524
- GaP, containing matrix metal inclusions, internal friction study 9-42145
- GaP, deep level profiles at substrate-epitaxial interfaces, photoionisation meas. 9-38025
- GaP, donor-acceptor pair spectra, electron-phonon interactions 9-38631
- GaP, electron-hole drop, luminesc. 9-33812
- GaP, electron-hole plasma luminesc. 9-38651
- GaP, epitaxial layers, dislocation recomb., SEM cathodoluminescence studies 9-42558
- GaP epitaxial layers, stable growth conditions, by molten salt electrodeposition on Si and GaP substrates 9-20000
- GaP, exam. of magnetic susceptibility and absorption spectra 9-1778
- n-GaP films, reduced work function, energy spectra of secondary electron emission 9-28867
- GaP, heteroepitaxial deposition on GaAs, Sn solvent inclusion, surface morphology (*German*) 9-28968
- GaP, hyperbolic singularity of dispersion law of excitons 9-42466
- GaP, impurity interaction on excited acceptor states, luminesc. excitation spectra 9-15517
- GaP, indirect exciton fine struct. in absorpt. spectrum, stress effects 9-42986
- GaP, ion-bombarded, energy band struct., electrorefl. obs. 9-19517
- GaP, ionised-cluster beam epitaxial growth on GaP and Si, characts. for LED 9-28951
- GaP, LED, efficiency depend. on O₂ conc. 9-19613
- GaP, LPE growth rate calc., model of LPE growth 9-19485
- GaP layers, LPE growth, elec. props., residual impurities 9-38202
- GaP, light emitting diode structure, effect of neutron irradiation on cathodoluminesc. 9-28843
- GaP, light scatt. spectra of guided wave polaritons 9-15101
- n-GaP low absorption monitors for HF laser 9-31964
- GaP, luminesc. from electron-hole drops, 2 to 77K 9-11454
- n-GaP, many-valley semiconductor, relative displacement of D₁ and D₂, bands under shear deform. influence 9-15080
- GaP, Mott transition of exciton gas, cathodoluminesc. 9-33845
- GaP, n-, p-type, electrode, impedance in alkaline medium (*French*) 9-43586
- GaP, optical inhomogeneity, physical basis 9-15430
- GaP oxide films grown by anodization in electrolytes, electron spectroscopy exam. (*German*) 9-15837
- GaP, photoelectron spectra at Schottky barrier (*Korean*) 9-11220
- GaP, photoexcited, Raman scatt. from plasmons 9-38541
- GaP polycrystals, subgrain boundaries, cathodolum. in SEM 9-1440
- GaP, positron annihilation, deep acceptor level props. 9-11485
- GaP, semicond., ³¹P nuclear mag. shielding 9-33549
- GaP single crystal, direct obs. of dislocations by birefringence 9-14810
- GaP, spectral depend. of O photoneutralisation cross-section near threshold, and band gap 9-1788
- GaP, stress-induced X_{1c}-X_{3c} conduction band mixing 9-19515
- GaP surface, Ar⁺ and e⁻ excited Ar Auger electron emission 9-47560
- GaP surface barrier structure, breakdown voltage exam., effect of proton irradiation 9-11225
- GaP, thermoelectric performance of Si-Ge alloy improvement 9-47115
- GaP:Bi(N), luminesc. decay kinetics 9-38646
- GaP:Cr, local level near valence band, photocapacitance 9-11080
- GaP:Cu, deep levels, photoluminesc. and optical cross sections 9-38653
- GaP:Fe, impurity atom charge exchange, Mossbauer spectroscopy 9-47050
- GaP:N, electronic energy levels calc., optimisation 9-28315
- GaP:N, luminesc. from electron-hole drop 9-33813
- GaP:N, N doping profiles in GaP grown by LPE, cathodoluminesc. data 9-23631
- GaP:N, photoluminescence, temp. modulated 9-38623
- GaP:N VPE LED, deep level centres, DLTS studies 9-42493
- GaP:N VPE layers, thermal emission energies, trapping, and carrier lifetimes, deep level capacitance spectroscopy 9-42487
- GaP:Ni, absorpt. and luminesc. spectra 9-42996
- GaP:Ni, whisker growth on surface 9-33212
- GaP:O, multicharged state of O, TSC and photoinduced currents 9-7808
- n-GaP(Si), IR absorpt. cross-section 9-38582
- GaP:Si (p-n struct., on n-Ga_{1-x}Al_xP and n-GaP substrates, electrolum. spectra 9-24368
- GaP:Te, ENDOR meas., hyperfine interactions and elec. field gradient 9-42869
- GaP:Te on GaAs, LPE growth from Sn, exam. of impurity band conduction effects 9-11249
- GaP:V, ESR exam. 9-11344
- GaP:Zn, light attenuation by impurity precipitates 9-11441
- GaP:Te(S), IR lattice band profile, electron spin reversion in mag. field, N₁F-r curve 9-28771
- GaP-Au Schottky diode, elec. props. under stress 9-15222
- GaP:As_{1-x}N_x exam. of magnetic susceptibility and absorption spectra 9-1778
- GaP:As_{1-x}N_x impurity electron states, binding energies and wavefunctions 9-42488
- GaP(As)(Sb), refractive index dispersion 9-24280
- (GaP)(ZnSb)_{1-x} solid solution, reaction of Zn with Se during Czochralski growth and LPE 9-8238
- GaSe, amorphous, two-circle SSD diffractometer appl. in angle dispersive mode 9-14641
- GaSe, Au overlayer adatom interactions, photoemission obs. 9-33898
- GaSb, Auger coeffs. calc. 9-15160
- GaSb, bound excitons at doubly ionisable acceptors 9-42459
- p-GaSb, CESR, optically detected, giant Overhauser shift 9-4722
- GaSb, chemisorption and oxidation states of (110) surfaces 9-24049
- p-GaSb, elec. cond., Hall effect, mobility and carrier concentration (*Russian*) 9-19603
- GaSb film, gamma-irradiated, struct., TEM and SEM obs. 9-15033
- GaSb films, MBE growth and elec. props. 9-23863
- n-GaSb, heavily doped, spontaneous radiative recomb., complete vel. and radiative capacity 9-11458
- GaSb, interaction of exciton recombination with LO phonons 9-38647
- GaSb, inversion of Γ and L conduction bands under uniaxial stress, photoluminescence meas. 9-33229

III-V semiconductors continued

- GaSb oxide films grown by anodization in electrolytes, electron spectroscopy exam. (*German*) 9-15837
- GaSb, photolum. spectra under hydrostatic press. 9-19930
- GaSb, single crystal, stress-induced phase change 9-23720
- GaSb, single crystals, grown by vertical and horizontal travelling heater method, growth parameters and cryst. quality 9-24421
- GaSb:Fe, shallow acceptor level, electrical meas. 9-11087
- n-GaSb:Te, Hall coeff., carrier conc. and mobility, elec. cond., 290 to 550K (*Russian*) 9-19604
- GaSb-Au Schottky barriers, PES and depth profiling obs. 9-42641
- GaSb_{1-x}As_x disorder-enhanced Auger recomb. 9-43014
- GaSb_{1-x}As_x alloy surface states obs., using electron energy loss spectra 9-15202
- GaSb_{1-x}As_x films, MBE growth and elec. props. 9-23863
- Gap-Ge, compensated, photosensitivity 9-19624
- Ge-GaAs p-n heterojunction, current fluctuations 9-11209
- Ge-GaAs p-n junction, microparameters determ. 9-11216
- In-Ga-As system, heterophase equilibrium, phase diagram calc. 9-43212
- In-P system, liquid-vapour equil., VP functional depend., 1023 to 1123K 9-42228
- p-InAs, characts. of Pb supercond. contact 9-38254
- InAs epitaxial layers, on GaAs substrate, electron diff. and SEM exam., electronic props. 9-1552
- InAs, exam. of decomposition of donors 9-1605
- InAs, heavily doped, Burstein-Moss effect and near-band-edge luminesc. 9-47525
- InAs heteroepitaxial layers, VPE grown, effect of AsCl₃ mole fraction on elec. props. 9-11255
- InAs IR filter properties, operational characts. of antireflection coatings 9-14107
- InAs, lattice dynamics 9-14895
- n-InAs, negative photocond. and photomemory due to pot. barrier on surface 9-19620
- n-InAs phonon propagation, heat pulse obs. 9-46852
- InAs, photoluminescence exam. 9-28809
- InAs, possibility of local epitaxy in depressions on unmasked substrates 9-42415
- InAs, single crystal, stress-induced phase change 9-23720
- InAs, thin film prep. and elec. props. 9-1633
- n-InAs, transport props., influence of higher energy bands, calcs. 9-19598
- InAs:Cr, high-resist., energy positions of deep levels, elec. and optical props. 9-7807
- InAs-Al_{0.5}Ga_{0.5}Sb heterojunctions, elec. and photoelec. props. 9-11206
- InAs-GaSb superlattice energy struct. and semiconductor-semimetal transition 9-23893
- InAs_{1-x}Sb_x disorder-enhanced Auger recomb. 9-43014
- InAs_{1-x}Sb_x epitaxial film, carrier recomb., elec. and optical props. 9-15164
- InGaAs-GaSbAs periodic structures, with controlled emission 9-7880
- InGaAs-In_{1-x}Ga_xAs_{1-y}P_y DH laser, LPE fabrication, electroluminesc., lasing characts. 9-3709
- In_{1-x}Ga_xAs alloy surface states obs., using electron energy loss spectra 9-15202
- In_{1-x}Ga_xAs, LPE growth on InP substrate, quasi grown layers, photoluminescence meas. 9-23862
- In_{1-x}Ga_xAs, LPE on InP substrate, comp. latching phenomenon and lattice mismatching effects 9-28961
- In_{1-x}Ga_xAs-GaSb_{1-y}As_y superlattice, with nonlinear energy-wave and energy-momentum relationships 9-7871
- In_{1-x}Ga_xAs-GaSb_{1-y}As_y heterostructure devices 9-42624
- InGaAsP IR heterojunction photodiode detector 9-21813
- InGaAsP, LPE growth on InP, influence of lattice mismatch on surface morphology 9-1553
- InGaAsP quaternary alloy IR heterojunction detectors, props. 9-2823
- InGaAsP, with and without InP cladding layers, low photolum. regions 9-33754
- InGaAsP:Be ion-implanted avalanche photodiode, struct. and characts. 9-17487
- InGaAsP:Sn(Te)(Zn), LPE growth, influence of growth-solution dopants on distrib. coeffs. 9-47640
- InGaAsP-InP DH laser, threshold depend. on active layer thickness 9-7127
- InGaAsP-InP photodiodes, microplasma-limited avalanche multiplication at 1 to 1.3 μ m 9-26128
- In_{0.79}Ga_{0.21}As_{0.54}P_{0.46}, LPE layer, electroluminesc. meas. 9-24290
- In_{1-x}Ga_xAs_{1-y}P_y layers on InP substrate, LPE growth, quaternary phase diagram, and band gaps 9-42403
- In_{1-x}Ga_xAs_{1-y}P_y, p-n junction diodes, fabrication by Be ion implantation 9-47156
- In_{1-x}Ga_xAs_{1-y}P_{1-y}, DH laser material, spatially resolved photolum. characterisation and optically induced degradation 9-47486
- In_{1-x}Ga_xAs_{1-y}P_{1-y} lattice matched to InP, band gap vs. comp., and Vegard's law demonstration 9-7782
- In_{1-x}Ga_xAs_{1-y}P_{1-y}:Be, ion implantation, hole conc. and mobility, junction depth 9-46685
- In_{1-x}Ga_xAs_{1-y}P_{1-y}InP photodetectors, high-efficiency with selective wavelength response, 0.9-1.7 μ m 9-21810
- In_{0.9}Ga_{0.1}As_{0.9}P_{0.1} layers on InP, LPE and opt. props. characteris. 9-28849
- InGaAsSb based injection heterolaser, 1.9 μ m stimulated emission 9-18420
- InGaP-GaAs junction, effect of elastic strain on energy band gap and lattice parameters 9-24057
- In_{1-x}Ga_xP, LPE, conditions, reacts. in In-Ga-P system 9-11525
- In_{1-x}Ga_xP, non-isodisplacement of P atoms in long-wavelength optical phonons 9-47444
- In_{1-x}Ga_xP, quantitative characterisation of chemical disorder from wavelength-modulated no-phonon absorpt. 9-15482
- n-In_{1-x}Ga_xP solid solns., electron scatt. mechanisms (*Russian*) 9-4568
- In₂Ga_{1-x}P, TEM foil preparation, using polishing set 'Elypovist' (*German*) 9-9264
- In_{1-x}Ga_xP_{1-2x}As_{2x} solid solution, radiative transitions 9-11476
- In_{1-x}Ga_xP_{1-2x}As_{2x}, stimulated yellow-green emission under electron excitation, 80K 9-33846
- In_{1-x}Ga_xP_{1-2x}As_{2x}, visible spectrum laser diode, continuous operation, 6280 Å, 77K 9-960
- In_{0.58}Ga_{0.42}Sb, interband magneto-optical transitions, arbitrary field orientation 9-42948

III-V semiconductors continued

- In_{1-x}Ga_xSb alloy system, interband magneto-optical study using Schottky barrier 9-8124
- In_{0.9}Ga_{0.1}Sb, molecular beam epitaxy 9-47638
- InN, epitaxial layer prep. and X-ray analysis 9-38747
- InP (100) surfaces, chem. treatment effects on comp. and nature 9-47794
- InP, anal. of anodically oxidised (111) layers by MeV ⁴He⁺ channelling effect meas. and AES 9-4492
- InP, chemisorption and oxidation states of (110) surfaces 9-24049
- n-InP, compensated impurity conduction and negative magnetoresist. 9-28360
- InP, deep-level traps and cond.-band struct. 9-19542
- InP electrodeposition, solvent systems, low melting point comps. in alkali metal metaphosphate/flouride systems 9-28079
- InP electrodes in acetonitrile solns., photoelectrochem. behaviour 9-4600
- InP, exciton localisation at impurity pairs 9-37999
- InP, excitons bound to neutral donors in VPE layers, luminesc. and absorpt. obs. 9-42460
- InP, excitons detect., precision method 9-19906
- InP, far IR LPE photodetector performance 9-30546
- InP film, liquid-phase epitaxial growth on (100) and {111} substrates (*Slovak*) 9-15037
- n-InP film, polycryst., deposited on Mo sheets, elec. props. obs., w.r.t. varying deposition conditions 9-4608
- p-InP film growth, by close space vapour transport 9-28944
- InP, growth and props. 9-1822
- InP, homoepitaxial film by MO-CVD process, for heterojunc. solar cell fabrication 9-8250
- n-InP, hopping cond., nonohmic nature 9-23976
- InP, LPE growth on GaAs, etching and electron probe anal. 9-11526
- InP, large size single crystals, synthesis, solute diffusion technique 9-33917
- InP, lattice dynamics 9-14895
- InP, liquid encapsulated Czochralski cryst. growth, X-ray study 9-47619
- InP, n- and p-type, surface recomb. vel. meas., diff. from transient optical grating 9-1604
- InP ohmic contacts 9-28406
- InP, ohmic contacts by thin film epitaxy, Gunn oscill. appl. 9-38159
- InP p-n junction diodes, fabrication by Be ion implantation 9-47156
- InP, semicond., ³¹P nuclear mag. shielding 9-33549
- InP substrates, control of thermal degradation in LPE growth with PH₂ partial pressure 9-33949
- InP, surface recombination velocity, diff. from picosecond transient free carrier gratings 9-47109
- InP, synthesis solute diffusion grown, elec. props., photoluminesc., etch pit profiles 9-4914
- InP, vapour phase epitaxial growth in presence of O₂, elec. props. 9-46971
- InP wafer, defect studies by ASLEEP, SEM and scanning AES 9-19256
- InP wafer diagnostics, using computer automated scanning low-energy electron probe 9-4214
- InP:Be, ion implantation, hole conc. and mobility, junction depth 9-46685
- InP:Bi, isoelectronic impurity states, emission and absorpt. obs. 9-42491
- p-InP:Cd(Zn), single cryst. growth by temp. gradient method 9-28907
- InP:Si(Mg), ion implantation and PH₂ ambient annealing under VPE conditions 9-42085
- InP:Sn, LPE growth from Sn soln., elec. props., 80 to 300K 9-11250
- n-InP/Au-Zn Schottky barrier diodes, fabrication and elec. props. 9-33348
- InP-Au contacts, conditions of fabrication that control interfacial microstruct. 9-42643
- InP-Au Schottky barriers, PES and depth profiling obs. 9-42641
- InP-Au Schottky contacts, interfacial oxide layers used to increase effective barrier height 9-7896
- InP-Ga_{1-x}In_xAs_{1-y}P_y systems, for optical devices in 1 to 1.6 μ m region, LPE growth (*Japanese*) 9-28956
- InP-In_{1-x}Ga_xAs_{1-y}P_y, DH lasers, dielectric-constant step 9-18418
- InP-In_{1-x}Ga_xP_{1-2x}As_{2x} quantum-well LPE heterostructure lasers, band filling and gain 9-22955
- InP-metal contacts, metal beam epitaxy, struct. and elec. props. of films on ion bombarded InP 9-28922
- n-InP-metal surface barrier struct., props. 9-11223
- InP(As)(Sb), refractive index dispersion 9-24280
- InS, Raman scatt. spectra and interpacket interaction 9-8146
- InSb, 1/f noise, Hooge's parameter 9-24040
- InSb (110) surface oxidation process, XPS study 9-15585
- InSb, absorpt. processes near bandgap, laser-induced hot electron and photocond. meas. 9-42584
- n-InSb, absorption of millimetre radiation in mag. field 9-11083
- n-InSb, acoustoelectronic interaction, effect of alternating electric field 9-11188
- n-InSb, acoustohelicon waves, parametric excitation 9-38135
- InSb amorphous film, effective medium theory and freq. depend. of conductivity 9-24090
- InSb, asymmetrical behaviour of 60° dislocation glide 9-7611
- n-InSb, conduction-band struct. from reflectivity meas. when subject to mechanical strain 9-42450
- n-InSb, damped surface magnetoplasmons, theory 9-7873
- n-InSb, dispersion curves for surface polaritons 9-19646
- InSb, donor spectrum, effect of strong mag. field 9-7806
- n-InSb, electron mobility at 77K in avalanche regime 9-33295
- n-InSb, electron recombination between Landau-levels 9-38096
- InSb film, gamma-irradiated, struct., TEM and SEM obs. 9-15033
- InSb film, light scatt. from surface polaritons 9-8202
- InSb films, transverse 1/f noise and S/N ratio of related Hall elements 9-42597
- n-InSb, forward biased Schottky barriers on low doped surfaces, current transport 9-24074
- n-InSb, frequency shift of combined resonance, influence of plasma oscills. of conduction electrons 9-7850
- n-InSb, Hall effect and magnetoresist. in mag. freeze-out region 9-15165
- n-InSb, heavily compensated, hopping cond. in mag. field 9-7842
- n-InSb, helicon wave propag., quantum mechanical features 9-42571
- n-InSb, high power helicon, interaction with semiconductor-free space interface 9-38114
- InSb, high-purity, electron irradiation effects on transport props. 9-23650
- n-InSb, hole mobility temp. depend. after electron bombardment 9-33290
- InSb, horizontal zone melting in vacuum 9-47624

III-V semiconductors continued

- InSb, hydrostatically pressed, negative differential cond. at room temp. 9-19600
 p-InSb IR detector, photovoltaic operation, theoretical anal. 9-224
 p-InSb, influence of plastic bending on galvanomag. props. 9-28349
 InSb, interaction of exciton recombination with LO phonons 9-38647
 InSb, interband magneto-optical transitions, arbitrary field orientation 9-42948
 InSb, intraband photocond. in mag. fields 9-47123
 p-InSb, ion bombardment using 30-80 keV ions, isochronous annealing, elec. props. obs. 9-19295
 InSb, ion implantation at elevated temps. 9-10870
 InSb, lattice dynamics 9-14895
 InSb, magnetic susceptibility of light and heavy holes 9-42734
 InSb, magnetically frozen-out, evidence of surface cond. from etching expts. 9-47152
 InSb, magnetoconcentration effect, nonlinear current carrier recomb. 9-33298
 n-InSb, magneto-phonon effect in non parabolic band 9-37962
 InSb, magnetoresistance meas., transverse diffusion currents on source of error 9-7843
 InSb, mobility from soln. of Boltzmann eqn. for electron-LO phonon scatt. 9-19586
 InSb, morphological instability under constitutional supercooling during cryst. growth from melt and stabilising thermal gradient 9-4910
 InSb, nonlinear optical effects obs. using CW CO laser 9-3752
 InSb, oscillatory electron drift rel. in non-ohmic regime at low temp. 9-33291
 p-InSb, oscills. of microwave photocond. and cyclotron reson. of photoelectrons 9-28377
 InSb oxide films grown by anodization in electrolytes, electron spectroscopy exam. (German) 9-15837
 InSb, phonon conductivity, 2 to 300K, scatt. mechanisms 9-4436
 n-InSb, photoconductivity meas. in crossed fields 9-7852
 n-InSb, photoluminescence exam. 9-28809
 InSb plasma, drift wave instability 9-15175
 InSb plasma, EM wave instability, effect of density gradient 9-1607
 InSb, polar semiconductor, impact ionisation in crossed elec. and mag. fields 9-28355
 InSb pulsed spin-flip Raman laser, external cavity, low field operation at 10.6 μ m 9-41394
 n-InSb, recomb. of hot electrons, photoelectromag. and dynamic photocond. meas. 9-38081
 InSb, reson. Raman scatt. under uniaxial stress near E_1 gaps 9-42960
 InSb, single crystal, stress induced phase change 9-23719
 InSb, single crystals, grown by vertical and horizontal travelling heater method, growth parameters and cryst. quality 9-24421
 n-InSb, spherical samples, size resonances, magnetoplasma waves 9-11168
 InSb, sputtered NaCl-type compression 9-46751
 n-InSb, strongly compensated, ionized donor mol. optical absorpt. spectra characts., 1.5-2.5 mm 9-11422
 n-InSb, sub mm photocond. (Russian) 9-38134
 InSb, surface magnetoplasma waves, reson. spectrum and dispersion characts. 9-38148
 n-InSb, surface polaritons, excited by microwave magnetoplasma 9-19530
 n-InSb, transverse magnetoresist. in strong mag. fields 9-4571
 n-InSb, tunable far IR Landau emission with subnanosecond rise time 9-32015
 InSb, tunnel diode, V-I characts., hydrostatic press. effects 9-38157
 n-InSb, tunnel diode, with high reverse bias, V-I characts. 9-38158
 InSb, two-circle SSD diffractometer appl. in angle dispersive mode 9-14641
 InSb:Cr, diffusion props. of Cd, modified C-V technique meas. 9-19401
 InSb:Cr:Zn, magnetic freeze-out electrons at deep Cr level 9-15169
 InSb:Sn, equilibrium distribution coefficient of Sn 9-10872
 InSb:Te, Czochralski cryst. growth, strain configuration study using X-ray anomalous transmission topography 9-23552
 n-InSb:Zn, Zn diffusion out of implanted layers 9-10984
 InSb-GaSb alloys, directionally solidified, composition variations, electron probe anal. 9-24513
 InSb-GaSb solid solution ingots, orientation, twinning and orientation depend. reflectance 9-28001
 InSb-NiSb system, anisotropic, acoustomagneto-elec. effect, theory 9-24021
 InSb-Sb eutectic solidification, interface demarcation expts. 9-43228
 InSe, direct gap exciton exam. by magneto-optics and photoconductivity 9-19527
 P_1As_{1-x} , periodic struts. characts. determ. by means of satellite Bragg reflections 9-46510
 Si-GaP, heterojunction, photosensitivity spectrum, characts. 9-24071
 n-ZnSe-p-GaAs heterojunction high-detectivity threshold photodetectors 9-6181

III-VI semiconductors

- CdS, B exciton-polariton, reson. Brillouin scatt. 9-33717
 CdS, granulated films, optical reson. 9-4863
 CdS, single cryst., bound excitons in surface layers, luminesc. obs. 9-28294
 Ga-Sb-Te, props. of ternary solid solution based on GaSb 9-7826
 GaAs, antiepitaxial layer, local impurity inhomogeneities (Russian) 9-23854
 GaAs, bulk purification by chemical vapour transport 9-24437
 GaAs, deep level, strongly anisotropic field ionisation 9-28317
 $Ga_{1-x}In_xSe$, energy spectrum and struct., X-ray diffr. and light absorption 9-11437
 GaS, factor-group analysis of high-symmetry layer dynamics 9-42160
 GaS layer crystal, differential indirect exciton spectra 9-8159
 GaS, two-photon photoemission 9-28890
 $GaS_{1-x}Se_x$, grown by iodine vapour transport, X-ray struct. studies 9-4411
 $GaS_{1-x}Se_x$, indirect exciton spectrum and phase transition, luminesc. and absorption spectra 9-8160
 $GaS_{1-x}Se_x$, recomb. radiation intensity, temp. depend. (Russian) 9-33830
 GaSe, band struct. and electron density of states in two-dimens. approx. 9-37987
 GaSe, electron beam excited free exciton luminesc. 9-19940
 GaSe, factor-group analysis of high-symmetry layer dynamics 9-42160
 GaSe, lattice dynamics, in one-layer approach 9-14900
 GaSe, layer, upper valence bands using band-orbital model 9-15078

III-VI semiconductors continued

- GaSe, layer cryst., elastic props. rel. to zone-centre phonon freqs. 9-46736
 GaSe, layer struct., fine independent elastic const. using Brillouin scatt. 9-19896
 GaSe layers, band struct. and state density calc. by empirical tight-binding method 9-42443
 GaSe, optical detection of triplet exciton reson. 9-33567
 GaSe, photolum. decay 9-15518
 GaSe, photolum. under strong optical excitation 9-24364
 n-GaSe, photomagneto-elec. and photocond. current spectral distrib. 9-42585
 p-GaSe, resistivity, anisotropy 77 to 750K 9-4559
 GaSe, reson. light scatt., luminesc. and Raman spectra 9-38615
 p-GaSe, single cryst., negative photocond. induced by elec. field 9-19623
 GaSe, thin film, photoelectrical props. at high electric field (Russian) 9-11247
 GaSe, triplet indirect bound exciton, level anticrossing effect on magnetolum. 9-47513
 GaSe, type II crystals, triplet exciton resonances 9-47359
 GaSe:Sn, single crystal, transient photoconductivity (Russian) 9-11171
 GaTe, Hall mobility, resistivity anisotropy 9-11150
 GaTe, Schottky barrier, photovoltaic props. 9-7854
 GaTe:Sn, electroabsorption spectra 9-19901
 InGa-GaSe interface, microplasma electrolum. at 300K 9-11469
 InS-Au Schottky-barrier diode, tunnelling current due to thermionic-field emission 9-33340
 InSb-LiNbO₃ layer structures, fabrication and use in SAW amplification 9-41540
 InSe, ang. depend. of core level photoemission 9-43099
 InSe based heterojunctions, props. 9-11210
 InSe film, photochem. production of holograms on surface (Russian) 9-7101
 InSe film, structure, influence of laser beam 9-7761
 InSe, layer cpd., reson. Raman scatt. at higher Mo exciton edge 9-28764
 InSe, layer semicond., electronic props. 9-28275
 InSe, photovoltaic effect, appl. to solar energy conversion 9-29481
 InSe, second order Raman spectrum and phase transition 9-38545
 TiGaS₂, optical and photoelectric exam. 9-11180
 TiInS₂Se_{2-x} solid solution, optical and photoelectric props. 9-11179
 TiSe, heat capacity, at low temp. and Debye temp. (Russian) 9-10962
 p-TlSe, monocystal, temp. depend. of mechanical strength (Russian) 9-10892
 TlTe, elec. props., cryst. growth (Japanese) 9-33907
 ZnS, granulated films, optical reson. 9-4863

illumination see lighting**image amplifiers see image intensifiers****image converters**

- see also fluorescent screens; image intensifiers
 colour image scanner, using one-colour laser and modified γ -Ruticon image buffer 9-27373
 grey-scale to colour convertor for foot pressure distrib. pattern meas. 9-20691
 liquid crystal, for real-time moving object tracking by optical correlation 9-32035
 liquid crystal device, with memory effect 9-23711
 low-temp. plasma diagnosis by laser scatt. method, image convertor and spectral analyser device 9-4180
 near IR transparent material, birefringence meas. polarimeter 9-44925
 parametric, nonlinear optics methods in spatially modulated signal conversion 9-7179
 ring-rate control system for nanosecond exposures, spatial resolution of images 9-18521
 scanning radiometer images, electronic conversion to stereographic projection 9-21056
 thermoluminescent metal sulphate types, contrast functions conversion efficiency, NDT uses 9-9271
 UMI-93ShS, investigation of time frequency-contrast characts. 9-18520
 PLZT real time 2 colour incoherent to coherent image convertor 9-3805

image iconoscopes see television camera tubes**image intensifiers**

- channel plate image intensifier cameras for low light security and projectile photography 9-40639
 dynamic radiography using image intensifier 9-24685
 electro-optical, for Al single crystal nonstop uniaxial tensile tests 9-34277
 electron-optical and X-ray image intensifiers, characts. 9-9270
 fibre laser amplifier output, comparative anal. of image quality under active, passive conditions 9-7225
 fibre optics in image intensifier for astronomy (Russian) 9-40079
 high speed image intensifier gating circuit 9-37044
 microchannel plate technology and applications 9-23075
 night vision system with refractive optics, glare characts., surface defect influence 9-32024
 optical system design for low light and thermal imaging 9-37041
 phosphor decay and bandwidth measurements in image intensifiers 9-37045
 protection against damage from high intensity flashes 9-37046
 thermal band imaging, glare in optical systems 9-32025
 Vidicon detector, use in Raman spectroscopy of intact bovine lens proteins 9-29525
 visual detection thresholds for electronic imaging systems 9-11936
 X-ray, 14 in tube 9-16285
 X-ray, phys. principles 9-6247
 X-ray electron-optical convertor and entrance screen, conditions for conversion factor 9-6248
 X-ray using CsI:Ti powdered phosphor screen 9-6246
 Si intensifier for Isocon low light level TV 9-37042

image orthicons see television camera tubes**image processing see picture processing****image sensors**

- see also television camera tubes
 acoustoelectric SAW image scanner applications 9-45912
 airborne, reconnaissance, data collection, conf., Washington, DC, USA, March 1978 9-32078
 analyser comparative tests 9-14106
 astronomical imaging, ground-based, characts. 9-35135
 C-CD digital image store for Earth resources surveying 9-34964
 C-CD space-borne Earth imager, high resolution, features 9-35097

image sensors continued

C-CD/SAW devices for signal and image processing, conf., Ottawa, Canada, 1977, Oct. 9-32159
 electronic, conf. Washington, DC, USA, 1978 9-32085
 electronic imaging techniques in EUV spectral region 9-30564
 focal planes, electro-optical, performance evaluation for aerial reconnaissance 9-31833
 hybrid IR/CCD focal planes, performance, appls. 9-3798
 image anal., subjective and objective criteria 9-31828
 image evaluation methods, project SENTINEL SIGMA for Air Force, resolution meas. 9-31826
 intensified CCD, development 9-32086
 light characteristics control of PZS image sensor (*Russian*) 9-18361
 linear, minicomputer controlled, fluctuating image time averaging and coherence function detect. 9-41341
 moire pattern detection by solid-state dynamic self-scanned photocell array 9-32084
 MTF anal. for post-flight image eval. 9-31827
 photographic speed of solid-state image sensor arrays 9-17543
 real-time adaptive contrast enhancement for imaging sensors 9-32079
 resolution through atmospheric turbulence 9-36855
 scanning photodiode array for nuclear fuel cladding tube deformation monitoring 9-30938
 secondary electron conduction image, tube, WX-32193, astronomical appl. 9-35137
 single photon X-ray detection with a CDD image sensor 9-35836
 soft X-ray imaging experiments with CCD, astronomical appls. 9-35138
 solid-state photosensor array for electronic imaging 9-21836
 Space Telescope, astronomical appl., performance, planning 9-35136
 streak camera intensified CCD readout system, sensor props. 9-27825
 time delay and integration CCD imager, Earth resource thematic mapper appl. 9-35098
 X-ray imaging scope, low-intensity, principle, appls. 9-30637

image storage tubes

No entries

images, optical *see optical images*

imaging, acoustic *see acoustic imaging*

imaging, infrared *see infrared imaging*

IMMA *see ion microprobe analysis*

impact (mechanical)

see also ballistics; impact strength
 acceleration measurement using piezoelectric measuring transducer with mechanical waveguide, anal. of processes 9-30436
 accelerations, short, features for reproduction 9-32351
 accelerometer, piezoelectric impact, effect of damping on dynamic error 9-30435
 acoustic noise, review and bibliography 9-3848
 aircraft impact, dynamic response of nuclear power station 9-3208
 asteroids, collisional disruption rel. to Fe meteorites cosmic ray exposure ages distributes. 9-30015
 axial impact buckling of a column with random initial imperfections 9-18762
 basalt, shock effects and remanence in hypervel. impact expt. 9-29755
 beam, transverse impact of load, approx. model (*Russian*) 9-37251
 cometary impact, rel. to Earth albedo sudden change and ice age onset 9-44241
 compact gas gun for materials testing 9-15909
 concavity techniques, point mass impact on elastic, viscoelastic or non-linear elastic rod 9-37172
 concentric impact of pointed bodies 9-41604
 cratering by meteorite impact 9-21244
 discs, impact stresses, photoelastic investigation 9-37182
 Earth, meteorite impacts rel. to primitive ocean basins form. 9-20770
 elastic disc loading by sudden radial force 9-14298
 frictionless indentation by rigid wedge, effect of tangential displacements in contact zone 9-37250
 high speed interaction of drop with solid surface, apparatus design (*Russian*) 9-27605
 impact force meas. by elastic stress wave obs. 9-34215
 linear oscillatory system response to shock impact (*Russian*) 9-9096
 lunar impacts by objects in parabolic low inclination order, distrib. 9-2493
 Manysh meteorite, L-3 chondrite, impact remelting rel. to droplet chondrules comp. and origin 9-30014
 metallic plates collision, plastic deform., jet form. 9-11669
 meteorites collisions with planets, review 9-8884
 numerical treatment of sliding interfaces and impact 9-41631
 plastic longitudinal dynamic wave propagation, impact end 9-14294
 plate perforation by projectile, comment on paper by Awerbuch et al. 9-27542
 PMMA bar, notched and perforated, fracture produced by longitudinal impact 9-43388
 polycarbonate of bisphenol bar, notched and perforated, fracture produced by longitudinal impact 9-43388
 polystyrene, atactic, indentation recovery, defect struct. produced by deformation 9-43275
 PVC strip, viscoelastic props. from impact studies (*Russian*) 9-32289
 Pyrex, indentation recovery, defect struct. produced by deformation 9-43275
 rock penetrator, initial response, elastic rod theory 9-32392
 rods, numerical method for analysing elastic wave propag. due to impact 9-32352
 shallow spherical shells, stability under axisymmetric loading (*Russian*) 9-14287
 shell, elastic cylindrical, impact on surface of compressible fluid (*Russian*) 9-37181
 Signorini's problems, reciprocal variational inequalities soln. 9-41585
 sphere with slab, transient sound radiation 9-23128
 steel rods, longit. impact on plate, contact time meas., student expt. 9-5939
 terrestrial impact structs., so called, non-random geographical distrib., implications 9-34825
 thin elastic bar, impact buckling, Monte Carlo calcs. 9-32317
 transverse impact method for studying the viscoelastic properties of materials (*Russian*) 9-32398
 viscoelastic rod, nonlinear waves and finite rod impact on rigid obstacle 9-41606
 Vredefort structure, S.Africa, comp. of spherules on shatter cone surfaces 9-29773

impact (mechanical) continued

Al beam, exam. of elastoplastic contact strength law, using impact bending (*German*) 9-43365
 C fibre reinforced plastics with mixed fibres, exam. of fracture toughness and shear strength 9-20151
 Pd₇₅Si_{16.5}Cu₈ amorphous, indentation recovery, defect struct. produced by deformation 9-43275
impact avalanche transit-time diodes *see IMPATT diodes*
impact ionisation
 alkali halide, avalanche impact ionisation, in optical breakdown 9-42895
 avalanche noise theory 9-24043
 crystal with narrow allowed band, elec. field ionisation of deep impurity level 9-15118
 optical materials, laser induced breakdown, breakdown thresholds and multiphoton absorpt. coeffs. 9-3735
 semiconductors, Auger recombination processes 9-38091
 transparent dielectric, enhanced localised intensities in surface scratches rel. to laser damage 9-22999
 transparent solid, laser damage by electron avalanche ionisation 9-19952
 Cr-Si(GaAs) Schottky barriers, interfacial structural defects effect on avalanche breakdown 9-42644
 GaAs electrodes in aqueous electrolytes, localised avalanche breakdown 9-4599
 GaAs, exciton-polariton reflectance spectra, exciton impact ionization and illum. intensity effects 9-42943
 GaAs, impact ionisation of excitons 9-38079
 GaAs, impact ionisation rates, temp. depend. 9-38077
 Ge, impact ionisation by electrons and holes, threshold energy 9-38078
 Ge-Si(GaAs) heterodiodes, interfacial structural defects effect on avalanche breakdown 9-42644
 InSb, hydrostatically pressed, negative differential cond. at room temp. 9-19600
 InSb, polar semiconductor, impact ionisation in crossed elec. and mag. fields 9-28355
 Pb_{1-x}Sn_xTe, epitaxial layers, carrier lifetime meas. 9-42559
 PbTe, epitaxial layers, carrier lifetime meas. 9-42559
 Si, electron impact ionis., direction depend. of threshold energy 9-42550
 Si₃Ge_{1-x}Si(GaAs) heterodiodes, interfacial structural defects effect on avalanche breakdown 9-42644
impact phenomena *see collision processes*
impact strength
see also fracture toughness; notch strength
 ceramics, mechanical behaviour, book 9-38983
 composite materials, fibre-reinforced, impact responses perpendicular to fibres (*Japanese*) 9-43377
 dynamic impact test method, new (*German*) 9-11740
 fibre reinforced cement, mech. and rheological props. (*German*) 9-20129
 Incoloy 800 and 802, influence of carburisation on mech. props. 9-20254
 metal, mech. props. and strain rate, low temperature effects 9-1911
 metal-ceramic containing diamond, impact hardening 9-15828
 nuclear piping, impact loading (*Japanese*) 9-43373
 plastic composites 9-29162
 PMMA, effects of notch shapes on Charpy impact values, tensile props., fracture surfaces (*Japanese*) 9-38951
 polyethylene, filled, linear, struct., strength 9-29149
 polymer coated graphite fibre-epoxy resin composites, prep., adhesion 9-15644
 polypropylene, effects of notch shapes on Charpy impact values, tensile props., fracture surfaces (*Japanese*) 9-38951
 polypropylene/peanut-hull flour composite, strength 9-8365
 polystyrene, rubber-modified, impact-strength analysis 9-38972
 porcelain, elec., high-strength, development from ceramic raw materials, mech., elec. props. 9-24630
 PVC, rubber-modified, stress whitening and yield mechanism 9-8324
 PVC, slightly plasticised, fracture toughness tests, impact tests 9-5037
 rigid body collisions, spalling, tensile stresses on target, appls. 9-7324
 Space Shuttle Orbiter, hypervelocity impact tests on RCC thermal protection material 9-16795
 steel, alloy, quenched, high strength, shot blast hardening effect on repeated impact bending 9-1914
 steel, austenitic, 30KhGSA, grain size before quenching rel. to mech. props. 9-24553
 steel, austenitic, fracture toughness meas. by Charpy impact testing, welding, heat treatment, neutron irradiation effects 9-5062
 steel, austenitic stainless, grain boundary segregation studies, intergranular fracturing technique for stress corrosion cracking investigation 9-39057
 steel, C, fracture criterion determination, using 3-point bending 9-29216
 steel, C, wear during impact, effect of C content 9-38986
 steel, C (0.21 wt.%), loading wave shape effect on deform., failure, impact tensile strength of smooth specimen (*Japanese*) 9-29146
 steel, carburised, fracture resistance 9-24612
 steel, Cr-Mo, grain size effect on ductile brittle transition 9-24615
 steel, Cr-Mo-V, 1% Cr, chem. comp. and struct. effect on deform. props. (*German*) 9-1888
 steel, Cr-Ni-Mo, combined B and rare earth metal additions effect on microstruct. impact strength and hardness 9-38963
 steel, fatigue, impact loading, friction, wear in surface active media (*Russian*) 9-29268
 steel, ferritic, Charpy impact testing criteria 9-47855
 steel, impact and tensile props., Si effects 9-24614
 steel, low C, crack propagation energy rel. to temp., time factors 9-29179
 steel, low C, specimens with notch and fatigue crack, fracture surface features 9-43417
 steel, mild, notch effect on impact fatigue strength (*Japanese*) 9-43400
 steel, Mn (1.10 to 1.55 wt.%), reactor vessel material, assessment of weld heat affected zone mech. props. 9-29217
 steel, Ni-Cr-Mo and Ni-Cr, impact strength, effect of modified ausforming (*Japanese*) 9-11692
 steel, stainless, Kh25T, impact strength and substructure produced by deform. during cold rolling (*Russian*) 9-24535
 steel, stainless, two phase, variation of tensile and impact strength with heat treatment 9-34085
 steel, weldable C and alloy, brittle fracture, metallurgical factor effects, NDT data, impact tests (*French*) 9-5128
 steel C, types AISI 1008, 1020, 1035, renitrogenized 1010 and 1522, dynamic strain ageing, tensile notch impact and fatigue props. 9-43288
 steel welded joint impact strength, preheating and tempering effects 9-24542
 steel-bronze bimetal mech. props., diffusional interlayer effects 9-29169

impact strength continued

- steels, brittle transition temp. determ. from impact ductility tests, comparative evaluation 9-15888
 straight long rod, dynamical buckling under hammering 9-7312
 tensile impact tests with rupture diagram recording on pendulum machines, testing procedure 9-29313
 wood, thin plate perforated by hard missile, energy dissipation prediction 9-8361
 Al alloy 01205, mech. props. at cryogenic temps. 9-29206
 C glass fibre hybrid plastics, review of mech. props 9-20107
 Fe-Ni-C-Mn (3.56, 3.25, 0.6 wt.%), solid soln., quenched, changes during annealing to crystal structure, mech. props. (Russian) 9-34076
 NiO-CaF₂, hot-pressed, mech. props., thermal expansion rel. to CaF₂ additive 9-43321
 SiC, low blow Charpy impact 9-34122

IMPATT diodes

- GaAs, epitaxial layer uniformity and reproducibility, data 9-38744
 GaAs IMPATT diode, maximum efficiency single- and double drift region, 3 to 18 GHz range 9-24058
 GaAs, impact ionisation rates, temp. depend., appl. to diode design 9-38077

impedance, acoustic *see acoustic impedance***impedance, electric** *see electric impedance***impedance, electric, measurement** *see electric impedance measurement***impedance, measurement, electric** *see electric impedance measurement***impedance matching**

- atomic emission spectroscopy, impedance matching network for plasma 9-43678
 compensated semiconductors, HF impedance 9-15212
 integrated optics multilayer anisotropic structures, impedance matching effects 9-7233
 internally lossless transducer conjugate matching, power transfer and backing impedance 9-46158
 US transducer lumped wideband equaliser design optimisation 9-46159

imperfections, crystal *see crystal defects***impermeability** *see permeability***impulse amplifiers** *see pulse amplifiers***impulse generators** *see pulse generators***impulse testing**

- metallurgically bonded plates, structural integrity determ. by high energy impulse 9-39111

impulse voltages *see transients***impurities**

- for impurity vibrations see "lattice localised modes" or "molecular vibrations in solids"*
see also chemical analysis; crystal inclusions; crystal purification; diffusion in solids; impurity-defect interactions; impurity distribution; impurity electron states; interstitials; magnetic impurity interactions; phonon-impurity interactions; segregation; semiconductor doping

- alloys, gas solutions in alloys, due to impurity-deoxidising element interactions, thermodynamic analysis (Russian) 9-34347
 alloys, thermoelectric props., effect of electron-impurity and electron-phonon interactions 9-33282
 crystal step motion, in the presence of a mobile impurity computer model 9-14713
 crystals with Jahn-Teller centres, sound absorpt. 9-37765
 diamond, different types, trace elements conc. 9-14838
 diamond, ion beam analyses rel. to phys. props. 9-5219
 displace phase transition, second-order, discontinuous freezing-out of local order 9-42204
 gas, ionis. path form. by laser beam with retractable focus 9-18992
 inorganic solids, anal. of H₂ in solids by sputter induced emission spectroscopy 9-5231
 interface segregation through cooling 9-43294
 intergranular fracture energy, effects of segregated impurities 9-38928
 ionic crystal, continuum model for periodic incorporation of aliovalent impurities 9-33012
 metal, BCC, strain depend. elastic dipole tensor for interstitial impurities, nonlinear Snoek effect 9-8311
 metal, time resolved impurity conc. in DITE Tokamak using RBS anal. 9-1329
 metal impurity origin in DIVA, ion sputtering, evaporation and arcing 9-656
 metal influx in macrotror 9-650
 molecular crystal with impurities, nonequib. phonon excitation by laser pumping (Russian) 9-38664
 oscillator ensemble with embedded impurity oscillator, absorption spectrum windows 9-6045
 paramagnetic impurity induced nucl. flip-flop transitions 9-47348
 Peierls transition, effect of impurities 9-33237
 phase transitions, caused by inhomogeneity of transition parameter (Russian) 9-23698
 polymorphic properties, impurity effects, liquid crystalline and solid phases 9-10930
 polyoxymethylene diacetate, bulk cryst. and melting, polyoxyethylene additive effects 9-32921
 quartz, single-cryst., Fe²⁺ absorpt. spectra in polarised light and struct. position 9-43007
 quartz, synthetic, metallic impurity incorporation 9-19167
 rare earth metal film, anomalous crystal structures 9-28222
 ruby colouring due to specific growth, annealing and irradi., exam. of visible, infrared and UV spectra 9-11440
 soliton pinning and central peak theory 9-7668
 steel, austenitic type 304, temper embrittlement and impurity segregation, AES and imitation loss spectroscopy study 9-43372
 steel, high-strength, 80 kg/mm² class, effects of metallurgical factors on susceptibility of stress relief testing (Japanese) 9-43458
 steel, low alloy structural, heat treated, impurities effect on embrittlement susceptibility and temper brittleness 9-38955
 steel, low-C, structural, grain boundaries, AES 9-24524
 steel, quenched, tempered, intergranular failure during fatigue crack growth 9-8357

- STEM, and spectroscopic techniques for electronic props. of defects and impurities in semiconductors 9-14812
 substitutional impurity, model parameters, determ. from low temp. data (Russian) 9-33007
 superconductors with paramag. impurities, NMR theory in singlet state 9-28445

impurities continued

- surface impurities during start up and early operation of ISX-A, surface anal. with sample transfer 9-654
 trace impurities in gasses, IR spectrometric detect., cryogenic method 9-16053
 transition metal film, anomalous crystal structures 9-28222
 transition metal-rare earth dil. alloy, hyperfine field of rare earth impurity 9-1588
 vacuum vessel wall surface conditions, long term changes, PLT appl. 9-653
 vibrations in impure crystals, average local information transfer approx. 9-46774
 Ag, elec. field gradient generated by nearest-neighbour impurity atoms 9-42510
 AgBr:Li⁺, time-depend. infrared absorpt. due to Li-localised mode 9-8133
 AgBr:Pt, photochemistry and role of Pt impurity ions 9-24783
 AgCl:Pt, photochemistry and role of Pt impurity ions 9-24783
 AlN powder, effect of O impurity on sintering and thermal cond. (Japanese) 9-20017
 Al₂O₃, polycrystalline, conditions for formation of anion vacancies 9-10844
 B, tetragonal, X-ray diff. and C doping obs. (French) 9-14731
 BaFe₁₂O₁₉, effect of impurity concentrations, and sintering conditions on grain size (German) 9-23630
 BaTiO₃, donor doped, exam. of heterogeneous microstructure (German) 9-24632
 Be, plastic strain mech., effect of impurities (Russian) 9-34101
 CaO-Al₂O₃-Si(S), effect of addition on reduction of Al₂O₃ by C saturated Fe (Japanese) 9-24733
 CaO-MgO, doloma, composition effect on creep, impurity effects 9-43318
 CaWO₄:Gd, site occupation 9-28608
 Cd, vapour grown crystal, morphology and growth mechanism, Bi impurity effects 9-23546
 CeO₂-La₂O₃, ceramic, thermal stability, sintering, deform., effect of La₂O₃ 9-11532
 Co-Mo alloy electrodeposits, codeposited impurities rel. to H₂ permeation, props. 9-19493
 CoGd:H₂(N₂), contaminated amorphous films mag. and elec. props. 9-1690
 CsDy(MoO₄)₂, trivalent ion impurity effects on structural phase transition temp., new transition 20-30K (Russian) 9-19367
 CsI:Na⁺(K⁺)(Cu²⁺)(Ti³⁺)(Eu³⁺), crystals, influence of impurities on yield stress 9-15748
 CsI:Tl, X-ray phosphor, influence of different factors on emission intensity 9-8171
 CsI:Tl single crystal gamma-optical converting screens, factors influencing relative afterglow intensity 9-8173
 α-Cu-Ni-Zn-Pb, fire cracking, effect of pores and impurities 9-29207
 Er₂O₃:CaO, elec. cond. and nonstoichiometry 9-11112
 Fe-be, BCC, process of interstitial trapping by impurities 9-46697
 Fe-based alloy, effect of sp-3d impurity interactions in resistivity 9-46696
 Fe-C-N, BCC, Snoek type reordering during strain ageing (French) 9-8312
 Fe-Ti-C, quantitative anal. of H trapping 9-23622
 FeGd:H₂(N₂) contaminated amorphous films mag. and elec. props. 9-1690
 GaAs, LPE, gaseous impurity source and effect on purity 9-28959
 GaAs, LPE, residual impurities and deep levels, FET fabrication 9-28964
 GaAs, MBE layers, H₂ effect on residual impurities, photolum. obs. and elec. charact. 9-47636
 GaAs, VPE, thermodynamic analysis of Si contamination 9-28932
 GaAs, VPE, thermodynamic factor influencing growth rate and layer purity in Ga-AsCl₃-H₂ system 9-28933
 GaAs:Cr²⁺, US attenuation meas. of Jahn-Teller distorted Cr²⁺ centres 9-28048
 GaAs:Sn, effect of Sn conc. on point defect generation 9-14802
 GaP, deep level profiles at substrate-epitaxial interfaces, photoionisation meas. 9-38025
 GeO₂:V⁴⁺(Cr³⁺), direct mechanism in supertransferred hyperfine interaction 9-23936
 InP:Zn(S)(Se), liquid encapsulated Czochralski cryst. growth, X-ray study 9-47619
 KCaCl₃ impurity in NaCl cryst., precipitation and dissolution 9-42259
 KCl:Li⁺, shape of pot. energy well of impurity 9-23692
 KCl:Pb, impurity valence, heat treatment influence, absorpt. spectra obs. 9-38574
 KF:Li⁺(Na⁺)(K⁺), shape of pot. energy well of impurity 9-23692
 KH₂PO₄, cryst. regeneration of z-cut plates, effect of impurities 9-43120
 KMgF₂:Mn²⁺, (M=Mg,Zn,Mn,Cd), zero-field splitting of Mn²⁺, superposition model (French) 9-15267
 KMgF₂:V²⁺, ⁵¹V ENDOR meas., spin Hamiltonian parameters 9-28638
 KZnF₂:V²⁺, ⁵¹V ENDOR meas., spin Hamiltonian parameters 9-28638
 LiF:Mg(Eu)(Co)(Si)(O), elec. cond., influence of impurity ion 9-7709
 MgO single crystals, chem. polishes for {100}, {110} and {111} surfaces, spectrochem. anal. for impurity content 9-29241
 MgO:Cr²⁺(Fe³⁺), thermal magnetoresistance 9-10994
 MgO:Li, TEM studies 9-29069
 MnZn ferrites, doped; determ. of grain boundary composition, using Auger spectroscopy (German) 9-23618
 Mo, segregation of impurities and alloy elements at surface (French) 9-47697
 NH₄H₂PO₄:Fe³⁺, mechanism of habit change due to Fe³⁺, Mossbauer study 9-19821
 Na, thermodynamics of light interstitials, rel. to delocalised particles 9-46653
 NaAl₃(PO₄)₂(OH)₄, EPR of at. H caused by X-rays 9-28614
 NaCl, additively coloured, sensitised with O, photochromic props. 9-28792
 Nb alloy, VN2AE, influence of nitriding on heat resist. and brittleness (Russian) 9-8380
 Ne, in solid D₂, effect on sp. ht. 9-33099
 Ni, cold rolled, influence of impurities on recovery and recrystallisation, positron annihilation meas. 9-15696
 Ni electrodeposition from alkaline citrate electrolytes, coating impurity quantities and props. (Russian) 9-8252
 Ni sputtered films, hexagonal and amorphous, O incorporation, ESCA and electron diff. meas. 9-11046

impurities continued

- Ni-Mo alloy electrodeposits, codeposited impurities rel. to H_2 permeation, props. 9-19493
 PbS, point defects and effect on deoxygenization of Pb with S 9-47918
 Pd-Gd (1 at.%), lattice distortion around impurities determ. by polarised neutron method 9-1372
 RbCl:Li⁺, new off-centre defect system, studied with dielec. techniques under hydrostatic press. 9-19834
 Si epitaxial layers on metallurgical-grade polycryst. substrates, characteris. 9-28967
 Si, neutron transmutation doping, detect. and identification of potential impurities activated 9-42090
 Si, surface, sputter etched, damage, contamination, ion backscatt. obs. 9-33167
 Si₃N₄, hot-pressed, impurity phases, TEM obs. 9-8260
 Si₃N₄, hot pressed MgO fluxed grain boundary impurity phases, lattice fringe imaging obs. 9-11540
 SiO₂, vitreous, Fe²⁺ absorpt. spectra in polarised light and struct. position 9-43007
 SiO₂-B₂O₃-Na₂O-K₂O system glass, phase separated, loss of oxides during acid leaching, atomic absorpt. anal. 9-11716
 SnO₂:Sb film, DC sputtered, correspondence between Sb content and targets 9-23847
 SnO₂:V⁴⁺(Cr³⁺)(Mo⁵⁺)(Nb⁴⁺)(Re⁴⁺), direct mechanism in supertransferred hyperfine interaction 9-23936
 Sr₂TiO₂:Eu, synthesis, luminesc. of materials 9-11534
 Ti-Mo (16 at.%), effect of H impurities on lattice spacing, hardness, and plastic strain (*Russian*) 9-11664
 UO₂, non-stoichiometric, oxidation reactions and dopants 9-42087
 V, electro- and thermo-self-transport, 1480-1822°C, effect of impurities 9-42297
 W, self-diffusion parameters, depend. on degree of purity (*Russian*) 9-19391
 Zn-Al (22 wt.%), superplastic, of very high purity, cavitation 9-24586
 Zn_{0.9}Fe_{0.1}Mn_{0.9}Fe_{0.1}O₄, ferrite, production from Fe₂O₃, effect of impurities on props. (*German*) 9-4925
 ZnO, negative photocond. by excitation of exciton-impurity complexes, recomb. mechanism (*Russian*) 9-28379
 ZnO-CoO₄ (Fe₂O₃), ceramics, impurity at. states, elec. cond. 9-11130
 ZnS with substitutional impurity, dipole and weak-dipole vibr. 9-14904
 ZnS:MnF₂ films, effect of Mn conc., XPS obs. 9-33886

impurity and defect absorption spectra of inorganic solids

- alkali halides, F_A-centre optical absorption, lattice statics theory 9-43004
 alkali halides, rare earth ion doped, optical props., review 9-15492
 alkali metal: rare gas, absorpt. edge, extra-orbital relax. model 9-4825
 alkaline earth halides, rare earth ion doped, optical props., review 9-15492
 borate laser glasses, Cl⁻ coordinated, Ti⁴⁺, Mn²⁺ and Nd³⁺ impurities, absorpt. and X-ray obs. 9-38575
 cuprous halide photochromic glasses, spectral props., shell model (*Russian*) 9-27354
 diamond, type Ia, secondary absorpt. edge, optical study 9-19912
 electron irradi., defects, elec. and optical props., review 9-19282
 glass, alcoholic and aq., 4.2K, trapped electron photocond. and optical spectra following radiolysis 9-29378
 inert gas:Eu(Sm), absorpt. and emission spectra, phonon sidebands 9-43021
 IR laser window material extrinsic absorption 9-14049
 IR lattice band profile, electron spin reversion in mag. field, Nf-R curve 9-28771
 magnetic semiconductor, mag. colour centre continuum model 9-28321
 metal cavity, lifetime of trapped excited atom, broadening mech. for optical absorption line 9-38578
 photochromic glass, γ -ray effects on sensitivity (*Japanese*) 9-38583
 polar semicond., impurity pseudopotential screening, absorption and emission energies 9-15121
 polarization dichroism effects in many-phonon optical bands of multiplet-multiplet transitions 9-15125
 quartz, single cryst., Fe²⁺ absorpt. spectra in polarised light and struct. position 9-43007
 quartz, transient absorption on pulse electron irradi. 9-1779
 ruby, optically-pumped, excited-state Raman processes 9-4798
 ruby colouring due to specific growth, annealing and irradi., exam. of visible, infrared and UV spectra 9-11440
 semiconductor, impurity band props. 9-23888
 semiconductor layer crystals, light absorption by shallow impurity centres 9-15503
 semiconductor with dipole impurities, light absorption 9-28796
 semiconductors, n-type, free carrier absorpt., ionized impurity scatt. 9-42999
 silica glass:Nd³⁺, laser-spectroscopic method, for studying solids with nonuniform spectral broadening (*Russian*) 9-40630
 silicate glass:Tb³⁺, photoluminesc. and optical absorption spectra 9-19919
 AgBr:Li⁺, time-depend. infrared absorpt. due to Li-localised mode 9-8133
 AgCl(Br), multivalent impurities 9-19556
 Al₂O₃, optical props. of F-centre 9-43003
 β -Al₂O₃-Na₂O:Cr, absorpt. and emission spectra, mag. susceptibility 9-15495
 B₂O₃-M₂O₃:S₂ glass, (M=Li, K, Na), absorpt. spectra of S₂ mols. 9-24337
 BaF₂, U-centre, electronic struct. and optical transition energies, SCF MS χ calc. 9-4532
 BaF₂:Sm²⁺(Tm²⁺), vibronic spectra and dynamics of impurity-containing lattice 9-1787
 BaTiO₃:Nb, ferroelec. and paraelec. phases, props. 9-42919
 BeAl₂O₄:Cr³⁺, alexandrite, potential laser material, stimulated emission and absorpt. spectrum 9-33734
 CaF₂, 0.36 μ absorbance/fluence dependence obs. 9-15506
 CaF₂, additively coloured, photothermal bleaching of Ca colloids 9-15500
 CaF₂, U-centre, electronic struct. and optical transition energies, SCF MS χ calc. 9-4532
 CaF₂:Co, X-irradi., F-centre form., optical absorpt. spectra and dichroism obs. 9-42998
 CaF₂:Gd, triply ionised, lowest energy 4f-5d transition 9-24345
 CaF₂:Na, tunable room temp. laser action of M-centres, luminesc. and absorpt. spectra 9-31907
 CaF₂:O, absorpt., ionic cond., and thermal depolarisation 9-14960

impurity and defect absorption spectra of inorganic solids continued

- CaF₂:Tm²⁺, vibronic spectra and dynamics of impurity-containing lattice 9-1787
 CaF₂:Yb³⁺ vacuum UV absorpt. spectrum, rel. to other rare-earth ions 9-43001
 Ca₃(PO₄)₂:F:Nd³⁺, selective site laser spectroscopy and ESR studies 9-19909
 CaS:Ce, Na, photon sidebands in emission and excitation spectra, pseudolocalised vibrs. 9-28800
 CdGeAs₂, optical and elec. props. 9-19590
 CdI₂:Ni²⁺, absorption and mag. circular dichroism, spectra, phonon density of states of CdI₂ deduced 9-19913
 CdS, photoexcitation, effect of elec. field (*Russian*) 9-1751
 CdS:Cu,Pb reflectivity of Ni-salt coated powder, pre-irrad. effect on defect form. 9-27973
 CdS:In, two-photon absorpt. spectra exam. of effects of screening of exciton continuum 9-8166
 CdTe:In, shift optical absorpt. edge with temp. and doping level 9-8165
 CdTe:Li, excitation spectrum of Li acceptor and valence band parameters 9-28795
 Cr₂O₃:2- centre in lattice, optical props., mol. orbital calcs. 9-15491
 Cs-halide, optical response function from Jahn-Teller systems, F-band absorpt. band shape 9-43005
 CsBr, impurity absorpt. spectra after γ -irrad., aggregated colour centres 9-4829
 CsBr:Cu⁺, off-centre, optical absorpt. meas. 9-33740
 CsBr:Th, absorpt., excitation, fluorescence spectra 9-43032
 FeBr₂:MnBr₂, magnon modes and impurity spin reson. 9-15501
 FeS₂, optical absorpt. 9-43002
 GaAs:Co²⁺, piezoabsorption meas. tunnel splitting and Jahn Teller effect in ⁴T₁(P) state 9-15494
 GaP, spectral depend. of O photoneutralisation cross-section near threshold, and band gap 9-1788
 GaP:N, N doping profiles in GaP grown by LPE, cathodoluminesc. data 9-23631
 GaP:Ni, absorpt. and luminesc. spectra 9-42996
 n-GaP:S(Te), IR absorpt. cross-section 9-38582
 GaP:Zn, light attenuation by impurity precipitates 9-11441
 Gd₂(MoO₄)₃:Nd³⁺, optical spectrum, free ion wavefunctions, radiative transition probabilities 9-24339
 Ge, lattice disorder influence on optical spectra in interband transition region 9-43006
 Ge, sum rule for intraband optical absorpt. of shallow acceptor impurities 9-28793
 Ge surface ion implanted far IR composite bolometers 9-30549
 Ge:Sn, bolometer element, absorpt. spectra, bias depend. 9-30553
 GeO₂ based glasses, absorpt. and emission of Ho³⁺ 9-11439
 GeO₂:V⁴⁺, crystal field splitting from ESR and optical absorpt. results 9-47063
 Ge_{1-x}Si_x, with Si implanted ions, optical and photoelec. props. 9-24014
 InP, excitons bound to neutral donors in VPE layers, luminesc. and absorpt. obs. 9-42460
 InP:Bi, isoelectronic impurity states, emission and absorpt. obs. 9-42491
 n-InSb, strongly compensated, ionized donor mol. optical absorpt. spectra characts., 1.5-2.5 mm 9-11422
 KBr:KLi, microcrystalline powder, isothermal decay of colour centres 9-42995
 KBr:Li(Na), low temp. radiation hardening mechanism, single halogen interstitials as hardening agent, Ha annealing 9-23634
 KBr:MnO₄⁻, optical and IR absorpt. spectra, internal vibr. of MnO₄⁻, freq. and type of symm. 9-15466
 KBr:MnO₄⁻, vibronic spectra interpretation 9-37770
 KBr:TeO₃²⁻, IR absorpt. of impurity complexes (*Russian*) 9-33746
 KBr:Ti, impurity-induced first-order Raman scatt., critical-point and critical-line anal. 9-19884
 KCl, absorption spectra exam. of H-bearing complexes 9-8167
 KCl, doped with alkaline earth ions, Z₁-centres form. under X-ray irradi. 9-24338
 KCl, F₂ centres triplet state, radiative and nonradiative decay 9-11438
 KCl:Au⁺, absorption band shape in D-mode model 9-47485
 KCl:Ca, optical studies of Z₄ centres 9-24336
 KCl:Cu⁺, absorpt. and emission spectra, 3d¹⁰4s²-3d⁹4s²4p bands 9-24343
 KCl:Eu IR laser window lattice equilibrium obs. 9-14055
 KCl:Na⁺, OH⁻, IR absorpt. spectra, Na⁺ ions rel. to OH⁻ stretching vibr. 9-47442
 KCl:OH, low temp. spectrophotometry, impurity absorpt. band (*Russian*) 9-40635
 KCl:Pb, impurity valence, heat treatment influence, absorpt. spectra obs. 9-38574
 KCl:Pb, vibr. struct. of absorption band 9-33735
 KCl:Ti, impurity-induced first-order Raman scatt., critical-point and critical-line anal. 9-19884
 KCl:Ti⁴⁺, cryst., electron transfer, optical and thermal excitation 9-4833
 KCl:Ti⁴⁺,Ca²⁺(Sr²⁺), electrolytic colouring, colour centre form., optical absorpt. spectra 9-15497
 KF:Fe²⁺, pure and doped, two-step photoionisation, laser-active F₂⁺ centre form. 9-963
 KI, optical bleaching of V₂ and V₃ bands 9-33739
 KI:Cu⁺, absorpt. and emission spectra, 3d¹⁰4s²-3d⁹4s²4p bands 9-24343
 KI:S₂²⁻, photoinduced polarisation and depolarisation 9-33738
 KI:Ti⁴⁺, phosphor, anomalous stress-induced dichroism 9-4828
 KMgF₃:Sm²⁺, absorpt. spectra and Zeeman effect, 3000-12000 Å, 4.2-295K 9-24341
 K₂Rb_{1-x}Cl₂Br_{1-y}, far IR absorption spectra 9-33695
 LaF₃:Dy³⁺, magnetospectroscopy with optically pumped far IR laser 9-33737
 LiF, TLD phosphor, Z₃ centre, thermolum. and optical absorption spectra 9-24374
 LiF:Mg,Ti, (TLD-100), optical bleaching of defect centres 9-19911
 LiF:Mg(Eu)(Co)(Si)(O), IR spectra and elec. cond. 9-7709
 LiNbO₃:Fe, optical damage, Fe ion conc., EPR and optical spectra evaluation 9-42933
 LiYF₄:Ho³⁺, optical absorpt. and luminesc. spectra 9-4844
 MgCl₂:Co²⁺, Zeeman electronic Raman scatt. spectra 9-42962
 MgF₂, 0.36 μ absorbance/fluence dependence obs. 9-15506
 MgF₂, optical absorption following pulsed electron irradi., 100-500K 9-8164
 MgF₂:Fe²⁺, γ -irrad., F-centres, Fe²⁺ ion hole traps, absorpt. and EPR meas. 9-7598
 MgO:Cr³⁺, diffuse interstellar absorpt. bands origin 9-30101

impurity and defect absorption spectra of inorganic solids continued

- MgO:Li, oxidation and reduction up to 1700K, defect prod. 9-39013
 MgO:Mn⁴⁺, diffuse interstitial absorpt. bands origin 9-30101
 MgSO₄·7H₂O:(Cu[H₂O]₆)²⁺, EPR and optical spectra anal. 9-38377
 MnF₂:Zn, shift and broadening of optical transitions 9-38579
 MoO₃ film, optical absorpt. after ion irradi., appl. to ion beam profile monitoring 9-26181
 NH₄Br:Ti, absorption, excitation and fluorescence spectra 9-33824
 NH₄Cl, cryst., impurity overtone states, interference two-photon spectrum (Russian) 9-24344
 NH₄Cl-TiCl₃, mixed phosphors, diffuse absorption spectrum 9-24342
 NH₄ClO₄, formation of colour center by X-irradiation, optical absorption spectra 9-19247
 (NH₄)₂(ZnSO₄)₂:Ni²⁺, optical absorpt. spectrum, room and liq. air temp. 9-15499
 Na₄Al₃Si₃O₁₂Cl:Br,Ge, sodalite, reflectance and luminescence obs. 9-4839
 NaBr:Cu⁺, absorpt. spectra, pressure effects up to 6 kbar, comparison with NaCl:Cu⁺ 9-4826
 NaCl, additively coloured, sensitised with O, photochromic props. 9-28792
 NaCl:OH⁻, UV and IR absorpt. spectra, colour centres transformation 9-28791
 NaCl:Cu⁺, absorpt. and emission spectra, 3d¹⁰4s²→3d⁹4s²4p bands 9-24343
 NaClO₃, X-irrad., thermal stability of radiation damage products 9-34324
 NaF, F₃⁺ centre zero-phonon line, photochem. and population hole burning 9-42997
 NaF, M-centres, dichroism absorpt., appl. to optical waveguide polariser 9-995
 NaF:Mn²⁺, two-step photoionisation, laser-active F₃⁺ centre form. 9-963
 NaMgF₃:Sm²⁺, absorpt. spectra and Zeeman effect, 3000-12000 Å, 4.2-295K 9-24341
 NaNO₂:Ag⁺, optical and MODR spectra, anion states spin-orbit perturbation 9-19908
 Na₂O-Al₂O₃-B₂O₃-SiO₂, CuCl crystal activated photochromic glasses, absorpt. spectra 9-27353
 Na₂O-B₂O₃ glass, γ- or UV-irrad., laser and thermal bleaching of colour centre, absorpt. spectra 9-33744
 Na₂O-B₂O₃-SiO₂ glass, type DB-1, exam. of distrib. of rare earth activators, by absorption study 9-4832
 Na₂O-CaO-P₂O₅:Co glass, bonding, symmetry meas. 9-46572
 Na₂O-SiO₂:Ce photochromic glass absorption centres 9-27352
 P₂O₅-K₂O-CdO-Na₂O glass:Nd³⁺, highly doped, spectroscopic props. and CW laser action (French) 9-41385
 Pb_{1-x}Sn_xTe film, pure and Bi doped, polycryst., struct., elec., optical props. 9-42542
 PbTe, ion implanted, magneto-optical expts. (German) 9-28848
 RbCl:H⁺, defect pairs of F-centres and U-centres, Raman meas. 9-7599
 RbI:Pb²⁺, optical and elec. props. 9-15493
 RbI:TeO₂²⁻, IR absorpt. of impurity complexes (Russian) 9-33746
 RbN₂F₃, radiation defect F,M,R-centre absorpt., emission, excitation spectra 9-43000
 p-Si, photoabsorpt. associated with divacancies 9-15502
 Si, proton irradiated, IR absorption 9-33742
 Si:Au, IR absorption and elec. resist. meas., impurity centres 9-38580
 Si:B amorphous film, CVD prep., EPR, elec. and optical props. 9-4558
 Si:Ga, LPE on Si, technique and characterisation 9-38751
 Si:In,P, photoinduced IR absorpt. and luminesc. 9-33828
 Si:O, 9 μm absorpt. band attributed to dissolved O, from expts. on quartz particles 9-19914
 Si-Au amorphous system, optical absorpt., IR photocond. 9-42582
 SiC:B, electroabsorption, 0.35-0.45 eV, under UV illumination 9-4831
 SiC:Ti (6H), absorpt. spectra of n- and p-type cryst. 9-38581
 a-Si_{1-x}H_x, oxygenated thin film, sputtered, elec. cond. and optical props. 9-15239
 SiO₂, E'-centre model, IR absorption spectra 9-37634
 SiO₂, vitreous, Fe²⁺ absorpt. spectra in polarised light and struct. position 9-43007
 SiO₂-GeO₂, synthetic, struct, IR spectra 9-42993
 SrF₂, 0.36 μ absorptance/fluence dependence obs. 9-15506
 SrF₂, neutron irradi., role of F-centres in thermoluminesc. 9-19941
 SrF₂, U-centre, electronic struct. and optical transition energies, SCF MS Xα calc. 9-4532
 SrF₂:Na, tunable room temp. laser action of M-centres, luminesc. and absorpt. spectra 9-31907
 SrF₂:Pr, Nd, Tb, Dy, Ho, Er, Tm³⁺ far IR spectra 9-33736
 SrF₂:Sm²⁺(Tm³⁺), vibronic spectra and dynamics of impurity-containing lattice 9-1787
 SrTiO₃ and SrTiO₃:Nb, reduced samples, optical absorpt., effect of impurity-O vacancy complex (Korean) 9-8163
 SrTiO₃:H(D), controlled doping, IR spectra 9-28007
 TeO₂-Li₂O glass:Nd³⁺, highly doped, spectroscopic props. and CW laser action (French) 9-41385
 WO₃ film, optical absorpt. after ion irradi., appl. to ion beam profile monitoring 9-26181
 YAG:Ce³⁺, excited-state absorpt. meas., tunable laser model system 9-42994
 YAG:Er³⁺(Ho³⁺)(Tm³⁺), oscillator strengths of impurities, 5000 to 30000 cm⁻¹ 9-4830
 YAG:Nd³⁺ and free Nd³⁺ ion, energy levels, absorption spectra 9-11076
 YIG:Nb, tetrahedral Fe²⁺ detect. by induced anisotropy ang. variation 9-11311
 YVO₄:Bi³⁺, absorpt. and emission props., excitons 9-38592
 YVO₄:Nd³⁺, optical absorption intensities 9-24335
 ZnGeP₂, electron irradi., elec. and optical props. 9-33743
 ZnO:Cu, excited state, zero phonon lines in emission and Zeeman spectra 9-38026
 ZnO:Cu, H(D), IR absorpt. line spectra, OH and OD vibr., optical excitation 9-15498
 ZnO:Cu, H(D), OH and OD centres, IR-active absorpt. line spectra 9-15496
 ZnS:Al, IR studies of Al complexes 9-33741
 ZnS:Cr, anomalous temp. depend. of near IR absorption 9-28794
 ZnS:Cu 9-24350
 (ZnSe)_{1-x}(GaP)_x, two-photon absorpt. at ruby laser freq., clarification (Russian) 9-15505
 ZnSiAs₂, electron irradi., defects, elec. and optical props. 9-19282
 ZnTe:In(Al), pure and doped, Zn vacancy energy levels, elec. and optical props. 9-4827

impurity and defect absorption spectra of solids

- see also *impurity and defect absorption spectra of inorganic solids*
 activated crystals, influence of temp. on energy transfer 9-28323
 hydroxyquinones, H-bonded, zero-phonon photochem., hole burning obs. 9-11802
 interband optical absorption in solids, effect of impurity 9-38577
 molecular crystal, exciton scatt. by lattice defects, absorpt. line shape 9-38576
 naphthalene, cryst., vibronic absorpt., impurity-vibronic spectrum, two-phonon spectra 9-4817
 naphthalene-d₈:naphthalene, symmetry reduction obs. of deformed crystals, by absorpt. spectrum method 9-15504
 semiconductor, shallow donor states exam. by two photon spectroscopy 9-23925
 semiconductor with impurities, light absorpt. (Russian) 9-47484
 semiconductors, impurity electro- and magnetoabsorpt. coeffs., deep levels 9-24340
 semiconductors, impurity-induced free-carrier magnetoabsorption 9-42950
 MgF₂ crystal, M(D_{2h}) centre absorption and emission spectra obs. 9-19910

impurity clustering see segregation**impurity-defect interactions**

- see also *impurity-dislocation interactions; impurity-vacancy interactions*
 metals, heavy ion implantation, site populations in case of immobile defects 9-23624
 solar cells, defects, rel. to elec. parameters, SEM electron beam induced current investig. 9-43772
 void nucleation and growth, effect of point defect trapping on impurities 9-23637
 Al₂O₃:Ti³⁺, corundum, point defect diffusion and interaction with impurity, Ti³⁺ to Ti⁴⁺ reaction 9-10985
 Cu, ion-irradiated, impurity defect configuration, by DPAC-technique with ¹¹¹In 9-28021
 Cu, self ion irradi., determ. of the nature of defect clusters by Rutherford backscatt. of He ions 9-4342
 Fe:He, BCC, process of interstitial trapping by impurities 9-46697
 p-Si, electron irradi., influence of acceptor impurity conc. and irradi. temp. on defect formation 9-19281
 V, trapping of D by O interstitials, channelling study using ion induced nuclear reactions 9-4316

impurity-dislocation interactions

- see also *dislocation locking; dislocation pinning*
 low temp. radiation hardening mechanism, single halogen interstitials as hardening agent, Ha annealing 9-23634
 steel, Cr, H-dislocation interaction 9-8307
 steel, stainless, 316, creep and rupture, 525 to 900°C, creep rate 9-11678
 Al-transition metal alloys, anomalous sp. ht. and nuclear spin-lattice relax. 9-46814
 Be, plastic strain mech., effect of impurities (Russian) 9-34101
 Fe, H₂ adsorption at dislocations and cracks 9-20146
 n-Ge, plastic deformation, impurities and dislocations interaction, cond. (Russian) 9-47100
 H-dislocation, interactions rel. to H₂ embrittlement 9-42097
 Mo:He, interaction of He with edge dislocation, influence of interatomic pot. 9-33014
 Ta-O, BCC, Snoek type reordering during strain ageing (French) 9-8312
 Zn-Al, dil., isotherm of internal adsorption at dislocations 9-37733

impurity distribution

- see also *doping profiles; segregation*
 alkali halide, off-center displacement of univalent impurity ions 9-23632
 alloys, impurity diffusion and distrib. 9-33118
 axial channelling, multistring model computer simulation, foreign atom location appl. 9-42128
 barley seeds, N depth distrib., ¹⁴N(d,p)_n reaction 9-5221
 conference on ion beam anal., Washington, USA (June-July 1977) 9-5194
 depth, effect of impurity fluoresc. by matrix X-rays 9-5224
 depth profiling expts., D(³He, α)H, background reduction using electrostatic deflector 9-14841
 depth profiling of H and He isotopes within near surface region of solids using ion beams 9-7622
 dibenzyl-tolane, single cryst. growth from melt, influence of supercooling and impurity conc. on growth rate of faces 9-14714
 film profiling using proton excited X-rays 9-4490
 film structure, low conc. ¹⁶O depth profiling using ¹⁶O(d,α), α-particle energy anal. 9-5214
 garnets, concentrational inhomogeneities, appl. of vacuum decoration method 9-14835
 high resolution Rutherford backscatt. techniques, appl. to near surface anal. 9-5207
 implanted crystals, ang. depend. of MeV H⁺ backscatt. yield in glancing geometry 9-4874
 ion induced optical emission for surface and depth profile analysis 9-4333
 light element profiles in heavy matrix materials, depth profiles and lattice locations using (n,p) and (n,α) 9-5205
 metals, group VA, O and N determ. from internal friction meas. 9-39246
 MOS structure, use of mini-computer for rapid evaluation of C-V-plots (Russian) 9-28413
 p-n junction impurity profile meas., two-freq. method 9-23633
 ruby, concentrational inhomogeneities, appl. of vacuum decoration method 9-14835
 sapphire, concentrational inhomogeneities, appl. of vacuum decoration method 9-14835
 semiconductor, dopant impurity redistrib., Chen and Chen series method 9-1457
 semiconductor, multilayer spreading resistance anal., high-speed implementation and expt. evaluation 9-4324
 semiconductor with inhomogeneous impurity distrib., irradi. effects 9-10875
 steel, stainless, D depth distrib. determ. using D(³He,p)⁴He 9-4326
 steel, stainless, spatial distribution of limiter material and impurities on the first wall of TFR 400 9-651
 steel surfaces, O and N profiles, Rutherford backscatt. and (d,p) reaction anal. 9-5216
 structural phase transition, interaction and diffusion of impurities 9-42083

impurity distribution continued

surface deformation due to non-homogeneous distribution of solute atoms in crystals 9-33164
 surface structure, appl. of imaging atom probe mass spectroscopy 9-23818
 thin film, electron-induced X-ray spectrometry anal. (*French*) 9-43067
 Al, plastically deformed by pulsed mag. field, mobility of Fe atoms, radiotracer profiles 9-28584
 Au-Si contacts, O determ. by SIMS, nuclear reaction and Rutherford backscatt. anal. 9-4482
 BaWO₄, single cryst. growth by Czochralski method and U incorporation, effective distrib. ratios, luminesc. characts. 9-42094
 Be depth profiling in alloys, simultaneous α and d detection in ⁹Be(p,d) and ⁹Be(p, α) reactions 9-5203
 Be, lattice location results for implanted impurities, Rutherford backscatt./channelling technique 9-4329
 Be-Li, lattice location of implanted ⁶Li, ion beam channelling study 9-37730
 CaWO₄, single cryst. growth by Czochralski method and U incorporation, effective distrib. ratios, luminesc. characts. 9-42094
 Cr depth distrib. determ. using ⁵²Cr(p, γ) resonant react. 9-33011
 Cr steel, N depth distrib., ¹⁴N(d,p) α reaction, 3 MeV deuterons 9-5221
 CsI:Na, crystal, kinetics of decay of surface solid soln. 9-23810
 D implantation in metals, lattice location of D using D(³He,p) for defect-impurity interaction study 9-5206
 ErD₂:He, tailored low Z impurity distrib. in solids, distrib. evaluation by proton backscatt. technique 9-5199
 Fe, plastically deformed by pulsed mag. field, mobility of Fe atoms, radiotracer profiles 9-28584
 Fe-C, dil., Hall-field electrotransport of C, effective valence numbers 9-28148
 Fe₃-In₂O₄, ferrosinels, cation distrib., Curie point and magnetisation meas. 9-42095
 GaAs, antiepitaxial layer, local impurity inhomogeneities (*Russian*) 9-23854
 GaAs, lattice location of S and Mn implanted impurities, ion channelling and ion induced X-ray meas. 9-4332
 GaAs, qualitative anal. of oxygen in thin epitaxial layers by SIMS 9-5233
 GaAs:Be, implanted, determ. of Be concentration profiles by ⁹Be(p, α) reactions and SIMS anal. 9-4335
 GaAs:Si,Cr, under layer of SiO₂, effect of annealing, on electron concentration and mobility, and impurity distrib. 9-4323
 GaAs_{1-x}P_x-SiO₂:N,Zn ion-implanted multiple layers, ion range distrib., secondary ion microprobe meas. 9-42129
 Ga_{1-x}In_x-As_{1-y}P_y:Ge(Sn)(Te), epitaxial film, elec. and optical props. 9-11251
 GaP, epitaxial layers, dislocation recomb., SEM cathodoluminescence studies 9-42558
 Ge, amorphous and crystn. films, contamination behaviour, XPS examin. 9-1815
 Ge, amorphous film, ion-implanted, regrowth 9-15043
 Ge, pure, degree of compensation, capacitance meas., 4.2-150K 9-7624
 Ge:⁶Li, diffusion study using ⁶Li(d, α) reaction 9-5202
 H analysis in different materials problems, using ¹H(¹⁵N, α γ) and ¹H(¹⁹F, α γ) reactions 9-5196
 H depth profiling in solids, using neutron TOF from H(t, n) 9-5198
 H implantation in metals, profile distrib. determ. using ¹H(¹¹B, α) for defect-impurity interaction study 9-5206
 H profiling using ¹⁵N bombardment, method and appl. 9-5195
 H₂ in plate subject to external stresses (*Russian*) 9-14836
 HF molecules in crystalline solvates, mol. diffusion and spatial symmetry of arrangement 9-42313
 He concentration profiles meas., using ⁴He(⁷Li, γ)¹¹B reson. reaction at 1.68 MeV incident energy 9-5200
 InGaAsP:Sn(Te)(Zn), LPE growth, influence of growth-solution dopants on distrib. coeffs. 9-47640
 InSb:Sn, equilibrium distribution coefficient of Sn 9-10872
 KCl:Ba(Ca)(Sr), microstruct. and hardness, impurity distrib. effects 9-24529
 KCl:Sr, single crystal, thermally stimulated topochemical reactions 9-28011
 Li₃N:H, ionic cond., impurity conc., IR transmission meas. 9-42305
 NaCl, elec. cond. and distrib. of Ni²⁺ ions 9-33010
 Nb, He depth profile meas. by nuclear reaction methods 9-14839
 Nb, of He, replacement of implanted ³He by subsequent ⁴He bombardment, and vice versa, using ³He(d, α) 9-4325
 Ni, He depth profile meas. by nuclear reaction methods 9-14839
 Ni:D, diffusion study using D(d,p) reaction 9-5202
 Ni-Fe-Mo(Cr), determ. of preferential locations of Mo or Cr on Fe and Ni sublattices, by X-ray intensity study 9-37662
 PbTe:Ga, location, behaviour of Ga, electrophysical props. meas. 9-38016
 PbWO₄, single cryst. growth by Czochralski method and U incorporation, effective distrib. ratios, luminesc. characts. 9-42094
 Se:U, cryst. and amorphous, impurity conc. and distrib., solid state nuclear track detection 9-46694
 Si, amorphous, asymmetrical profile of ion implanted P 9-46693
 Si amorphous film, ion-implanted, regrowth 9-15043
 Si, characterisation by photolum. method (*Japanese*) 9-38638
 Si, diffusion coeff. of Se, by sheet Hall coeff. meas. 9-46843
 Si, displacement of group III, IV, V, and VI impurities in Si by He⁺ and H⁺ analysing beam 9-4330
 Si, H⁺ and H₂⁺ ion implantation profiles determ. by SIMS 9-4334
 Si, high dose Pb⁺ and Cs⁺ distrib., determ. using low angle Rutherford He ion backscatt. 9-4327
 Si, ion-implanted, laser annealing at 1.06 μ m, computer simulation 9-47556
 Si layers, epitaxially grown on sapphire substrates, Al conc. as a function of depth using ²⁷Al(p, α) reson. reaction 9-4328
 Si oxidation, dopant redistrib., Cs⁺ SIMS anal. appl. 9-39265
 Si, thin sheet, Sb impurity profile eval. in p-n diffusion junction by anodisation and resist. meas. 9-46695
 Si:B, ion implanted, SOS device struct., nonlinear impurity redistrib. 9-1625
 Si:B, sputtering influence on distrib. profile of ion-implanted impurities 9-42091
 Si:H, ion implanted, anal. of methods used for H profiling in materials using ion beams 9-5197
 Si:H amorphous films, effects of glow-discharge prep. conditions on H content 9-46969

impurity distribution continued

Si:O, 9 μ m absorpt. band attributed to dissolved O, from expts. on quartz particles 9-19914
 Si:O, Xe, ion implanted, Xe retention, Rutherford backscatt., comparison with SiO₂+Xe 9-4320
 Si:Zn, implanted atom diffusion during laser annealing 9-37725
 Si₃N₄ film, H₂ concentration profile, chem. bonding 9-33205
 Si₃N₄-SiO₂:N,Zn ion-implanted multiple layers, ion range distrib., secondary ion microprobe meas. 9-42129
 SiO₂:Xe, ion implanted, Xe retention, Rutherford backscatt., comparison with Si-O, Xe 9-4320
 SiO₂-GeO₂, synthetic, struct, IR spectra 9-42993
 Si₃N₄ films on Si, ¹⁶O conc. profiles anal., using (d,p) and (d, α) reactions with mag. spectrom. 9-5215
 SrWO₄, single cryst. growth by Czochralski method and U incorporation, effective distrib. ratios, luminesc. characts. 9-42094
 Ta, thermally oxidised, ¹⁶O conc. profiles anal., using (d,p) and (d, α) reactions with mag. spectrom. 9-5215
 Ti, thermally oxidised, ¹⁶O conc. profiles anal., using (d,p) and (d, α) reactions with mag. spectrom. 9-5215
 TiO₂:V, localisation and migration of V⁺ ions, ESR and ESCA study (*French*) 9-33529
 W (110), D⁺ depth distrib., effect of surface impurities, channelling model 9-1451
 YAG, influence of facial growth effect on Yb ion incorporation 9-10822
 YIG, diamagnetically substituted, annealing effects on cation distrib. 9-1455
 ZnSe:Ag(In)(Cu), melt growth, dopant partition coeffs. 9-14837

impurity electron states

see also A-centres; Anderson model; charge compensation; deep levels; electron traps; heavily doped semiconductors; impurity scattering; OH⁻-centres; U-centres; Z-centres
 activated crystals, influence of temp. on energy transfer 9-28323
 alkali halide crystal, activator centres, excited state transitions, bleaching dynamics 9-4527
 alkali halides, luminescence of Ti⁺-like centres, Ga⁺-centre polaris. effect 9-33806
 alkali metal with rare gas impurity, extra-orbital relax. model, hole-electron creation 9-4825
 Auger transition from excited Coulomb level of deep impurity centre to ground state 9-15116
 band modification caused by impurities and magnetophonon effect 9-42562
 bound excitons in local density approximation 9-47022
 carbazole, triplet state of X-traps, ODMR 9-24231
 chalcogenide glass, localised gap states, Mott-street model 9-37968
 chalcogenide glasses, conductivity, doping effect 9-38062
 charge densities, calc. method 9-42433
 cubic semiconductor, Zeeman split acceptor levels, calc. method 9-28322
 dibenzofuran, triplet state of X-traps, ODMR 9-24231
 dibenzothiophene, triplet state of X-traps, ODMR 9-24231
 dilute alloy, method of orthogonal operators 9-33254
 disordered semiconductors, recomb. radiation spectrum (*Russian*) 9-4855
 donor-acceptor electron transfer kinetics (*Russian*) 9-38029
 electronic excitation energy transfer in activated crystals., math. modelling 9-38028
 fluorene, triplet state of X-traps, ODMR 9-24231
 fracture, ionisation wave generation, microbreakdown mechanism 9-33032
 heavily doped semiconductors and devices, review 9-47039
 hopping conduction, anal. in impurity bands in inversion layers 9-47171
 II-VI compounds with transition metal impurity, SCF LCAO MO formalism in CNDO and INDO approx. 9-38017
 III-V semiconductor, acceptor levels, anisotropy of Zeeman splitting and polarization of luminesc. in mag. field 9-24365
 interband optical absorption in solids, effect of impurity 9-38577
 ionic crystal:transition metal, excitation and trapping at impurity sites 9-33776
 light diffraction by sound in impurity containing crystals 9-8119
 magnetic crystal, effect of impurity on local density of states 9-33263
 magnetic impurities and Kondo effect, theoretical model 9-33455
 many-valley semiconductor, impurity band for screened impurities 9-47053
 metal, nonlinear electron density distribution around point defects, applications 9-19549
 molecular solids, Raman, fluoresc. and nonlinear props. 9-33702
 MOS structure, quenched-in bulk defects and interface states, transient capacitance spectroscopy 9-24081
 naphthalene-d₈:naphthalene, symmetry reduction obs. of deformed crystals. by absorpt. spectrum method 9-15504
 noble metal based, disordered alloys, dil., virtual bound states, reson. model pot. theory 9-23934
 non-orthogonal basis set, Green's function method (*Russian*) 9-15119
 one-dimensional Kronig-Penney lattice, impurity levels, transfer matrix approach 9-42489
 organic solid, isotopically mixed, electronic energy transfer, Anderson localisation model 9-19557
 organic solid, isotopically-mixed, electronically excited states localisation model 9-47044
 p-n junction impurity profile meas., two-freq. method 9-23633
 photoconductivity, monopolar injection (*Russian*) 9-24004
 photoelectrons in crystals, scatt. by impurity centre, multipole wavefunctions 9-42490
 radiative and nonradiative recomb. at metal ions, core struct. effects, review 9-4834
 radiative transitions, hydrostatic press. effects 9-38632
 rare-earth impurities in s-p hosts, self-polarization hyperfine fields 9-33456
 screening in strong mag. fields 9-47054
 semiconductor, Auger transition probability, phonon-assisted 9-15120
 semiconductor, donor-acceptor pair in elec. field, anomalous Stark shift of ground state energy 9-19564
 semiconductor, doped, Coulomb repulsion term in Hubbard model for impurities 9-42492
 semiconductor, electron-donor recombination, Monte Carlo studies of transitions between excited donor states 9-38093
 semiconductor, ferromagnetic, with mag. impurities, low-energy localised states (*Russian*) 9-19543
 semiconductor, free carrier scatt. by nonhydrogenic charged impurity centre 9-11110

impurity electron states continued

- semiconductor, heavily doped, perturbation potential distrib. and density of states 9-47052
- semiconductor, impurity band props. 9-23888
- semiconductor, impurity ion pot., screening charge density expansion convergence 9-7799
- semiconductor, ionic, ionisation of doubly charged centres 9-11085
- semiconductor, low temp. field ionisation of localised impurity levels 9-47600
- semiconductor, multiphonon recombination processes 9-38643
- semiconductor, photoconductivity and Dember effect, theory, allowance for long-range fields of charged impurities 9-24013
- semiconductor, shallow donor states exam. by two photon spectroscopy 9-23925
- semiconductor, with spatially varying dielec. const., impurity ion pot., variational calc. 9-7800
- semiconductor D^- centres, in mag. field, variational trial functions 9-38019
- semiconductor film, donor-acceptor pairs, polarisation of recomb. radiation in presence of quantum size effect 9-11462
- semiconductor forward biased junctions, excess noise sources due to defects 9-38154
- semiconductor impurity bands, one-dimens. AMO-MT model validity 9-33256
- semiconductor layer crystals, light absorption by shallow impurity centres 9-15503
- semiconductor with impurities, light absorpt. (Russian) 9-47484
- semiconductors, Auger and radiative recombination of acceptor bound excitons 9-47023
- semiconductors, binding energy in exciton-impurity systems, Haynes rule 9-15112
- semiconductors, depend., matrix elements in Matsubara-Toyozawa theory of impurity band 9-33261
- semiconductors, doped, light diff. by sound 9-11404
- semiconductors, impurities and other point defects, electronic struct., review 9-7803
- semiconductors, impurity electro- and magnetoabsorpt. coeffs., deep levels 9-24340
- semiconductors, impurity-induced free-carrier magnetoabsorption 9-42950
- semiconductors, in neutral impurity field, cyclotron reson. fine struct. (Russian) 9-4727
- n-Si, donor energy and polarisability in weak mag. field, rel. to hydrogenic atoms 9-3594
- spectrum of one electron Hamiltonians with impurities 9-1578
- superonradiative phase transition, appl. to paramag. impurities in strong mag. field 9-14898
- 1,2,4,5-tetrachlorobenzene, exciton migration and trapping, X-trap phosphoresc. 9-1780
- transition metal, charge perturbation due to impurities, theory 9-23924
- vibronically coupled systems, cluster model 9-19540
- XPS, solid-state and adsorbate shifts, equivalent cores calc. 9-28888
- AgBr, Stark effect on I-bound exciton 9-28719
- AgBr:I, activator luminesc., energy model 9-28808
- AgCl:Pt²⁺(Pt⁴⁺), single crystal EPR, substitution effects on photochemistry 9-15348
- AgCl(Br), multivalent impurities 9-19556
- Al dilute alloys, 3d transition metal impurities, residual resist., influence of multiple scatt. effects 9-19570
- Al-3d transition metal, dil., localisation of additional screening charge 9-47051
- Al-Al₂O₃-Pd diodes, resonant tunnelling via localized impurity states 9-28416
- Al₂O₃, transition metal ion doped, phonon spectroscopy using freq. crossing techniques 9-42193
- α -Al₂O₃, thermoluminescent trap stability, 450 to 1400°C 9-24372
- BaF₂:U³⁺, single crystal, superhyperfine interaction of tetragonal centres 9-42834
- BaTiO₃, bulk photovoltaic effect in ferroelects. 9-15181
- BaTiO₃:Mn²⁺, electrooptical effect, charge transfer mechanism, defect. pair form. 9-38519
- Bi, acoustic waves, giant quantum attenuation at high mag. fields, angular depend. (Japanese) 9-4585
- CaF₂:U³⁺, charge compensation, struct. 9-15124
- CaO, triplet state of F₂ centres, ODMR obs. 9-28639
- CaS:Pb²⁺, phosphors, luminesc., refl., emission, and excitation spectra 9-11456
- CdGeAs₂, optical and elec. props. 9-19590
- Cd₂Hg_{1-x}Te, strong elec. field effect on galvanomagnetic effects 9-11159
- CdS, magnetoabsorption, explained by D⁻ centres 9-38019
- CdS, props. of shallow acceptors, photocurrent meas. 9-7805
- CdS:Ag, orange luminesc. at 77K and induced impurity photoconductivity 9-43035
- CdS:Li, thermochemical changes in microstructure of anisotropic centres, polarisation modulation method meas. 9-38027
- CdSe:Cu,Cl film, induced impurity photocond., 0.6 to 1.2 eV 9-24012
- CdTe, excitation spectra, resonant Raman scatt. versus hot electron effects 9-38645
- CdTe:Li, excitation spectrum of Li acceptor and valence band parameters 9-28795
- Cs₂UO₂Cl₄, low-lying excited electronic levels, fluoresc. decay meas. 9-47491
- n-GaAlAs:Sn LED DH donor-level analysis, DLTS obs. 9-47040
- n-GaAs, donor-acceptor pair recomb., isolated-pair model revisited 9-28825
- GaAs, donor-acceptor type complex, mag. field splitting of photolum. line 9-15512
- GaAs, epitaxial film, positron annihilation, impurity centre study 9-15554
- GaAs, shallow donors, screening, energy spectrum of electrons and cond. mech. 9-7831
- GaAs:Cr, local level near valence band, photocapacitance 9-11080
- GaAs:Fe, impurity atom charge exchange, Mossbauer spectroscopy 9-47050
- GaAs:Ge, stress depend. of donor-acceptor recomb. energy 9-15113
- GaAs:Si, electrical activity of Si 9-15145
- n-GaAs:Si, thermally treated, photolum., acceptor levels obs. 9-38587
- GaP, epitaxial layers, dislocation recomb., SEM cathodoluminescence studies 9-42558
- GaP, impurity interaction on excited acceptor states, luminesc. excitation spectra 9-15517

impurity electron states continued

- GaP:Fe, impurity atom charge exchange, Mossbauer spectroscopy 9-47050
- GaP:N, electronic energy levels calc., optimisation 9-28315
- GaP:N VPE LED, deep level centres, DLTS studies 9-42493
- GaP:O, multicharged state of O, TSC and photoinduced currents 9-7808
- GaP:Zn (Cr)(S) positron annihilation, deep acceptor level props. 9-11485
- GaP:As_{1-x}N_x, impurity energies and wavefunctions 9-42488
- GaSb:Fe, shallow acceptor level, electrical meas. 9-11087
- Ge, acceptors, transitions from second excited state, photocond. meas. 9-11082
- p-Ge, detector-grade single crysts., impurity background 9-11088
- Ge detector; high-purity, effect of crystal growth direction on energy resolution 9-45541
- Ge, light scattering, by pure single cryst., influence of photoexcitation 9-28780
- Ge, low temp. recombination into shallow donors, transient case 9-38092
- Ge p-i-n diodes, deep level transient spectroscopy 9-47105
- Ge, sum rule for intraband optical absorpt. of shallow acceptor impurities 9-28793
- Ge:Cu, press. effect on energy spectrum of carriers, elec. cond. and Hall coeff. expts. 9-23930
- Ge:Li, thermal cond., 0.4-20K, Li valley-orbit splitting 9-15111
- Ge:Li-O, donor complex EPR and photoelectron piezoelectric spectra, dynamic tunnelling 9-1711
- Ge:O, elec. props., O interaction with point defects 9-11081
- Hg_{1-x}Cd_xTe, acceptor levels due to local impurity potential 9-11084
- HgTe, zero gap semiconductors, Coulombic resonance states 9-38020
- InAs, heavily doped, Burstein-Moss effect and near-band-edge luminesc. 9-47525
- n-InP, compensated impurity conduction and negative magnetoresist. 9-28360
- InP, exciton localisation at impurity pairs 9-37999
- InP, growth and props., Zn acceptor obs. 9-1822
- InP:Bi, isoelectronic impurity states, emission and absorpt. obs. 9-42491
- n-InSb, absorption of millimetre radiation in mag. field 9-11083
- InSb, donor spectrum, effect of strong mag. field 9-7806
- n-InSb, electron recombination between Landau-levels 9-38096
- InSb, magnetically frozen-out, evidence of surface cond. from etching expts. 9-47152
- KBr:MnO₄²⁻ (MnO₄²⁻) Raman scatt. spectra, freq. and type of symm. of internal vibr. of impurity centres 9-15466
- KBr:TeO₃²⁻, IR absorpt. of impurity complexes (Russian) 9-33746
- KCl:MnO₄²⁻, Raman scatt. spectra, bands due to ν_1 , vibr. of MnO₄²⁻ 9-15466
- KMgF₃:Sm²⁺, absorpt. spectra and Zeeman effect, 3000-12000 Å, 4.2-295K 9-24341
- LiCl:Cu⁺, MO calc. of luminesc. Cu⁺ centres 9-38609
- LiNbO₃:Fe, bulk photovoltaic effect in ferroelects. 9-15181
- LiNbO₃:Fe³⁺, electrooptical effect, charge transfer mechanism, defect. pair form. 9-38519
- MgO, transition metal ion doped, phonon spectroscopy using freq. crossing techniques 9-42193
- MgO:Li⁺, quenched, elec. polarisation, thermal depolarisation and dielectric loss meas. 9-1738
- NaCl, mechanoluminesc. peaks, microbreakdown mechanism, generation of ionisation waves 9-33032
- NaMgF₃:Sm²⁺, absorpt. spectra and Zeeman effect, 3000-12000 Å, 4.2-295K 9-24341
- Nb-H system, screening of H impurity and lattice distortion (Russian) 9-1577
- Ni, FCC, H impurity self-consistent electronic screening charge density, cluster calc. 9-33255
- Ni:B, impurity electronic struct. calc., ¹²B NMR data anal., magnetisation decrease 9-47046
- Ni_{1-x}Rh_xS, nonvolume effect of Rh substitution on paramag. metal-antiferromag. nonmetal transition 9-28277
- PbTe, ion implanted, magneto-optical expts. (German) 9-28848
- PbTe:Ga, location, behaviour of Ga, electrophysical props. meas. 9-38016
- Pb(Ti,Ti)₂O₃:Nb₂O₅(Se₂O₇), elec. cond. investigation with and without various dopants and stoichiometry 9-11120
- Pr ion in free state and in crystal, change of spectra 9-33271
- RbCl:Sn, γ -irrad. crysts., thermolum. and emission, 300 to 560K 9-15539
- RbI:TeO₃²⁻, IR absorpt. of impurity complexes (Russian) 9-33746
- (SN)₂, chain, isolated, effect of (SCH₂)₂ impurities, on electronic props., EHT calcs. 9-15067
- Se, amorphous, O impurity addition rel. to elec. cond. 9-38067
- Si, Auger recombination, localized and free carrier comparison 9-38090
- Si, diffusion coeff. of Se, by sheet Hall coeff. meas. 9-46843
- Si, energy spectrum of Fe group impurities 9-23932
- Si film, elec. props., effect of amorphous to polycryst. transition 9-28425
- Si, thermal donor generation in temp. range 600-800°C 9-11121
- Si wafer doping, by thermal neutron irradiation, charge carriers behaviour obs. (Japanese) 9-42484
- Si:Al, valley-orbit splitting of bound exciton states 9-28290
- Si:Au, carrier capture cross-section at low temp. (Rumanian) 9-15163
- Si:Au, IR absorption and elec. resist. meas., impurity centres 9-38580
- Si:B, many-body exciton-impurity complexes, stress depend. of photolum. meas. 9-28833
- P-Si:B, US spectroscopy, energy splitting of acceptor ground state 9-33260
- Si:B(P), recombination spectra of bound multiexciton complexes, Zeeman splitting (Russian) 9-38526
- Si:Fe, photoconductivity and Hall effect 9-4579
- Si:Fe²⁺ interstitial localisation, EPR spectrum 9-1582
- Si:Ga(Zn), impurity ground states 9-28313
- Si:H, amorphous, electronic states of hydrogenated Si, theory 9-42494
- Si:In, photoluminesc., In acceptor excited level 9-47506
- Si:In,P, photoinduced IR absorpt. and luminesc. 9-33828
- Si:Li, bound exciton complexes associated with Li, photolum. meas. 9-28823
- Si:P, amorphous, CVD, substitutional doping, electronic props. 9-23923
- Si:P, CVD amorphous film, electronic density of states 9-46993
- Si:P, excitation spectrum of P donors introduced by neutron transmutation, high resolution study 9-47460
- Si:P, photoluminesc. associated with impurity clusters 9-38656
- Si:P(As)(Sb) donors, polarisability binding energy in mag. field 9-1581
- Si:Sb(As)(P), bound excitons and bound multiexciton complexes for shallow donors, luminesc. meas. 9-24363
- Si:Se, diffusion coeff., solubility and energy level determ. 9-35825

impurity electron states continued

- Si:Se,B(Ga)(Al)(In), diffusion of Se, solubility and ionization levels, Hall effect and photocond. meas. 9-42486
 Si:Zn, P^+-n-n^+ struct., deep doubly ionized centres, impedance calc. 9-11202
 Si-Au amorphous system, optical absorpt., IR photocond. 9-42582
 Si-SiO₂, intentionally contaminated interface, transient capacitance meas. 9-33349
 Si-SiO₂, interface, hopping conduction, anal. in impurity bands in inversion layers 9-47171
 Si-SiO₂, interface, effect of Au recomb. centres on interfacial trapping states 9-38175
 SiC:Ti (6H), absorpt. spectra of n- and p-type cryst. 9-38581
 a-Si_{1-x}H_x, oxygenated thin film, sputtered, elec. cond. and optical props. 9-15239
 SrF₂:Gd, cryst. field parameters calc. and model of tetragonal Gd³⁺ centres 9-28328
 ThO₂, pure and Tb³⁺ doped, impurities effect in absorbluminesc. and photoluminesc. 9-38597
 YAG:Nd³⁺ and free Nd³⁺ ion, energy levels, absorption spectra 9-11076
 ZnO:Cu, excited state, zero phonon lines in emission and Zeeman spectra 9-38026
 ZnS:Cu, film effect of Cu valency on cond. 9-11246
 ZnSe, exciton-impurity complex, electroabsorption meas. 9-15484
 ZnTe, electro- and cathodoluminesc., impurity segregation 9-43042
 ZnTe, exciton localisation at impurity pairs 9-37999
 ZnTe:P(Li), luminesc. transitions, quantum efficiency 9-1783

impurity scattering

- used for carrier scattering by impurities*
see also Kondo effect
 alloys, binary narrow-band, metal-dielectric transition, off-diagonal disorder (Russian) 9-4512
 anisotropic metal, with impurities, long-range interactions of spins 9-47092
 conductor, EM wave penetration, effect of impurities and spatial dispersion 9-7813
 DC resistivity as functional of generalised dynamical susceptibilities, solid state model 9-28330
 graphite, anomalous galvanomagnetic properties, in strong mag. field 9-23986
 metal, low temp. impurity cond. temp. depend., kinetic eqn. (Russian) 9-7817
 metal, neutral and charged impurity scattering, Matthiessen's rule 9-47081
 metallic thin film, conductivity, Kubo formalism 9-7909
 metallic thin films, low adsorption coverage, microscopic calc. of elec. cond. 9-15236
 screening in strong mag. fields 9-47054
 semiconductor, free carrier scatt. by nonhydrogenic charged impurity centre 9-11110
 semiconductor carrier scattering by ionized impurity potentials incorporating spatially variable dielectric functions 9-42535
 semiconductors, n-type, free carrier absorpt., ionized impurity scatt. 9-42999
 semiconductors, spatially variable dielectric functions, ionized impurity limited mobility 9-42534
 Al-Cu, dil., anisotropic scattering of conduction electrons on dilute Cu impurities 9-47082
 As, thermal resist. due to carrier-impurity scatt. 9-19610
 CdCr₂Si₄Ga, negative magnetoresist. effects near Curie temp. 9-11152
 Cu+3d alloying impurities, solid soln., exam. of thermoelectricity (Russian) 9-28339
 p-GaAs, piezoresistance, relax. time for heavy and light holes determ. 9-19599
 GaAs, two-photon interband transitions, carrier drag 9-7858
 Ga_{1-x}In_xAs solid solns., electron scatt. by isoelectronic impurities in covalent crysts. 9-11129
 GaP:Te on GaAs, LPE growth from Sn, exam. of impurity band conduction effects 9-11249
 Ge, hot hole distribution function, effect of impurity and hole hole scatt. 9-11139
 n-Ge, impurity breakdown field, temp. depend. 9-24263
 n-InAs, transport props., influence of higher energy bands, calcs. 9-19598
 n-InSb, heavily compensated, hopping cond. in mag. field 9-7842
 NbSe₂:Ta, elec. cond., anomalous, and microwave absorpt. 9-42527
 Ni, magnetoresistance anisotropy, planar Hall effect 9-23947
 Ni-Cu alloy, magnetoresistance anisotropy, planar Hall effect 9-23947
 Ni-Sn(Sb), dilute ferromagnetic alloy, resistivity and magnetoresist. anisotropy 9-11106
 Si, inversion layer, impurity scatt., self-consistent calc. 9-28415
 n-Si:P, low-compensated, Hall factor, electron-phonon interactions 9-4750
 Si(100)-SiO₂, interface, mobility in Si inversion layers, screening and neutral impurity effects 9-28412
 n-ZnSiP₂Ga, elec. cond. and Hall meas., 77 to 1000K, scatt. mechanisms 9-11153

impurity-vacancy interactions

- alkali halide, divalent metal doped, dipolar relax. induced by AC field in various crystallographic directions 9-19833
 alkali halides, doped, AC field induced impurity-vacancy dipole relax. 9-11385
 alkali halides, impurity-vacancy dipoles, activation energy 9-33013
 metals and alloys, vacancies and lattice elec. cond. determ. method at high temp. 9-37695
 Ag, recoil implanted ¹¹¹In impurities, interaction with radiation damage, TDPAC meas. 9-11362
 Al-transition metal, impurity binding energies 9-42096
 Cu, vacancies-gas impurity interactions in vacuum condensates (Russian) 9-15036
 Ge, gamma irradiated, radiation defects, formation kinetics, successive capture of vacancies by impurities 9-10873
 Ge:O, elec. props., O interaction with point defects 9-11081
 LiCl:Ni²⁺, EPR meas. of Ni²⁺ vacancy dipoles 9-28594
 LiF:Mg, role of impurity-vacancy pairs in thermolum. 9-8195
 Li₃N:H, ionic cond., impurity conc., IR transmission meas. 9-42305
 NaCl, Mn²⁺-□ reorientation, ESR elec. field effect meas. 9-8050
 NaCl:(Mn²⁺-□)_{Fasion}, F⁻ assoc. complex, ionic thermocurrent and EPR 9-8086

impurity-vacancy interactions continued

- NaCl:Ca²⁺, highly doped, aggregation of point defects, NMR and dielec. loss meas. 9-10847
 NaCl:Mn, impurity-vacancy dipole aggregation, role of dimers and trimers, reanal. of dielec. and cond. data 9-1458
 RbI:Pb²⁺, optical and elec. props. 9-15493
 Si, electron irradiated, EPR of impurity-divacancy complex 9-19779
 p-Si, radiation defects by annealing, kinetics anal. 9-33018
 SrTiO₃ and SrTiO₃Nb, reduced samples, optical absorpt., effect of impurity-O vacancy complex (Korean) 9-8163
incandescent lamps *see filament lamps*
inclusions in crystalline material *see crystal inclusions*
inclusive reactions, elementary particle *see elementary particle inclusive interactions*
independent particle model *see nuclear optical model; nuclear shell model*
indeterminacy
 de Broglie waves of the second kind 9-6004
 Dirac field, nonlinear, kinks and the Heisenberg uncertainty principle 9-35943
 double slit experiment, quantum nonseparability and Bohr's complementarity principle 9-35582
 education, classical and quantum uncertainties, particle in box, harmonic oscill. and atom 9-25789
 Heisenberg's microscope, uncertainty relation paradox 9-17254
 Lorentz-invariant minimum uncertainty product 9-6006
 minimal phase indeterminacy states, of photons (Russian) 9-18390
 momentum and positional uncertainty, for states of N identical fermions with spin 9-35583
 quantum mechanics and determinism (Hungarian) 9-44766
 time-energy uncertainty principle failure 9-30279
 uncertainty relation and Pauli's principles (Hungarian) 9-3339
 uncertainty relations, covariant harmonic oscillator forms 9-9137
 weak signal detection, limitations by uncertainty principle 9-25898
indexing
see also information dissemination
 No entries
indicating devices *see indicators*
indicating instruments *see indicators*
indicators
see also alarm systems
 blood indicator dye microconcentration meas. instrument 9-39565
 cardiostimulator, implanted, contactless rhythm indicator 9-39602
 dust measurement engineering, survey (German) 9-35712
 laser pulse energy digital indicator (Russian) 9-22995
 plugging indicator, liquid Na impurity deposition rate obs. 9-13557
indium
see also nuclei with 1
²P_{3/2}, at. quadrupole shielding factor 9-10222
 alkali halide:In, high press. studies of luminesc. phenomena 9-43017
 atom, two-photon laser spectroscopy 9-6925
 dislocation obs. by X-ray topography (French) 9-46661
 electron MFP, conduction electrons injected from ferromag. 9-15135
 film, current-induced resistive state, fluctuations in flux nucleation process 9-38252
 film, friction and fear in ultrahigh vacuum, effects of speed, film thickness and substrate surface roughness 9-20202
 film, vapour deposited on polymer, ageing, adhesion, elec. cond., electrochem. pot. (Russian) 9-33362
 film, vol. plasmon dispersion and damping, electron energy loss spectra 9-7797
 heat capacity and enthalpy of fusion, 300-1000K 9-14939
 island film, melting and crystn. kinetics, dark field electron microscopy 9-11026
 J₁J₂ transition from LS, revised assignments for d⁵s²p², d⁵s²p³ 9-45630
 L shell prod. cross section of Zr, Mo, Ag, Cd and In for 75 to 150 keV p and e excitation 9-47552
 liquid, diffusion coeff. determ. of P, mathematical model, numerical method 9-23754
 liquid, isothermal compressibility, harmonic pot. model calc. 9-14870
 liquid, resist. and thermo-electric power using corrected parameters of Shaw model 9-19566
 liquid, surface tension, low-temp. H₂ plasma influence, elec. double layer form. 9-33160
 muon quadrupolar interaction expansion of crystal lattice (Russian) 9-15388
 nonequilibrium superconductivity in microwave field 9-42695
 recoil implanted ¹¹¹In impurities in Ag, interaction with radiation damage, TDPAC meas. 9-11362
 recrystallisation of films prep. by vacuum evap. 9-4488
 RF size effect signals, anomalous behaviour 9-4502
 superconducting film, resistive transitions scaling behaviour 9-15248
 superconducting films, thick, phonon damping of virtual levels 9-4626
 superconducting microbridges and arrays, I-V characts. temp. depend., Josephson radiation 9-28439
 US wave polarisation plane and ellipticity rot. in mag. field (Russian) 9-15335
 X-ray cross sections, L-shell, proton induced, 1 to 3 MeV range 9-1799
 Al(chlorophyll-a)[Hg]/In, sandwich cell, photovoltaic, rectifying and tunnelling effects 9-1628
 CdCr₂S₄:In, resist. and magnetoresist. meas., effect of donor impurities 9-19608
 CdCr₂S₄:In, single cryst. prep. and elec. props. 9-38727
 CdGeP₂:In, photolum. spectra and kinetic coeffs. 9-19927
 CdGeP₂:In based surface barrier diode, photosensitivity 9-33330
 CdS, Se_{1-x} sputtered film contact, props. (Russian) 9-42642
 CdSe, Te_{1-x} sputtered film contact, props. (Russian) 9-42642
 CdTe:In, photoconductivity exam. and IR quenching 9-11181
 CdTe:In, shift optical absorpt. edge with temp. and doping level 9-8165
 Cd_{1-x}Zn_xS:In, film, technical data, for low cost solar cell 9-48127
 In:⁶⁷Ge, elec. quadrupole interaction temp. depend., PAC meas. 9-42877
 In/(Zn)-phthalocyanine/Au, photovoltaic effects, illuminated thin-film cell props. 9-4605
 In/(Zn)-phthalocyanine/Au, photovoltaic effects, dark elec. props. of rectifying cells 9-4604
 In-ZnSe system residual conductivity, cathode quenching 9-7902
 In-ZnTe Schottky diodes, photocapacitance determ. of electron-hole recomb. (French) 9-47119
 In+Hg, spectral-line contours in high-press. arcs 9-3412
¹¹¹In, ¹¹³In, rapid method for labelling albumin microspheres 9-34669

indium continued

- ¹¹¹In, human lymphocyte labelling 9-5354
- ¹¹¹In labeled transferrin, perturbed angular cor. study 9-39342
- ¹¹¹In platelets, comparative deep-vein thrombosis imaging with ¹³¹I fibrinogen 9-29607
- ¹¹¹In, tumour tracer accumulation, autoradiographic study, experimental infectious lesions 9-5348
- ^{114m}In, implanted in Fe and Co, nucl. orientation and NMR/ON meas. 9-47345
- KBr:In⁺, mag. circular dichroism meas. 9-42988
- KI:In⁺, mag. circular dichroism meas. 9-42988
- Pb₇₆Sn₂₂Te:In, transport phenomena, below 20K (*Russian*) 9-38074
- Pb₇₆Sn₂₂Te:In, nonequilibrium metallic state (*Russian*) 9-33300
- PbTe:In, ion implanted, magneto-optical expts. (*German*) 9-28848
- p-PbTe:In, barrier props. 9-7898
- Pd-CdS-In, tunnel junction, light induced DC Josephson current 9-47204
- Si:In, doping conc., meas. by Hall, C-V and junction breakdown methods 9-14824
- Si:In, obs. of long lifetime lines in photolum. 9-47512
- Si:In, photoluminesc., In acceptor excited level 9-47506
- Si:In, P, photoinduced IR absorpt. and luminesc. 9-33828
- Si:Se:In, diffusion of Se, solubility and ionization levels, Hall effect and photocond. meas. 9-42486
- ZnSe:In, melt growth, dopant partition coeffs. 9-14837
- ZnSe:In, single crystals, new vapour phase growth method, elec. cond. props. and photoluminesc. spectra 9-19982
- ZnTe:In, pure and doped, Zn vacancy energy levels, elec. and optical props. 9-4827

indium alloys

see also indium compounds

- Al-Ga(In)(Sn), interpretation of metallic phase diagrams, entropy of mixing 9-42274
- Al-In, enthalpy of mixing, 'const. vol. alloy' formulation 9-28111
- Al-In alloys within miscibility gap, agglomeration in space environment 9-47672
- Au-Al-In solid soln., elastic strain energy depend. of supercond. T_c 9-38229
- Au-Ga-In solid soln., elastic strain energy depend. of supercond. T_c 9-38229
- Au-In, UPS exam. of valence bands 9-19511
- Au₂(MnIn)₂, Heusler alloy, magnetic order and coupling 9-38303
- Cu-In, thermally cycled, effect on mech. props. and microstruct. 9-4987
- Cu-In (20.15 at.%), eutectic systems, specific phase boundary enthalpy, calorimetric study (*German*) 9-29016
- Cu-In eutectoid, coarsening at 829K 9-1885
- Ga-In liq. alloy, repetitive pulses electron emission 9-24416
- Gd-Ir, dil., mag. hyperfine field of ¹⁹³Ir, Mossbauer effect meas. 9-24242
- Hg-In (3 at.%), amalgam, thermodynamic and electron transport props. 9-23938
- In-Bi (-23.33 at.%), phase diagram DTA, X-ray diffr. and supercond. T_c meas. 9-38795
- In-Cd, shape memory (*Japanese*) 9-43243
- In-Cd, soft mode, latent heats and entropies of fusion 9-46786
- In-Ge film, random percolation, elec. resist. meas. 9-28418
- In-Hg, liq., Knight shift of ¹¹⁵In, temp. and conc. depend. 9-47343
- In-Hg amalgam, EMF meas. of In/InCl₃/amalgam cell and thermodynamic quantities 9-33999
- In-Mn, dil., supercond. film, H₂ meas., mag. impurity effects, pair breaking theory 9-42708
- In-Pb, liquid alloy, thermodynamic activity determ. using Knudsen method (*German*) 9-34008
- In-Pb, thermal anal. solidus determ. 9-20030
- In-Sn, phase diagram, and superconductivity of In₃Sn 9-38794
- In-Sn liquid alloy, 2-butanol vapour adsorption, effect on surface tension and surface comp. 9-14981
- In-Te, elec. field gradient, at ¹¹¹Cd probes, temp. depend. 9-28643
- In-Te, liq., atomic struct., X-ray diffr. meas. 9-41934
- In-Tl, BCC alloys, stability and elastic const., US vel. 9-42133
- In-Tl, exam. of magnetic susceptibility in solid and liquid states, and X-ray data (*Russian*) 9-28503
- In-Tl, soft mode, latent heats and entropies of fusion 9-46786
- In-Tl alloy, superconducting transition temp., phonon mode softening 9-1637
- In-Zn, liq., Zn activity meas. by Knudsen torsion-effusion method 9-10950
- InBi, single cryst. zone melting growth and etching 9-34189
- InBi, press.-induced supercond. phase transform. 9-24099
- InGa-GaSe interface, microplasma electrolum. at 300K 9-11469
- InMn, ion implanted, influence of O and lattice disorder on Kondo resist. 9-38061
- InPb-covered manganin wire, level detector, depth gauge, demonstration of superconductivity 9-35751
- In-Gd film, dil., fluctuation induced cond. above supercond. transition temp. 9-47196
- La₃In, supercond. T_c, alloying effects 9-38227
- LaNi_{4.6}In_{0.4}, H₂ absorption props., desorpt. pressure calc., and decomp. pressures 9-24827
- Li-In, liquid alloy, elec. resist., Knight shift of ¹¹⁵In and ⁷Li nuclei 9-11352
- MgIn, atmospheric corrosion, SEM, electron diffraction and electron probe obs. 9-24681
- Mn₃In, antiferromag., mag. susceptibility, X-ray and neutron diffr. 9-11314
- Nb₃(SnIn) tapes, diffusion processed, high field props. 9-38266
- Nb₃(SnIn) wires, prep. by ductile fabrication process and props. 9-38265
- Ni-In, elec. field gradient, at ¹¹¹Cd probes, temp. depend. 9-28643
- Ni-In, electrical cond. and magnetic susceptibility of B₂ compounds (*German*) 9-42520
- Ni-In, FCC crystals, exam. of volume transform. kinetics of cellular precipitation 9-11625
- Pb-2n, work hardening in mixed state (*Russian*) 9-42707
- Pb-In alloys, supercond., AC losses of EM energy, critical current densities 9-33423
- Pb-In film, RF sputter anodisation, Josephson junction form., ellipsometry anal. 9-29258
- Pb-In-Au alloy, Josephson junction electrode materials, strain relax. 9-38255
- PbIn superconducting films, penetration depth measured with Nb-NbO_x-PbIn Josephson junctions 9-42691

indium alloys continued

- Pb₅In_{1-x}Pb₄Tl_{1-y}, asymmetric supercond. tunnel junctions, subharmonic gap struct. 9-15260
 - Pd-In alloys, thermodynamic props., 800 to 1000°C 9-20454
 - Pd₂MnIn_{1-y}Sn₂-Cd, dil., Heusler alloy, hyperfine mag. field on Cd, TDPAC obs. 9-8075
 - Pt₅₀In₅₀, ordered BCC phases at high temp. 9-32948
 - Sc₃In, itinerant electron ferromag., low temp. sp. ht., mag. field depend. 9-42765
 - Sn-In, dil., intermediate state, US attenuation 9-42694
 - Sn-In, distribution function branch imbalance, relaxation 9-33401
 - V₃In, hypothetical, electronic struct., lattice parameters and possible supercond. transition temp. 9-23891
- indium antimonide**
- 1/f noise, Hooge's parameter 9-24040
 - absorption processes near bandgap, laser-induced hot electron and photocond. meas. 9-42584
 - amorphous film, effective medium theory and freq. depend. of conductivity 9-24090
 - asymmetrical behaviour of 60° dislocation glide 9-7611
 - crystal growth by vertical and horizontal travelling heater method, growth parameters and cryst. quality 9-24421
 - donor spectrum, effect of strong mag. field 9-7806
 - education, Shubnikov-de Haas oscills., InSb degenerate semiconductor, third-year undergraduate expt. 9-9051
 - electron mobility from soln. of Boltzmann eqn. for electron-LO phonon scatt. 9-19586
 - electron irradiation effect, high purity samples, elec. props. 9-23650
 - film, gamma-irradiated, struct., TEM and SEM obs. 9-15033
 - film, light scatt. from interface, polaritons 9-8202
 - film, nonintrinsic, magneto-conc. effect (*Russian*) 9-47113
 - films, transverse 1/f noise and S/N ratio of related Hall elements 9-42597
 - hopping conduction in mag. field in heavily compensated n-type 9-7842
 - horizontal zone melting in vacuum 9-47624
 - impact ionisation in crossed elec. and mag. fields 9-28355
 - interband magneto-optical transitions, arbitrary field orientation 9-42948
 - intra-band photoconductivity in mag. fields 9-47123
 - ion implantation at elevated temps. 9-10870
 - lattice dynamics 9-14895
 - magnetic susceptibility of light and heavy holes 9-42734
 - magnetically frozen-out, evidence of surface cond. from etching expts. 9-47152
 - magnetotransport effect, nonlinear current carrier recomb. 9-33298
 - magnetophonon effect in non parabolic band 9-37962
 - magnetoresistance meas., transverse diffusion currents on source of error 9-7843
 - MIS devices, large-amplitude hysteresis, model 9-19665
 - morphological instability under constitutional supercooling during cryst. growth from melt and stabilising thermal gradient 9-4910
 - n-type, absorption of millimetre radiation in mag. field 9-11083
 - n-type, acoustoelectronic interaction, effect of alternating electric field 9-11188
 - n-type, acoustohelicon waves, parametric excitation 9-38135
 - n-type, compensated, LF current instabilities 9-7859
 - n-type, conduction-band struct. from reflectivity meas. when subject to mechanical strain 9-42450
 - n-type, damped surface magnetoplasmons, theory 9-7873
 - n-type, dispersion curves for surface polaritons 9-19646
 - n-type, electron mobility at 77K in avalanche regime 9-33295
 - n-type, electron recomb. between Landau levels 9-38096
 - n-type, freq. depend. of effective temp. of hot carriers 9-11135
 - n-type, frequency shift of combined resonance, influence of plasma oscills. of conduction electrons 9-7850
 - n-type, Hall effect and magnetoresist. in mag. freeze-out region 9-15165
 - n-type, heavily doped, spontaneous radiative recomb., complete vel. and radiative capacity 9-11458
 - n-type, helicon wave propag., quantum mechanical features 9-42571
 - n-type, high power helicon, interaction with semiconductor-free space interface 9-38114
 - n-type, hole mobility temp. depend. after electron bombardment 9-33290
 - n-type, photoconductivity meas. in crossed fields 9-7852
 - n-type, recomb. of hot electrons, photoelectromag. and dynamic photocond. meas. 9-38081
 - n-type, spherical samples, size resonances, magnetoplasma waves 9-11168
 - n-type, strongly compensated, ionized donor mol. optical absorpt. spectra characts., 1.5-2.5 μm 9-11422
 - n-type, sub mm photocond. (*Russian*) 9-38134
 - n-type, surface polaritons, excited by microwave magnetoplasma 9-19530
 - n-type, transverse magnetoresist. in strong mag. fields 9-4571
 - n-type, tunable far IR Landau emission with subnanosecond rise time 9-32015
 - n-type, tunnel diode, with high reverse bias, V-I characts. 9-38158
 - nonlinear optical effects obs. using CW CO laser 9-3752
 - oscillatory electron drift rel. in non-ohmic regime at low temp. 9-33291
 - oxide films grown by anodization in electrolytes, electron spectroscopy exam. (*German*) 9-15837
 - p-type, influence of plastic bending on galvanomag. props. 9-28349
 - p-type, ion bombardment using 30-80 keV ions, isochronous annealing, elec. props. obs. 9-19295
 - p-type, IR detector, photovoltaic operation, theoretical anal. 9-224
 - p-type, oscills. of microwave photocond. and cyclotron reson. of photoelectrons 9-28377
 - phonon conductivity, 2 to 300K, scatt. mechanisms 9-4436
 - photoluminescence and Raman scattering, interaction of exciton recombination with LO phonons 9-38647
 - photoluminescence exam. 9-28809
 - plasma, drift wave instability 9-15175
 - Raman laser, pulsed spin-flip, external cavity, low field operation at 10.6 μm 9-41394
 - refractive index dispersion 9-24280
 - resonance Raman scatt. under uniaxial stress near E₁ gaps 9-42960
 - sputtered, NaCl type, compression 9-46751
 - stress-induced phase change of single cryst. 9-23719
 - superconductor-semicond. device research, future prospects 9-28467
 - surface, (110), oxidation process, XPS study 9-15585
 - surface magnetoplasma waves, reson. spectrum and dispersion characts. 9-38148
 - transport phenomena, review 9-19587
 - tunnel diode, V-I characts., hydrostatic press. effects 9-38157

indium antimonide continued

- N-type, forward biased Schottky barriers on low doped surfaces, current transport 9-24074
 X-ray two-circle SSD diffractometer appl. in angle dispersive mode 9-14641
 Al- Al_2O_3 -InSb MIS structures, recomb. processes and carrier lifetimes 9-38177
 Ga-In-As-Sb quaternary system, phase equilib. and heterojunctions 9-34016
 Ga $_{1-x}$ In $_x$ As $_y$ Sb $_{1-y}$ laser, efficient room temp. stimulated emission, 1.8 to 2.4 μm spectral range 9-10307
 Ga $_{1-x}$ In $_x$ Sb, epitaxial, vapour-phase growth using open-tube flow system 9-33943
 InAs $_{1-x}$ Sb, disorder-enhanced Auger recomb. 9-43014
 InAs $_{1-x}$ Sb $_x$, epitaxial film, carrier recomb., elec. and optical props. 9-15164
 InAs $_{1-x}$ Sb $_x$ InAs, lattice parameter meas. in epitaxial layers 9-11040
 InGaAsSb based injection heterolaser, 1.9 μm stimulated emission 9-18420
 In $_{0.55}$ Ga $_{0.42}$ Sb, interband magneto-optical transitions, arbitrary field orientation 9-42948
 In $_{1-x}$ Ga $_x$ Sb alloy system, interband magnetooptical study using Schottky barrier 9-8124
 InSb, hydrostatically pressed, negative differential cond. at room temp. 9-19600
 InSb: Cd, diffusion props. of Cd, modified C-V technique meas. 9-19401
 InSb:Cr:Zn, magnetic freeze-out electrons at deep Cr level 9-15169
 InSb:Sn, equilibrium distribution coefficient of Sn 9-10872
 InSb:Te, Czochralski cryst. growth, strain configuration study using X-ray anomalous transmission topography 9-23552
 n-InSb:Zn, Zn diffusion out of implanted layers 9-10984
 InSb-anodic oxide-Ni, energy band diagram, internal photoemission meas. 9-33356
 InSb-GaSb alloys, directionally solidified, composition variations, electron probe anal. 9-24513
 InSb-GaSb solid solution ingots, orientation, twinning and orientation depend. reflectance 9-28001
 InSb-LiNbO $_3$ layer structures, fabrication and use in SAW amplification 9-41540
 InSb-NiSb plate, nature of transverse photo-EMF 9-15186
 InSb-NiSb system, anisotropic, acoustomagnetoec. effect, theory 9-24021
 InSb-Sb eutectic solidification, interface demarcation expts. 9-43228

indium compounds

- see also *indium alloys; indium antimonide*
 [CC] In $_{1-x}$ Ga $_x$ As-GaSb $_{1-x}$ As $_y$ superlattice, optical absorption 9-19887
 oxidised surface, bonding of cadmium arachidate monolayers, XPS 9-15011
 plasma, EM wave instability, effect of density gradient 9-1607
 ternary and quaternary oxides, prep., cryst. struct., and mag. props. 9-14771
 p-AgInSe $_2$, far IR props. 9-42976
 Au-InS Schottky-barrier diode, tunnelling current due to thermionic-field emission 9-33340
 CdInGa $_x$ Au, single crystal, thermally stimulated conductivity (Russian) 9-11142
 CdIn $_2$ S $_4$, photocond. and electron trap distrib. 9-28373
 CdIn $_2$ S $_4$, photoluminesc., thermal quenching and recomb. centres 9-24362
 CdIn $_2$ S $_4$, valence band densities of states, XPS meas. 9-28892
 CdIn $_2$ Se $_4$, needle-like cryst. X-ray exam. 9-42031
 CdS, granulated films, optical reson. 9-4863
 CuInS $_2$, minority carriers lifetime, photoelectromag. effect meas. 9-47125
 CuInSe $_2$, IR lattice vibr. spectra 9-28765
 CuInSe $_2$ -CuInS $_2$, melts, viscosity, elec. cond., density composition prop. graphs 9-14948
 Fe $_{3-x}$ In $_x$ O $_4$, ferropinsels, cation distrib., Curie point and magnetisation meas. 9-42095
 Ga-In-As-Sb quaternary system, phase equilib. and heterojunctions 9-34016
 Ga-In-Sb, ternary phase diagram, thermodynamic models of solidus and liquidus isotherms 9-24504
 GaAs-Ga $_{1-x}$ In $_x$ P multilayer epitaxial films, MBE technology and epitaxial layers props. 9-33945
 GaInAs, photocathode with negative electron affinity, photoemission, influence of strong elec. field 9-8227
 Ga $_{0.47}$ In $_{0.53}$ As homojunction photodiode, avalanche photodetector for 1.0-1.6 μm region 9-6179
 Ga $_{0.7}$ In $_{0.3}$ As photodiodes, fibre optic appls. 9-40613
 Ga $_{1-x}$ In $_x$ As photocathode, negative electron affinity, photoelectron scatt. in Cs-O film 9-28899
 Ga $_{1-x}$ In $_x$ As solid solns., electron scatt. by isoelectronic impurities in covalent crystals. 9-11129
 Ga $_{1-x}$ In $_x$ As, VPE grown, refractive index, reflectance meas. 9-4780
 Ga $_{1-x}$ In $_x$ As-InP heterostructure, growth by MBE 9-8251
 GaInAsP DH laser diode CW modelocking 9-7126
 GaInAsP/InP DH lasers, with (100) substrate, 1.2-1.5 μm , LPE growth conditions 9-15617
 GaInAsP-InP buried stripe DH laser, fabrication using meltback method and CW operation 9-3708
 GaInAsP-InP buried heterostructure laser with mesa substrate, linear light/current characs. 9-36894
 GaInAsP-InP DH layers, lattice deform. and misfit dislocations 9-19473
 GaInAsP-InP DH lasers with low threshold, narrow-beam divergence 9-36892
 GaInAsP-InP DH lasers, for fibre optic communications 9-31924
 GaInAsP-InP lasers and detectors, for fibre optic communications at 1.0-1.6 μm 9-3803
 Ga $_{0.08}$ In $_{0.92}$ As $_{0.18}$ P $_{0.82}$, band struct., optical studies 9-47013
 Ga $_{1-x}$ In $_x$ As $_y$ P $_{1-y}$ Ge(Sn)(Te), epitaxial film, elec. and optical props. 9-11251
 Ga $_{1-x}$ In $_x$ As $_y$ P $_{1-y}$, thermal expansion coefficients, 25-400°C 9-46817
 Ga $_{1-x}$ In $_x$ P, film, energy band struct., photolum. meas. 9-7784
 Ga $_{1-x}$ In $_x$ P:Mn, ESR of Mn 9-11341
 Ga $_{1-x}$ In $_x$ Sb-GaSb, lattice parameter meas. in epitaxial layers 9-11040
 Ga $_{1-x}$ In $_x$ Se, energy spectrum and struct., X-ray diffr. and light absorption 9-11437
 Ge-Sn, chalcogenide glass, determ. of glass phases, phys. props. meas. 9-23526
 In-Ga-As system, heterophase equilibrium, phase diagram calc. 9-43212

indium compounds continued

- In-In $_2$ O $_3$ -Pb tunnel-junction barriers, evidence for chemical annealing effects 9-42701
 In-P system, liquid-vapour equil., VP functional depend., 1023 to 1123K 9-42228
 In-P-As-Sb, III-V quaternary alloy, A $_x$ B $_y$ C $_2$ D or AB $_x$ C $_y$ D $_2$, energy band gap and lattice constant 9-4296
 p-InAs, characts. of Pb supercond. contact 9-38254
 InAs epitaxial layers, on GaAs substrate, electron diffr. and SEM exam., electronic props. 9-1552
 InAs, exam. of decomposition of donors 9-1605
 InAs, heavily doped, Burstein-Moss effect and near-band-edge luminesc. 9-47525
 n-InAs, heavily doped, spontaneous radiative recomb., complete vel. and radiative capacity 9-11458
 InAs heteroepitaxial layers, VPE grown, effect of AsCl $_3$ mole fraction on elec. props. 9-11255
 InAs IR filter properties, operational characts. of antireflection coatings 9-14107
 InAs, lattice dynamics 9-14895
 n-InAs, negative photocond. and photomemory due to pot. barrier on surface 9-19620
 n-InAs phonon propagation, heat pulse obs. 9-46852
 InAs, photoluminescence exam. 9-28809
 InAs, possibility of local epitaxy in depressions on unmasked substrates 9-42415
 InAs, single crystal, stress-induced phase change 9-23720
 InAs, superconductor-semicond. device research, future prospects 9-28467
 InAs, thin film prep. and elec. props. 9-1633
 InAs, transport phenomena, review 9-19587
 n-InAs, transport props., influence of higher energy bands, calcs. 9-19598
 InAs:Cr, high-resist., energy positions of deep levels, elec. and optical props. 9-7807
 InAs-Al $_x$ Ga $_{1-x}$ Sb heterojunctions, elec. and photoelec. props. 9-11206
 InAs-GaSb superlattice energy struct. and semiconductor-semimetal transition 9-23893
 (InAs) $_{1-x}$ (CdSe) $_x$ solid solution, elec. props. 9-15146
 InAs $_{1-x}$ Sb $_x$, disorder-enhanced Auger recomb. 9-43014
 InAs $_{1-x}$ Sb $_x$, epitaxial film, carrier recomb., elec. and optical props. 9-15164
 InCl, B-X system, rot. anal. 9-36619
 InCl, red and yellow, X-ray structural anal. 9-4287
 InF $_3$ -MF $_3$ (M=alkalines, Tl, NH $_4$), crystallographic study (French) 9-46631
 InGaAs-GaSbAs periodic structures, with controlled emission 9-7880
 InGaAs-In $_{1-x}$ Ga $_x$ As $_y$ P $_{1-y}$ DH laser, LPE fabrication, electroluminesc., lasing characts. 9-3709
 In $_{1-x}$ Ga $_x$ As alloy surface states obs., using electron energy loss spectra 9-15202
 In $_{1-x}$ Ga $_x$ As, LPE growth on InP substrate, quasi grown layers, photoluminescence meas. 9-23862
 In $_{1-x}$ Ga $_x$ As, LPE on InP substrate, comp. latching phenomenon and lattice mismatching effects 9-28961
 In $_{1-x}$ Ga $_x$ As-GaSb $_{1-x}$ As $_y$ superlattice, with nonlinear energy-wave and energy-momentum relationships 9-7871
 In $_{1-x}$ Ga $_x$ As-GaSb $_{1-x}$ As $_y$ heterostructure devices 9-42624
 InGa $_{1-x}$ As-Au Schottky contacts, interfacial oxide layers used to increase effective barrier height 9-7896
 InGaAsP IR heterojunction photodiode detector 9-21813
 InGaAsP, LPE growth on InP, influence of lattice mismatch on surface morphology 9-1553
 InGaAsP quaternary alloy IR heterojunction detectors, props. 9-2823
 InGaAsP, with and without InP cladding layers, low photolum. regions 9-33754
 InGaAsP:Be ion-implanted avalanche photodiode, struct. and characts. 9-17487
 InGaAsP:Sn(Te)(Zn), LPE growth, influence of growth-solution dopants on distrib. coeffs. 9-47640
 InGaAsP-InP DH laser, threshold depend. on active layer thickness 9-7127
 InGaAsP-InP photodiodes, microplasma-limited avalanche multiplication at 1 to 1.3 μm 9-26128
 In $_{0.79}$ Ga $_{0.21}$ As $_{0.54}$ P $_{0.46}$, LPE layer, electroluminescence meas. 9-24290
 In $_{1-x}$ Ga $_x$ As $_y$ P $_{1-y}$ layers on InP substrate, LPE growth, quaternary phase diagram, and band gaps 9-42403
 In $_{1-x}$ Ga $_x$ As $_y$ P $_{1-y}$, p-n junction diodes, fabrication by Be ion implantation 9-47156
 In $_{1-x}$ Ga $_x$ As $_y$ P $_{1-y}$, DH laser material, spatially resolved photolum. characterisation and optically induced degradation 9-47486
 In $_{1-x}$ Ga $_x$ As $_y$ P $_{1-y}$, lattice matched to InP, band gap vs. comp., and Vegard's law demonstration 9-7782
 In $_{1-x}$ Ga $_x$ As $_y$ P $_{1-y}$:Be, ion implantation, hole conc. and mobility, junction depth 9-46685
 In $_{1-x}$ Ga $_x$ As $_y$ P $_{1-y}$ -InP photodetectors, high-efficiency with selective wavelength response, 0.9-1.7 μm 9-21810
 In $_2$ Ga $_{1-x}$ As $_x$ P $_{1-y}$ layers on InP, LPE and opt. props. characteris. 9-28849
 InGaAsSb based injection heterolaser, 1.9 μm stimulated emission 9-18420
 InGaP-GaAs junction, effect of elastic strain on energy band gap and lattice parameters 9-24057
 In $_{1-x}$ Ga $_x$ P, LPE, conditions, reacts. in In-Ga-P system 9-11525
 In $_{1-x}$ Ga $_x$ P, non-isodisplacement of P atoms in long-wavelength optical phonons 9-47444
 In $_{1-x}$ Ga $_x$ P, quantitative characterisation of chemical disorder from wavelength-modulated no-phonon absorpt. 9-15482
 n-In $_{1-x}$ Ga $_x$ P solid solns., electron scatt. mechanisms (Russian) 9-4568
 In $_2$ Ga $_{1-x}$ P, TEM foil preparation, using polishing set 'Elypovist' (German) 9-9264
 In $_{1-x}$ Ga $_x$ P- α -As $_2$ solid solution, radiative transitions 9-11476
 In $_{1-x}$ Ga $_x$ P $_{1-x}$ As $_x$, stimulated yellow-green emission under electron excitation, 80K 9-33846
 In $_{1-x}$ Ga $_x$ P $_{1-x}$ As $_x$, visible spectrum laser diode, continuous operation, 6280 Å, 77K 9-960
 In $_2$ Ga $_{1-x}$ Sb, molecular beam epitaxy 9-47638
 In $_2$ Ga $_2$ Te $_{10}$, X-ray cryst. struct. determ. (French) 9-23580
 InH(SO $_4$) $_2$ ·4H $_2$ O, cryst. parameters and X-ray powder diffr. data (French) 9-14765
 InI, far IR spectra obs. 9-47435
 InI, orthorhombic, reflection spectra, exciton transition 9-24333

indium compounds continued

- InI, photoluminesc., Raman scatt. 9-38593
 InI₂ far-IR spectra, valence states in InI₂ 9-47435
 InI₃, far IR spectra obs. 9-47435
 InKr, low-lying electronic states, PE curves, transition moments, emission coeffs. 9-6894
 In₃Mo₃Se₉, containing isolated Mo₆ and Mo₉ clusters, single cryst. X-ray diff. anal. 9-32952
 In₃Mo₃Se₉, high field supercond., crit. temp. and crit. field 9-47211
 InN, epitaxial layer prep. and X-ray analysis 9-38747
 InO₃Sn film, prep. by spray hydrolysis, struct., elec. and optical props. (Japanese) 9-42678
 n-InO₃ film, on Pb(Zr,Ti)O₃ ceramic, ferroelec. field effect 9-47177
 InO₃, lattice defects, optimum prep. conditions w.r.t. stoichiometry 9-27974
 InO₃ layer, in ohmic contact for BaTiO₃ 9-42638
 InO₃ semiconductor electrode, sensitised photocurrent by energy and electron transfer in dye monolayers 9-38119
 InO₃, spray coated, reaction with Si, IR investig. 9-39197
 InO₃Sn, thin films, prep. by pyrolytic method, charact. by SEM, electron diff. and SIMS, solar energy appl. 9-43143
 InO₃Sn, transparent conducting films, prep. by InCl₃ thermal decomp., transmittance, resistivity 9-33944
 InO₃Sn film, electroreflectance effects, 9-43055
 InO₃Sn films, doping profiles and elec. props., appl. to optoelectronic devices 9-38203
 InO₃Sn transparent cond. films, hydrolysis deposition, elec. and optical props. 9-43144
 InO₃Sn-Al₂O₃-Al tunnel junction, light emission via inelastic tunnelling effect 9-24076
 InO₃Sn-Si solar cell, characterisation (French) 9-39306
 InO₃Si(Ge)(GaAs)(InP) heterostructure solar cells, photovoltaic and rectifying props., electron affinity determ. 9-1618
 InO₃SnO₂, thin films deposited on cold substrates, life stability 9-23867
 InP (100) surfaces, chem. treatment effects on comp. and nature 9-47794
 InP, anal. of anodically oxidised (111) layers by MeV ⁴He⁺ channelling effect meas. and AES 9-4492
 InP, chemisorption and oxidation states of (110) surfaces 9-24049
 n-InP, compensated impurity conduction and negative magnetoresist. 9-28360
 InP, deep-level traps and cond.-band struct. 9-19542
 InP electrodeposition, solvent systems, low melting point comps. in alkali metal metaphosphate/fluoride systems 9-28079
 InP electrodes in acetonitrile solns., photoelectrochem. behaviour 9-4600
 InP, exciton localisation at impurity pairs 9-37999
 InP, excitons bound to neutral donors in VPE layers, luminesc. and absorpt. obs. 9-42460
 InP, excitons detect., precision method 9-19906
 InP, far IR LPE photodetector performance 9-30546
 InP film, liquid-phase epitaxial growth on (100) and {111} substrates (Slovak) 9-15037
 n-InP film, polycryst., deposited on Mo sheets, elec. props. obs., w.r.t. varying deposition conditions 9-4608
 InP, film, prep. by low press. reactive deposition process 9-24449
 p-InP film growth, by close space vapour transport 9-28944
 InP, growth and props. 9-1822
 InP, homoepitaxial film by MO-CVD process, for heterojunc. solar cell fabrication 9-8250
 n-InP, hopping cond., nonohmic nature 9-23976
 InP, LPE growth on GaAs, etching and electron probe anal. 9-11526
 InP, large size single crystals, synthesis, solute diffusion technique 9-33917
 InP, lattice dynamics 9-14895
 InP, liquid encapsulated Czochralski cryst. growth, X-ray study 9-47619
 InP, n- and p-type, surface recomb. vel. meas., diff. from transient optical grating 9-1604
 InP ohmic contacts 9-28406
 InP, ohmic contacts by thin film epitaxy, Gunn oscill. appl. 9-38159
 InP p-n junction diodes, fabrication by Be ion implantation 9-47156
 InP, proton range data and deep proton-isolated lasers 9-36923
 InP, semicond., ³¹P nuclear mag. shielding 9-33549
 InP substrates, control of thermal degradation in LPE growth with PH₂ partial pressure 9-33949
 InP, surface recombination velocity, diff. from picosecond transient free carrier gratings 9-47109
 InP, synthesis solute diffusion grown, elec. props., photoluminesc., etch pit profiles 9-4914
 InP, transport phenomena, review 9-19587
 InP, VPE using CVD 9-28927
 InP, vapour phase epitaxial growth in presence of O₂, elec. props. 9-46971
 n-InP wafer, defect studies by ASLEEP, SEM and scanning AES 9-19256
 InP wafer diagnostics, using computer automated scanning low-energy electron probe 9-4214
 InP:Be, ion implantation, hole conc. and mobility, junction depth 9-46685
 InP:Bi, isoelectronic impurity states, emission and absorpt. obs. 9-42491
 p-InP:Cd(Zn), single cryst. growth by temp. gradient method 9-28907
 InP:Si(Mg), ion implantation and PH₃ ambient annealing under VPE conditions 9-42085
 InP:Sn, LPE growth from Sn soln., elec. props., 80 to 300K 9-11250
 n-InP/Au-Zn Schottky barrier diodes, fabrication and elec. props. 9-33348
 InP-Au contacts, conditions of fabrication that control interfacial microstruct. 9-42643
 InP-Au Schottky barriers, PES and depth profiling obs. 9-42641
 InP-Ga_{1-x}As_xP_{1-y} systems, for optical devices in 1 to 1.6 μm region, LPE growth (Japanese) 9-28956
 InP-In_{1-x}Ga_xAs_{1-y}P_y, DH lasers, dielectric-constant step 9-18418
 InP-In_{1-x}Ga_xP_{1-y}As_y quantum-well LPE heterostructure lasers, band filling and gain 9-22955
 InP-InO₃ heterojunction solar cells, photovoltaic and rectifying props. 9-1618
 InP-metal contacts, metal beam epitaxy, struct. and elec. props. of films on ion bombarded InP 9-28922
 n-InP-metal surface barrier struct., props. 9-11223
 InP(As), refractive index dispersion 9-24280
 InS, Raman scatt. spectra and interpacket interaction 9-8146
 In₂S₃, valence band densities of states, XPS meas. 9-28892

indium compounds continued

- InSbSe₃, cryst. prep. and props. 9-15601
 In_{1-x}Sb_{0.2x}Se₃, cryst. prep. and props. 9-15601
 InSe, ang. depend. of core level photoemission 9-43099
 InSe based heterojunctions, props. 9-11210
 InSe, direct gap exciton exam. by magneto-optics and photoconductivity 9-19527
 InSe film, photochem. production of holograms on surface (Russian) 9-7101
 InSe film, structure, influence of laser beam 9-7761
 InSe, layer cpl., reson. Raman scatt. at higher Mo exciton edge 9-28764
 InSe, layer semicond., electronic props. 9-28275
 InSe, photovoltaic effect, appl. to solar energy conversion 9-29481
 InSe, Schottky photovoltaic props. 9-7854
 InSe, second order Raman spectrum and phase transition 9-38545
 InSe-SnSe system, phase diagram and lattice const. of solid solns. 9-34014
 In₄Se₃, thermal cond., 2 to 30K, Umklapp processes and phonon boundary scatt. (Russian) 9-10991
 In₂Se₇, single cryst. prep. and electrophys. props. 9-43129
 In_{2-x}Sn_xO₃, sputter deposited, electrical and optical props. 9-47181
 In₂Se₃, liq., elec. cond. at high temps. and pressures 9-11119
 In₂Te₃, liq., elec. resistivity meas. up to 30 kbar 9-38070
 In₂Te₃, low temp. ordered phase and transition state, TEM obs. 9-28095
 α-In₂Te₃ single crystals, elec. and photocond., temp. depend., linear thermal expansion coeff. 9-42541
 (In₂Te₃)_{1-x}(In₂Se₃)_x, thermal cond. exam. 9-28160
 In₂Te₃O₈, isolated in In₂O₃-TeO₂ system, cryst. struct. anal. (French) 9-32977
 La₃InS₆, cryst. struct., four-circle diffractometer data and Fourier synthesis determ. (French) 9-14739
 NH₄In(SO₄)₂·4H₂O, cryst. struct. 9-19231
 SnTe-InTe system, solid soln. films prep. under quasi-equilibrium conditions 9-33931
 TiInS₂, optical phonons, IR and Raman spectra (Russian) 9-10903
 TiInS₂Se_{2(1-x)}, layer solid soln., mixed one- and two-mode behaviour of optical phonons 9-47445
 TiInS₂Se_{2-x}, solid solution, optical and photoelectric props. 9-11179
 TiInS₂, single cryst., elec. cond., photocond. and IR spectra absorpt. spectrum 9-47097
- INDO calculations**
 anthranyl radicals, ESR, temp. depend. phenyl twist angles 9-18210
 ethylenes, substituted, unstable twisted forms, excited states, DODS-NO CI calcs. 9-13643
 formamide, and related cpds., INDO-CI calc., transition moments 9-45637
 II-VI compounds with transition metal impurity, SCF LCAO MO formalism in CNDO and INDO approx. 9-38017
 invariance requirements in approx. SCF MO theory 9-6824
 methanes, substituted, calculation of proton chemical shifts 9-45657
 molecular orbital methods, speed and accuracy, comparison of methods 9-41106
 nucleotide sugar-phosphate region, γ-irradiated, deoxycytidine 5'-phosphate alkoxy radical EPR 9-5249
 organic radicals, HFS coupling const. calcs., RHF+CI method in INDO approx. 9-770
 PCILMO method, modified, second-order energy using CNDO/2 and INDO Hamiltonian approxs. 9-36533
 9-phenylanthranyl radical, ESR, temp. depend. phenyl twist angle 9-18210
 Raman intensity of molecules, modified CNDO/2/INDO method 9-825
 TCNQ, and anions, PRDDO method using Slater orbital basis 9-764
 TCNQ, anions, screened INDO model, appl. to photoelectron, optical, Raman spectra 9-765
 TGS, X-irrad., glycine radicals, geom. struct. by ENDOR and INDO calc. 9-24230
 uracil, aq. soln., fast electron induced radical identification 9-24870
 y-base, ground and excited states, dipole moment, CNDO/S and INDO/S calcs. 9-36534
 As₄S₄, electronic struct. and vertical electron affinities, INDO-type ASMO SCF calcs. 9-31402
 As₄Se₄, electronic struct. and vertical electron affinities, INDO-type ASMO SCF calcs. 9-31402
 As₄Se₄, electronic struct. and vertical electron affinities, INDO-type ASMO SCF calcs. 9-31402
 As₄Se₄, electronic struct. and vertical electron affinities, INDO-type ASMO SCF calcs. 9-31402
 CO, electron scatt., adiabatic polariz. pots. 9-10203
 CO₂, elastic electron scattering and rot. excitation calcs. 9-22834
 D quadrupole coupling const., semiempirical MO theory 9-10128
 H+CH₃-H₂+CH₃, transition state, UHF method in INDO approx, 9-43578
 NCNCO, geometrical struct., INDO calcs. 9-22602
 NF₂, ionis. pot., many-body diagrammatic RSPT calc. 9-31378
 NO₂, ionis. pot., many-body diagrammatic RSPT calc. 9-31378
 P-C, one-bond couplings, orbital and spin dipolar contribs., INDO approx. 9-31552
 S₄N₄, electronic struct. and vertical electron affinities, INDO-type ASMO SCF calcs. 9-31402
 S₄N₄, electronic struct. and vertical electron affinities, INDO-type ASMO SCF calcs. 9-31402
 Si-C, one-bond couplings, orbital and spin dipolar contribs., INDO approx. 9-31552

INDOR

see also nuclear Overhauser effect

- ²H quadrupole resonance, double transitions, appls. 9-3465
¹⁵N-¹H⁺ NMR, coupling const., double reson., difference proton Fourier transform spectroscopy 9-3467

induced anisotropy (magnetic)

- amorphous ferromagnets, mag. fundamentals, props. and appl. (German) 9-28557
 films, induced mag. anisotropy, temp. depend. (Russian) 9-42757
 Er₂Fe₂O₁₂, low temp. CVD epitaxial film growth and mag. props. 9-42406
 (Eu,Y)₂Fe₂O₁₂, low temp. CVD epitaxial film growth and mag. props. 9-42406
 (Eu,Yb)₂Fe₂O₁₂, low temp. CVD epitaxial film growth and mag. props. 9-42406

induced anisotropy (magnetic) continued

($\text{Fe}_{1-x}\text{Co}_x$)₇₇ $\text{Si}_{10}\text{B}_{13}$ alloys, amorphous, induced mag. anisotropy by mag. annealing 9-4671
 $\text{Fe}_{40}\text{Ni}_{40}\text{P}_{14}\text{B}_6$, amorphous, stress-induced mag. easy axis 9-33516

inductance

brass cylindrical shells, thickness determ. by inductive meas. 9-12760
 rotationally symmetric mag. field expansions into zonal harmonic functions 9-31772
 solenoid inductance, minimisation, mag. induction optimum profile 9-31769
 Cu cylindrical shells, thickness determ. by inductive meas. 9-12760

inductance measurement

bridge measurement methods and formulae for calculating inductance 9-44920
 direct reading inductance meter 9-2787
 RLC bridge, with oscillator and having ten ranges 9-2785

induction, electromagnetic *see electromagnetism induction***induction heating**

see also electric furnaces; ovens
 electrical resistance of metals, and semiconductors at high temp., using inductive heating 9-7816
 HF generators, calorimeter for power output investigation (*German*) 9-40571
 ion plating, induction-heated source, arcing elimination by top coil grounding 9-47639
 steel, rolls for cold-rolling mills, surface hardening, contact fatigue strength 9-24664

induction machines *see asynchronous machines***inductor microphones** *see microphones***inductors**

see also coils; transformers
 ferromagnetic, external field effect on MHD convertor, at finite mag. Reynolds nos. (*Russian*) 9-1351
 plasma-filled inductor, producing liq. metal MHD in trough (*Russian*) 9-1259

industrial atmospheres *see air pollution***industrial computer control**

see also computerised materials handling
 conference on analysis instrumentation, Charleston, West Virginia, USA (May 1977) 9-16100

industrial control

see also industrial computer control
 neutron radiography using research reactors 9-11757

industrial economics *see economics***industrial plants**

acoustic noise, random sampling techniques for in-plant use 9-27464
 fibre-optic data link integrated components 9-10392
 health service automated ECG analysis results 9-39563
 noise control services including acoustic enclosure with calculation of ventilation requirements 9-23138
 precision filter radiometer development and applications 9-21814
 refining factory, cost-effective noise control 9-23139
 sheet-steel manufacturing plant, partial enclosures for noise control 9-29495

industrial property

camera automatic focusing mechanism principles and designs 9-30595
 glass comp., patent information, automated retrieval system 9-24715
 patents, significant aspects 9-17187

industrial research management *see research and development management***industrial standards** *see standards***industries**

this heading is restricted to those industries which are not covered by other specific headings
see also brick industry; ceramic industry; chemical industry; electricity supply industry; food processing industry; manufacturing industries; metallurgical industries; mineral processing industry; petroleum industry; printing industry; rubber industry; textile industry
 noise exposure control in heavy industrial plants 9-14153

inelastic electron tunnelling spectra *see tunnelling spectra***inelastic electron tunnelling spectroscopy** *see tunnelling spectroscopy***inert anodes** *see anodes***inert gas compounds**

see also argon compounds; helium compounds; krypton compounds; neon compounds; radon compounds; xenon compounds
 alkali + inert gas molecule, far wing line broadening, quasistatic theory 9-22762
 halide excimer lasers, power and efficiency, review 9-937
 halide exciplex lasers, VUV and XUV pulse generation 9-3688
 halide high-power lasers, efficiency and energy scaling, review 9-36887
 halide ions, form., mass spectrosc. obs. 9-29346
 halide lasers, pumped by transverse elec. discharge devices 9-41373
 halide VUV lasers, pumped by travelling-wave discharges, 170 to 250 nm range 9-41372
 halides, B(1/2)-A(1/2) system, emission spectra 9-6934

inert gases

see also argon; helium; krypton; neon; radon; xenon
 adsorption, on metal surfaces, excitation spectrum 9-23832
 adsorption, on metallic surface, collective effects 9-19456
 afterglow plasma, anisotropic props. 9-1362
 arc, low-voltage, ionis. mechanism 9-27852
 in atmospheres of Venus, Earth and Mars, abundances rel. to planetary interiors outgassing 9-48721
 atom, low energy electron elastic scatt. effective cross section, time of flight meas. 9-13823
 atom, screened potential model, for at. energy levels and oscill. strengths 9-36516
 atom+alkali halide, inelastic scatt., short-lived complex form. 9-13796
 atom+atom, excited state-ground state interactions 9-18259
 atom+ H^+ , charge transfer, ejected electron spectra 9-45828
 atom+ I_2 , energy and ag. momentum transfer, polarised laser fluoresc. obs. 9-31590
 atom+ion, radiative charge transfer coeffs. 9-7010
 atom+Rb, spectral broadening and shift of Rb 9-22663
 atom+Rydberg atom, ang. momentum mixing 9-10175
 atom+ S^{4+} , electron promotion effects for small impact parameter 9-18278
 atom+ $\text{Ti}(\text{S}_{1/2})$, long-range interaction, spectral line shifts and broadening 9-10174

inert gases continued

atoms, polarisabilities, linear and nonlinear, screening consts. effects 9-31435
 atoms, reson. widths, anomalous variation 9-31478
 binary inert gas systems, determ. of (m,6,8) pot. parameters 9-46414
 BWR power plant stack effluent inert gas nuclide monitor 9-3255
 crystals, intermediate-radius excitons (*Russian*) 9-11068
 dense gases and liqs., three-body nonadditive interactions, thermodynamics props., mol. dynamics simulation 9-7435
 dimer ions, electronic struct., chem. binding 9-31376
 dimers, Gordon-Kim intermol. force model 9-45781
 excimer lasers, VUV and XUV pulse generation 9-3688
 excited complexes, instrument for quenching studies 9-17511
 field ion appearance potential spectroscopy, temp. effects 9-19978
 gas, eqn. of state, second virial coeffs., intermol. pot. at low temp. 9-46416
 hollow cathode tube, inert gas buffered U, time resolved optogalvanic effect 9-37564
 inert gas:Eu(Sm), absorpt. and emission spectra, phonon sidebands 9-43021
 interatomic potentials, relativistic effects 9-3516
 ion+atom electron transfer collisions, cross section meas. 9-5143
 ion beam, metastable fraction determ. by W surface impact, secondary electron obs. 9-28873
 low temp. plasma ionisation by fast electron beam, effective cross section calc. 9-14572
 lung, inert gas a-A differences, direct reflection of dV/dQ distrib. 9-20567
 lung elimination characteristics, computer model 9-20566
 mixtures, positron annihilation, conc. and elec. field depend. 9-43062
 Murchison meteorite, inert gases as possible relics of s-process nucleosynthesis 9-21243
 Ontario Hydro nuclear power plant stack effluent monitoring 9-3254
 physisorbed, dipole moments of atoms 9-33175
 pulsed microwave inert gas discharge, ion composition, mass spectra 9-14616
 radioactive, emanation thermal analysis of solid state structures appl. 9-11834
 radioactive rare gas separation performance of a two-unit series-type separation cell 9-41008
 rare gas diffusion as bubbles from lunar fires 9-48695
 scintillation counters for energetic heavy ion detection 9-45550
 solid, delocalisation probability of interstitials 9-7801
 solid, VUV luminesc. from excitons 9-43020
 solids, luminesc., self-trapped exciton 9-38605
 Cs inert gas, pot. energy curves, collision induced oscillator strengths 9-22659
 $\text{D}+\text{H}^+(\text{D}^+)(\text{He}^+)(\text{Ne}^+)(\text{Ar}^+)(\text{Kr}^+)$, reson. charge charge transfer from photoexcited donor state 9-22820
 H^+ +inert gas, charge transfer into excited states, 10-150 keV, target at. struct. depend. 9-45830
 LiF+inert gas atom, interaction anisotropy, Van der Waals forces 9-6985
 N_2O +inert gas ion, mol. ionis., emission obs. 9-31707
 Na+inert gas atom, 4^2D fine struct. transition 9-850
 $\text{S}_2(\text{B } ^2\Sigma_u^-)$ +inert gas (H_2)(N_2)(S_2), collision-induced energy transfer 9-3544

inertial navigation

gravity vector and geodetic position survey, inertial navigation system appl. 9-29914

inertial systems

gyroplatform orientation in geographical meridian, effect of earth non-sphericity (*Russian*) 9-14240

infinite series *see series (mathematics)***inflammability** *see combustion***information analysis**

see also classification; indexing
 astronomy, data growth anal. 9-21202

information dissemination

international team research networks, CAITR, CAPS examples, cost-benefit analysis 9-35441
 selective information distribution system for international scientific co-operation (*Russian*) 9-179

information retrieval

see also information storage
 astronomy data growth, obs. of known objects, bibliographic inaccessibility problem 9-21202
 liquid-liquid equilibrium data, retrieval 9-46797

information retrieval systems

glass comp., patent information, automated retrieval system 9-24715
 Japanese reactor noise pattern library 9-3338
 mass spectra data identification, text search system based on Boolean logic 9-20480
 nuclear safety inform. retrieval system, development 9-26551
 oncological clinical research, data storage and retrieval system 9-48321

information services

hydrologic data networks, design 9-21022
 international team research, information networks, CAITR, CAPS examples, cost-benefit analysis 9-35441
 Nuclear Code Centre, Japan, history, activities (*Japanese*) 9-13618

information storage

see also information retrieval
 liquid-liquid equilibrium data, retrieval 9-46797
 GdIG single crystal plates for magneto-optical information storage 9-7997

information storage systems *see information retrieval systems***information systems, management** *see management information systems***information theory**

see also channel capacity; correlation theory; decision theory and analysis; estimation theory; filtering and prediction theory; modulation; signal detection; signal processing; speech intelligibility
 analytic signal model, physical justification 9-909
 cardiac rhythm disturbances, Markov process model (*German*) 9-2019
 chemical system, nonlinear, open, information, critical fluctuations and phase-transition-like phenomena 9-24720
 cosmology, maximum information universe 9-30157
 gradation, information approach to recognition problem 9-17203
 information uncertainty 9-40506
 living systems, thermodynamic, informational and structural entropies (*Russian*) 9-20511

information theory continued

- lunar surface gravimetric surveying process optimization 9-8846
- oil and gas exploration, information content of geochem. parameters (*Russian*) 9-39957
- photographic images, information content 9-17548
- plant information measures selection criteria nuclear reactor monitoring appl. 9-41006
- quantum measurement as a communication with nature 9-17253
- radiographic images, evaluation by entropy, appl. to development process 9-12914
- speech recognition systems design (*German*) 9-46127
- transinformation functions, constrained, essential features 9-1997

infrared astronomical observations

- 2 A 0311-227, IR flickering obs. 9-40298
- AFGL IR sources in revised catalogue, identifications from 3.5-12.5 μ m obs. 9-25659
- Allen's obscured IR source in NGC 2264, spectrophotometric anal. 9-21370
- Aquila region, near IR mapping at balloon altitudes 9-12514
- asteroids, IR (JHK), photometry 9-2531
- B2 1225+317, IR and optical spectrophotometry, $H\alpha/L\alpha$ ratio 9-25749
- B2 1225+31, high-luminosity quasar, H emission line intensity ratios 9-25748
- B2 1308+326, BL Lacertae object, photometry and polarization during 1978 outburst 9-25718
- Be stars, polarimetry at 1.25 and 2.2 microns 9-44484
- 1580 Betulia, broadband visual and 10.6 μ m photometry 9-2511
- α Bootis, He I 10830 Å emission obs., high-temp. chromosphere 9-48792
- Butterfly Nebula M2-9 rel. to Be stars and protoplanetaries 9-48887
- 3C 120, IR variability, 2 μ m obs. 9-30118
- 3C 273, spectrophotometry of QSO at optical and IR wavelengths 9-17123
- 3C 371, polarisation at 2.2 μ m, nonthermal emission 9-2566
- VY Canis Majoris, diameter upper limits 9-16974
- Carina I and II H II regions, far IR obs. 9-25657
- η Carinae, high angular resolution obs. (35-175 μ) 9-8925
- γ Cassiopeiae, Be star, coordinated IR and optical obs., (in late 1976) 9-25616
- U Cephei, chem. comp. of secondary component of close binary system 9-35308
- α Ceti, vars. in spatial distrib. of 11 micron radiation 9-5828
- α Ceti (Mira), spectropolarimetry 9-21302
- compact nonthermal sources, polarisation at cm., mm., IR and visual wavelengths 9-5913
- cool stars, effective temps; ang. dias. and reddening determ. from 1 to 5 μ m flux curves 9-44458
- cool stars, H₂O maser emission, catalogue of 82 objects 9-8909
- R Coronae Borealis, He I λ 10830 line obs. at 1978 pre-maximum phase 9-16975
- cosmic background, new balloon-borne meas. in far IR (*Italian*) 9-48965
- 3CR, radio galaxies, spectrophotometry spectral energy distrib. 9-21413
- CRL objects, IR polarization obs. 9-48901
- CH Cygni, symbiotic variable, flickering obs. during outburst, binary model 9-8929
- diffuse interstellar bands in 6500-8900 Å region 9-21373
- emission line stars, spectrographic obs., 8000 to 11000 Å (*French*) 9-48815
- ESA/NASA ASSESS II Mission, far IR spectroscopy (*Italian*) 9-48687
- extragalactic nonthermal sources, spectral flux var. in 0.36-3.5 μ m range 9-35412
- fireball meteors, satellite-borne IR obs. 9-35196
- galactic center, variable IR extinction obs. 9-48909
- galactic central region and anomalous IR source, balloon-borne obs. at 2.4 μ m 9-44588
- galactic centre, 4 to 8 micron spectrum 9-48922
- Galactic centre obs. with balloon-borne IR telescope (*German*) 9-5906
- galactic H II regions, O III 51.8 μ m forbidden emission line obs. 9-25685
- galactic plane, diffuse far IR emission, balloon obs. 9-35378
- galactic surface brightness obs. in anticentre direction 9-48935
- galaxies, active southern objects, JHKL obs. 9-40270
- galaxies, bright, southern, photoelectric photometry 9-21436
- galaxies, extinction in IR-emitting nuclei 9-44599
- galaxies, IR luminosity/H I vel. width relation and distance scale 9-44596
- Galilean satellites, near IR spectra rel. to surface composition 9-35180
- giant stars, late-type, O I 7773 Å triplet obs. 9-35250
- giant stars in globular cluster M71, IR colours, CO band strengths and physical parameters 9-25650
- giants of G and K type, Fe abundances 9-16944
- GL 3068, IR spectrum of C star 9-12469
- globular clusters, metal-rich, TiO band strengths, reddening and metallicity determ. 9-40227
- HD 193793, shell condensation around W-R binary, IR obs. 9-12495
- HD 193793, Wolf-Rayet star, IR obs., cooling of circumstellar dust shell 9-48823
- HDE 245770, near IR photometry of OBe star, A 0535+26 optical counterpart 9-48826
- 624 Hektor, nature of Trojan asteroid 9-35176
- α Herculis, He I 10830 Å emission obs., high-temp. chromosphere 9-48792
- AM Herculis, IR and visual monitoring, model constraints 9-17018
- HR 5999 (V856 Scoopii), multicolour photometry, circumstellar dust shell 9-48828
- Hyperion, radius and albedo from 20 μ m obs. 9-40136
- IC 1848 A, bright-rimmed mol. cloud, IR source obs. rel. to star form. 9-5810
- ice, interstellar, 45 μ m signature possible identification in Orion 9-17068
- interstellar molecular clouds, Fourier interferometer for IR line emission obs. (*Italian*) 9-48679
- interstellar type I OH masers, positions, polarisation, nearby H₂O masers, radio and IR props. 9-25671
- Io, absorpt. bands in near IR spectrum 9-5776
- ionized gas motion and distrib. in central parsec of Galaxy 9-25719
- IR 12.4+0.5, compact far IR source discovery 9-40234
- IRC+10216, C star, NH₃ obs. in circumstellar envelope 9-48793
- Jupiter, IR and visible spectrum, C/H ratio 9-48729
- Jupiter, IR multiple freq. sounding of anomalous clouds 9-2515
- Jupiter, NH₃ abundance from 2 μ m spectrum 9-35182
- Jupiter, reflectivities during 1976 opposition 9-40124

infrared astronomical observations continued

- Jupiter, spectrum between 10 and 13 μ m, Jovian ¹⁵N/¹⁴N ratio estimated 9-8876
- Jupiter ring, ground-based 2.2 μ m obs., confirmation of Voyager 1 detection 9-40131
- Kleinnann-Low Nebula in Orion, far IR polarization 9-12502
- late-type stars, angular diameters from lunar occultations 9-44475
- R Leonis, IR spectroscopy of Mira variable, H₂O vibr. rot. band 9-35258
- 87 Leonis, lunar occultation ang. diameter 9-25599
- AP Librae, polarisation at 2.2 μ m, nonthermal emission 9-2566
- Liller 1, optical candidate for X-ray burster MXB 1730-335, IR burst detect. 9-44640
- lunar, soils, mineral comp. determ. from spectral behaviour of albedo 9-21207
- α Lyrae (Vega), O I and Ca II emission in near IR spectrum 9-21289
- M17 (Omega Nebula), O III 51.8 μ m forbidden emission line obs. 9-25685
- M17 SW, obscured IR point source spectroscopic anal. 9-48878
- M31, near-IR energy distrib. 9-12512
- M82, bright ridge detected in 2.2 μ m emission 9-40269
- M82, Ne II 12.8 micron emission obs. and galactic dynamics 9-17082
- M82 nucleus, Brackett-line obs. 9-25704
- M8, large-beam near IR and 24 GHz obs. 9-48882
- M-type dwarf stars, IR Fourier transform spectroscopy, abundance anal. 9-21279
- M-type giants and supergiants, circumstellar gas and dust shells, optical and IR obs. 9-21281
- M-type stars, spectral type and luminosity classification from near IR spectrograms 9-16952
- Mars, extratropical cyclones, Viking Orbiter 1 obs. during summer season 9-44398
- Mars, near IR spectral reflectance, surface comp. determ. 9-21216
- Monoceros R2, IR obs. of CO line 9-25654
- Moon, 0.95 μ m absorpt. strip intensity expression on colorimetric map (*Russian*) 9-44381
- Moon, IR map of disk 9-25526
- MR 2251-178, X-ray quasar, IR obs. 9-44642
- MXB 1730-335, IR bursts detect. from Liller 1 optical candidate 9-44640
- NGC 1275, IR variability, 2 μ m obs. 9-30118
- NGC 5128 (Centaurus A), dark lane, extended 10 μ m emission 9-21429
- NGC 520, tidal interaction in peculiar galaxy 9-48916
- NGC 6334 complex, 1 mm continuum map of cool IR sources 9-21390
- NGC 6357A, O III 51.8 μ m forbidden emission line obs. 9-25685
- NGC 7027, S IV and Ne II IR emission line obs. of planetary nebula 9-21400
- NGC 7129, refl. nebula, star form., CO mol. line and far IR obs. 9-17043
- northern sky photographic optical IR survey 9-21198
- Nova Cygni 1978, distance and interstellar reddening 9-21310
- UV Octantis, VBRI obs. of RRab star, radius determ. 9-8928
- OH 0739-14, IR polarization obs. 9-48901
- Omega Nebula (M17), O I 63 μ m forbidden emission line obs. 9-25684
- ρ Ophiuchi dark cloud, high ang. resolution obs. of far IR source 9-40235
- ρ Ophiuchi dark cloud, ice mantles and abnormal extinction 9-21376
- ρ Ophiuchi dark cloud, IR polarimetry 9-40239
- Orion Nebula, Fabry-Perot high-resolution O I 8446 Å mapping 9-35344
- Orion Nebula, H₂ emission interstellar extinction meas. 9-25668
- Orion Nebula, near IR Fourier spectroscopy of weak lines 9-35328
- Orion Nebula, O I 63 μ m forbidden emission line obs. 9-25684
- Orion Nebula, O III 51.8 μ m forbidden emission line obs. 9-25685
- Orion Nebula, search for H₂ ground state S(2) line 9-8961
- X Persei, Be star, coordinated IR and optical obs., (in late 1976) 9-25616
- β Persei (Algol) system, gravity darkening 9-44525
- PG 0026+129, spectrophotometry of QSO at optical and IR wavelengths 9-17123
- planetary nebulae, 10 micron props. obs. 9-48879
- planets, brightness temps. at 1 mm wavelength 9-2496
- planets, far IR obs., temp. determ. 9-12431
- Pleiades, H α and O I photometry 9-35315
- Pluto, image tube spectra, 6800-9000 Å, search for possible atm., methane upper limit 9-16880
- QSOs, JHKL obs. of four objects 9-40270
- quasi-stellar objects with low-redshift absorpt. systems, search for nearby faint objects 9-17121
- S-type stars, FeH and CeO identification 9-21280
- Hm Sagittae, eruptive variable, IR variability 9-25614
- Saturn, deuterated methane obs. in 5 μ m spectrum 9-25543
- Saturn, equatorial limb scans at 20 microns 9-2517
- Saturn, South Pole temp. enhancement, spatially resolved IR obs. 9-25541
- V861 Scorpii, IR obs. of black hole candidate 9-44538
- Seyfert galaxies, IR emission obs. 9-17083
- Sharpless 106, excitation and nature of bipolar nebula from IR obs. 9-48888
- Sharpless 140 IR source, detect. of assoc. near-IR complex 9-25686
- solar CO spectrum, centre to limb behaviour of first overtone vibr.-rot. transitions 9-8889
- solar coronal holes, solar wind streams and geomag. activity during 1976-77 period 9-25570
- solar flux in Venus atmosphere, meas. by Pioneer Venus multiprobe mission radiometer expt. 9-48718
- solar spectra atlas, 775 to 950 cm⁻¹ and 1050 to 1300 cm⁻¹ 9-48745
- standard stars, polarisation obs. by Hatfield near IR polarimeter 9-2482
- star formation, observational studies conclusions 9-25592
- star formation regions, IR spectroscopy of assoc. lineless objects 9-44586
- stellar secondary spectrophotometric standards, obs. in 5840-10800 Å range 9-29995
- Sun, evidence for long-period global oscils. 9-2539
- supergiant stars, late-type, in Magellanic Clouds, IR photometry 9-35254
- T Tauri stars, photometric and spectral props. 9-21282
- Taurus dark cloud complex, IR study 9-8963
- Triton, image tube spectra, 6800-9000 Å, search for possible atm., methane upper limit 9-16880
- Triton, narrow band spectrophotometry 9-16879
- Uranus satellites, narrow band spectrophotometry of Ariel, Umbriel, Titania and Oberon 9-16879

infrared astronomical observations continued

- Venus, equatorial IR brightness diurnal vars., obs. during 1975 apparition 9-16858
- Venus, IR image obtained at time of Pioneer Venus probe encounter 9-48714
- Venus atmosphere, first results from Pioneer Venus large probe IR radiometer expt. 9-48719
- Venus middle atmosphere, IR remote sounding from Pioneer orbiter 9-48712
- Venus retrograde winds, possible periodic vars. 9-25530
- NQ Vulpeculae (Nova 1976), IR photometry, dust form. in exploded shell 9-48832
- W33 A, OH source, IR spectrophotometric and polarimetric obs. 9-21451
- W51, O III 51.8 μ m forbidden emission line obs. 9-25685
- white dwarfs, cool, IR photometry, atm. comp. 9-16950
- X-ray quasar 0241+622, IR obs. 9-44642
- young stars, accreting, ang. dimensions 9-44482
- III Zw 2, IR variability, 2 μ m obs. 9-30118
- C stars, IR CN spectra rel. to $^{12}\text{C}/^{13}\text{C}$ ratios 9-35257
- H II regions, obs. at 10 μ m using ESO 3.6 m telescope 9-35337
- H II regions, southern, 1 mm continuum obs. 9-8968
- H II regions, spectrophotometry from 4 to 8 μ m of compact regions 9-35321
- H α emission stars in young cluster NGC 2264, UVRI obs., pre-main sequence stars 9-35267
- OH maser source OH 0739-14, IR polarization obs. 9-48901

infrared astronomy

- see also *infrared sources (astronomical)*
- atmospheric transmission rel. to precipitable H₂O at Gornegrat Obs., Switzerland 9-34941
- conference proc. (Lecce, Italy, 1977 September 22-24) (*Italian*) 9-48685
- cosmic background, new balloon-borne meas. in far IR (*Italian*) 9-48965
- cryogenically cooled sensors, calibration in space, AFGL expts. 9-5753
- detectors, conf., Los Angeles, CA, USA (1978) 9-2822
- ESA programmes (*Italian*) 9-48646
- ESA/NASA ASSESS II Mission, far IR spectroscopy (*Italian*) 9-48687
- far IR polarimeter for balloon astronomy 9-35094
- Far IR Sky Survey Expt., 8-120 microns, objective 9-5751
- Fourier interferometer for IR line emission obs. of molecular clouds (*Italian*) 9-48679
- interstellar submillimetric lines, possible detect. via laser heterodyne techniques 9-44377
- Jupiter, atmospheric structure and 5 μ m limb-darkening 9-25539
- long-wave focal plane array, for astronomical satellite telescope, test facilities 9-5755
- long-wave IR sensors, ground calibration 9-5749
- low-temperature narrow-bandpass interference filter construction 9-32049
- measurements at liquid He temperatures (*German*) 9-5760
- non-thermal emission mechanisms 9-48667
- observatory sites, water vapour data 9-21181
- Palermo four-colour far IR program (*Italian*) 9-48688
- polarimeter, near IR, of Hatfield Polytechnic Observatory, design 9-2482
- review 9-35153
- scanning Fabry-Perot interferometer for balloon-borne astrophysical obs. 9-35092
- scanning Fabry-Perot interferometer for far IR balloon astronomy 9-35093
- Shuttle IR Telescope Facility, detector performance conditions 9-5752
- Shuttle Telescope Facility, focal plane design 9-5750
- silicates, emission and extinction in 4-14 μ m range 9-44581
- simulation of the infrared astronomical satellite (IRAS) telescope system 9-29976
- sky simulation 9-29975
- space telescope, IR Astronomical Satellite, focal plane design 9-5750
- spatial interferometer, space-borne, exposure time 9-35131
- spectroscopy, future objectives (*Italian*) 9-48686
- stellar spectra, near IR low dispersion ground based obs. (*Italian*) 9-48689
- stratospheric balloons, appls. (*Italian*) 9-48683
- submillimetre waves and applications, conference, Guildford, England (1978) 9-31916
- submillimetric multicolour photometry and calibration 9-35143
- Sunyaev-Zel'dovich effect in cosmic microwave background, obs. via IR detectors 9-25765
- TIRGO project (*Italian*) 9-48678
- Ge:Be photoconductive detectors for obs. from space platform, 30-55 micron 9-5754
- Ge:Ga photoconductive detectors for obs. from space platform, 50-120 micron 9-5754

infrared communication see *optical communication***infrared detectors**

- see also *bolometers; photodetectors*
- air pollution meas. by incoherent optical heterodyne detection 9-48203
- antenna design and simulation 9-30552
- aspheric mirror optical systems for the infra-red 9-36983
- book, optical and IR radiation detection 9-2821
- calorimetric energy meters, KDM and BKDM, for pulsed laser radiation 9-17494
- calorimetric energy meters, KDS and BKD, for high-power laser pulses 9-17496
- compact four-mirror optical system design and testing 9-23049
- cryogenically cooled sensors, calibration in space, AFGL expts. 9-5753
- evaporated thermolec. detectors, theoretical/practical performance limits 9-2830
- far IR Josephson junction voltage-tunable differential heterodyne spectroscopy 9-30578
- far IR laser output detection by MOM point-contact diodes (*Japanese*) 9-21811
- Far IR Sky Survey Expt., 8-120 microns, objective 9-5751
- figures of merit for characterizing detector performance 9-2825
- frequency conversion, two-stage process in AgGaS₂, α -HfO₃, for thermal radiation recording 9-46002
- N-GaP and p-GaP, photon drag-optical rectification detectors, performance in 2 to 33 μ m range 9-35834
- Golay detector, housing for Grubb Parson modular cube interferometer 9-26113
- heterodyne detection of random gaussian signals, pulse duration optimisation 9-12848
- hybrid IR/CCD focal planes, performance, appls. 9-3798

infrared detectors continued

- with immersed lenses, performance characts. (*Russian*) 9-27358
- industrial precision filter radiometer development and applications 9-21814
- interferometer for NDT 9-8419
- IR emissivity meas. method and equipment 9-35812
- long-wave, cold spectral filters appl. problems 9-3799
- long-wave, for astronomical obs., ground calibration 9-5749
- long-wave focal plane array, for astronomical satellite telescope, test facilities 9-5755
- MIM tunnelling diode, detector performance, IR and microwave freqs. 9-12844
- multichannel system, MIK-48, for laser pulse energy meas. 9-17497
- multichannel system, MIS-20, for laser pulse energy recording 9-17495
- multidetector spectrometer for atm. temp. sounding 9-25365
- noise caused by turbulent flows, IR detector obs. 9-31799
- nonlinear tunnelling devices, photon detection, theory 9-6177
- optical communication systems (*Japanese*) 9-27406
- optical meas. of semicond. temps. (*French*) 9-35743
- optical system design for low light and thermal imaging 9-37041
- optoacoustic laser radiation detector, spatial resolution 9-17493
- photodiode optimisation for higher temp. operation by excess volume reduction 9-2824
- photographic films, Kalvar and Polaroid, damage threshold variation with spot size at 10.6 μ m 9-36945
- point-contact diodes, use as far IR detectors 9-6180
- practical IR optics, conference, Los Angeles, USA (Jan. 1978) 9-23085
- probe, for internal interfacial wave motion meas. 9-18981
- pyroelectric, radiometer appl. (*Czech*) 9-40611
- pyroelectric, technology review 9-2827
- pyroelectric, user's guide 9-35823
- Pyroelectric detectors for submillimetre waves 9-30545
- radiant-flux detectors, comparison 9-35831
- radiation thermometer with fibre-glass bundle, up to 1000°C (*German*) 9-35745
- ray-tracing techniques for infrared scanners 9-36984
- response and sensitivity of thermistor, thermopile and pyroelec. detectors 9-35832
- scanning radiometer data interpretation 9-30541
- Shuttle IR Telescope Facility, detector performance conditions 9-5752
- spot scan system for photodetector props. evaluation, 0.5-2 micron 9-2826
- stratospheric composition, IR meas. radiometer, H₂O vapour profile 9-8718
- submillimetre planar sandwich receiving antenna 9-40609
- submillimetre waves and applications, conference, Guildford, England (1978) 9-31916
- superconducting normal electron tunnel elements, interaction with 0.6-40 μ m EM radn., radn. detection appl. (*German*) 9-24103
- techniques and appls., conf., Los Angeles, CA, USA (1978) 9-2822
- thermal radiation detector sorbent test 9-29403
- thermoelectrically cooled, features and appls. 9-2828
- thermophotographic paper for recording long-wavelength IR laser radiation 9-40636
- Trombay IR pneumatic detector, operational characteristics 9-12843
- very-fast-response uncooled photodetector based on intraband μ -photoconductivity 9-30562
- Al-Ge photovoltaic cell, charact. 9-40612
- Cd₃Hg_{1-x}Te, photodetectors, recomb. processes, photoconductive decay obs. 9-38129
- CdHgTe detectors, high-performance, for thermal imaging 9-40616
- CdHgTe detectors for CO₂ laser appls. 9-40615
- Cd₃Hg_{1-x}Te, narrow gap semiconductor, charge transfer device for IR detection in 3-5, 8-15 μ m bands (*French*) 9-30563
- Ga_{0.72}Al_{0.28}Sb avalanche photodiodes, ionization coeff. 9-17488
- GaAs, electroabsorpt. avalanche photodiode waveguide detector, freq. demultiplexing 9-17486
- GaAs, p-i-n avalanche photodiode, temp. depend. characts. 9-35835
- p-GaAs photon drag optical rectification detectors, performance in 2 to 33 μ m range 9-35834
- p-GaAs photon-drag photodetector, responsivity comparison with p-Ge detector 9-11185
- Ga_{0.47}In_{0.53}As homojunction photodiode, avalanche photodetector for 1.0-1.6 μ m region 9-6179
- Ga_{0.7}In_{0.3}As photodiodes, fibre optic appls. 9-40613
- GaInAsP-InP lasers and detectors, for fibre optic communications at 1.0-1.6 μ m 9-3803
- n-GaP low absorption monitors for HF laser 9-31964
- Ge far IR photoconductive detector speed, limitation 9-30550
- Ge IR photon drag detector, photosensitivity spectrum 9-12853
- Ge, p-i-n avalanche photodiode, temp. depend. characts. 9-35835
- p-Ge photon drag detector, performance in 2 to 33 μ m range 9-35834
- Ge photon-drag detector submillimetric-wave performance 9-30547
- Ge surface ion implanted far IR composite bolometers 9-30549
- Ge:Be for far IR astronomical obs. from space platform, 30-55 micron 9-5754
- Ge:Ga, for far IR astronomical obs. from space platform, 50-120 micron 9-5754
- (Hg,Cd)Te detector array, 72-element, 8-12 micron, performance, FLIR system appl. 9-2829
- InGaAsP IR heterojunction photodiode detector 9-21813
- InGaAsP quaternary alloy IR heterojunction detectors, props. 9-2823
- InGaAsP:Be ion-implanted avalanche photodiode, struct. and characts. 9-17487
- InGaAsP-InP photodiodes, microplasma-limited avalanche multiplication at 1 to 1.3 μ m 9-26128
- In_{1-x}Ga_xAs_{1-y}P_y-InP photodetectors, high-efficiency with selective wavelength response, 0.9-1.7 μ m 9-21810
- InP, far IR LPE photodetector performance 9-30546
- p-InSb, photovoltaic operation, theoretical anal. 9-224
- Nb Josephson point-contact far IR detector props. 9-30543
- Nb point contacts, Josephson effects in far IR, high freq. behaviour 9-1643
- PbSnTe detector arrays for thermal imaging 9-37047
- PbSnTe IR detectors, spectral response depend. on surface carrier concentration (*Japanese*) 9-44929
- PbTe detector arrays, planar oxide-insulated 9-40614
- p-Si, compensated with radiation centres, current responsivity and detection 9-17492
- Si, p-i-n avalanche photodiode, temp. depend. characts. 9-35835
- p-Si, photon drag detector, performance in 2 to 33 μ m range 9-35834

infrared detectors continued

- Si:Se, detector for 3-5 μ m appl. development 9-35825
 TeO₂, noncollinear IR tunable acousto-optical filter 9-23086
 W-Ni point contact diode fast acting detector for modulated CO₂ laser beams 9-3730

infrared imaging

- air-sea search and rescue appl. of line scanner imagery 9-21519
 automatic target screener for tactical thermal imaging system 9-32083
 autoscreener with secondary screener for target screening 9-32082
 benzothiazoline products, bicondensed, for thermographic recording 9-24767
 change detection using IR imagery 9-32080
 compact four-mirror optical system design and testing 9-23049
 composite materials, thermographic technique, for examining damage extent 9-43540
 continuous zoom forward-looking IR optical system design and implementation 9-23046
 devices and appls., conf., Los Angeles, CA, USA (1978) 9-2822
 devices and appls., conf., Washington DC, USA, 1978 9-32085
 evaporographic image, formation and recording, anal. 9-32066
 forward-looking IR system improvement by aspheric elements 9-23048
 forward-looking IR type optical system design programs 9-23047
 frost prone areas, Niagara fruit belt, defined by thermal imagery 9-25314
 glass, IR transmitting, as optical material in passive systems, preparation and characterisation 9-23034
 Gulf Stream meanders, GOES IR meas., time series anal. 9-34842
 Gulf Stream rings distrib. and number, 1975 spring period 9-39725
 haemangioma therapy, diagnostic value of thermography (*French*) 9-5356
 hybrid IR/CCD focal planes, performance, appls. 9-3798
 inland wetland photointerpretation evaluation, cell analytical method 9-29898
 line scanner, Reconofax XIII A, improved recording system using LED 9-25335
 low light and thermal imaging, conf. Nottingham, England, 1979, Apr. 9-36856
 low light and thermal imaging systems, atmospheric effects 9-39860
 mammary thermography classification by statistical filtering of spatial freqs. (*French*) 9-20610
 medical thermograph, use of pyroelectric vidicon camera 9-25060
 and missile-borne tracker optics, selection guidelines 9-23050
 multidetector spectrometer for atm. temp. sounding 9-25365
 night vision system with refractive optics, glare charact., surface defect influence 9-32024
 nonstationary thermal fields of flat or cylindrical items, with one axis optomech. scanning 9-7218
 optical system design for low light and thermal imaging 9-37041
 polyvinylidene fluoride, optimised target for IR vidicon camera tube, human body image recording 9-32050
 practical IR optics, conference, Los Angeles, USA (Jan. 1978) 9-23085
 real-time macro- and microthermography 9-9217
 remote sensing, operational meteorological satellite system GEOS 9-5727
 remote sensing, sensors and detectors in NASA's future mission 9-5656
 remote sensing measurements, conceptual considerations and surface temp. estimation, review 9-34984
 retinal camera with infrared TV obs. (*German*) 9-2145
 Soviet Meteor satellite imagery, reception and processing in USA 9-39872
 steel against Al₂O₃, elastohydrodynamic contact, lubricated by naphthenic hydrocarbon, IR meas. of surface temp 9-15807
 stratified media for IR image visualisation 9-32071
 thermal band imaging, glare in optical systems 9-32025
 thermal TV camera, noise, synchronisation, spatial resolution and lifetime charact. 9-35833
 Thermatrace, operating principles, appls. improvements 9-30565
 thermogram enhancement by tissue-condition correction 9-39460
 tumour microwave heating for thermographic detection enhancement 9-2124
 CdHgTe detectors, high-performance, for thermal imaging 9-40616
 GaAs photocathodes for low light level imaging 9-37043
 Ge transparent IR window design for uniform pressure loading 9-23088
 SiO₂-Al₂O₃-CaO-MgO-Na₂O-K₂O-B₂O₃-ZrO₂, glaze, exam. of zircon crystallisation 9-19155

infrared-infrared double resonance see *optical double resonance*

infrared radiometers see *radiometers*

infrared sources

- IKS-12 IR spectrophotometer, illumination system improvement 9-2838
 stimulated Raman scattering, appls. (*German*) 9-27320
 storage ring synchrotron radiation far IR source 9-30577
 W33 A, OH source, IR spectrophotometric and polarimetric obs. 9-21451
 n-GaAs tunable far IR Landau emission with subnanosecond rise time 9-32015
 GaAs:Si LEDs grown from restricted soln.-alloy bulk, props. (*Russian*) 9-43043
 HCl, tunable far IR generation by stimulated Raman scatt. 9-31983
 n-InSb tunable far IR Landau emission with subnanosecond rise time 9-32015
 LiNbO₃, polariton excitation for tunable coherent far IR generation 9-31982

infrared sources (astronomical)

- 10 and 20 μ m absorpt. bands, comparison with Nogoya meteorite IR spectrum 9-48741
 AFGL IR sources in revised catalogue, identifications from 3.5-12.5 μ m obs. 9-25659
 Allen's obscured IR source in NGC 2264, spectrophotometric anal. 9-21370
 VY Canis Majoris, diameter upper limits 9-16974
 Carina I and II H II regions, far IR obs. 9-25657
 o Ceti, vars. in spatial distrib. of 11 micron radiation 9-5828
 cool stars, effective temps; ang. dias. and reddening determ. from 1 to 5 μ m flux curves 9-44458
 cool stars, H₂O maser emission, catalogue of 82 objects 9-8909
 CRL objects, IR polarization obs. 9-48901
 dust grain emission near variable primary sources 9-44358
 galactic center, variable IR extinction obs. 9-48909
 galactic central region and anomalous IR source, balloon-borne obs. at 2.4 μ m 9-44588
 galactic centre, 4 to 8 micron spectrum 9-48922

infrared sources (astronomical) continued

- galactic centre, near IR mapping at balloon altitudes 9-12514
 galactic diffuse IR emission, rel. to extended low-density H II region and star form. 9-17047
 giant stars, survey for circumstellar OH emission 9-48787
 AM Herculis, 1.2 and 2.2 μ m light curves interpretation, model parameters 9-8949
 IC 1848 A, bright-rimmed mol. cloud, IR source obs. rel. to star form. 9-5810
 interstellar clouds spectral line widths, influence of extended continuum source 9-12398
 interstellar submillimetric lines, possible detect. via laser heterodyne techniques 9-44377
 interstellar type I OH masers, positions, polarisation, nearby H₂O masers, radio and IR props. 9-25671
 IR 12.4+0.5, compact far IR source discovery 9-40234
 IRC+10216, C star, HC₃N and HC₇N detect. 9-17126
 IRC+10216, C star, NH₃ obs. in circumstellar envelope 9-48793
 IRC+10216, isotope abundance anomalies in C star 9-5814
 IRC+10216, high-resolution OH maser obs. at 1612 MHz 9-44471
 IRC+10420, stellar OH maser VLBI obs. rel. to mag. field 9-25742
 IRC+10420, supergiant star, new OH maser feature spatial struct. 9-48946
 IRC stars, angular diameters from lunar occultations of nine objects 9-44475
 Kleinmann-Low nebula, NH₃ nonmetastable levels obs. 9-25665
 Kleinmann-Low Nebula in Orion, far IR polarization 9-12502
 Kleinmann-Low nebula in Orion, ice 45 μ m signature possible identification 9-17068
 M17 SW, obscured IR point source spectroscopic anal. 9-48878
 M82, Ne II 12.8 micron emission obs. and galactic dynamics 9-17082
 M82 nucleus, Brackett-line obs. 9-25704
 M8, large-beam near IR and 24 GHz obs. 9-48882
 NGC 2264, open cluster, CO obs. of mol. cloud 9-21363
 NGC 6334 complex, 1 mm continuum map of cool IR sources 9-21390
 OH 0739-14, IR polarization obs. 9-48901
 ρ Ophiuchi dark cloud, high ang. resolution obs. of far IR source 9-40235
 Orion Nebula, H₂ emission interstellar extinction meas. 9-25668
 Orion Nebula, search for H₂ ground state S(2) line 9-8961
 photometric histories of six objects 9-5916
 planetary nebulae, 10 micron props. obs. 9-48879
 planetary nebulae, OH emission search 9-48787
 pre-main sequence stars, observational study conclusions 9-25592
 quasars, continuous and emission-line spectra and relationship with Seyfert galaxies 9-2571
 radiative transfer in spherical dust shells, generalised two-stream Eddington approx. 9-35120
 Hm Sagittae, eruptive variable, IR variability 9-25614
 Sagittarius B2, NH₃ nonmetastable levels obs. 9-25665
 Seyfert galaxies, continuous and emission-line spectra and relationship with quasars 9-2571
 Seyfert galaxies, IR emission obs. 9-17083
 Sh 2-158 (NGC 7538), bright high excitation galactic nebula, stellar IR sources obs. 9-40241
 Sharpless 140 IR source, detect. of assoc. near-IR complex 9-25686
 Sharpless 88A-B and 106, compact H II regions, optical obs. 9-8969
 Taurus dark cloud complex, IR study 9-8963
 Trapezia and IR sources 9-44557
 Type II OH/IR maser sources near galactic centre, systematic search at 1612 MHz 9-35415
 NQ Vulpeculae (Nova 1976), CO emission and η Carinae stage 9-25609
 young stars, accreting, ang. dimensions 9-44482
 young stellar objects, origin of polarisation 9-8911
 II Zw 40, dwarf galaxies, radio obs. rel. to IR excess 9-8992
 H II regions, southern, 1 mm continuum obs. 9-8968
 OH maser source OH 0739-14, IR polarization obs. 9-48901
 OH sources in CRL objects and late-type stars, 18 cm obs. 9-35427

infrared spectra of diatomic inorganic molecules

- alkaline earth dimens., heteronuclear, matrix-isolated, laser photoluminesc., van der Waals ground state 9-41192
 diatomic molecule in strongly interacting solvent, IR band shape, field theoretic methods appl. 9-27038
 far IR atmospheric emission and absorption spectrum calc. program 9-35020
 stratospheric far IR emission, balloon-borne obs. 9-34896
 upper atmosphere, IR radiation from mol. vibr.-rot. transitions 9-5695
 CO, adsorbed, lateral interactions on vibr. spectrum 9-46954
 CO, chemisorbed on Rh, IR spectra, species identification 9-39198
 CO, in Ar matrix, vibr. line shape, vibr.-phonon interaction 9-3493
 CO, in solar spectrum, centre to limb behaviour of first overtone vibr.-rot. transitions 9-8889
 CO $j=2-1$ IR line obs. of Monoceros R2 assoc. 9-25654
 CO+Hg(6³P₁)(6³P₀), electronic-vibr. energy transfer collision, IR obs. 9-45716
 CS, isotopic variants, IR absorpt. spectra, $\nu=2-1$ hot band 9-45721
 CS, isotopic variants, IR absorpt. spectra, vibr.-rot. transitions 9-45720
 D₂, elec. quadrupole vibr.-rot. spectrum, 2.8 to 3.9 μ m 9-805
 D₂, matrix shift, CoM freq., in solid Ar, Kr and Xe 9-6969
 DCl, IR matrix isolation spectra, N₂ matrix effects 9-36634
 DF, IR laser spectra 9-45936
 H₂ 2.121 μ m emission line vel. and width meas. towards Orion Nebula 9-17061
 H₂, ground state S(2) line, search in Orion Nebula 9-8961
 H₂, interstellar, rot. transitions rel. to hot gases cooling 9-12505
 HBr, IR matrix isolation spectra, N₂ matrix effects 9-36634
 HCl, coherent spectroscopy of anharmonic vibrations 9-18187
 HCl, IR matrix isolation spectra, N₂ matrix effects 9-36634
 HCl, in dil. solution IR absorpt. fundamental shape temp. depend., solvent-solute interaction 9-26977
 HCl, spectral line parameters in IR 9-22766
 HF, IR laser spectra 9-45936
 HF rotational line shift, far IR Fourier transform spectrometry improvement 9-30582
 He H⁺, formation and destruction in gaseous nebulae, assoc. IR emission line spectrum 9-44589
 K₂, vapour, IR absorpt. bands obs. 9-31527
 K⁺, KCl and KI, monomers and dimers, Ar matrix-isolated, IR spectra, vibr. assignments and calcs. 9-45718
 NO, adsorbed on SiO films, infrared spectra exam. 9-45725

infrared spectra of diatomic inorganic molecules continued

- NO $R_{1/2}(25/2)$ transition, extinction coeff. at 8-7 P(11) CO laser line 9-45711
 NO, Zeeman modulation IR spectroscopy using spin-flip Raman laser 9-18181
 NO + Hg(6^3P_1)(6^3P_0), electronic-vibr. energy transfer collision, IR obs. 9-45716
 NO⁺($v=1,2$) + N₂, vibr. transfer, vibr. absorption coeff. 9-6994
¹⁴N¹⁶O, overtone region IR emission spectra, vibr.-rot. Dunham coeffs. 9-41164
¹⁴N¹⁶O, $v=2-0$ overtone band IR spectra, Δ doubling, hyperfine struct. 9-41165
 O₂, adsorbed on SiO films, infrared spectra exam. 9-45725
 RbF, RbCl and RbI, monomers and dimers, Ar matrix-isolated, IR spectra, vibr. assignments and calcs. 9-45718
 SD, X² $\Pi_{3/2}$ -state, far IR LMR spectra 9-6954
 SiO, isotopic lines in sunspots, ²⁸Si/²⁹Si/³⁰Si isotopic abundance ratio determ. 9-30044

infrared spectra of inorganic solids

- adsorbed molecules, IR frequency shifts, coverage dependence 9-19464
 β -Al₂O₃-Na₂O, IR high temp. amplitude-phase spectroscopy 9-35860
 alkali borate glass, IR absorption spectra and structure 9-8148
 alkali halide high-pressure submillimetric-wave spectra 9-33694
 alkali halide thin films, photoacoustic determ. of optical absorbance of highly transparent solids 9-40632
 amorphous, annealing effect on absorpt. edge (Korean) 9-15142
 amorphous semiconductor, local order as determined by electronic and vibrational spectroscopy 9-37627
 barium titanate oxalate exam. of chemical production and thermal dissociation (German) 9-4935
 [CC] In_{1-x}Ga_xAs-GaSb_{1-y}As_y superlattice, optical absorption 9-19887
 complex band shapes, resolution by IR polarisation meas. 9-12873
 trans-1,4-dihalocyclohexanes, far IR spectra of high press., using diamond anvil cell 9-12874
 far IR absorbent solid dispersive reflection meas., using Fourier spectrometer and cryostat 9-30580
 far IR transparent solid dispersive transmission meas., using Fourier spectrometer 9-30581
 ferroelectrics, temp. depend. of soft mode freq. and its damping 9-38484
 ferromagnetic semiconductor, free carrier absorption below Curie temp. 9-47440
 fluoride coating materials, refractive index, spectrophotometry meas. 250 to 2000 nm 9-32006
 garnets from Sharns, IR absorption spectra (Chinese) 9-20831
 glass high-temperature transmission/wavelength characteristics (French) 9-7188
 ice, Ih, polycryst., vibr. spectrum anal., OH stretching region 9-11412
 incommensurate structure, IR and Raman activity of soft modes, appl. to K₂SeO₄ 9-28738
 inorganic glasses, IR transmitting materials, appl. in 1 to 6 μ m range, mech. props., review 9-4250
 ionic conductors, polaritonic spectra 9-23908
 IR active modes in large clusters of spheres, appl. to NiO powder 9-42964
 laser window material extrinsic absorption 9-14049
 metal, IR absorption, contribution of conduction electron scattering 9-42971
 mica tetrahedra, cation-apical O vibrs., IR spectra 9-47420
 microstruct. depend. of optical props., SEM, XPS, and sputter depth-profiling 9-43049
 oxide coating materials, refractive index, spectrophotometry meas. 250 to 2000 nm 9-32006
 phase form. and relations, phys. props. 9-43218
 photoacoustic spectroscopy using open membrane spectrophone 9-225
 photoelasticity meas. 9-30443
 α -quartz, IR absorption 9-42959
 quartz, shock-loaded, IR spectroscopic studies, solid-state glass prod. 9-19157
 quartz particles, embedded in NaCl, IR spectra, rel. to state of O impurity in Si 9-19914
 rare earth molybdo-perhenates, synthesis and props., cryst. struct., IR spectra (French) 9-32976
 rare earth systems, mag. field depend. of polaritons 9-33246
 ruby colouring due to specific growth, annealing and irradiat., exam. of visible, infrared and UV spectra 9-11440
 semiconductors, doped, IR absorpt. in Drude tail, effect of finite electron densities 9-47449
 semiconductors, n-type, free carrier absorpt., ionized impurity scatt. 9-42999
 small metallic particle, theory of far-IR absorpt. 9-19881
 sputter-deposited materials, electrical and optical props. 9-47181
 tellurite glasses, binary, struct. and props. (Japanese) 9-32917
 ternary alloys, vibr. freq. distrib. spectra, small cluster statistical theory 9-24317
 tetracyanoplatinate conductors, IR and Raman spectra, cyanide stretching vibrs. 9-11415
 water, continuity of state between liquid and amorphous solid, IR obs. 9-8130
 water, low-density amorphous solid, IR spectrum, OH stretching region 9-11411
 water, low-density amorphous solid, OH stretching spectrum 9-11413
 zeolites, type Y, containing catalysts, cryst. struct., IR spectra 9-42958
 Ag film, electroreflectance effects 9-43055
 AgBr, far IR spectra, cond., cation local motion 9-1754
 AgBr:Li⁺, time-depend. infrared absorpt. due to Li-localised mode 9-8133
 Ag_{0.85}Cu_{0.15}Br, far IR spectra, cond., cation local motion 9-1754
 AgI-Ag₂O-MoO₃, superionic conducting glass, IR spectra and struct. 9-10804
 p-AgInSe₂, reflectivity 40 to 400 cm⁻¹ range 9-42976
 Al, transient reflectivity at 10.6 μ m 9-11408
 Al₂O₃, adsorption of linoleic acid, under carbon tetrachloride immersion, IR obs. 9-24822
 Al₂O₃ films, DC reactive sputtering prep., IR spectra characterization 9-11513
 β -Al₂O₃-H₃O⁺ protonic cond., struct. investig. 9-19213
 β -Al₂O₃-NH₄⁺ protonic cond., struct. investig. 9-19213
 β -Al₂O₃-Na₂O-K₂O, cation interstitial pair modes in vibr. spectra 9-37788

infrared spectra of inorganic solids continued

- β -Al₂O₃-Na₂O-Rb₂O, cation interstitial pair modes in vibr. spectra 9-37788
 β -Al₂O₃-X₂O, (X=Na,K,Rb,Ag,Tl), infrared and Raman spectra 9-1761
 γ -AlOOH, boehmite, lattice vibrs., evidence for C_{2v} space group 9-28756
 As amorphous solid dielectric loss meas. by submillimetric waveguide laser 9-33603
 As-S-I system glasses, IR transmission spectra, structure-chem. comp. 9-42974
 As₂S₃, cryst. and glassy, two-photon spectrum at room temp. 9-24334
 Au film, electroreflectance effects 9-43055
 Au solar black, optical props., microstruct. influence 9-42937
 β -B, rhombohedral, optical absorpt. band, temp. depend., anomalies (Russian) 9-28772
 BaBr₂·2H₂O, pure and deuterated, low temp. IR and Raman spectra (German) 9-19874
 BaCl₂·2H₂O(D₂O), lattice vibr., IR and Raman spectra 9-15443
 BaF₂:Sm²⁺(Tm²⁺), vibronic spectra and dynamics of impurity-containing lattice 9-1787
 Ba₂Ga₂GeO₇, gehlenite struct., synthesis and physicochem. props. 9-43181
 BaO-GeO₂-Na₂O-H₂O system, hydrothermal crystn., phase formation laws 9-46636
 (BaTi) citrates, thermal decomp., thermal anal., IR and X-ray diffr. obs. 9-24735
 BiF₃ thin films, optical props. 9-32005
 CO, chemisorbed on metals, electronic struct., vibr. spectra, and chem. 9-42390
 Ca₂Al₂GeO₇, gehlenite struct., synthesis and physicochem. props. 9-43181
 CaF₂, additively coloured, photothermal bleaching of Ca colloids 9-15500
 CaF₂, adsorbed water film internal reflection spectroscopy 9-15549
 CaF₂, fluorite, transmission spectrum 1200-800 cm⁻¹ band, spectrophotometer scale calibration 9-12837
 CaF₂:Tm²⁺, vibronic spectra and dynamics of impurity-containing lattice 9-1787
 Ca₁₀(PO₄)₆(OH)₂, hydroxyapatite, prep. by hydrotherm. recrystn., composition and props. study 9-33913
 CaSO₃·1/2H₂O-CaSO₄ solid solution, prepared by coprecipitation from solns., exam. 9-20034
 β -Ca₂SiO₄, stabilisation, IR and Raman spectra 9-42265
 Ca₂SiO₄, P containing, hydrated, microstruct. and IR struct. 9-29074
 CdAs₂X₄ (A=Ga,In; X=S,Se), Fourier IR and Raman spectra, cryst. struct. and symm. (German) 9-24313
 CdBr₂, lattice vibr., IR absorpt. meas. 9-4380
 CdCr₂S₄, polycrystalline films, mag. semicond., spinel-type, magneto-optical effects (Japanese) 9-47415
 CdCr₂Se₄, mag. semicond., spinel-type, magneto-optical effects (Japanese) 9-47415
 CdCr₂Se₄, optical absorption due to transitions between bands and local levels 9-38537
 CdCr₂Sr₄, press. depend. optical absorption edge shift and compressibility 9-28714
 Cd_{1-x}Fe_xCr₂S₄, mag. semicond., spinel-type, magneto-optical effects (Japanese) 9-47415
 CdGeAs₂, optical and elec. props. 9-19590
 Cd₂(PSi)₂, synthesis by roasting, and exam. of props. 9-4926
 CdS, chemically precipitated film, optical spectra, annealing effects (Russian) 9-11424
 CdS, photoexcitation, effect of elec. field (Russian) 9-1751
 CdS:Cu,Pb reflectivity of Ni-salt coated powder, pre-irrad. effect on defect form. 9-27973
 CdTe, near-edge absorpt., effect of light illumination and elec. field 9-38547
 CdTe:Li, excitation spectrum of Li acceptor and valence band parameters 9-28795
 CeCl₃, mag. field depend. of polaritons 9-33246
 (Co,M)SiF₆·6H₂O, (M=Mg,Mn,Zn), phase transition at low temp., IR spectra 9-24302
 CoP metallic glasses, elec. and optical props., annealing effects 9-38565
 Cr(CO)₆, solid and matrix isolated, Raman spectra 9-28755
 CsAl₂Fe_{1-x}(SO₄)₂, solid soln., Raman and IR spectrum study (French) 9-47453
 CsB₃H₈, IR, Raman and inelastic neutron scatt. spectra 9-42966
 CsBr, impurity absorpt. spectra after γ -irrad., aggregated colour centres 9-4829
 CsCr₂Fe_{1-x}(SO₄)₂, solid soln., Raman and IR spectrum study (French) 9-47453
 CsCuCl₃, Jahn-Teller effect induced phase transitions 9-47439
 CsDy(MoO₄)₂, effect of 38K phase transition on phonon spectrum, IR reflection spectra (Russian) 9-10902
 CsHSeO₃, and deuterated analog, vibr. spectra 9-24311
 Cs⁺M^{III}(SO₄)₂, M=Al³⁺, Cr³⁺, Fe³⁺, Raman and IR spectrum study (French) 9-47453
 Cs₂O-MgO-SiO₂ system, glasses, crystn. prods., composition, props. 9-41961
 β -CuBr, far IR spectra, cond., cation local motion 9-1754
 CuCr₂O₄ and CuCrO₄, IR spectrometry and EPR study (French) 9-47452
 CuGaS₂, lattice vibr. modes, Fourier transform spectroscopy 9-33701
 CuGaTe₂, IR lattice vibr. spectra 9-28765
 CuInSe₂, IR lattice vibr. spectra 9-28765
 DT, liquid and solid, collision induced infrared spectra 9-45717
 FeBr₂:MnBr₂, magnon modes and impurity spin reson. 9-15501
 FeF₂:Mn, mag. polariton, impurity mode enhancement and superradiance effects 9-28622
 α -Fe₂O₃, surface struct., adsorptive interactions rel. to rusting process, IR spectra 9-34363
 α -FeOOH, surface struct., adsorptive interactions rel. to rusting process, IR spectra 9-34363
 FeS₂, optical absorpt. 9-43002
 FeSi₃ films, structural and Anderson transitions, cond. and IR reflectance meas. 9-15200
 n-GaAs, and Te doped, homogeneity, IR introscopy investig. 9-15446
 GaAs, exciton-polariton reflectance spectra, exciton impact ionization and illum. intensity effects 9-42943
 GaAs film, electroreflectance effects 9-43055
 GaAs, optical inhomogeneity, physical basis 9-15430
 GaAs, photoexcited, band edge absorpt. dynamics 9-19879

infrared spectra of inorganic solids continued

- GaAs_{1-x}P_x, surface phonon polaritons, total internal refl. (Russian) 9-38688
- Ga_{1-x}In_xAs, VPE grown, refractive index, reflectance meas. 9-4780
- Ga_{0.08}In_{0.92}As_{0.18}P_{0.82}, band struct., optical studies 9-47013
- Ga_{0.1}In_{0.9}As_{1-y}P_y:Ge(Sn)(Te), epitaxial film, elec. and optical props. 9-11251
- n-GaP, many-valley semiconductor, relative displacement of D₁ and D₂' bands under shear deform. influence 9-15080
- GaP, optical inhomogeneity, physical basis 9-15430
- GaP:Ni, absorpt. and luminesc. spectra 9-42996
- n-GaP:S(Te), IR absorpt. cross-section 9-38582
- GaP/Te(S), IR lattice band profile, electron spin reversion in mag. field, NFR curve 9-28771
- Gd, optical properties, 0.5-3.1 eV (Russian) 9-11432
- Gd-La, magneto-optic reson. (Russian) 9-47426
- Ge, amorphous film, optical consts. in near IR range (Korean) 9-8137
- Ge amorphous solid dielectric loss meas. by submillimetric waveguide laser 9-33603
- Ge, diamagnetic excitons, fundamental absorption edge, Faraday config. 9-8144
- Ge film, electroreflectance effects 9-43055
- Ge, free carrier, intervalence band indirect absorpt., at high optically created carrier densities 9-42961
- Ge, impurity modes due to point defects, comparison with IR and Raman meas. 9-4386
- Ge, lattice disorder influence on optical spectra in interband transition region 9-43006
- Ge, optical absorption from indirect transitions at high mag. fields 9-47441
- Ge optical windows, contaminated by NH₃, CO₂, CO, HCl, methane, cryocooled, IR transmission 9-32007
- Ge, picosecond optical absorption, at high optically created carrier densities 9-47462
- Ge, reflectivity, picosec. laser pulses and electron-hole plasma 9-47463
- Ge, two photon absorption of light with optical transitions between heavy- and light-hole states 9-11421
- GeSb, bolometer element, absorpt. spectra, bias depend. 9-30553
- GeH₄SiH₃, symmetries of GeH₄ cryst. phases, IR spectra meas. 9-19886
- GeTe film 9-43055
- H₂SeO₃, and deuterated analog, vibr. spectra 9-24311
- H₂SeO₃, IR overtone spectra and temp. depend. 9-47456
- HfO₂-La₂O₃ system, phase form. and relations, phys. props. 9-43218
- HfO₂-MgO system, intermediate phases existence, X-ray diffr. and IR obs. 9-38805
- HgAs₂X₄ (A=Ga,In; X=S,Se), Fourier IR and Raman spectra, cryst. struct. and symm. (German) 9-24313
- Hg_{1-x}Mn_xTe, far IR interband absorption obs. 9-33696
- HgSe, dielec. function at 2, 95, and 300K, reflectivity spectra meas. 9-15458
- HgSe, interband absorpt. and Γ -point band structure parameters 9-47010
- InAs:Cr, high-resist., energy positions of deep levels, elec. and optical props. 9-7807
- In_{0.79}Ga_{0.21}As_{0.54}P_{0.46}, LPE layer, electroreflectance meas. 9-24290
- In_{1-x}Ga_xP, non-isodisplacement of P atoms in long-wavelength optical phonons 9-47444
- InI, InI₂ and InI₃, far-IR spectra, valence states in InI₃ 9-47435
- InO₃:Sn film, prep. by spray hydrolysis, struct., elec. and optical props. (Japanese) 9-42678
- In₂O₃:Sn film, electroreflectance effects 9-43055
- n-InSb, strongly compensated, ionized donor mol. optical absorpt. spectra charact., 1.5-2.5 mm 9-11422
- KBr:MnO₄⁻, optical and IR absorpt. spectra, internal vibr. of MnO₄⁻, freq. and type of symm. 9-15466
- KBr:TeO₃²⁻, IR absorpt. of impurity complexes (Russian) 9-33746
- KBrO₃, polarised IR reflection spectra, surface damage effects 9-19872
- KCN, librational and phonon sidebands of IR CN⁻ stretching mode 9-15457
- KCl:Al³⁺, absorption band shape in D-mode model 9-47485
- KCl:Ca, optical studies of Z₄ centres 9-24336
- KCl:Eu IR laser window lattice equilibrium obs. 9-14055
- KCl:Na⁺, OH⁻, IR absorpt. spectra, Na⁺ ions rel. to OH⁻ stretching vibr. 9-47442
- K₂CrO₄, IR reflection spectra, Davydov splitting and mol. interaction 9-8147
- K₂CrO₄+La₂(NO₃)₃, (Nd₂(NO₃)₃), X-ray phase analysis, IR absorption spectra, and thermogravimetric anal. 9-1944
- K₂CS_{1-x}Al(SO₄)₂, solid soln., Raman and IR spectrum study (French) 9-47453
- K₂Cu(H₂O)₆(SO₄)₂, IR and Raman vibr. spectra 9-28743
- KEu(PO₃)₄, synthesis of K₂CO₃, Eu₂O₃ and phosphoric acid, exam. of structure 9-1837
- KH₂PO₄, IR overtone spectra and temp. depend. 9-47456
- KHSeO₄, and deuterated analog, vibr. spectra 9-24311
- (K_{0.5}La_{0.5})₂Ba_{1-x}TiO₃, cryst. struct., dielec. and IR spectral meas. 9-46614
- K⁺M^{III}(SO₄)₂, M=Al³⁺, Cr³⁺, Fe³⁺, Raman and IR spectrum study (French) 9-47453
- KMgCl(ClO₄)₂.nH₂O, IR spectra and struct. features 9-15452
- KMgCl₃.nH₂O, IR spectra and struct. features 9-15452
- KMgF₃ residual IR absorption, freq. and temp. dependence obs. 9-15468
- K₂Mg₂Mo₄O₁₆(OH)₂(H₂O)₂, dehydration processes rel. to stoichiometry (French) 9-24734
- KNO₃ characteristic features of electronic structure 9-47436
- K₂O-B₂O₃ glass, laser decolorisation of colour centres 9-43008
- K₂Rb_{1-x}Cl₆Br_{1-y}, far IR absorption spectra 9-33695
- K₂SeO₄, incommensurate structure, IR and Raman activity of soft mode 9-28738
- KTaO₃, dielec. response temp. depend. meas., dispersive Fourier transform spectroscopy 9-15449
- K₂Zn(H₂O)₆(SO₄)₂, IR and Raman vibr. spectra 9-28743
- K₂Zn(H₂O)₆(SeO₄)₂, IR and Raman vibr. spectra 9-28743
- LaF₃:Dy³⁺, magnetospectroscopy with optically pumped far IR laser 9-33737
- LaF₃:La(OH)₃, high pressure phases, X-ray diffr. and IR spectroscopic anal. 9-47679
- ⁷Li₂CO₃ and ⁶Li₂CO₃, polycryst., low freq. IR and Raman bands assignments 9-42970
- LiF:Mg(Eu)(Co)(Si)(O), elec. cond., influence of impurity ion 9-7709

infrared spectra of inorganic solids continued

- LiHSeO₃, and deuterated analog, vibr. spectra 9-24311
- (Li_{0.5}La_{0.5})₂Ba_{1-x}TiO₃, cryst. struct., dielec. and IR spectral meas. 9-46614
- Li₂N, superionic conductor, cryst. growth and struct., phys. props., book contrib. 9-42308
- Li₃N:H, ionic conc., impurity conc., IR transmission meas. 9-42305
- ^{6,7}LiNO₃, cryst. vibr., Raman and IR spectra 9-15445
- LiTaO₃, far IR complex refl. coeff. and refr. index, dispersive Fourier transform meas. 9-2841
- LiTaO₃, ferroelec., IR high temp. amplitude-phase spectroscopy 9-35860
- LiTaO₃ high-temp. ferroelec. transition, soft mode IR reflectivity spectroscopy 9-33692
- MgCl₂.nH₂O, IR spectra and struct. features 9-15452
- MgO microcrystals, IR absorpt. 9-42963
- MgO-ZnO-Fe₂O₃-Cr₂O₃ system spinels, IR absorpt. spectra, short-range order 9-42957
- Mg₂P₂O₇.Mg₂As₂O₇ solid solns., formation of mixed anions PAsO₇, IR absorption spectra exam. 9-1508
- Mn₂NaSi₃O₈(OH), serandite, synthesis, struct., physicochem. props. 9-43187
- MnSe₂, IR lattice vibr., dielectric dispersion 9-28735
- N₂, solid, far IR 4.2K absorption apparatus 9-30583
- α -N₂, solid, w₁ Δ_g -X² Σ^+ intensity and band shape 9-47427
- ND₄I, librational motion of ND₄⁺ ion, far IR spectra obs. (Japanese) 9-8142
- NH₃ frost, near IR refl. spectra, appl. to Saturn upper clouds 9-8135
- NH₄H₂PO₄, IR overtone spectra and temp. depend. 9-47456
- NaAlSi₃O₈ melts quenched at high press., IR radiation data rel. to struct. 9-32907
- NaCN, librational and phonon sidebands of IR CN⁻ stretching mode 9-15457
- NaCl:OH⁻, UV and IR absorpt. spectra, colour centres transformation 9-28791
- NaCrS₂, antiferromag. semicond., Raman and far-IR spectra 9-47454
- NaHSeO₃, and deuterated analog, vibr. spectra 9-24311
- NaH₂(SeO₃)₂, NaD₃(SeO₃)₂, IR and Raman spectral interpretation of ferroelectric phases 9-24312
- NaIO₄, normal coord. anal., internal and external modes 9-23684
- Na₂M₂Li₃F₁₂, M=Sc, Ti, V, Cr, Mn, Fe, Ce, Ni, IR spectra 9-38544
- NaNO₂, ferroelec., lattice dynamics, two-phonon Raman scatt. and IR absorpt. 9-33684
- NaNO₂, ferroelec., X-ray diff. topographic study of polarisation reversal 9-38441
- NaNO₃ characteristic features of electronic structure 9-47436
- NaNO₃, isotopically mixed, vibr. spectra, IR and Raman spectra 9-28770
- Na¹⁴NO₃, Na¹⁵NO₃, polarised IR reflection spectra, surface damage effects 9-19872
- Na₂O-CaO-P₂O₅:Co glass, bonding, symmetry meas. 9-46572
- Na₂UO₂F₆, IR and Raman spectra, struct. (French) 9-11409
- Nb, BCC lattice, optical prop. in range λ =0.265-18 μ , polarimetric meas. 9-1507
- Nb complex, NbCl₅ complex with O- and S-containing ligands, prep., and characterisation 9-14729
- Nb complex, prep. by halide reaction with tetramethylurea and tetramethylthiourea, and characterisation 9-15972
- Ni, optical absorption in near IR 9-38539
- NiO powder, IR active modes in large clusters of spheres 9-42964
- P, bulk red amorphous, Raman scatt. and IR absorption 9-24323
- PbCO₃.PbX₂ (X=Cl,Br), vibr. props. 9-24319
- Pb₂Fe₂O₅, IR absorpt., Mossbauer spectra, Neel temp., cryst. cell (French) 9-42759
- Pb₂Ge₂O₇, ferroelec. phase transition, for IR transmission meas. 9-38478
- Pb₂Ge₂-Si₂O₁₁, ferroelec. phase transition, for IR transmission meas. 9-38478
- Pb_{1-x}Ge_xTe epitaxial layers, phase transition obs. by far IR reflectivity spectroscopy 9-33691
- PbHASO₄, ferroelec., far IR and submillimetre dielec. dispersion 9-38528
- PbHPO₄, ferroelec., far IR and submillimetre dielec. dispersion 9-38528
- PbO-SiO₂ and PbO-SO₃-SiO₂ system glasses, struct. and IR absorpt. spectra 9-41967
- PbO-SiO₂ glass, modifier release in acid soln. 9-43450
- (PbO)₂(SiO₂)₂ glass, vibrational spectroscopic exam. 9-11417
- Pb₂(PO₃)₂, IR dispersion at room temp. 9-15460
- n-PbS, natural galenite, reflectivity, 10-40 μ m 9-42975
- PbSe, valence band struct., Hall and transverse Nernst-Ettingshausen effects, optical absorption 9-11064
- Pb_{1-x}Sn_xTe, heteroepitaxial film, fundamental absorpt. edge and Shubnikov-de Haas effect 9-24381
- PbTe, ion implanted, magneto-optical expts. (German) 9-28848
- PbTe:Ti, effect of impurities on transport props. 9-11158
- α -quartz, reflection and surface polariton spectra, ion implantation effect (Russian) 9-47451
- RbH₂PO₄, IR overtone spectra and temp. depend. 9-47456
- RbI:TeO₃²⁻, IR absorpt. of impurity complexes (Russian) 9-33746
- Rb⁺M^{III}(SO₄)₂, M=Al³⁺, Cr³⁺, Fe³⁺, Raman and IR spectrum study (French) 9-47453
- Ru, optical props. 9-24282
- α -RuCl₃, reflectivity and absorpt. spectra, thermo-reflectance 9-47438
- Ru₂Ti_{1-x}O₂ films, elec. props. and IR spectra 9-38207
- Ru(001) surface, adsorption of CO, IR spectra and LEED 9-37914
- S_x-z(NH₃)₂ (x=1,2,3,4), and deuterates, IR and Raman spectra, isotope shifts, mol. vibr. assignment 9-10110
- Sb film, electroreflectance effects 9-43055
- Se amorphous films, structural relax., viscosity, creep, heat capacitors, and IR spectra meas. 9-42424
- Se amorphous solid dielectric loss meas. by submillimetric waveguide laser 9-33603
- Se-As₂Se₃ system glasses, vibr. spectra and partial vols. of components 9-42973
- Si complex reflectivity determ., absolute method 9-30584
- Si, high-resistivity, local IR refraction and transmission 9-15429
- n-Si, many-valley semicond., relative displacement of D₁ and D₂' bands under shear deform. influence 9-15080
- p-Si, photoabsorpt. associated with divacancies 9-15502
- Si, piezo-spectroscopic study of ratio of electron-TO phonon to hole-TO phonon interaction 9-24289
- n-Si plate, effect of nonequilibrium carriers on IR transmission 9-38548
- Si, proton irradiated, IR absorption 9-33742

infrared spectra of inorganic solids continued

- Si surface, metal doped, recomb. of nonequib. carriers at high excitation rates 9-7835
- Si:Au, IR absorption and elec. resist. meas., impurity centres 9-38580
- Si:Ga, LPE on Si, technique and characterisation 9-38751
- Si:In,P, photoinduced IR absorpt. and luminesc. 9-33828
- Si:O, 9 μ m absorpt. band attributed to dissolved O₂ from expts. on quartz particles 9-19914
- Si:P, excitation spectrum of P donors introduced by neutron transmutation, high resolution study 9-47460
- Si-Au amorphous system, optical absorpt., IR photocond. 9-42582
- Si+metal oxides, spray coated, IR investig. 9-39197
- SiAs-Au surface barrier diodes, optical props. of SiAs 9-8145
- Si₃B, formed when Bi₂O₃ is diffused in Si, anal. study 9-19269
- Si₃C:B, electroabsorption, 0.35-0.45 eV, under UV illumination 9-4831
- Si₃-H₂ amorphous sputtered films, IR vibr. spectra 9-43051
- α -Si₃N₄, exam. of chemical vapour deposition, and IR transmission and reflectance 9-19993
- Si₃N₄ film, H₂ concentration profile, chem. bonding 9-33205
- Si₃N₄ film in MNOS memory struct., distrib. and role of N-H and Si-H bonds 9-33358
- Si₃N₄ layers, prep. by N₂ ion implantation into Si, TEM and IR absorpt. obs. 9-46974
- SiO films, adsorption of NO(N₂O)(NO₂)(O₂), infrared spectra exam. 9-45725
- SiO₂, adsorption of diketones, under carbon tetrachloride immersion, IR obs. 9-24821
- SiO₂, adsorption of pentan-3-one, under carbon tetrachloride immersion, IR obs. 9-24821
- SiO₂, doped and nondoped fused silica, IR characts. of optical fibres 9-18537
- SiO₂, E'-centre model, IR absorption spectra 9-37634
- SiO₂-Al₂O₃-CaO-MgO-NaO-K₂O-B₂O₃-ZrO₂, glaze, exam. of zircon crystallisation 9-19155
- SiO₂-GeO₂, synthetic, struct. IR spectra 9-42993
- SiO₂-Na₂CO₃, sodium Erevanit-25, sintering, struct. 9-43284
- Sn(HPO₃)₂·H₂O, struct., vibr. spectra 9-15447
- SnO-SiO₂ glass, struct., X-ray density, IR obs. 9-46574
- SnTe film, electroreflectance effects 9-43055
- Sr-Al₂GeO₇, gehlenite struct., synthesis and physicochem. props. 9-43181
- SrF₂:Pr, Nd, Tb, Dy, Ho, Er, Tm³⁺ far IR spectra 9-33736
- SrF₂:Sm²⁺(Tm³⁺), vibronic spectra and dynamics of impurity-containing lattice 9-1787
- Sr₂MgSi₂O₆, M=Nb,Ta, IR spectra and cryst. struct. (French) 9-11418
- SrTiO₃, optical props. above 0.14 eV 9-38546
- SrTiO₃:H(D), controlled doping, IR spectra 9-28007
- T₂, liquid and solid, collision induced infrared spectra 9-45717
- Ta complex, prep. by halide reaction with tetramethylurea and tetramethylthiourea, and characterisation 9-15972
- Ta complex, TaCl₅ complex with O- and S-containing ligands, prep., and characterisation 9-14729
- Te, natural optical activity and features of struct. of electronic energy spectrum 9-8110
- TeO₂-V₂O₅-Li₂O(Na₂O)(K₂O)(Cs₂O)(Ag₂O), glass, IR spectra of crystalline phases 9-38536
- Th complexes, O-donor complexes of cyclopentadienyl Th (IV) halides, prep. and characterisation 9-15974
- Th complexes, Th(IV) poly(pyrazol-1-yl)borate complexes, prep. and characterisation 9-15978
- TiSe₂, semimetal, IR props. 9-24318
- Ti_{1+x}Se₂, superlattice form. and phase transition, IR reflectivity meas. 9-24322
- TiBS, synthesis, struct., optical, spectral props. 9-15631
- TiInS₃, optical phonons, IR and Raman spectra (Russian) 9-10903
- TiInSe₂, single cryst., elec. cond., photocond. and IR spectra absorpt. spectrum 9-47097
- U(BH₄)₄, and d-16, IR spectra, gas, matrix, isolated and film 9-36639
- UO₂, temp. depend. of 5f to 6d_g absorption edge and intra-5f transitions 9-24314
- WSe₂, refl. spectra and photovoltaic effect, 1.5-3.2 eV, 4.1-300K 9-47470
- YAG:Er³⁺(Ho³⁺)(Tm³⁺), oscillator strengths of impurities, 5000 to 30000 cm⁻¹ 9-4830
- YAG:Nd³⁺ and free Nd³⁺ ion, energy levels, absorption spectra 9-11076
- ZnA₂X₄ (A=Ga,In; X=S,Se), Fourier IR and Raman spectra, cryst. struct. and symm. (German) 9-24313
- ZnGeP₂, electron irradi., elec. and optical props. 9-33743
- ZnO, microcryst., surface microscopic modes, IR detection 9-38527
- ZnO particles, average dielectric const. generalised theory, appl. to IR spectra 9-28667
- ZnO:Cu, H(D), IR absorpt. line spectra, OH and OD vibr., optical excitation 9-15498
- ZnO:Cu, H(D), OH and OD centres, IR-active absorpt. line spectra 9-15496
- ZnS:Al, IR studies of Al complexes 9-33741
- ZnS:Cr, anomalous temp. depend. of near IR absorption 9-28794
- ZnS:Cu 9-24350
- ZnSe, IR laser window coating absorption rel. to deposition conditions 9-14061
- ZrO₂, stabilized, thermal barrier coating system, spectral emission and absorpt., 300 to 1590K 9-24672
- ZrO₂-MgO system, intermediate phases existence, X-ray diff. and IR obs. 9-38805

infrared spectra of organic molecules and substances

- see also molecular rotation; molecular vibration
- 2-furanmethanethiol, mol. struct., electron diff. and IR spectroscopic examination 9-10106
- acetic acid, cryst., and isotopic species, H-bond, ν - ν coupling and ν , anharmonicity, IR spectra at 10K 9-15450
- acetylene, Q-branches, diode laser IR spectra, rot. consts. and struct. 9-45723
- n-alkoxy- α -methyl-p'-cyanophenyl cinnamate, orientational order, tricrit. behaviour 9-27907
- n-alkyl carboxylic acids, vibr. spectra, C-H stretching mode assignments 9-47429
- 2-aminopyrimidine-(d₄), amino inversion vibr., planarity, far IR obs. 9-31515
- antimony ethyl derivative, Et₃Sb, IR and Raman spectra, rot. isomerism 9-41167

infrared spectra of organic molecules and substances continued

- arsenic ethyl derivative, Et₃As, IR and Raman spectra, rot. isomerism 9-41167
- 2-aryl-3-benzylidenamino-4-thiazolidones, IR and NMR spectra, solvent effects and isomer conform. (Italian) 9-3596
- benzene, adsorbed on γ -alumina, high-temp. IR spectra (German) 9-28757
- benzene, vibronic coupling and IR intensities, CNDO/S semiempirical calc. 9-36596
- benzene derivatives, solid, phase transition under press., IR spectra 9-38531
- benzyl radical, IR absorpt. spectra, matrix isolated at 77K 9-22706
- benzyl, struct. and IR spectrum, MNDO calc. 9-31403
- bromoforn and Cl substitutes, VUV photolysis, during condensation with Ar, IR spectra of (CHX₂)₂X and X⁻-HCX₂ ions 9-13773
- t-butyl alcohol, and deuterates, gaseous and matrix IR spectra, liq. Raman spectra, vibr. assignment 9-10113
- N-tert-butylacrylamide-styrene copolymers, struct., composition, IR, DTA investigations. (Polish) 9-31751
- butylsilane-d₉-(d_n), vibr. spectra, normal vibrs. and rot. isomerism 9-31523
- calcium behenate monolayers, mol. orientation determ. by IR absorpt. 9-11423
- carbon tetrachloride, solid, Raman and far IR spectra 9-33680
- carbon tetrafluoride, lasing action, spectroscopy of features near 9 μ m lines 9-22944
- carbonyl frequency correlation of aromatic derivatives with nonaromatic analogues 9-22709
- p-chloroaniline, IR spectra of cryst. at low temp. 9-38533
- p-chlorobenzaldehyde and deuterated derivs., vibrational spectra 9-3441
- o-chlorobromobenzene, phase transition evidence from far IR absorption and Raman spectra 9-33693
- chloronitrobenzene, IR spectral intensity, N-O group in aromatic ring 9-41199
- cholesterol, in carbon tetrachloride, self-assoc., IR absorbance 9-47920
- complex band shapes, resolution by IR polarisation meas. 9-12873
- copper porphyrin, IR spectra and vibr. anal., and deuterio-derivatives 9-22705
- cyclobutanone, clathrate hydrate, struct. II, for IR spectra, 4-100K 9-13707
- cyclobutylmethylether, IR and Raman spectra, config. 9-31525
- 1,5-cyclooctadiene, liq. and solid phases, IR and Raman spectra 9-19877
- cyclopropane, clathrate hydrate, struct. II, for IR spectra, 4-100K 9-13707
- cyclopropane, IR band intensities using press. broadening technique 9-41172
- DBTTF(BF₄)_{0.8}, new conducting compound, synthesis, elec. and mag. props. 9-28341
- 1,2-di(N-piperidyl)ethane-bis-N-oxide tetrahydrate, synthesis, cryst. and mol. struct. obs. 9-32985
- 1,3-dibromobutane, IR and Raman spectra, normal coord. anal., C-halogen stretch bands and conformers 9-31522
- 1,12-dicarbaclosedodecaborane, plastic solid, phase transitions, 10-320K, Raman and IR obs. 9-28744
- 3,5-dichloroaniline, 250 to 4000 cm⁻¹, C_{2v} point group symmetry anal. 9-13717
- 2,3-dichloroaniline, 250 to 4000 cm⁻¹, C_s point group symmetry anal. 9-13717
- o-dichlorobenzene, phase transition evidence from far IR absorption and Raman spectra 9-33693
- 1,3-dichlorobutane, IR and Raman spectra, normal coord. anal., C-halogen stretch bands and conformers 9-31522
- 1,1-dibromo-2,2-dichlorocyclopropane, IR and Raman spectra 9-41170
- dichlorodifluoromethane, study of ν_6 fundamental 9-31526
- 2,2-dichloroethanol, vibr. spectra, normal coordinate anal. 9-22694
- dicyanobenzene, deuterated isomers, vibr. spectra 9-31521
- dicyanoethylenes, substituted, vibr. spectra, intramol. effects 9-31528
- diethylsilane-d₉-(d_n), vibr. spectra, normal vibrs. and rot. isomerism 9-31524
- difluorodichloromethane, high-resolution polarisation spectroscopy in 10 μ m region 9-6196
- 1,2-difluoroethane, in Ar matrix film, interference enhanced IR ATR spectra 9-9248
- 2,2-difluoroethanol, vibr. spectra, normal coordinate anal. 9-22694
- 1,1-difluoroethylene, optically pumped, far IR laser line assignment 9-31865
- diketones, adsorbed on SiO₂, under carbon tetrachloride immersion, IR obs. 9-24821
- dimethoxybenzaldehyde, IR absorpt. spectra, 400-4000 cm⁻¹ 9-41163
- dimethyl sulphoxide-d₆, intensities in inelastic electron tunnelling, IR, and Raman spectroscopy (French) 9-822
- dimethylether-HCl(1)(Br) mixture in N₂ matrix, IR induced proton transfer isotope effects, bond strengths 9-29335
- 1,3-dioxolane, clathrate hydrate, struct. II, for IR spectra, 4-100K 9-13707
- dipotassium malonate, aq. soln., IR and Raman vibr. spectra (French) 9-26989
- 1,2-disubstituted imidazole compounds, IR and Raman spectra, vibr. anal. (French) 9-45713
- ethane-d₉-d₆, normal coord. and IR intensity anal. 9-36604
- ethanol, disoc. adsorption on porous glass, IR obs. 9-23830
- ethers, and solid alkane solns., far IR spectra (French) 9-4793
- ethylene, IR and Raman intensities calc., efficient ab initio computation method 9-45698
- ethylene, IR spectra, solid and matrix isolated, dimer config. 9-36638
- ethylene, pure, IR absorption obs. of C-H stretching fundamentals up to 2 kbar and 200°C 9-22701
- ethylenediammonium metal chlorides, (NH₃CH₂CH₂NH₃)MCl₄, M=Ni,Pd,Cu,Cd,Mn, struct. and mag. props., vibr. spectra 9-10842
- ethylmethylether-(d₃), low freq. vibr. spectra, methyl torsional pot. functions, internal rot. 9-26978
- ethylmethyilsilane-d₉-(d_n), vibr. spectra, normal vibrs. and rot. isomerism 9-31524
- 1-fluoro 2,4-dinitrobenzene, laser Raman and infrared spectra 9-22711
- fluorobenzene, IR vibr. spectra 9-13713
- fluorobromomethanes, matrix photoionisation and radiolysis, IR spectra of free radicals 9-24765
- formaldehyde, 3.5 μ m region spectrum, ground state consts. 9-13712
- formaldehyde, absorpt. coeff. meas. using optothermal detector 9-40634
- formaldehyde, chemisorbed on Rh, catalytic decomposition, transmission IR spectra 9-39199

infrared spectra of organic molecules and substances continued

- guanine, ^{15}N and D substituted, in acid and base solutions, vibr. anal. 9-26994
- haloalkyl peroxy radical + NO_2 , haloalkyl peroxyhydrate form., FT IR obs. 9-34283
- halogenated propanes, IR and Raman spectra, LF vibrs. 9-10105
- hexamethylbenzene, IR polarised spectra 9-28758
- in cyclohexane-ethanol mixtures, UV spectra, solvent effect 9-22770
- isobutyl alcohol, adsorpt. on Al_2O_3 , gravimetry, IR investigs. 9-1546
- linoleic acid, adsorbed on Al_2O_3 , under carbon tetrachloride immersion, IR obs. 9-24822
- malonic acid, aq. soln., IR and Raman vibr. spectra (French) 9-26989
- manganese formate dihydrate, IR absorption spectra 9-19893
- MBBA, solid phase polymorphism and phase transforms., IR spectra obs. 9-8128
- methane, $2\nu_4$ band anal. (French) 9-41168
- methane, $\nu_1 + \nu_4$ vibration-rotation spectrum, spectroscopic constants (French) 9-13709
- methane, ν_4 fundamental band strength, line-intensity meas. 9-22700
- methane, anharmonic molecular vibrations, coherent spectroscopy 9-18187
- methane, liquid, vibrational overtone spectrum, planetary appls. 9-2497
- methane, solid, far IR spectra, and lattice vibr., 4.2K, 0.4-4.5 kbar 9-19868
- methane, vibr. induced rot. spectrum in ($u_4=1$) state 9-18184
- methane- d_4 , laser sideband spectroscopy (German) 9-26975
- methanol, IR absorption using opto-acoustic rapid scan Fourier spectroscopy 9-30585
- methanol, pure liq. and soln., Raman and IR intensity, polymerisation degree (French) 9-28740
- methanol solns., IR spectroscopic detection of free lone-pair groups or terminal methanol moles, PMR 9-19869
- methanol- d_1 , H-bonded in soln., $\nu_4(\text{OD})$ band 9-18183
- methoxytrifluorosilane and - d_3 , IR and Raman spectra, vibr. anal., barrier to internal rot. 9-18185
- methyl acetylene, IR absorpt. intensities 9-10103
- methyl alcohol IR absorption, diode laser obs. 9-31518
- 1-methyl-2-thiomethyl imidazole, IR and Raman spectra, vibr. anal. (French) 9-45713
- N-methylacetamide, vibr. spectra and normal coord. calcs. 9-36632
- N-methylacetamide-N- d_3 , vibr. spectra and normal coord. calcs. 9-36632
- N-methylanilines, substituent effects on geometry, IR spectra obs. 9-10107
- methylborodichloride- d_0 (- d_3), vibr. spectra and force constants (German) 9-26982
- methylpropylsilane, vibr. spectra, normal vibrs. and rot. isomerism 9-31524
- monofluoromethane, ν_6 band, Q-branches, diode laser IR spectra, mol. consts. 9-45722
- naphthalene, in nonpolar solvents, IR absorpt. bands 9-6939
- nematic liquid crystal, 7CB, far IR spectra 9-33688
- nitroaniline, IR spectral intensity, N-O group in aromatic ring 9-41199
- nitrobenzene, intensities in inelastic electron tunnelling, IR, and Raman spectroscopy (French) 9-822
- nitrobenzene- d_0 (p- d_5), vibr. spectra 9-26966
- nitrobenzene- d_3 , vibr. spectra 9-22695
- nitrobenzoic acid, IR spectral intensity, N-O group in aromatic ring 9-41199
- nitromethane, far IR reflection meas. and plasmon model relevance 9-33687
- nitrophenol, IR spectral intensity, N-O group in aromatic ring 9-41199
- nitrotoluene, IR spectral intensity, N-O group in aromatic ring 9-41199
- organic conductors, Fano anti-resonance and IR props. 9-15465
- organic N bases, solutions in organic solvents, IR spectra and struct. 9-38534
- oxalic acid diamide, mol., PMR and IR spectra, easy polarisable H-bonds 9-31516
- oxanilide, IR and Raman spectra, cryst. struct. and vibr. 9-42954
- oxetane, clathrate hydrate, struct. II, for IR spectra, 4-100K 9-13707
- palladium porphyrin, IR spectra and vibr. anal., and deuterio-derivatives 9-22705
- pentafluorophenol, liq. IR absorpt. spectrum, fundamental freqs. and combinations 9-36633
- pentan-3-one, adsorbed on SiO_2 , under carbon tetrachloride immersion, IR obs. 9-24821
- phenetole, in cyclohexane-ethanol mixtures, UV spectra, solvent effect 9-22770
- phenol, in cyclohexane ethanol mixtures, UV absorption, solvent effects 9-22767
- photoacoustic rapid-scan Fourier spectroscopy and methyl alcohol interferograms 9-30585
- photoacoustic spectroscopy using open membrane spectrophone 9-225
- phthalic acid diamide, mol., PMR and IR spectra, easy polarisable H-bonds 9-31516
- poly(2-vinyl pyridine), electronic struct., molecular-ion states and dielectric props. 9-37969
- poly-1,3-pentadiene, microstruct., IR, NMR, X-ray determs. 9-37637
- poly-bis-phenyl glutarate diacetylene, cryst., solid-state synthesis, struct. 9-15638
- polyarylbutediene, microstructure, NMR and IR obs. (Japanese) 9-24488
- polyatomic molecules in C star 3 μ band 9-5807
- polybut-1-ene, cryst. forms I and II, far IR spectra 9-33708
- polycarbonate, colour appearance during oxidation (Russian) 9-24643
- polychloroprenes, microstruct., IR digital subtraction method, struct. irregularities effect on copolymer IR bands 9-38543
- polychloroprenes, microstruct., IR digital subtraction method, struct. irregularities 9-42965
- polyethylene, deformed cryst., IR spectrum, C-H stretching, effect of polymorphism 9-15453
- polyethylene, linear, far IR absorpt. spectrum, temp. depend., 14K to melting pt. 9-1758
- polyethylene, partially crystalline, far IR absorption and thermal props. 9-33690
- polyethylene, photodegradation study by Fourier transform IR spectroscopy (Japanese) 9-24772
- polyethylene, structural changes induced by high elec. field (Japanese) 9-23532
- polymer, deformation of interatomic bonds, IR spectral meas. 9-38918
- polymethacrylic acid-polyethylene oxide polymer complex, H bond form., thermal behaviour (Japanese) 9-15454

infrared spectra of organic molecules and substances continued

- polymethine dye layer, vibr. spectrum anal., inelastic electron tunnelling spectroscopy 9-13716
- polyoxymethylenes, dielec. relax. and IR spectra, 90 to 300K (Russian) 9-28678
- polypropylene, effect of corona treatment on dielectric props. for capacitor appl. 9-33607
- polyquinoxalones with N-phthalimide groups in side chain, prep., props (Japanese) 9-15642
- polyvinylidene chloride, vibr. spectra, amorphous and cryst. state conforms 9-27930
- potassium hydrogen malonate, aq. soln., IR and Raman vibr. spectra (French) 9-26989
- propylsilane- d_0 (- d_n), vibr. spectra, normal vibrs. and rot. isomerism 9-31523
- PTFE films, plasma-polymerized, cond. mechanism, AC cond. and capacitance meas. 9-24093
- purple membrane, polarized IR spectroscopic struct. study 9-43809
- PVA, photooxidation, kinetic eval. for carbonyl form. (Japanese) 9-39007
- PVC branching, origin, extent 9-7048
- PVC chain branching, CH_2Cl group production mechanism, IR data evaluation 9-7047
- PVC-THF- H_2O , precipitation fractionation, influence of stereoregularity 9-7046
- resin vulcanisation, effect of Sn halides, IR spectra (Bulgarian) 9-33994
- resin vulcanisation, effect of Zn halides, IR spectra (Bulgarian) 9-33993
- rubidium tetramethylborate, vibr. spectra and force constants (German) 9-26981
- selenoacetamide (- d_n), IR spectra, vibr. assignments, normal coord. anal. 9-22708
- semicarbazide hydrochloride, phase transition, IR spectra and thermal study 9-37833
- L-series- d_0 and - d_4 , IR and Raman spectra, rot. isomers (French) 9-45714
- sorbitol, relax. processes, optical probe obs. 9-47430
- styrene- β - d_2 , IR and Raman spectra, vibr. assignments 9-13711
- succinic acid diamide, mol., PMR and IR spectra, easy polarisable H-bonds 9-31516
- TCND, IR and Raman spectra, vibr. anal. 9-36630
- TCNQ complexes with pyridine, polarised IR refl. spectra, evidence for electron-vibr. coupling 9-47448
- TCNQ salt, MeDABCO(TCNQ) $_2$, elec. cond. and IR and visible spectra meas. 9-42526
- TCNQ salts, complex, optical absorption meas. 9-4824
- TCNQ salts, K(TCNQ), Ba(TCNQ) $_2$ and Ca(TCNQ) $_2$, electronic absorpt. spectra, vibronic struct., charge transfer bands 9-24331
- TCNQ- β -pyrene, electronic absorpt. spectra, vibronic struct., charge transfer bands 9-24331
- TCNQ-TSeF, Drude optical edge, press. depend. 9-19882
- tetra-alkylammonium halide interionic potential models and far IR spectra 9-33689
- 1,1,2,2-tetrabromocyclopropane, IR and Raman spectra 9-41170
- tetrabutylammonium halides, solutions in organic solvents, IR spectra and struct. 9-38534
- 1,1,3,3-tetrachloropropane, Raman and IR obs. of rot. isomerism, entropy difference between vapour and liq. phase isomer (Russian) 9-31529
- 1, 2, 4, 5-tetracyanobenzene and - d_2 , IR and Raman spectra, vibr. anal. 9-36629
- tetrahydrofuran, clathrate hydrate, struct. II, for IR spectra, 4-100K 9-13707
- tetramethyl germanium(- d_2), vibr. spectra, normal coord. calcs. 9-22717
- tetramethyl lead(- d_2), vibr. spectra, normal coord. calcs. 9-22717
- tetramethyl silicon(- d_2), vibr. spectra, normal coord. calcs. 9-22717
- tetramethyl tin(- d_2), vibr. spectra, normal coord. calcs. 9-22717
- tetramethylammonium compound, (TMA) $_2\text{C}_2\text{S}_6\cdot 1/2\text{CS}_2$, IR spectra in 200 to 4000 cm^{-1} range (French) 9-33711
- tetrollyl fluoride, IR and Raman spectra 9-41171
- thiazolidine, mol., vibr. anal., IR and Raman spectra (French) 9-26964
- Δ -2 thiazoline and alkyl derivatives, IR and Raman vibr. spectra, conformation (French) 9-10104
- thiocarbonyl bromide, IR spectra, gas, liq. and matrix isolated, mol. force consts. (German) 9-36640
- thiophosgene, IR spectra, gas, liq. and matrix isolated, mol. force consts. (German) 9-36640
- thiourea, dielec. const. and IR spectra in ferroelec. and antiferroelec. phases 9-33589
- thiourea, IR reflectivity study of ferroelec. and antiferroelec. phases dielec. function model 9-33686
- TMNB, and deuterated derivative, low temp. far IR spectra 9-24309
- TMNC, phase transition, low temp. far IR spectra 9-24309
- TMTTF fluoroborate, transmission spectra with electron-phonon coupling phenomenological model 9-19891
- toluene, asymmetric bending vibrs. 9-13696
- 1,1,1-trifluoro-3-chloropropane, Raman and IR obs. of rot. isomerism, entropy difference between vapour and liq. phase isomer. (Russian) 9-31529
- trimethylborane, vibr. spectra and force constants (German) 9-26981
- TTF-TCNQ, Drude optical edge, press. depend. 9-19882
- $\text{TTF}_2\text{I}_2\text{Br}_3$, charge transfer complex, optical and elec. props. 9-4554
- yeast cell wall component contrib. to IR spectra 9-39371
- CSFCl, vibr. spectrum, anharmonicity corrections (German) 9-41173
- Cu complex, bis(1,5-cyclooctadiene)copper(I) perchlorate, IR and Raman spectra 9-19877
- Cu complex, di- μ -chlorobis[(1,5-cyclooctadiene)copper(I)], IR and Raman spectra 9-19877
- Fe complex, 2,2'-bipyridine, visible spectra of cryst. 9-47424
- Ni complexes, Ni(glycinato) $_2$ (pyrazine) and Ni(glycinato) $_2$ (pyridine) $_2$, and isotopic forms, IR band assignments 9-22710
- Os complex, 2,2'-bipyridine, visible spectra of cryst. 9-47424
- Pd complex, tetrabenzene tetra-azacyclohexadecene, I_2 oxidation product, synthesis and characterization 9-47900
- Rh complex, di- μ -chlorobis[(1,5-cyclooctadiene)rhodium(I)], IR and Raman spectra 9-19877
- Ru complex, 2,2'-bipyridine, visible spectra of cryst. 9-47424

infrared spectra of polyatomic inorganic molecules

- anharmonic molecules, stochastic multiphoton absorpt. processes, classical model 9-45778
- far IR atmospheric emission and absorption spectrum calc. program 9-35020
- inorganic and coordinated cpds., IR and Raman spectra, book 9-807

infrared spectra of polyatomic inorganic molecules continued
 solvated halide ions, in methanolic alkali halide solns., IR obs. 9-22703
 stratospheric far IR emission, balloon-borne obs. 9-34896
 upper atmosphere, IR radiation from mol. vibr.-rot. transitions 9-5695
 water cluster evidence from phase transition changes in IR mol. absorpt. coeff. 9-10100
 water cluster interpretation of IR water vapour continuum, comments 9-12262
 AlBr₃, IR spectra in Ar matrix, struct. 9-31520
 AlCl₄⁻, IR spectra in AlCl₃-MCl (M=Li, Na, K) melts 9-806
 AlClBr, IR spectra in Ar matrix, struct. 9-31520
 AlCl₂Br, IR spectra in Ar matrix, struct. 9-31520
 BCl₃, high-resolution polarisation spectroscopy in 10 μ m region 9-6196
 BrHCN⁻, BrDCN⁻, IR spectra, rel. to mol. geom. 9-22702
 CO₂, 4.3 μ m airglow, excitation mechanism involving OH and N₂ 9-16731
 CO₂ dimers in rare gas matrices, struct. determ. from IR spectra 9-10101
 CO₂, electrooptic constants, IR absorption spectrum in 2 ν_3 vibration band 9-3442
 CO₂, high temp. absorpt. meas. in 10.4 μ m laser band 9-36870
 CO₂, laser sideband spectroscopy (*German*) 9-26975
 CO₂, liq. and gas, state of aggregation effect on 1-4 μ m absorpt. bands intensities 9-27042
 CO₂, spectral line breadth in 15 μ m band, N₂ broadened, 200-300K 9-22765
 CO₂, transition moment and probabilities 9-3498
 CS₂, IR spectra, $\nu_1 + 2\nu_2 + \nu_3$ band (*French*) 9-41162
 CS₂, isotopic variants, $2\nu_1 + \nu_3$ band IR spectra, rot. and rovibr. consts. 9-41166
¹²C³²S₂, $\nu_1 - \nu_2$ difference band assignments 9-45719
 ClHCN⁻, ClDCN⁻, IR spectra, rel. to mol. geom. 9-22702
 ClONO, prod. via Cl+NO₂ react., FT IR obs. 9-8427
 Cr(CO)₆, ν (CO) region, IR and Raman spectra in organic solvents 9-41169
 Cr(CO)₆, solid and matrix isolated, Raman spectra 9-28755
 CrO₂Cl₂, matrix isolation IR spectrum and force constants 9-3445
 D(CN)₂⁻, IR spectra, rel. to mol. geom. 9-22702
 DO₂, IR spectra, config. of ²A' and ²A'' states 9-36636
 D₂O, IR and Raman spectra, bonding, vibr., band shapes 9-6938
 D₂SO₄, pure, IR and Raman spectra in liq. state, assignments and cryst. spectra comparison (*French*) 9-33699
 FNO, Stark spectroscopy of ν_1 band, rot. consts., dipole moment 9-13710
 GeH₄, laser sideband spectroscopy (*German*) 9-26975
 HAlCl₂, IR matrix spectrum, vibr. and force consts. (*German*) 9-11786
 (HBr)₂, IR matrix isolation spectra, N₂ matrix effects 9-36634
 HCN, IR and Raman vibr. intensity changes due to Li⁺ interaction 9-45712
 H(CN)₂⁻, IR spectra, rel. to mol. geom. 9-22702
 (HCl)₂, IR matrix isolation spectra, N₂ matrix effects 9-36634
 HNO₃, ν_3 band rot. struct., anal., band centre and rot. consts. 9-10109
 HNO₃ vapour line parameters meas. by CO laser transmittance 9-26976
 HO₂, IR spectra, 1.43-1.51 μ m emission bands 9-36635
 H₂O, band spectra after HF combined mag. treatment (*Russian*) 9-15682
 H₂O dimer, props., influence on tropic meteorology 9-2349
 H₂O, laser Stark and IR-RF double reson. at 6 μ m 9-45760
 H₂O, pure rot. band, exponential wide band parameters 9-31498
 H₂O, solutions in organic solvents, IR spectra and struct. 9-38534
 H₂O, warm fog and steam clouds, emission spectra variations, evidence for clusters in vapour phase 9-39849
 H₂¹⁶O, H₂¹⁸O, determ. of line intensities from Fourier absorpt. spectra (*French*) 9-18186
 H₂O₂D₂O, ice Ic, vibr. decoupling, IR spectrum 9-13706
 H₂O₂⁺, aq. soln., IR continua with polarisable H-bonds 9-26979
 HOD, IR band intensities in ice and water 9-3443
 H₂O₂H₂S, IR spectra of complex in solid nitrogen, 20K 9-10102
 H₂SO₄, pure, IR and Raman spectra in liq. state, assignments and cryst. spectra comparison (*French*) 9-33699
 H₂O, vibr. transition moment and band intensity 9-27036
 K⁺, KCl and KI, monomers and dimers, Ar matrix-isolated, IR spectra, vibr. assignments and calcs. 9-45718
 MgO, wavelengths and relative intensities of IR bands 9-2407
 Mn(CO)₅Br, ν (CO) region, IR and Raman spectra in organic solvents 9-41169
 NH₃, radical, laser mag. reson. spectra in 9 μ m region, ν_2 band 9-45724
 NH₃, decomposition, on supported FE catalyst, kinetics, IR obs. 9-11792
 NH₃, photoacoustic spectroscopy at 9 μ m, 10 μ m ¹²C¹⁶O₂ laser wavelengths 9-21014
¹⁴NH₃, ¹⁵NH₃, CW and pulsed Pb_{1-x}Sn_xSe diode laser spectroscopy 9-26980
 NO dimer, asymmetric, characterisation, Raman, IR spectroscopy 9-41176
 NO₂, 8170-8280Å absorption spectrum, rot. struct., assignments 9-6937
 NO₂, adsorbed on SiO films, infrared spectra exam. 9-45725
 N₂O, adsorbed on SiO films, infrared spectra exam. 9-45725
 N₂O+N₂, vibroluminesc., V-V transfer consts., quadrupolar transition moment, IR spectra 9-10112
 N₂O₄, vibr. assignment 9-6940
 OAlCl and OAlF, IR matrix spectra, vibr. freqs. (*German*) 9-11785
 OCB₂, IR spectra in Ar matrix, force consts. (*German*) 9-36641
 OGaF, matrix IR spectrum, vibr. and force consts. 9-11787
 ONI, IR matrix isolated spectra, force consts. 9-10111
 RbF, RbCl and RbI, monomers and dimers, Ar matrix-isolated, IR spectra, vibr. assignments and calcs. 9-45718
 (Re₂OCl₁₀)³⁻, reson. Raman, IR and electronic spectral studies 9-10118
 SF₆, IR absorpt. spectra of vibr. excited mols. (*Russian*) 9-36643
 SF₆, in cryogenic liqs., vibr. kinetics, IR spectrosc. obs. 9-18182
 SF₆, multiple-photon two-freq. IR laser pumping, optoacoustic spectroscopy 9-36717
 SF₆, nonlinear absorpt. spectrum using Doppler-free polarisation spectroscopy 9-3440
 SF₆, relax. mechanism, narrow reson. obs. by amplitude-modulated wave method 9-10155
 SF₆, soln. in liquid Kr, resonant IR radiation, nonlinear absorpt., vibr. relaxation estimate 9-36642
 SO₂, IR absorption spectra (*Russian*) 9-25328
 SO₂, IR bands, line-shape parameters, 300-1200K 9-36704
 Si₆, absorpt. of pulsed CO₂-laser radiation at 140K 9-22707
 Si₆Br₁₂ and Si₆Cl₁₂, vibrational spectra and force constants, rel. to Si₅Cl₁₀ and Si₅Br₁₀ (*German*) 9-22716

infrared spectra of polyatomic inorganic molecules continued

Si₅Cl₁₀ and Si₅Br₁₀, vibrational spectra and force constants, rel. to Si₆Cl₁₂ and Si₆Br₁₂ (*German*) 9-22716
 SiF₆, saturation absorpt. spectra, evidence of tumbling multiplets 9-36637
 SiH₄, ν_3 and ν_4 , IR bands, anal. 9-22704
 Si₂H₁₂ and Si₂D₁₂, Raman and IR spectra, vibr. force consts., config. (*German*) 9-22715
 U(BH₄-x)_y⁻, identified in vap. above U(BH₄)₄, IR spectra 9-36639
 U(BH₄)₄, and d-16, IR spectra, gas, matrix, isolated and film 9-36639
 UF₅, transient species formed in UF₆ laser flash photolysis, 17 micron IR spectrum 9-45715

infrared telescopes *see telescopes***infrared transmitters** *see infrared sources***infrasonic waves** *see acoustic waves***initial value problems**

anelastic deformation, generalised representation by num. sol. of initial boundary value problems (*German*) 9-12610
 beam, homogeneous, initial boundary value problem of transverse vibr. 9-40367
 beam, homogeneous, initial boundary value problem of transverse vibr. 9-41601
 Boltzmann eqn. approach to equilibrium for spatially homogeneous solutions 9-26007
 Boltzmann equation, global soln. 9-44883
 Cauchy problem, global soln. in discrete kinetic theory (*French*) 9-12710
 coherent excitations interacting in dispersive medium, envelope-soliton propagation 9-2639
 Comptonization of X-rays by low-temperature electrons, rel. to X-ray sources spectra 9-35108
 damped linear integrodifferential eqns., dielectric appl., concavity arguments and growth estimates 9-28703
 dynamical astronomy simulation, new Runge-Kutta algorithms for differential eqns. soln. 9-12387
 F 9-35955
 galactic dynamo models, initial-value formulation 9-40262
 galaxy clustering depend. on cosmological density parameter 9-48971
 gas, two dimensional, initial value problem for model Boltzmann eqn. 9-44885
 generalised Feller eqn., initial condition solns. 9-12579
 Hilbert asymptotic expansion method for evolution equations in Banach spaces 9-17368
 inflows, density currents, and fronts 9-10542
 integrable evolution equations, general struct. 9-30201
 linear dynamic viscoelast., stability conditions for solns. 9-30240
 linear hyperbolic initial boundary value problems, hydraulic system appl. (*German*) 9-9115
 magneto-elastic plates under mixed boundary conditions 9-7328
 Maxwell-Hopkinson dielectric theory electric displacement fields, growth estimates 9-24278
 mechanical response and the initial value problem 9-2620
 MHD Couette flow stability in presence of mag. field 9-23373
 micropolar fluids, initial boundary value problems 9-14373
 nonlinear initial-value problem arising from kinetic theory of vehicular traffic 9-163
 nonlinear Schrödinger eqn., global solns. in 1,2,3-dimens. 9-5993
 oil shale, transient temp. distrib. due to combustion flame in retort 9-37110
 ordinary differential eqns., suppression of inherent instabilities in initial value methods 9-9090
 perturbed spherically symmetric collapsing star, initial value problem in quasi-Newtonian background 9-5842
 protogalaxies, rot. and star form. rate 9-35374
 Rayleigh-Taylor instability of viscous fluids 9-1159
 Schrödinger time dependent eqn., initial value problem, fund. soln. 9-25902
 spin 3/2 field theories, constraints, positivity and obscure representations 9-2909
 spray, numerical computation, appl. to engines 9-37378
 stellar dynamics, global particular solution to initial value problem 9-35314
 symmetric top on horizontal surface, computer program for initial value problem 9-44714
 two-dimensional steady-state and transient eddy current problem soln. 9-41289
 vibrations of string with time-varying length 9-25870
 viscoelastic displacement vector growth estimates 9-27552
 viscoelastic liquid channel flow, boundary-initial value problem 9-4045
 weather forecasting scheme, determ. of initial wind field 9-39833

injection lasers *see semiconductor junction lasers***injury by radiation** *see biological effects of radiation***inorganic insulators** *see insulating materials***inorganic molecule configurations***see also isomerism*

actinide (VI) ions, AnO₂²⁺, in CO₃²⁻ media, Raman scatt. 9-13718
 alkali trimers, LEPS pot. energy surfaces, equilib. geometries, vibr. force consts. 9-22624
 alkali trimers, London pot. energy surfaces 9-6893
 group IV hydrides, pseudopot. FSGO calc. 9-22591
 transition metal clusters, bonding calculations, MO calcs. 9-22589
 valence ionisation pots., SCF-MS-Xa calcs., mol. space partitioning 9-36529
 AlBr₃, IR spectra in Ar matrix, struct. 9-31520
 AlClBr, IR spectra in Ar matrix, struct. 9-31520
 AlCl₂Br, IR spectra in Ar matrix, struct. 9-31520
 Ar₂H(H⁺), excited and ground state struct. energies and binding energy, vibr. modes, LCAO-SCF-MO calc. 9-3608
 B₂H_n, struct., ab initio SCF calcs. (*French*) 9-22598
 B₃H_n, struct., ab initio SCF calcs. (*French*) 9-22598
 BaH(AsCr₂O₁₀), X-ray cryst. struct. determ. 9-42019
 BrHCN⁻, BrDCN⁻, IR spectra, rel. to mol. geom. 9-22702
 Br(H₂O)_n⁻, geometric and electronic struct., CNDO/2 calc. 9-41113
 CO₂, dimer, geom. struct., by mol. beam deflection 9-27102
 CO₂ dimers in rare gas matrices, struct. determ. from IR spectra 9-10101
 C₂O₃, liq., mol. conform. and orientation correlation 9-32877
 CeCl₃·7H₂O, X-ray cryst. struct. determ. 9-46606
 (Cl₂)₂, config., ab initio calc. 9-41098
 ClHCN⁻, ClDCN⁻, IR spectra, rel. to mol. geom. 9-22702

inorganic molecule configurations continued

- CoCl₂-LiCl-glycerin-water system, Co²⁺ ion coordination transition, spectral investig. 9-42953
 CsBO₂, mol. struct. determ. by gas phase electron diff. 9-10227
 D(CN)₂⁻, IR spectra, rel. to mol. geom. 9-22702
 DNC, vibronic coupling and linear to bent transitions 9-45694
 DO₂, IR spectra, config. of 'A' and 'A'' states 9-36636
 H-bonded systems, cyclic and bifurcated, ab initio MO calcs. 9-41100
 H-bonded systems, MINDO/3 geom. optimis. calcs., heats of form. of monomer and dimer 9-31399
 H₄, FGSO open-shell calcs., pot. energy surface, electronic energies of configurations 9-10025
 H₄, square config., 'B_{1g}', 'B_{2g}' states, quantum chem. calcs., random walk method 9-36518
 H_n (n=5 to 13), ion-induced dipole clusters, binding energies and geometries 9-41261
 H(CN)₂⁻, IR spectra, rel. to mol. geom. 9-22702
 HF, geometries, props. and protonation, ab initio mol. orbital study 9-22588
 HF⁺, ab initio valence band calcs. 9-6869
 HNC, vibronic coupling and linear to bent transitions 9-45694
 HNCSe, struct., microwave spectrum 9-18178
 HNO⁺, ab initio pot. surface, and isomerisation barrier of lowest states 9-22622
 H₂O, ab initio calcs., VSEPR model and Pauli exclusion principle 9-31380
 H₂O dimer, props., influence on tropic meteorology 9-2349
 H₂O, VB minimal Slater basis set calcs., comparison with H₂S, MO calcs. 9-36536
 (H₂O)-HF complexes, (x=1 or 2), geometry, CNDO/2 calc. 9-36531
 H₂O₂, struct. and barrier to internal rot., HF and Rayleigh-Schrodinger perturbation calcs. 9-13636
 H₂O₃, struct., barrier to int. rot., HF and RS-MP perturb. calcs. 9-13637
 H₂S, VB minimal Slater basis set calcs., comparison with H₂O, MO calcs. 9-36536
 Hg complex, trihalogenomercurate II ions in amide solvents, config. equilib. 9-26997
 HgI₂, mol. struct. and vibr. pot. function, gas-phase electron diff. obs. 9-31689
 I(H₂O)_n⁺, geometric and electronic struct., CNDO/2 calc. 9-41113
 LiBH₄, struct., pot. surface, ab initio calcs. 9-41092
 LiBeH₃, ab initio calc. of pot. surfaces and geometry 9-10024
 LiO₃, mol. struct., ab initio calcs. 9-26884
 Mg(H₂O)_n⁺, geometric and electronic struct., CNDO calc. 9-36532
 NCNCO, geometrical struct., INDO calcs. 9-22602
 NH₂⁺, mol. geom., diffuse functions in SCF calcs. 9-10226
 NOH⁺, ab initio pot. surface, and isomerisation barrier of lowest states 9-22622
 NSF, geometry and stability, LCAO-MO SCF calcs. 9-31391
 NaBH₄, struct., pot. surface, ab initio calcs. 9-41092
 Na₂HMo₂P₂O₂₃(H₂O)₁₁, mol. and cryst. struct., X-ray diff. anal. 9-32951
 O₃, conformation, ab initio HFS method calc. 9-36526
 Pd complex, bis(N-allylallylaldiminato)-palladium(II) cryst. and mol. struct. 9-32972
 PrO, D₀⁺ state struct., dissoci. energy, mass spectrometric obs., 9-10228
 S₃, conformation, ab initio HFS method calc. 9-36526
 SH₃⁺, struct., ab initio HF calcs. 9-31371
 SNF, geometry and stability, LCAO-MO SCF calcs. 9-31391
 SO₂, 'B₂' state, force field and asymm. struct. 9-22685
 SiH₄⁺, struct., stability, ab initio calcs. 9-13632
 Si₆H₁₂, and Si₆D₁₂, Raman and IR spectra, vibr. force consts., config. (German) 9-22715
 SiH₃NCO, geometric struct., ab initio MO calc. 9-13834
 VBr₄, mol. struct., vibronic interactions, dynamic Jahn Teller effect, gas phase electron diff. 9-31711
 V(CO)₆, cryst. and mol. struct., Jahn-Teller distortion, mol. vib. and librational correction 9-32949

inorganic molecule electronic structure *see molecular electronic states***insolubility** *see solubility***inspection**

- see also quality control; reliability; testing*
 acoustic methods, review 9-43504
 automatic surface flaw inspection of nuclear fuel pellets 9-30939
 contact layer thickness optimization for resonance method inspection 9-34236
 cyclically loaded structures, effects of periodic proof and nondestructive testing 9-15946
 drill pipe with welded end couplings, US inspection 9-5124
 EBR-II steam generator tube bore side inspection probe and drive 9-9850
 eddy-current phase thickness gauge, automatic error corrections 9-9204
 electromagnetic inspection of railway rails, high speed, objective rating 9-47858
 elongated part of noncircular cross section, straight through eddy current transducer inspection 9-47860
 fatigue, fracture, statistical treatment, maintenance procedures 9-43538
 fission reactor pressure vessel walls, ultrasonic inspection reliability 9-24713
 flaw detection probability estimation from inspection data 9-24712
 graphite, US inspection apparatus for complex profiles 9-5109
 irradiated fuel sipping, inspection and repair 9-9844
 linear accelerator for nondestructive inspection appl. 9-41046
 LWR power plants, in-service inspection 9-30944
 metall. thin section fusion weld, US inspection 9-15916
 MIRA series of impulse X-ray apparatus 9-34252
 NDT, equipment for production line inspection 9-29320
 nondestructive inspection methods, review 9-43535
 nuclear reactor vessel, recording instrument for US inspection results 9-5104
 photographic materials, automatic inspection by IR laser beam 9-30593
 piezoelectric transducers for contactless US product inspection 9-34238
 pipe, thick walled, increasing efficiency of automated ultrasonic inspection of segregate defects 9-11755
 pipe, transverse oscillation effect on measurement accuracy in radiometric inspection 9-34245
 pipes, soldered, device for automatic scrapping 9-29308
 plastic pipe inspection by rotational ultrasonics 9-20323
 portable comprehensive irradiated-fuel inspection stand 9-9836

inspection continued

- PWR primary circuit, in-service inspection (French) 9-22385
 PWR primary coolant system, in-service inspection programs 9-22384
 reinforced plastic, fatigue mech., charact. and defect detection 9-24687
 road construction, nondestructive testing principles, instruments and methods (German) 9-11742
 scanner development, for surface inspection of cold rolled sheets (German) 9-43533
 sheet material, Lamb wave inspection, pulsed and impact excitation of transducer 9-34244
 spectacle lens inspection apparatus (French) 9-7235
 steel, 11YuA, cold worked, heat treated, electromagnetomech. props. NDT 9-4980
 steel, 20A, melt, tube blanks, mech. props., statistical determ. 9-29316
 steel, austenitic, tubing, heavily walled, US inspection 9-39107
 steel, casting, C-scan method of US inspection, developments 9-29294
 steel, cold rolled strip, surface defects, online automatic system, design study 9-34231
 steel, cold-formed, NDT of mech. props., coercimeter results 9-34240
 steel, heat treated small parts, electromagnetic hardness inspection 9-34241
 steel, low alloy and C, hardened and tempered parts, nondestructive magnetic inspection 9-1929
 steel, square parts, surface inspection, defect depth meas., eddy current method 9-29307
 steel, stainless, pipe, small-diameter ribbed-bore, Lamb-wave ultrasonic inspection for defect detection 9-15944
 steel, tape, US inspection for segregate type defects 9-15943
 steel stainless, intergranular corrosion, effect on acoustic props. for US inspection 9-11745
 strobe impulse former in inspection zone of part with variable thickness 9-39100
 thickness meas. US inspection, variability of meas. 9-24704
 tightness inspection, sensitivity determ. using holographic interferometry 9-36862
 tolerance gauging, Mercer electronic unit 9-12780
 two layer medium with metallic base, dielectric charact. determ. using reflected electromagnetic wave 9-35688
 welded joint inspection using special US scanning system 9-34235
 welded joints of tube headers, US inspection feasibility study 9-11746
 welded lengthwise seam, US inspection of cylindrical testpieces 9-39087
 welded pipe joint, efficiency of various methods of NDT 9-39103
 welding seams, automatic US inspection system 9-29310
 Fe, cast, parts inspection of unmachined surfaces using fluorescent penetrant method 9-11754
 Pb, parts, albedo thickness meas., neutron technique 9-29309
 Ti alloy, tubing, heavily walled, US inspection 9-39107
- instability** *see stability*
- installation**
see also commissioning
 intersecting storage ring supercond. solenoid installation and performance 9-31270
- instrumentation**
see also aerospace instrumentation; computerised instrumentation; digital instrumentation; digital readout; display instrumentation; nuclear instrumentation; physical instrumentation control; signal generators; signal sources
 cells failure analysis, Ag-Zn, test methods evaluation 9-48105
 coal gasification, in situ, diagnostic and remote monitoring instrumentation development 9-48055
 EM meas., conf., Ottawa, Canada, 1978 9-21731
 linear parameter estimation, for chem. anal. 9-24843
 magneto-optical effects appl. (Japanese) 9-14099
 measurement accuracy, evaluation 9-17380
 photolysis and radiolysis, kinetic data acquisition, and anal., by computer based system 9-39180
 reliability, activities at National Institute for Metrology (INMB), Bucharest (Rumanian) 9-40522
 tolerance gauge, Mercer electronic unit 9-12780
 undergraduate course, in advanced physical instruments 9-21486
- instruments**
see also individual types of instruments, e.g. astronomical instruments, bridge instruments, optical instruments
 aspirator saturator, performance, dew point data of air (Japanese) 9-40580
 Epstein permeameter, 25 cm, parallel stray magnetic flux compensation (Polish) 9-2798
 feedback in instruments and its applications 9-21687
 ferroelectric film switching transition meas. instrument, operating principle 9-17443
 flatness deviation meas. instrum. with aerostatic basis 9-6083
 psychrometer, direct indication, of temp. difference and temp. type (Japanese) 9-40581
 undergraduate course, in advanced physical instruments 9-21486
- insulated gate field effect transistors**
 carrier density and mobility meas. using a long gate MOSFET structure 9-47178
 ion selective electrochemical electrode with MOSFET 9-34411
 ion sensitive FET, ion selectivity and temp. depend. 9-34409
 MNOS, charge distrib. in Si₃N₄ film exam. 9-38184
 MOS, defects, SEM 9-23507
 MOS phototransistor with Si-SiO₂ systems, spectral characts. (Russian) 9-42657
 MOSFET, ionic scatt. effect on Shubnikov-de Haas amplitudes in Si inversion layers 9-42653
 MOSFET, p-channel, anal. of surface states on semiconduc.-dielectric interface 9-42648
 MOSFET inversion layer, localised highly correl. phase cond. 9-33354
 MOSFETs, Shubnikov-de Haas oscills. from electron irradi. induced two-dimens. leakage channel 9-19671
 VMOS transistors used to give linear thermal response characts. 9-9216
 Si MOSFET, n-type inverted, surface, mag. field depend. of valley splitting 9-19650
 Si-SiO₂ interface, inversion layer transport, radiation hardness effects, review 9-19673
 SiO₂, in IGFET struct., thermal reemission of trapped electrons 9-42650
- insulated wires**
 absorbed dose for electron irradiation for polymeric part of electrical wire 9-46708

insulating coatings

- see also *varnish; waxes*
polymer electrophoretic coating, effect of silicone additive on electrophys. props. (*Russian*) 9-15615
space shuttle, combined load testing at 1100°C 9-34261

insulating materials

- see also *asbestos; ceramics; composite insulating materials; dielectric materials; glass; insulating thin films; mica; organic insulating materials; thermal insulating materials*
surface arc discharge effects and arc resist. 9-37563
SF₆ elec. discharges, expt. (*German*) 9-10726
SF₆ electric strength as statistical charact. (*Russian*) 9-41787
SF₆, electrical conductivity calc., 2000 to 5000K 9-14512
SF₆, equilibrium composition calc., in 20000 to 50000K range, in dependence on pressure 9-14511
SF₆-gas mixtures electric breakdown 9-37438

insulating materials, acoustic see noise abatement

insulating materials, thermal see thermal insulating materials

insulating oils

- co-field motion, effect of dissolved gases, organic additives and field configuration 9-37407
mineral oil in large gaps, electric strength study 9-38452

insulating thin films

- see also *dielectric thin films; electronic conduction in insulating thin films*

- chemical shift meas. by ESCA (*Japanese*) 9-4891
oxide films, As doped, thermal stress effects on roughening 9-23813
polyethylene, elongated low density film, TSC 9-47106
rare earth oxide films, non-stoichiometric phases 9-7755
SCL currents, effects of finite contact energy barriers and traps 9-38209
silane layers, reactive ion etching and Auger electron spectra 9-24394
Al₂O₃ films, DC reactive sputtering prep., IR spectra characterization 9-11513
Al₂O₃, on Au layer, stopping power and energy straggling meas., Li ion backscatt. anal. 9-3328
BaO, film, initial struct., field electron emission microscopy and LEED determ. 9-11033
GaAs anodic oxide, electrical props. 9-38170
GaAs anodic oxide, leakage currents 9-38169
GaAs oxide, plasma grown, anal. by combined ion beam techniques 9-7760
GaAs oxide films grown by anodization in electrolytes, electron spectroscopy exam. (*German*) 9-15837
GaP oxide films grown by anodization in electrolytes, electron spectroscopy exam. (*German*) 9-15837
GaSb oxide films grown by anodization in electrolytes, electron spectroscopy exam. (*German*) 9-15837
InP anodic oxide, anal. by MeV ⁴He⁺ channelling effect meas. and AES 9-4492
InSb oxide films grown by anodization in electrolytes, electron spectroscopy exam. (*German*) 9-15837
MgO, film, low energy electron absorpt., struct. and absorpt. centres 9-7763
NaCl, thin single-crystal film, hot electron emission 9-15244
Pb₃Nb₂O₇, electric cond. and dielect. props. of cathodic-sputtered films (*French*) 9-33371
Pb₁₈Zn_{0.15}Na_{0.05}Nb₂O_{6.95}F_{0.05}, electric cond. and dielect. props. of cathodic-sputtered films (*French*) 9-33371
Si₃N₄ amorphous films, struct., short-range order, and crystn. kinetics 9-28240
Si₃N₄, CVD from SiCl₄ and NH₃, mass spectroscopic anal. of intermediates 9-43149
Si₃N₄, CVD in hot-wall diffusion system 9-19996
Si₃N₄, deposition by plasma stream transport method, use of charge exchange plasma source 9-15613
Si₃N₄ film, H₂ concentration profile, chem. bonding 9-33205
Si₃N₄ film, on W-coated Si, photocond., 1.31-3.10 eV, mechanism 9-19679
Si₃N₄ film deposited from SiH₂Cl₂ and NH₃, characterisation 9-11521
Si₃N₄ film in MNOS memory struct., distrib. and role of N-H and Si-H bonds 9-33358
Si₃N₄ films, plasma deposited over substrate steps, fast etching phenomenon 9-34168
Si₃N₄ films, reactive plasma sputtering prep. 9-43147
Si₃N₄ films on Si, photocurrents 9-24092
Si₃N₄, growth technique 9-43141
Si₃N₄, highly insulating film, current cond., CV curves, and IR absorpt. 9-38208
Si₃N₄ layers, prep. by N₂ ion implantation into Si, TEM and IR absorpt. obs. 9-46974
Si₃N₄ layers, RF plasma deposition and props. 9-43155
Si₃N₄, MNOS struct., mechanical stress and elec. props. as function of nitride deposition temp. 9-42651
Si₃N₄, non-stoichiometric films, struct. 9-42412
Si₃N₄, on Si, crystals from amorphous state 9-28225
SiO thin films at 60 mK, high-freq. phonon propagation 9-19347
SiO₂, Al implanted, in MOS struct., electron traps characts. obs. 9-15226
SiO₂, deposition by plasma stream transport method, use of charge exchange plasma source 9-15613
SiO₂, electron-beam-induced cond., appl. to obs. of voltage contrast in SEM 9-21856
SiO₂, ellipsometry of anodised layers on clean and ion bombarded Si surfaces (*Russian*) 9-24382
SiO₂ film, from oxidation, in dry O₂ and H₂O ambients, initial oxidation regime obs. 9-29240
SiO₂ film, on Si, structure determ. by electron diffr. anal. 9-15050
SiO₂ film deposition by SiH₄ oxidation, kinetics and physicochemical model 9-42419
SiO₂ films, thickness and dielectric const., elec. cond. mech. (*Japanese*) 9-8084
SiO₂, in IGFET struct., thermal reemission of trapped electrons 9-42650
SiO₂ layer, ultra thin, Si substrate, surface cond. mechanism 9-38149
SiO₂ layer anodically grown on high resistivity n-Si wafer, improved homogeneity 9-24642
SiO₂ layer of MOS structs., centroid location of implanted ions by photo 1-V technique 9-24079
SiO₂ layers, anodic oxidation growth on p-Si, transmission electron diffr. obs. 9-28241
SiO₂, on semiinsulating GaAs:Cr:Si, annealing 9-4323

insulating thin films continued

- SiO₂, on Si, crystals from amorphous state 9-28225
SiO₂, plasma etching, role of chemisorpt. of CF₄, CF₃H, CF₃Cl, CF₂Cl₂ and CCl₄ 9-11714
SiO₂, prop. of insulating film for tunnelling study on zero bias anomaly in Pb-SiO₂-Pb_{0.8}Sn_{0.2}Te 9-15608
SiO₂:F-ion implanted, mobile-ion drift compensation 9-19664
SiO₂ layers, grown in HCl/O₂ ambients, struct. and comp. 9-42404
SiO₂N_x, on Si, ¹⁸O conc. profiles anal., using (d,p) and (d,α) reactions with mag. spectrom. 9-5215
Si₃O₂N₂, on Si, crystals from amorphous state 9-28225
Si₃O₂N₂, non-stoichiometric films, struct. 9-42412
TiO₂, anodic film, AES study 9-5072
TiO₂, anodic film, polarisation behaviour, stoichiometry 9-5073
V₂O₅, amorphous, electronic cond., effect of random glass struct. 9-23972

insulation

- see also *cable insulation; electric breakdown; insulating coatings; insulating materials; insulators*
air gap corona pulse delay obs. and HV insulation design 9-19117
electrical diagnostic stimulator with insulated sources of power (*German*) 9-16324
superconducting magnet HV insulation problems 9-30512

insulation, thermal see thermal insulation

insulation testing

- flammability testing, problems, language and scientific basis 9-5092
JET Tokamak toroidal field coil manufacture 9-31206

insulator-metal boundaries see metal-insulator boundaries

insulator-semiconductor boundaries see semiconductor-insulator boundaries

insulators

- see *insulating devices. For materials see insulating materials*
see also *bushings; insulation*
electric breakdown, of gas, liq., and solid insulators (*Japanese*) 9-19837
refractive index meas. using continuously recording spectrograph, instrum. 9-17467
thermionic technology development, for space nuclear propulsion, NASA's program 1978 status, objectives and plans 9-48159

integer programming

- PWR refuelling fuel shuffle scheduling 9-9866
teaching simplification 9-17163

integral equations

- see also *integro-differential equations*
a mixed boundary value problem in elasticity 9-23274
Abel's integral eqn., least squares finite element method appl. 9-25830
Abel eqn. for rigid indenter sliding over power law viscoelastic half space 9-27602
Abel integral eqn., numerical soln., optical diagnostics of axisymmetrical objects 9-7488
acoustic wave diffr. by parallel strips 9-1015
bar with two natural freqs., minimum mass design 9-46246
Blasius type boundary layer subject to blowing or suction, transition behaviour 9-18869
bosons, analytical treatment of hypernetted-chain and Percus-Yevick eqns. 9-30359
boundary integral eqn. method, appl. to creep of metals 9-46231
bounded elastic body containing a crack, mode I deform., integral eqn. soln. 9-3976
branched cracks in 2-D, numerical soln. 9-46269
Brownian motion, generalized multiple Wiener integrals 9-30370
circular bar in elastic half-space, longitudinal harmonic excitation 9-10518
complex Cauchy type singular integral eqn., curvilinear crack anal. 9-37246
convective heat transfer in porous layers, Karman-Pohlhausen method 9-7408
Coulomb T-matrix, modified integral eqn. using Green's functions 9-35976
dual, anal. of coplanar Griffith cracks in infinite elastic medium, dynamic stress conc. 9-46270
Duhamel's integral numerical evaluation, earthquakes response spectra calc. appl. 9-21035
eclipsing variable stars Fourier anal., B_{n,m}^q integrals explicit expression 9-35298
eddy current problem soln., integral eqn. method developments 9-41292
elastic bimaterial problems and cracks, integral equations 9-44741
elastic eqns. of uniform systems, general integral solns., appl. (*Russian*) 9-14272
elastic unitarity integral, angle-dependent lower bound on soln. and new uniqueness condition 9-40414
elastic unitary eqn., soln. uniqueness 9-5981
elastostatics, appl. of modified integral eqn. method 9-14254
electron in multicentre Coulombic field of nuclei, integral Schrodinger eqn. soln. 9-30285
EM scatt. integral eqn. resonant solution elimination 9-45895
EM wave, of sinusoidal ring current, diffr. by cond. cone 9-27140
EM wave diffraction, from nonintersecting plates 9-10248
EM wave direct scattering from one-dimensional inhomogeneous media, anal. 9-10244
excitation of conductive body, covered with thin dielectric layer (*Russian*) 9-18322
exterior problems of acoustics, integral eqns. soln. 9-27455
FEBIE—a combined finite element-boundary integral equation method 9-2633
flow, swirled, in pipe, friction law and form parameters 9-37329
flow in pipe, swirled, integral calc. method 9-37402
Fredholm, anal. of granular layer on elastic foundation, axisymmetric contact problem 9-27600
Fredholm, second kind, with Cauchy type singular kernels, approx. solns. using Chebyshev series 9-2611
Fredholm, soln. for elastic cylinder embedded in elastic half space 9-27524
Fredholm, soln. for penny-shaped crack in a sphere embedded in an infinite medium 9-27585
Fredholm eqns., criticality anal. of slab reactor 9-26475
Fredholm equation, for plane EM wave diffr. by grating at interface 9-27139
Fredholm integral equation, free-knot spline inversion using nonlinear least squares method 9-2486

integral equations continued

- Fredholm linear eqns. of first kind, failure to satisfy Picard's condition 9-2601
- Galerkin-finite element formulation in viscous flow 9-14367
- generalised finite element method for magnetostatics 9-41270
- geophysical fields, props. of linear integral transforms (*Russian*) 9-35007
- glow curve integral, computation technique 9-8199
- Griffith crack in nonhomogeneous medium under shear, asymmetric problem 9-18813
- heat conduction, inverse problems, two-dimensional linear integral eqns. 9-37120
- heat conduction in axisymmetric body-duct configuration 9-32185
- heat transfer between bodies in gas-filled contact, numerical solution 9-37130
- heat transfer dynamics in channel, anal., impulse function method 9-37317
- integrable evolution equations, general struct. 9-30201
- ion-atom collisions, charge transfer, new integral eqn. calc. method 9-45832
- isochronous cyclotron sector magnet field calc. 9-41053
- kernel approx. in axially symmetric temp. problem 9-35643
- Kirchhoff shells, static and dynamic anal. based on mixed finite element formulation 9-32328
- Laplace's equation, numerical soln. by integral eqn. method without Green's function 9-12564
- large algebraic eqn. systems, direct and iterative solns. 9-41274
- lifting-line theory, alternative treatment as perturbation problem 9-27663
- Lighthill nonlinear integral equation, soln. 9-6061
- magnetostatic problems, 3-dimens., soln. using scalar potentials 9-22879
- master equation, path integral soln. 9-12715
- mathematical modelling of highly parametrised integral or differential equations 9-35492
- Mindlin plate elements, free vibration anal. 9-46244
- mm EM wave scattering from precipitation particles, calcs. 9-22882
- model nuclear matter, hypernetted chain integral eqns. 9-490
- multiple integrals in waveguide scatt. problems 9-3796
- neural network models, excitation and inhibition structures 9-2044
- neutron transport, collision probability integrals in annular geometry, properties 9-22361
- neutron transport theory, F_N method 9-30877
- nonlinear, periodicity threshold theorem 9-5973
- nonlinear elasticity strain energy, integral bound for displacement boundary value problem 9-37171
- path integral representation of QFT for S-matrix, meson field-nucleon field interaction 9-2947
- periodic interface scattering, rigorous method derived from integral formulation 9-13896
- plane elasticity, cracks, Cauchy type integrals and integral eqns. with logarithmic singularities 9-30252
- plane elastostatic boundary value problems, formulation as integral eqns. by singularity method 9-35556
- plate, circ., thin, elastic, containing Griffith crack, in infinite elastic medium, stress distrib. 9-32374
- porous medium, drying, evaporation characteristics determ. (*Russian*) 9-37134
- potential theory, higher-order approximations 9-22877
- proper functions of two-dimens. field, air pollution appl. 9-21002
- quantum gravity and path integrals, supersymmetric theory, virtual Planck-mass black holes 9-2706
- radiative flux local characteristics calculation using Monte Carlo method modification (*Russian*) 9-35648
- radiative transfer, inverse problems method in transport and filter theory 9-29920
- radiative transfer eqn. exact soln. for semiinfinite plane-parallel isotropic scatt. atm. 9-12396
- radiative transfer exponential integrals, Λ -transform determ. 9-35114
- rarefied gas mixture Poiseuille flow 9-14438
- recurrence relations for integrals of associated Legendre functions 9-29690
- round buoyant jets in stratified flows, integral eqns. 9-27680
- scattering amplitudes with positivity constraints, analytic extrapolation, integral eqns. 9-35589
- scattering integral equations for distorted transition operators, N- particle scatt., DWBA 9-6532
- seismology, waves integral spectral parameters method for geological section prediction (*Russian*) 9-8705
- simultaneous, anal. of 3-D wave propagation in cracked elastic solid 9-46251
- singular integrals, 2-dimens., used in 3-dimens. elasticity 9-35561
- singularities in Feynman integrals of quantum field theories 9-40661
- solution by optical spatial filtering 9-3643
- spherically stratified medium and bounded obstacle, integral equation 9-32120
- streaming, uniform, past fixed semicirc. infinite strip 9-23299
- stress singularity at the corner of a wedge-shaped crack or inclusion 9-46268
- summation formula for integral computation over sphere 9-29689
- supersonic boundary layer flow about cones, method of integral relations 9-10589
- thermally induced stress, intensity factors calc. using contour integral method 9-37243
- thermoelastoplastic 3-D problem formulation by integral eqns. 9-7292
- thermonuclear reaction rate, parameter-depend. integral evaluation 9-29985
- three- and two-dimensional eddy current problems, Fredholm integral eqns. 9-41298
- torsion of elastic layer, by annular die, Fredholm integral equation anal. 9-3969
- transonic unsteady flows calc. using integral eqn. method, aerodynamics 9-32554
- transport theory, nonlinear integral equations 9-30393
- turbine blades, subsonic gas flow integral eqn. method (*Russian*) 9-27662
- turbulent boundary layer-transonic shock wave interaction, integral computation method 9-1213
- turbulent flow over body, Fredholm integral eqn., spline fit approx. 9-37302
- unified Radon inversion formula 9-2598
- vapour-liquid multicomponent equilib., Gibbs-Duhem eqn. 9-23714
- visual activity lateral impedance theory, Markov processes appl. 9-2046
- Volterra nonlinear eqns., soln. using two-point rational approximants 9-40351

integral equations continued

- vortex motion, integrals of hydrodynamic equations, Helmholtz 1858 paper 9-9072
- wave-induced oscillations in harbours of variable depth 9-4023
- Yang-Mills 2-D theory in leading $1/N$ expansion 9-26242
- yawed slender wings, Abel integral eqns. for wake strength 9-32552
- integral transforms** see *transforms*
- integrated circuit technology**
- See also under specific integrated circuit headings
- See also semiconductor technology
- biomedical electronics in MBE (*Japanese*) 9-44014
- bipolar, collector diffusion isolation technology, assessment of radiation tolerance 9-45430
- dry etched inorganic resist. for lithographic appl. 9-24633
- linewidth control, and pattern overlay errors, automatic meas., using EL-lithographic system 9-21868
- microstructure fabrication, using STEM and X-ray lithography and reactive ion etching, appl. 9-15844
- superconducting IC fabrication technology 9-28493
- Ag electroplated lead frames, surface struct. rel. to bonding behaviour, IC prod. (*German*) 9-11010
- Al-Si alloy metalisation by rate controlled dual electron beam gun evaporator 9-11516
- Si substrate package for integrated GaAs laser arrays, fabrication 9-18555
- Si_3N_4 films, plasma deposited over substrate steps, fast etching phenomenon 9-34168
- Ti line fabrication, shadow deposition method using optical lithography for 0.15-0.3 μm widths 9-43148
- integrated circuit testing**
- LSI circuits, wafer defect classification using modified scanning electron microscope 9-21876
- multiplex IC, MHz, microcomputer controlled stroboscopic scanning electron microscope for meas. signal waveforms 9-21871
- nondestructive testing by acoustic microscopy 9-37094
- radiation hardness design, of microcircuits, SEM as diagnostic tool 9-21869
- SEM voltage contrast mode at semiconductor surfaces, anal. of conditions (*Czech*) 9-35897
- voltage coding, LSI circuits, appl. of electron beam meas. techniques for verification of computer simulations 9-21875
- integrated circuits**
- See also digital integrated circuits; hybrid integrated circuits; large scale integration; linear integrated circuits; masks; monolithic integrated circuits; substrates; thick film circuits; thin film circuits
- thermoelectric coolers for micromodules 9-6120
- integrated data processing** see *data processing*
- integrated logic circuits**
- signal interface element survey, low cost quantisers, fast ADC's, high energy physics appl. 9-45584
- integrated memory circuits**
- MINOS structures, discharge behaviour 9-38174
- MOS RAM, Siemens HYB 4116 16 384-bit, failure anal. using modified scanning electron microscope 9-21876
- SAW/CCD buffer memory device, operation 9-46137
- integrated optics**
- See also fibre optics; optical films; optical modulation; optical waveguides; semiconductor junction lasers
- active Y-junction switching devices in Ti diffused LiNbO_3 optical waveguides 9-23091
- anisotropic optical waveguides of LiNbO_3 type, guided and semileaky modes 9-18530
- aspherical geodesic lenses for integrated optical circuits, signal spectral analysis appl. 9-27437
- bent Guide structure semiconductor lasers, optimal ICs, appl. 9-41462
- BOD used as switch, amplifier, limiter and memory logic element 9-32090
- blazed dielectric gratings, Bragg-reflection approach 9-1013
- Bragg deflection of guided optical wave by surface acoustic waves in LiNbO_3 Ti-diffused waveguides 9-14118
- branching waveguide stripe injection laser, beam scanning and wavelength modulation 9-7138
- bulk acousto-optic interactions in thin film waveguides, gigahertz modulators 9-32091
- buried 2D waveguide with asymm. graded refr. index profile, modal solns. 9-41431
- chirp-grating lens for guided-wave optics 9-7232
- codirectionally coupled waveguides with weighted coupling, filter characts. 9-23068
- communication appls., future trends 9-3808
- communication devices, optical circuits (*Japanese*) 9-27408
- corrugated dielectric waveguide, radiation loss calcs. 9-41461
- coupled thin-film dielectric waveguides with tapered edges, EM surface waves 9-3792
- coupled-waveguide optical modulators with Schottky contacts, embedded- and rib-waveguide configurations 9-23093
- couplers, double diffraction grating coupler with high efficiency 9-3812
- crossed-beam diffraction gratings theory 9-23071
- demultiplexer, using coupling between nonidentical waveguides 9-10380
- demultiplexer with matrix of Si waveguide photodetectors 9-32095
- devices and applications 9-14117
- dielectric waveguide, active, asymmetric first order Bragg interactions 9-3807
- diffraction, at corrugated surface, Brewster affect analogues 9-13901
- diffused rectangular anisotropic waveguide, modal characts. rel. to integrated optics devices 9-27443
- diffused waveguide, effective thickness meas. 9-32070
- directional coupler, coupling length adjustment by loading a metal film 9-23055
- directional coupler, made from plane gyroscopic, anisotropic light guides 9-18547
- directional coupler theory, accuracy in fibre or integrated optics appls. 9-3810
- directional waveguide couplers, parameter meas. using radiation patterns 9-3771
- distributed feedback radiating structure, refl., emission and transmission calcs. 9-10414
- distributed feedback structures, hybrid modes 9-27441
- electro-optic modulators, review 9-37058

integrated optics continued

electro-optic multimode waveguide switch 9-10383
 electro-optical waveguide 3×3 switch, tuning and control theory 9-41458
 EM wave propagation in periodic struts., theory 9-45892
 endface coupling of planar and strip waveguides (*German*) 9-3795
 fabrication on ferroelectrics and semiconductors, research at Bell Laboratories 9-37055
 fibre communications development and need for standardisation (*Italian*) 9-23066
 fibre optical communication system with thin-film modulator 9-10407
 future appls. 9-37053
 Gaussian beams, divergence reduction using phase masks (*Russian*) 9-27308
 geodesic lenses, spherical aberration correction and fabrication tolerances 9-27435
 glass diffused and thin-film waveguides, light interf. 9-14115
 glass waveguides, control of refractive index profile 9-27442
 graded index slab waveguides, exact solns. for TM modes 9-27397
 grating formation, asymm. line profile, on glass waveguide surface, ion etching method 9-10418
 guided wave acoustooptics, fundamental principles and wideband appls. 9-37038
 guided wave optical systems and devices, conf. Washington DC, USA, 1978, Mar. 9-37031
 guided wave optics, appls. review 9-37054
 guided-wave acousto-optic interaction on Si substrate 9-37050
 gyrotropic waveguide switching elements at optical wavelengths 9-37049
 heterojunction lasers for fibre optic appls., technological advances 9-36933
 holographic interference lithography for integrated optics 9-14116
 industrial fibre-optic data link integrated components 9-10392
 information transmission appl., system components construction and operation (*German*) 9-18553
 insulator-metal multilayered struts. (*Japanese*) 9-38191
 lasers, semiconductor injection, integrated optical components 9-36932
 Mach-Zehnder interferometric waveguide modulator, polarization-independent operation 9-18552
 micro-optics (*Japanese*) 9-37051
 mirrorless electrooptic device with feedback, optical multistable operations 9-32051
 mixer in waveguide based on phase diff. gratings, for multichannel optical communication lines 9-18554
 multichannel data preprocessor, preliminary testing 9-3813
 multichannel data processor using holography 9-36853
 multilayer anisotropic structures, impedance matching effects 9-7233
 multilayer gyrotropic structures, light propag. anal. (*Polish*) 9-3809
 multilayered structures containing anisotropy, EM wave anomalies 9-41460
 multimode, modified thick film technology 9-32093
 multiple fibre end fire coupling with single-mode channel waveguides 9-7230
 multiply reflected Gaussian beams in circular cross section 9-18343
 narrowband optical wave filter with stacked directional coupler 9-7226
 nonparallel dielectric waveguides, degenerate mode coupling 9-37006
 oblique Bragg grating, mode conversion 9-27444
 optical switches for integrated optics and fibre optics appls. 9-37057
 optimisation of props. of $\Delta\alpha$ waveguide 9-32076
 optoelectronic Si devices for optical signal processing and communications 9-37056
 organic materials for volume phase holographic recording media and integrated optical devices 9-3755
 parabolic-index waveguides with distorted optical axis, beam propag. 9-46035
 passive planar optical element construction from thin film optical waveguides 9-27440
 periodic media diff., equiv. of multiwave coupled-wave and modal theories 9-41331
 photorefractive effect, appl. to optical memories, holographic interferometry, and integrated optics 9-3756
 planar dielectric branching waveguide, coupled mode analysis 9-997
 planar dielectric waveguide, interacting discontinuities, anal. 9-27445
 planar multimode couplers for fibre optics 9-18531
 planar optical elements, dispersion props. 9-3811
 planar waveguide, fabricated by diffusion and ion exchange, refr. index distrib. 9-27429
 planar waveguides prepared by solid-state diffusion, refr. index distrib. function 9-10404
 PMMA, direct writing of gratings by electron beam 9-46091
 prism, symmetrical, as input coupler for integrated optics 9-10412
 prism-waveguide coupling efficiency for waveguides with arbitrary refr. index profile, WKB approx. 9-7231
 propagation of optical mode in guided interlayer struct. with variable thickness (*French*) 9-23089
 radiating distributed feedback structures, calc. and optimisation of parameters 9-27438
 radiation loss caused by discontinuities in dielectric slab waveguide, anal. 9-7227
 resonant tunnelling in film optical waveguides 9-27430
 SAW oppositely propagating in optical waveguide, light diff., signal processing appl. 9-41453
 SEM written gratings in chalcogenide films, for optical integrated circuits 9-32087
 signal processor, performance limits 9-36854
 single mode grating coupling between thin-film and fibre optical waveguides 9-1012
 sinusoidal interface light diffraction 9-13900
 spectral analyser, 1978 advancements 9-46086
 submillimetre-wave optical design approach 9-32048
 surface acousto-optic interaction on nonpiezoelectric substrates 9-46090
 switch, polarization-independent, for use with single-mode optical fibres 9-37059
 switch, total internal refl., theoretical evaluation 9-18551
 switch array, mirror-type, integrated on LiNbO_3 substrate 9-27436
 switch constructed of graded-index rod lenses, for multimode fibre systems 9-27439
 switching device using leaky surface wave, controlled by electro-optic effect 9-23090
 symmetric slab waveguide in birefr. media, coplanar optical axis slab, modes 9-32053
 taper couplers utilizing SiO_2 , photolithographic fabrication processing sequence 9-41464

integrated optics continued

thin film optical waveguide, attenuation due to roughness-induced mode coupling 9-10408
 thin film waveguide, anisotropic, field excited by sources 9-7198
 thin film waveguide, mode conversion by two-stage coupling process 9-32034
 thin film waveguides, optical damage thresholds 9-46033
 thin-film laser logic element, operation (*Russian*) 9-10413
 thin-film waveguide, refr. index meas. using diff. method 9-30532
 thin-film waveguide, with plane diff. grating, radiation fields and spectrosc. characts. 9-3790
 thin-film waveguides fabrication, review (*Polish*) 9-3775
 thin-film waveguides of dense crown glass, HF sputtering prep. 9-10415
 total reflection region, refracted beam field distrib. 9-27169
 two-dimensional waveguide analysis with misaligned or curved gratings 9-23092
 waveguide tapers, multimode coupling and transmission characts. 9-27378
 AlAs-GaAs heterostructure, fabrication by selective liq.-phase epitaxy 9-15618
 AlGaAs-GaAs DH lasers, coupling efficiency between gain-induced guides 9-23094
 $\text{Al}_x\text{Ga}_{1-x}\text{As}$, waveguide heterostruct. epitaxial growth with gradual composition change 9-42416
 As-Se-S-Ge chalcogenide glass films, appls. to passive optical waveguide components 9-37048
 As_2S_3 focusing diffraction grating with const. spacing 9-23096
 As_2S_3 polyethersulphone sandwich ribbon fibre for coupling high refractive index integrated optics 9-32089
 As_2S_3 thin films for integrated optics, photodetector elements, relief-type diffraction gratings 9-32094
 $\text{B}_2\text{O}_3\text{-SiO}_2$ optical fibres, exposed cladding technique, birefr. and polarization props. 9-14094
 Bi_2SiO_5 crystal, for programmable optical guided-wave device 9-23069
 GaAs, (110) oriented, preferential chemical etching of blazed gratings 9-37067
 GaAs, electroabsorpt. avalanche photodiode waveguide detector, freq. demultiplexing 9-17486
 GaAs epitaxial layer, strain induced optical waveguiding 9-27388
 GaAs integrated optical circuits by wet chemical etching 9-32092
 GaAs laser array, integrated, Si substrate package fabrication 9-18555
 GaAs:Zn waveguide, light coupling at fundamental absorption edge 9-23082
 GaAs-GaAlAs DH laser, beam scanning with twin-stripe injection lasers 9-10334
 GaAs-GaAlAs laser, high-spectral radiance source 9-36931
 GaAs-GaAlAs multiple-stripe phase-locked laser array, behaviour 9-45955
 GaAsP epitaxial waveguide, electro-optic phase modulation of laser radiation 9-10417
 GaN epitaxial films, planar waveguides for integrated optics appls. 9-10416
 $\text{Li}(\text{Nb,Ta})\text{O}_3$, LPE growth of thin film waveguides on LiTaO_3 substrates 9-41467
 LiNbO_3 , anisotropic diffused optical waveguides, polarisation and spectral characts. 9-32073
 LiNbO_3 optical waveguide, diffused with mag. garnet film top layer, non-reciprocal props. 9-41444
 LiNbO_3 planar waveguide mode conversion and intensity modulation 9-10410
 LiNbO_3 , Ti diffused, optical waveguide isolator using electrooptic branching waveguide 9-18532
 LiNbO_3 , Ti diffused optical waveguides, efficient prism-coupling 9-46089
 LiNbO_3 , Ti diffused waveguide, refr. index and thickness precise determ. 9-41446
 LiNbO_3 , Ti diffusion and characts. of graded-index lightguide 9-27433
 LiNbO_3 :Ti, in-diffused waveguides, optical damage thresholds 9-46033
 LiNbO_3 :Ti optical waveguides, pyroelectric loss meas. 9-46046
 LiNbO_3 :Ti optical waveguides, elec. field tuning of SHG, phase-matching condition 9-41412
 LiNbO_3 :Ti waveguide, integrated bistable Fabry-Perot resonator fabrication 9-41459
 LiNbO_3 :Ti waveguide for lightwave communications and data processing systems 9-37052
 LiNbO_3 :Ti waveguides, nondegenerate four-wave mixing 9-46088
 LiTaO_3 , Ti diffused, electrooptic diffraction modulation 9-10381
 Nd:glass films for integrated optics, RF sputtering and optical characts. 9-46087
 $\text{Si-SiO}_2\text{-Si}_3\text{N}_4$ waveguide model (*Russian*) 9-10374
 Si_3N_4 waveguide layer, as electro-optic phase modulator 9-23081
 Ta_2O_5 sputtered film, refr. index meas. (*Italian*) 9-32088
 ZnO, high rate epitaxy on sapphire by planar magnetron RF sputtering 9-28916

integrating circuits

automatic reset integrator, respiratory activity obs. in expt. animals 9-29683
 capacitance meter, linear 9-6146
 digital leaky integrator 9-22560
 integrator for use in bombardment experiments 9-18092
 respiratory flow integrator with improved stability 9-16331

integration

astronomy, numerical integration of stellar orbits 9-21361
 Cauchy integrals, appl. to geomagnetic bidimensional inhomogeneous direct problem (*Russian*) 9-35013
 cell nuclei, human lung, determ. of mean caliper diameter using serial section reconstruction models 9-29679
 demagnetising field, calc. by FFT 9-38355
 dynamical grid method for time-dependent simulations of axisymmetric instabilities in tokamaks 9-10702
 fermion systems, integral evaluation 9-40449
 fission reactor point kinetics equation, integration with improved steady-state behaviour 9-22378
 generalised WKB method simplification 9-7767
 generalized calculus and its applications, review 9-35527
 internal stresses, calc. with integration methods, X-ray stress meas. 9-32415
 invariant integration over $\text{SU}(N)$ 9-243
 isoparametric linear bending element and one-point integration 9-3919
 metal, cyclic and damage constitutive laws, calculation methods (*French*) 9-43408

integration continued

- Monte Carlo event generation with limited transverse momentum 9-3001
 numerical, computer aided linear physical systems analysis, with periodic inputs 9-51
 numerical, error estimation by means of Fourier series (*Japanese*) 9-2612
 numerical, of diffusion eqn. using time level schemes 9-2609
 numerical weather prediction, split explicit integration scheme 9-12210
 orbit calculation, past and future, for 1977 UB, Object Chiron 9-35171
 ordinary differential eqns., suppression of inherent instabilities in initial value methods 9-9090
 ordinary differential eqns., with numerous discontinuities, numerical anal. 9-21535
 Poincare-Chetaev's equations, integration (*Russian*) 9-35547
 pseudospectral dispersion model, inter grid sources representation 9-12259
 stability of explicit-implicit mesh partitions in time integration 9-1101
 STO basis set, removal of singularities in numerical integration 9-6847
 three-centre integrals calc. for chem. shifts determ. (*French*) 9-31550

integro-differential equations

- see also Boltzmann equation; Fokker-Planck equation; Liouville equation; master equation; Vlasov equation
 anisotropic scattering media, neutron transport formulae 9-17959
 Benjamin-Ono equation, periodic wave and soliton solns. 9-35570
 boomeron equation, asymptotic behaviour (in t) of solutions 9-9082
 boundary elements in potential and elasticity theory 9-35560
 charged particle in box, nonlinear integrodifferential eqns. with delay, soln. existence 9-27124
 conducting screen, excitation of object through aperture 9-13871
 damped linear integrodifferential eqns., dielectric appl., concavity arguments and growth estimates 9-28703
 diffusion kinetics, crystallisation of salts from supersaturated solns. 9-23553
 dissipative gasdynamic system, nonlinear interaction model (*French*) 9-14427
 Earth equilibrium figure, integro-differential eqns. 9-44077
 generalised kinetic theory with memory 9-35625
 grain boundary groove profile, effects of surface free energy anisotropy 9-7734
 groundwater flow in unconfined aquifers, theory 9-5522
 heat cond. for materials with memory, linear theory 9-14206
 Maxwell-Hopkinson dielectric theory electric displacement fields, growth estimates 9-24278
 neutron transport theory, Monte Carlo method applicability (*Spanish*) 9-6721
 nonlinear quantum mechanics, Gauss transform. appl., Schrodinger eqn., nonlinear integro-differential eqn. 9-6013
 nonlinear Volterra integro-differential equation, heat flow appl. 9-18668
 nuclear deformation meas., coupled integro-differential eqns. treatment 9-451
 one-dimensional nonstationary problems of gas dynamics, estimates of shock wave motion 9-18912
 polymer rheology nonlinear singularly perturbed Volterra integrodifferential eqn. 9-23290
 pulse propag., uniaxial, in viscoelastic medium, formulation using Boltzmann superposition integral 9-12619
 retarded Josephson equation 9-19697
 turbulent flow problems 9-32468
 viscoelastic displacement vector growth estimates 9-27552
 viscoelasticity, existence and asymptotic stability of solns. 9-12608
 vortex sheet, unsteady, self-similar, rolled-up, large scale struct. 9-32531

intelligibility, speech see speech intelligibility

intensification see amplification

intensity measurement

- see also acoustic intensity measurement
 Gaussian laser beam focus, intensity distrib. determ. 9-14002
 laser radiation TV analyser for intensity distrib. anal. 9-3702

interacting control systems see multivariable control systems**interactive programming**

- see also interactive systems
 minicomputer optical design and analysis program 9-14075
 myocardial electrical activity modelling, dialogue mode (*Russian*) 9-2021

interactive systems

- see also interactive programming; interactive terminals; online operation
 bacterial cell wall structure study 9-5427
 conversational statistical analysis program, COSTAT, DEMOS-E library (*Japanese*) 9-2614
 epithelial tissue pattern recognition 9-25145
 Graphic Interactive System for Processing of Electrocardiographic Maps 9-39552
 image processing system 9-13916
 microprocessor based interactive radiographic image display 9-25092
 morphometric cytology pictorial pattern recognition appl. 9-25179
 POL, data analysing interactive system 9-31347
 sea ice, airborne laser profiles, interactive correction and anal. system 9-25338
 surveying and cartography, interactive graphical systems appl. (*German*) 9-21023

interactive terminals

- see also interactive systems
 computer data input/output control panel, for thermophysical experimentation 9-17401

interatomic potentials see potential energy functions**intercalation compounds**

- DNA double helical fragment intercalator complex, molecular struct. 9-16140
 graphite, Cs-intercalated, melting and staging, X-ray scatt. obs. 9-19180
 graphite, diffusion coeffs. of Br₂, HNO₃, and PdCl₂ 9-42310
 graphite intercalated with PdCl₂, RuCl₃ and OsCl₃, synthesis and cryst. struct. 9-8253
 graphite intercalation compound, RbC₈, first stage intercalation cpd., X-ray crystallographic obs. (*French*) 9-32966
 graphite nitrate, charge transfer, ionic salt model 9-11780
 graphite nitrate, chem. of intercalation 9-43564
 graphite-Br₂, in-plane intercalate lattice modes, Raman scatt. 9-42163
 graphite-Br₂ effect of oxidation and residual Br on intercalation 9-43565
 graphite-FeCl₃-form. kinetics and microstruct. (*German*) 9-43560
 graphite-HNO₃, differential scanning calorimetry investigation 9-42234
 graphite-ICl, anomalous sp. ht. due to order-disorder transform. 9-42235
 graphite-TlBr₃, prep. (*German*) 9-43563

intercalation compounds continued

- graphite-TiCl₃ (*German*) 9-43562
 graphite/AsF₆ intercalate, first stage, rel. to synthesis of first stage graphite salt C₈AsF₆ 9-24738
 inorganic-organic layered complexes, effects of intercalation on elec. and mag. props. (*Japanese*) 9-8255
 intercalated with DNO₃, mol. dynamics, NMR line shape and spin-lattice relax. 9-28631
 ionic conductivity, of two dimensional alkali metal intercalation compounds 9-28138
 metal guests in chalcogenide hosts, struct., review 9-46627
 structure, physical and chemical props. 9-19209
 Ag₈TiS₂, intercalation cpd., Raman scatt. and electron diff. meas. 9-24321
 AsF₅-intercalated graphite, mag. spin susceptibility, density of states at Fermi energy 9-7966
 C cathode, intercalation props. in Al reduction cell 9-43559
 C₁₀Br₂, Br₂ intercalation in graphitised C fibres and its removal 9-43566
 C₆FeCl₃, behaviour with H₂ and CO, effect of activation 9-43623
 C₆ICl, ICl intercalation in graphitised C fibres and its removal 9-43561
 CrPS₄-Li intercalation cpd., phys. props. 9-19788
 CsC₈ intercalation compound, cryst. atomic struct. study (*French*) 9-42021
 FeCl₃ intercalated with graphite, vibrational excitations, polarised Raman spectra 9-19888
 FeCl₃-intercalated graphite, plasmon spectra 9-38011
 FeOCl, cathodic reduction in organic electrolytes, intercalation complex production 9-1833
 KC₂₄, intercalated graphite cpd., anisotropic phase, susceptibility and phase transitions 9-19370
 KC₈, H₂ chemisorption (*French*) 9-43624
 LiC₆, Raman spectrum, rigid band model anal. 9-4800
 LiC₆, synthesis method and reflectivity spectrum 9-15600
 Li₂NiPS₃, antiferromag., mag. props. and ionic mobility, NMR meas. 9-24223
 Li₂NiPS₃, ionic conductivity, activation energies, NMR study 9-28138
 Na₂In₂Sn_{1-x}S₂, ionic conductivity, activation energies, NMR study 9-28138
 Na₂In₂Zr_{1-x}S₂, ionic conductivity, activation energies, NMR study 9-28138
 Na₂Y₂Zr_{1-x}S₂, ionic conductivity, activation energies, NMR study 9-28138
 PbI₂ intercalated with organic mols., superlattice and quantum dimens. effect (*Russian*) 9-46628
 TaS₂ polytypes, in situ intercalation in TEM, using N₂H₄ gas 9-8254
 TaS₂-NH₃ intercalation complex, press. induced diffusion effects, NMR study 9-19797
 TaS₂-NH₃, tracer exchange by liquid ND₃, neutron diff. meas. 9-29350

interdiffusion see diffusion

interface electron states

- bimetallic junction, van der Waals interaction 9-24048
 chemisorption of hydrocarbons on metals, correlation between energy levels and occupied molecular orbitals 9-19449
 conference on solid-vacuum interface, Amsterdam, Netherlands (June 78) 9-42342
 diamond Schottky barrier, electronic struct., pseudopotential method, jellium model 9-38162
 dielectric-semiconductor interface, anal. of fast surface states 9-42648
 double layers, image forces influencing capacitance and interaction 9-29367
 interface energies, appl. to stacking faults 9-19547
 metal-semiconductor junctions, Schottky barrier heights for low ionicity semiconds. 9-42640
 MIS capacitor, thermally stimulated discharge in differential regime 9-15214
 MIS capacitors, theory of nonequilibrium props. including charge exchange of interface states 9-42659
 MOS charge layer n-channel (001) surface induced valley splitting 9-28414
 MOS diode, bulk traps and interface states determ., deep-level transient spectroscopy appl. (*Japanese*) 9-42645
 MOS diode, impurity profile effect on density of interface states 9-33359
 MOS solar cell, IV characteristics obtained under dark and illuminated conditions 9-48126
 MOS solar cell, role of interface states 9-15228
 MOS structure, quenched in bulk defects and interface states, transient capacitance spectroscopy 9-24081
 MOS structures, interface state density evaluated from charge-voltage data 9-11234
 MOS system containing interface traps, equilibrium and nonequilibrium response to linear voltage ramp 9-38173
 MOSFET inversion layer, localised highly correl. phase cond. 9-33354
 Schottky barrier, theory and complex band struct. 9-15220
 semiconductor, electronic struct. of point defects, surfaces and interfaces, Green's function scatt. theoretic method 9-33258
 semiconductor heterojunction, interface states, two-band-narrow gap approximation 9-24059
 semiconductor heterojunctions, calcs. 9-1613
 semiconductor-insulator interface, surface wave spectrum, theory 9-19674
 semiconductor-insulator interfaces, electronic props. 9-42662
 semiconductor-metal boundary, magnetoplasma polaritons at the interface 9-38163
 semiconductor-metal interface, calcs. 9-1613
 semiconductors, surface and interface electronic struct., book contrib. 9-42619
 thin-oxide MIS thyristor devices, interface state charge 9-38172
 Ag surface, optical props. of organic dye monolayers by surface plasmon spectroscopy 9-11480
 Al-SiO₂-Si Schottky barrier solar cells, recomb. effects 9-39310
 As₂S₃-Si, isotype amorphous-crystalline heterojunctions, electrophys. props. 9-24063
 CdS-CuInSe₂ solar cells, grain boundary and interface recomb. effects 9-39311
 CdS-metal interface, chemical reactions and local charge redistrib. 9-19661
 CdSe-metal interface, chemical reactions and local charge redistrib. 9-19661
 Cd₂Zn_{1-x}S₂/Cu₂S, heterojunction interface double layer, space charge distrib. 9-7855

interface electron states continued

- Cu (111), adsorbed Cs, XPS exam. of Cu surface state and Cs valence electrons 9-19647
 P-Cu_{2-x}-n-CdS, heterojunction, energy band diagram 9-24070
 Fe film bounded by dielec. layers, surface polariton in ATR angular spectra 9-15545
 Ga-GaAs heterojunctions, electronic struct., tight-binding and pseudopot. models 9-42633
 Ga_{1-x}Al_xAs electrodes, interface capacitance meas., flatband pot., conduction and valence band boundaries (*French*) 9-33339
 GaAs-Al_xGa_{1-x}As heterojunctions, MBE grown, photocollection efficiency and interface charges 9-11199
 GaAs-Au Schottky barriers, PES and depth profiling obs. 9-42641
 GaAs-electrolyte interface, energetic barrier height hypothesis 9-19657
 GaAs-Pt interface states energy distrib. and relaxation time 9-33345
 GaAs_{1-x}P_x electrodes, interface capacitance meas., flatband pot., conduction and valence band boundaries (*French*) 9-33339
 GaAs_{1-x}Sb_x epitaxial n-n heterostructures, gap energies and interface pots., modulation electroabsorpt. meas. 9-11201
 GaP, deep level profiles at substrate-epitaxial interfaces, photoionisation meas. 9-38025
 GaSb-Au Schottky barriers, PES and depth profiling obs. 9-42641
 GaSb:Au overlayer, adatom interactions, photoemission obs. 9-33898
 Ge Schottky barrier, electronic struct., pseudopotential method, jellium model 9-38162
 Ge-GaAs interface, surface and interface states of (111) surfaces 9-15206
 Ge-ZnSe p-n heterojunctions, effect of interfacial condition on optoelectronic props. 9-24061
 InAs-GaSb superlattice energy struct. and semiconductor-semimetal transition 9-23893
 InP-Au Schottky barriers, PES and depth profiling obs. 9-42641
 InP-In_{1-x}Ga_xP_{1-x}As_x quantum-well LPE heterostructure lasers, band filling and gain 9-22955
 n-InSb, forward biased Schottky barriers on low doped surfaces, current transport 9-24074
 InSb-anodic oxide-Ni, energy band diagram, internal photoemission meas. 9-33356
 Na, metallic, Auger cross relaxation energy, SCF cluster model calc. 9-46945
 Pt, electron wave interference in adsorbed CO film 9-33332
 Si, amorphous film, interface charge, influence on transfer meas. 9-15237
 Si, inversion layer, impurity scatt., self-consistent calc. 9-28415
 Si MOS diodes, P⁺ implanted, DLTS of bulk traps and interface states 9-33350
 Si p-n heterojunction, DC sputtering growth, photocond. and photovoltaic effects 9-33337
 n-Si-Au Schottky barrier, role of surface states in appearance of photo EMF 9-11222
 Si-electrolyte interface, energetic barrier height hypothesis 9-19657
 Si-SiO₂, intentionally contaminated interface, transient capacitance meas. 9-33349
 Si-SiO₂ interface, in MOSFET struct., electronic props. 9-42662
 Si-SiO₂ interface, intermediate chem. state of Si during sputter profiling, Auger spectra 9-11230
 Si-SiO₂ interface, interface-state parameters near band edge, MOS conductance meas. 9-11226
 Si-SiO₂ inversion layers, bound states at interface 9-42655
 Si-SiO₂, effect of Au recomb. centres on interfacial trapping states 9-38175
 SiO_x, chem. shift of Si 2p core level, relax. contrib. 9-47141

interface phenomena

- see also adsorption; crystal surface and interface vibrations; interface structure; Kapitza resistance; semiconductor-electrolyte boundaries; surface phenomena*
 capillary condensation, Kelvin eqn., direct exptl. verification 9-33159
 cation-exchange membranes, electrochem. props. rel. to interfacial polarization during electrodialysis 9-16038
 cellulose acetate polymer-solution interface props. from liq. chromatographic data 9-16039
 charged, surface pressure, electrostatic contrib. of divalent ions 9-24752
 computational techniques in interface problems, conference, San Francisco, CA, USA (Dec. 1978) 9-41655
 contact deformation of elastic solids, role of mol. forces 9-23824
 contact deformations of elastic solids, role of mol. forces 9-23823
 designed monolayers assemblies 9-37915
 electrodes, smooth, solid, double-layer capacitance freq. dispersion. 9-20379
 entropy, due to elec. and mag. interfacial polarisation (*French*) 9-7050
 Gibbs adsorption equation, phenomenological interface theory 9-23834
 hard-sphere fluid, interacting with wall, virial coeffs., in surface tension 9-23808
 heat transfer between bodies in gas-filled contact, integral equation numerical solution 9-37130
 hydrocarbon drops levitated in water, acoustically forced shape oscill. 9-47987
 ice-substrate interface, liq.-like layer in between, model, appl. to wire regelation and particle migration 9-46893
 liquid-gas interface, Stefan flow of binary mixture, with evap. or condensation 9-37381
 liquid-rigid wall, and liq.-cryst. interfaces, Monte Carlo simulations 9-27896
 liquid-vapour interface, kinetic eqn. at mean field level 9-37905
 liquid-vapour interface, location of surface of tension 9-37909
 liquids, immiscible, convection at interface induced by coupling between chem. react., hydrodynamics (*French*) 9-41682
 lyotropic liquid crystal, ⁶Li, ⁷Li, and ²³Na NMR, metal ion-polar head group interaction 9-4243
 lyotropic liquid crystals, orientation in mag. field, glass interface effects 9-1390
 membrane-solution interface, phase jump of osmotic press., theory 9-11825
 metals, contact melting, state of cryst.-liq. boundaries, influence of impurities and hydrostatic pressure (*Russian*) 9-37812
 molten metals (*French*) 9-43632
 paraffin, solid-liq. interface motion during melting, convection effects, photographic obs. 9-18890
 rubber, Schallamach waves, rel. to friction of elastomers 9-29225
 shock wave refraction, at slow-fast gas interface 9-32573

interface phenomena continued

- statics, differential eqn., micromech. derivation 9-46882
 surface science in metallurgy, review 9-42388
 thermodynamics and dynamics of pure interfaces, rel. to Spacelab 9-28910
 water-nitrobenzene interface, mechanochemical energy conversion using interfacial tension changes 9-14982
 CO₂ film, adsorbed on KBr, density fluctuations 9-42391
 Fe liquid, C saturated, decarburization by CO₂, effect of S 9-11726
 Ge films, adhesion to substrates, effect of Ar⁺ ion irradiation 9-11047
⁴He, superfluid against solid ⁴He, surface tension and contact angle 9-42339
⁴He, superfluid, interface with sapphire, 0.25K, ballistic phonon pulse transmission 9-19415
 Hg-electrolyte interface, polarizable, dynamics of double layer 9-24756
 In, electron MFP, conduction electrons injected from ferromag. 9-15135
 Pt/Y₂O₃-ZrO₂/Pt cell, Faradaic reaction kinetics, impedance dispersion anal., electrode/electrolyte interface process 9-11798

interface structure

- α - β brass, interface struct. of two-phase bicrystals, made by solid state diffusion couple method, X-ray Laue and TEM study 9-28214
 brass, two-phase α/β bicrystal, diffusion induced twins in α -phase 9-46967
 brass, two-phase α/β bicrystal, morphology and crystallographic relationships between phases 9-46966
 compound semiconductor-metal reactions, book contrib. 9-1622
 depth profiling techniques for thin film interdiffusion and interfacial reactions, book contrib. 9-1564
 film, interdiffusion and reactions, book 9-1561
 film, interdiffusion and reactions, book contrib. 9-1562
 fluid, inhomogeneous, pair and density correl. functions 9-27887
 fluid interfacial stress and struct., gradient theories 9-19428
 interfacial roughening transition, renormalisation group theory 9-2734
 LEED anal., book contrib. 9-42358
 metal semiconductor contact, elec. charact., interfacial reaction effects, book contrib. 9-1623
 multilayer thin film, optical scatt., effect of interfacial roughness 9-31804
 optical fibre preform diagnostics, nondestructive noncontacting method 9-27376
 point defect interaction with volume defects near interface 9-14843
 review of surface science 9-19427
 rough surfaces computer simulation of contact 9-19470
 solid-solid interface, chemistry and physics, book contrib. 9-1551
 sputtered coatings, columnar boundaries, diffusion and interfacial structure 9-28253
 Zircaloy-4/stainless steel, diffusion bonding in presence of Fe intermediate layer 9-10987
 Ag-liquid Ga interface, γ -phase interlayer growth, two-dimens. electron diff. 9-19487
 Al/Al₂O₃ vacuum deposited laminates, struct. and mech. props. 9-28219
 Au film, on Si and CaF₂ substrates, interphase coincidence boundaries 9-1560
 Au-Si contact, O determ. by SIMS, nuclear reaction and Rutherford backscatt. anal. 9-4482
 Cr/Au layered films, microstruct. and interdiffusion during ageing, 423 to 573K 9-46965
 Cu/Ni double layer evaporated film, misfit dislocation effect on strength (*Japanese*) 9-42425
 Fe-Si (3 wt.%) layers, with ceramic coating, interface struct., electron microscopy and Mossbauer obs. (*Russian*) 9-28216
 GaAs-anodic oxide interfaces, struct. and chem. props., Raman scatt. obs. 9-47168
 GaAs-ZnS p-n heterojunction, struct., multibeam electron microscopy obs. 9-11031
 GaInAsP-InP DH layers, lattice deform. and misfit dislocations 9-19473
 Ge-ZnSe p-n heterojunctions, effect of interfacial condition on optoelectronic props. 9-24061
 HF film on Si substrate, ion-beam induced silicide form. 9-46718
 InP-Au contacts, conditions of fabrication that control interfacial microstruct. 9-42643
 Ni film on Si substrate, ion-beam induced silicide form. 9-46718
 Ni/Fe interfaces sputter profiling, by AES 9-15572
 Ni-Cr-TaC eutectic-like composite, obs. of interfacial diffusion by high resolution TEM 9-4432
 Pt film on Si substrate, ion-beam induced silicide form. 9-46718
 Si on sapphire, deposition kinetics and interface characteris. 9-28234
 Si-Ge heteroepitaxial system, imperfections and morphology, electron microscope and electron diff. obs. 9-42420
 Si-Pt(Ni)(Pd), laser-induced reactions of metal films with Si, surface struct. obs. 9-19471
 Si-SiO₂, separation boundary charact., surface oxidation after Ar⁺ bombardment (*Russian*) 9-15028
 Si-SiO₂ interface, MeV backscatt. channelling meas. of Si monolayers 9-11020
 Si-SiO₂ interfacial regions obs., by XPS, ultrathin oxide films 9-15039
 Si-transition metal interface, silicide formation, book contrib. 9-1530
 SiO₂-TiO₂ antireflection coatings, 1064 nm 150 ps laser pulse damage rel. to barrier layering and smoothness 9-14018
 YIG, Al- and Ga-substituted, floating zone method growth, interface shape and horizontal variations of Al and Ga contents by electron pulse anal. 9-33929

interface tension *see surface tension***interface vibrations** *see crystal surface and interface vibrations***interfaces, computer** *see computer interfaces***interfacial energy** *see surface energy***interfacial tension** *see surface tension***interference (signal)**

- see also crosstalk; electromagnetic interference*
 atmospheric, sweepers modulation struct. in HF and VHF bands 9-5707
 optical fibres, modal noise in multimode systems 9-46083

interference (wave)

- see also acoustic wave interference; electromagnetic wave interference*
 education, diffraction grating and interference effects, electronic cct. analogue 9-9052
 field interface of moving particles in statistically inhomogeneous medium 9-6063
 seismic waves, interference method for lower mantle radial vel. anomalies identification 9-25209

interference spectrometers

- 100 GHz to 1 THz atmospheric emission and absorption meas. 9-34980
 atmospheric submillimetric-wave interferometric spectrometry 9-34979
 background spectral radiance and contrast in the 1.5 to 13 micrometer region 9-8694
 computer-controlled Gabry-Perot interferometer for Brillouin spectroscopy 9-40622
 confocal interferometer light-scattering sample cell 9-6182
 dispersive refl. Fourier interferometer, sample holders for use at 4.2K and 300K 9-30587
 Fabry-Perot grid and conventional spectrometers, luminous flux amplification 9-26139
 Fabry-Perot spectrometer, pulsed plasma emitted line profile meas. for vel. determ. 9-41869
 far IR absorbent solid dispersive reflection meas., using Fourier spectrometer and cryostat 9-30580
 far IR apparatus, absorpt. meas. of molecular solids at high press., 4.2K 9-30583
 far IR complex reflectivity meas., automated asymmetric interferometer 9-30534
 far IR Fourier transform spectrometry improvements 9-30582
 far IR transparent solid dispersive transmission meas., using Fourier spectrometer 9-30581
 Fourier, UFS-01 high-resolution, for IR molecular investigations 9-35862
 IR multidetector spectrometer for atm. temp. sounding 9-25365
 Michelson interferometer misalignment nonlinear phase errors 9-30535
 moderate-resolution spectrometer with interf. selective amplitude modulation, construction of prototype 9-30588
 multipass Fabry-Perot Brillouin scatt. spectrometer, optical alignment 9-35854
 piezoelectric scanning of Fabry-Perot spectrometers, nonlinearities 9-6183
 plane-mirror two-beam interferometer analysis 9-2812
 pupil-mounted opaque band effect on SISAM spread function 9-12871
 scanning Fabry-Perot interferometer for balloon-borne astrophysical obs. 9-35092
 SISAMs, wavelength tuning by diffr. grating, interferometer type effects 9-26143
 Twyman-Green Fourier transform spectrometer alignment, for high temp. reflectivity meas. 9-17498
 X-ray interferometric moiré pattern, analyser B diffusion effect (*Russian*) 9-44994

interference spectroscopy

- see also *Fourier transform spectroscopy*
 amplitude and phase spectra synchronous detection, using double-beam interferometer (*Russian*) 9-44937
 axial patterns diffracted from optical pupils, Fourier analysis of Fabry-Perot spectrograms 9-27188
 coherent anti-Stokes Raman spectra of crystals lacking symmetry centre, cancellation by nonresonant background 9-14039
 far IR spectrum determined from Fabry-Perot interferogram 9-2840
 Fourier interferometer for IR line emission obs. of molecular clouds (*Italian*) 9-48679
 high resolution interference spectrometry, visible spectrum 9-26145
 IR ATR-matrix spectroscopy, interference-enhanced, appl. to 1,2-difluoroethane in Ar matrix film 9-9248
 IR high temp. amplitude-phase spectroscopy, heater cell 9-35860
 IR matrix interference enhanced attenuated total reflection spectroscopy, new technique 9-21823
 line deconvolution by Fourier analysis 9-12861
 nuclear double resonance interference spectroscopy, appl. to ^{23}Na satellites in NaNO_3 9-4745
 photoacoustic rapid-scan Fourier spectroscopy and methyl alcohol interferograms 9-30585
 SISAM, diffracted light from grating affecting modulation 9-6187
 Tokamak electron cyclotron emission spectrometry by plasma-scanned Michelson interferometer 9-32814
 TV recording of interference images, spectral line contours 9-2833
 water optical constant submillimetric wave meas. 9-33656

interference suppression

- biotelemetry interference minimisation techniques (*Russian*) 9-29685
 decrepitemetric recorder, noise interference suppression via electronic filter (*French*) 9-48571
 discharge-flow systems, noise reduction in EPR studies 9-39256
 light feedback suppression, from optical fibre into diode laser 9-1004
 lung compliance loop recovery eliminating cardiac interference by digital filter 9-20570
 marine seismograms, source signatures debubbling 9-16692
 noise suppression circuit for automatic flaw indicator 9-5111
 plasma emission spectroscopy, background reduction method using flame atomic absorpt. 9-16069
 satellite IR pictures, random noise reduction and oceanic features enhancement and extraction 9-5682
 seismic linear multichannel systems for regular waves separation, random noise attenuation (*Russian*) 9-39922
 seismic prospecting, minimisation of distortion caused by geophone-ground coupling 9-44256
 space geodesy, twin probes method for atmospheric drag elimination 9-25443
 underwater acoustic communications, swept carrier method for multipath interference suppression 9-3835
 LiNbO_3 400 MHz saw filters 9-23158

interferometers

- see also *acoustic wave interferometers*; *electromagnetic wave interferometers*; *interferometry*
 neutron interferometer, two cryst. component 9-46512
 neutron perfect crystal interferometer, coherent scatt. length meas. 9-46517
 neutron prototype interferometer at Grenoble high flux reactor 9-19127
 solid state pulse interferometer to measure ultrasonic velocities in crystals 9-23154

interferometry

- see also *acoustic wave interferometry*; *electromagnetic wave interferometry*; *holographic interferometry*; *interferometers*
 electron beams interference, Bohm-Aharonov experiment without an electron microscope 9-894
 neutron interferometer and fundamental expts. 9-45000

intergalactic matter

- see also *clusters of galaxies*; *galaxies*
 Abell 1367 cluster, intergalactic matter rel. to peculiar radio sources obs. 9-2574

intergalactic matter continued

- Abell 2256, rich cluster, steep-spectrum radio source obs. 9-9016
 anticorrelation rel. to dark intergalactic matter in galactic haloes 9-2567
 3C 105, struct., polarisation and mag. field direction 9-35413
 C 31, isothermal gas cloud rel. to radio jet brightness and shape 9-25741
 charged intergalactic medium, cosmological implications 9-25766
 clusters of galaxies, hot gas distrib. 9-17089
 clusters of galaxies, viscosity rel. to intracluster gas heating 9-9011
 clusters of galaxies, X-ray emitting gas evolution 9-40266
 Coma galaxy cluster, relativistic electrons streaming at speeds above Alfven vel. 9-40068
 dust cloud collision with M82, dynamical evidence for Ne II 12.8 micron emission 9-17082
 dynamical evolution of hot intracluster gas from galaxies, Fe abundance in X-ray clusters 9-12530
 extragalactic matter, infall rate in solar neighbourhood from cosmic ray nucleosynthesis 9-17084
 gas cloud enveloping bound Abell 401-399 system, evidence from diffuse X-ray emission 9-25736
 H I clouds, search in NGC 1023 and Canes Venatici II 9-35389
 H I search in nearby groups of galaxies 9-30121
 hot intracluster gas, Sunyaev-Zel'dovich effect in millimetric region 9-25765
 intercluster dust tests and CGCG selection effects 9-9012
 intracluster hot gas, props. from OSO 8 X-ray spectra 9-25734
 intracluster hot gas, X-ray source evolution 9-17133
 intracluster hot gas stability problem, role of massive photons (*Russian*) 9-44614
 ionized gas in rich clusters of galaxies, angular broadening of distant compact radio sources 9-35380
 M87/Virgo cluster X-ray source spectrum, 1.1 keV Fe line emission discovery 9-25758
 Magellanic Stream, high sensitivity obs., small-scale struct. 9-35385
 Magellanic Stream, origin and dynamics 9-44594
 Magellanic Stream and galactic wakes 9-48904
 magnetic field, rel. to galactic spiral structs. origin 9-25714
 NGC 6251, isothermal gas cloud rel. to radio jet brightness and shape 9-25741
 nonspherical galaxy clusters, hydrostatic struct. of hot plasma and X-ray morphology, rel. to Perseus cluster rot. 9-35406
 Perseus cluster of galaxies, soft X-ray struct. rel. to hot gas distrib. 9-9009
 primary cosmic rays origin, intergalactic suprathermal grains, accel. mechanisms 9-25412
 protogalactic gas cooling mechanisms (*Russian*) 9-17107
 quasars absorption line problem, optically selected high-redshift objects spectrophotometry 9-25746
 relativistic electrons in intracluster space, hard X-ray spectra and gas heating 9-25735
 shock waves generated by galaxies and quasars at large redshifts 9-21442
 suprathermal grains, prod. by scatt. on intergalactic mag. fields 9-48911
 Fe mass and distrib. in intracluster space of rich clusters of galaxies 9-5895
 H I clouds search in Sculptor group of galaxies 9-30122
 H I content of intracluster medium 9-5896
 H, recomb. kinetics in presence of low mass primordial black holes (*Russian*) 9-17152

intermediate bosons

- γ - W^0 mixing as an alternative to unified weak-electromagnetic gauge theories 9-2966
 axion, astrophys. implications of new light Higgs boson 9-22007
 axions and Higgs particles, astrophysical mass bounds 9-5745
 charged Higgs boson in $\text{SU}(2) \times \text{U}(1)$ gauge field theory, production and decay 9-13015
 charged Higgs boson properties; Weinberg Salam model 9-40719
 charged vector mesons, Compton scatt. cross section meas. 9-22102
 electron nucleus weak currents, atomic X-ray spectra, parity violation (*Russian*) 9-22642
 fermion-fermion scatt., very high energy weak interaction effects 9-9327
 gauge models of weak and EM interactions, quantisation and renormalisation of gauge theories, book contrib. 9-30669
 gauge theory, suppression of flavour changing effects from neutral spinless meson exchange 9-40716
 hadron resonance decay, intermediate vector boson and high energy weak interaction detect. 9-22012
 Higgs boson interactions with nucleons 9-2973
 Higgs bosons in $\text{SU}(2) \times \text{SU}(2) \times \text{U}(1)$ left-right gauge field, coupling strength 9-13017
 Higgs charged bosons and decays of heavy flavoured mesons 9-22014
 Higgs coupling constraints from axionics, Weinberg-Salam model Higgs extension 9-40706
 high energy neutrino interactions, quark parton model anal. 9-30730
 irreducible gauge theory of a consolidated Salam-Weinberg model 9-40707
 neutral current interactions in $\text{SU}(2)_L \times \text{SU}(2)_R \times \text{U}(1)$ gauge models, natural parity conservation, gauge bosons 9-321
 neutrino interactions at high energy, book contrib. 9-30729
 nonleptonic hyperon decay, octet dominance in nonrelativistic quark model 9-388
 P violation, neutral currents, $\text{SU}(2)_L \times \text{SU}(2)_R \times \text{U}(1) \times \text{U}(1)$ 9-6308
 parity nonconservation, coupling constants, intermediate boson mass ratio 9-9516
 photoprocesses in few-nucleon systems, exchange meson currents role (*Russian*) 9-22269
 pp and $\bar{p}p$, associated prod. cross section for Higgs and Z particles 9-410
 purely leptonic processes, hypothesis test, purely diagonal single Z boson neutral currents 9-40713
 $\text{SU}(2) \times \text{U}(1) \times \text{SU}_F(2)$ gauge model, CP violation and off-diagonal neutral currents 9-13008
 $\text{SU}(2) \times \text{U}(1)$ gauge model, symmetry breaking pattern with two Higgs doublets 9-12978
 $\text{SU}(2) \times \text{U}(1)$ gauge models, CP violation origin, Yukawa interaction 9-40712
 superheavy Higgs particles, proportional renormalisation corrections to W and Z mass, Weinberg-Salam model 9-276
 vector boson model from $\text{SL}(2, \mathbb{C})$ gauge theory of gravitation and Yang-Mills theory 9-322

intermediate bosons continued

- W-boson production by prompt high energy atmospheric neutrinos, $\bar{\nu}_e e^- \rightarrow W^-$ 9-3014
W-boson propagator effects in the neutrino-nucleon scattering 9-13098
 e^+e^- annihilation, W^+W^- and Z^0Z^0 pair production 9-40820
 e^+e^- collisions, weak neutral current effects, unified theories of dimension (Hungarian) 9-9326
 e^+e^- high energy annihilation, possible signature of charged Higgs particles, $SU(2) \times U(1)$ model 9-35995
 $e^+e^- \rightarrow \tau^+\tau^-$ near Z^0 pole, heavy lepton polarisation and radiative effects 9-22085
 μ anomalous mag. moment in $SU(3) \times U(1)$ gauge model 9-3026
 $\bar{\nu}_e$ scatt., single Z boson hypothesis tests, non-diagonal neutral current inclusion 9-40714
 $\nu N \rightarrow e^- N \phi^+$, phi meson as light scalar boson in unified weak and EM interactions 9-17706
 $p(p\bar{p}) \rightarrow W^\pm X$, QCD perturbative predictions 9-40812
 $p\bar{p}$, equal sign lepton pairs, cleaner W-signal 9-13012
 $p\bar{p}$, polarised p, W prod. estimates for hadron jet decay detection, parity violating asymmetries 9-40821
 $p\bar{p}$ and $p\bar{p}$, Higgs-boson production at large transverse momentum in quantum chromodynamics 9-40745
 $p\bar{p}$ or $p\bar{p}$ colliding beams, inclusive W^+W^- and Z^0Z^0 pair production 9-40820
 $p\bar{p} \rightarrow Z + \text{anything}$, front-back asymmetry differential cross section, W^\pm prod. 9-6352
t-quark mass in $SU(2) \times U(1)$ 9-40710
W, production in hadronic collisions, appl. of quark parton model 9-30715
W boson, determ. of mass limit from neutrino scatt. data 9-3012
W-boson interaction, possibility of b-quark weak interactions 9-26285
W-meson mass determ., 2-level vac. polarisation concept 9-40766
 $Z \rightarrow H\gamma$, decay rate determ. in $SU(2) \times U(1)$ gauge theory 9-40717
 $^4\text{He}(\gamma, \pi^+)$, P-odd effects, Regge and boson pole interference (Russian) 9-6564

intermediate-frequency amplifiers

for amateur radiotelescope 9-21189

intermediate state

- structure, effect on supercond. destruction by current (Russian) 9-33412
superconducting-spot and normal-spot models 9-11275
Pb film, shadow electron microscopy 9-11276
Pb, supercond., internal mag. field meas. by μ^+ method (Russian) 9-33391
Sn intermediate state, US attenuation 9-42694
Sn-In, dil., intermediate state, US attenuation 9-42694

intermediate valence compounds *see mixed valence compounds***intermetallic compounds** *see alloys***intermodulation measurement**

No entries

intermolecular forces

- see also Van der Waals forces*
binary gas mixture, intermol. force parameters 9-22784
carboxylic acids, crystals, empirical interatomic potential functions 9-7567
closed-shell system, isotropic intermolecular forces evaluation using semi-empirical approach 9-36726
diatomic molecule in strongly interacting solvent, IR band shape, field theoretic methods appl. 9-27038
p-dichlorobenzene(-d₄), mixed cryst. phases, mol. reorientations and intermol. interactions, Raman obs. 9-28751
effective potential examination for critical volume, rel. to mol. struct. 9-41122
ethylene, pure, IR absorption obs. of C-H stretching fundamentals up to 2 kbar and 200°C 9-22701
ethylene dimer, intermol. pot., dissoc. energy, CNDO/2 calcs. 9-31641
ethylene-vinyl alcohol (<36.3 mol.%) copolymer, elastic moduli of crystal-line region (Japanese) 9-15715
ethylene-vinyl alcohol (>40 mol.%) copolymer, elastic moduli of crystal-line region (Japanese) 9-15716
exchange interactions, generalised Jansen's perturbation theory 9-6981
Gordon-Kim model, appl. to inert gas dimers 9-45781
hot-atom collisional energy density function, stochastic calc. 9-29342
induced dipole-induced dipole potential, capture rate const., for ion-molecule collisions 9-13783
macromolecular interactions, effects of intervening medium and polar mode energy feeding 9-13857
macromolecules, interacting, spherical, light scatt., conc. fluctuations, transport eqn. 9-1775
methane + H₂O, pairwise interaction pot. function, ab initio SCF MO calc. 9-22786
paraffin oil, aq. emulsion, polyelectrolyte stabilised, mech. props. 9-39223
perturbation theory, Pade approximants and convergence 9-31635
polyacrylamide, aq. solns., conform. changes, intermol. interactions, optical mixing spectroscopy 9-10770
polyatomic fluid mixtures, thermodynamics, phase equilb. calcs. 9-1485
polyatomic molecule + atom, many body approach 9-31645
polycyclic aromatic quinone, epitaxy on alkali halides, adsorbed water effect 9-28239
polymer film, in adhesive joint contact layer, intermol. interaction with substrate and filler (German) 9-8421
polymer solution, dilute, aq., appl. of Hildebrand's fluidity model, apparent viscosity temp. depend. (German) 9-37366
triangular-potential fluid, Zwanzig's perturbation theory, appl. to thermodynamic props. 9-41920
CS₂, liquid, Raman spectra, effects of intermolecular forces 9-41177
¹²C¹⁶O + ¹³C¹⁶O, vibr. distrib., electron impact excitation, isotopic composition, interaction depend. 9-29332
D₂, intermolecular pair potential, from solid-state data 9-14727
H⁺-H⁺, interaction energy, perturbation expansion, symmetry forcing 9-22785
H₂, intermolecular pair potential, from solid-state data 9-14727
H₂, short range intermolecular forces, scattering of molecular beam 9-36727
He + N₂(O₂)(CO)(NO), anisotropic intermol. pots., crossed beam expts. 9-31639
³He-⁴He in liquid ⁴He, non-additive interaction in solvent effect 9-41120
Kr + carbon tetrachloride, differential elastic scatt. cross-section 9-45784

intermolecular forces continued

- ¹⁴N¹⁴N + ¹⁴N¹⁵N, vibr. distrib., electron impact excitation, isotopic composition, interaction depend. 9-29332
Na⁺ + ether(thioether)(amide) interaction, pair pots., ab initio SCF LCAO MO calc. 9-36721
- intermolecular mechanics**
see also association; intermolecular forces; kinetic theory of gases; liquid structure; liquid theory; Morse potential; potential energy functions
4-aminomethylphthalimide-decalin-n-propanol, electronic spectra of 3-component solns., temp. depend. 9-4822
benzene + acetone, energy transfer cross-sections, generalised oscill. strength calcs. 9-10173
benzene-d₆, intermol. dynamics, neutron scatt. obs. 9-863
bromethane, liq., relative mol. orientation appl. of nucl. mag. relax. data 9-41933
cationic dyes, adsorbed ionisation energy, local environment effects 9-34337
chains, one-dimensional, shock wave effects, mol. dynamics study 9-4371
1,3-diphenylisobenzofuran, oxidation, dissoc. oxiclex relax., solute recombination probabilities 9-34285
DNA, B-configuration double helix, interaction with H₂O, isoenergy contour maps 9-20504
exchange potentials, Bonham series representation Born-Oppenheimer calcs. 9-10169
guest/host mixed crystal systems, thermally activated intermolecular effect of deuteration on guest phosphoresc. 9-43010
hydrodynamic friction on moving molecule 9-27732
intermolecular correlation, approximation scheme 9-26905
liquid, intermolecular nucl. relax. by translational and rot. diffusion, effect of pair correl. functions (French) 9-19794
n-body potential energy functions, for teachers 9-40318
orientational correlation functions, dipole-dipole coupling 9-36798
phase diagrams, step pot. particles, 2- and 3-dimens., mol. dynamics 9-28072
picosecond phenomena, conf., Hilton Head, USA (May 1978) 9-44940
PMMA, secondary loss peaks, effect of structural features 9-11649
polyatomic molecules, force and interaction consts. of ang. coords. 9-27054
polymer solutions, order, conf., Midland, USA, (Aug 1973) 9-10769
pyrene, micellar system, fluoresc., solubilisation distrib. statistics, kinetic model 9-34366
statistical method, appl. to interactions theory, supermolecular density calcs. 9-6983
T₁ and T₂, by microwave meas., zero- and non-zero field 9-45738
three-body Coulomb interaction, adiabatic representation, exchange interactions 9-31640
two-body interaction coefficients, C₈ and C₁₀, point-charge model calcs. 9-36719
Ar, Paschen (1s) reson. state, decay mechanism and kinetics 9-27021
BaCl₂·2H₂O(D₂O), lattice vibr., IR and Raman spectra 9-15443
H₂, Stark broadening, wings calc. 9-31464
He + CO₂, anisotropic intermol. pot. for differential scatt. cross-section 9-13788
K + N₂(CO), anisotropy of the repulsive intermolecular potential from rotationally inelastic scattering 9-41226
Mg²⁺·nH₂O + PO₄H₂⁻, binding mechanisms, SCF ab initio calcs. 9-22586
MnII-ATP system, exchange mechanism, FT NMR and EPR obs. 9-22733
Na⁺·nH₂O + PO₄H₂⁻, binding mechanisms, SCF ab initio calcs. 9-22586
SO₂·H₂O microwave absorption, 94 GHz by mol. interaction 9-31507
- intermolecular vibrations** *see molecular rotational-vibrational energy transfer*
intermolecular vibrations (molecular crystals) *see lattice dynamics of molecular crystals*
- internal combustion engines**
diesel engine noise radiation mechanisms 9-32135
diesel engine noise research at Perkins Engines 9-32136
diesel engines, corrosion-resistant plasma-sprayed coatings 9-24675
diesel-driven chiller system simulation, with multi-tank thermal storage system, for large commercial buildings appl. 9-48187
generator noise control 9-43800
microwave heating of flame plasma for enhanced combustion 9-20369
muffler design, scaling rules using Buckingham's pi principle 9-14152
spray, numerical computation, appl. to engines 9-37378
Stirling engine powered heat pump, heat activated, system level performance 9-48164
- internal conversion**
see also conversion electron spectra
 γ -ray internal pair conversion, form. of monoenergetic e^+ 9-6502
atomic shells $30 \leq Z \leq 104$, Hartree-Fock-Slater model calcs. 9-36199
coefficient calculation discrepancies, reasons 9-9512
coefficients, higher approx. and near-threshold behaviour 9-6501
conference on nuclear struct. spectroscopy and atomic nucleus struct., Tashkent (Mar. 77) 9-6470
double K-shell vacancy creation per internal conversion 9-45212
gamma-ray internal conversion coeffs. for all at. shells, $30 \leq Z \leq 104$ 9-45206
hadron-hadron, e^+e^- pair prod. calc., high energy internal conversion of bremsstrahlung photons 9-420
1 9-499
pair conversion particles, angular distrib. 9-6498
pair formation high resolution in-beam studies with magnetic + Si(Li) spectrom. 9-18073
Z = 30 to 104, E5, M5 transition coeffs. 9-26396
⁴Ag, A = 105, 107, 109, 111, isomeric transition internal conversion, γ -transition energies and e intensities 9-6503
¹⁹¹Au, monopole conversion, magnetic dipole transitions, latent penetration effect 9-9464
⁷⁶Br, new isomeric state with half-life 1.49 sec 9-17858
¹⁰⁹Cd decay, double K-shell vacancy creation per internal conversion 9-45212
⁴Ce, A = 124-127, half lives, low energy γ -data, β decay probabilities 9-499
¹⁴¹Ce decay, internal conversion coefficient, efficiency extrapolation technique 9-30806
²⁴⁵Cm, from ²⁴⁹Cf α -decay, γ -spectra and internal conversion spectra 9-6477
¹³⁷Cs decay determ. by β -ray spectrometry 9-26397
¹⁵⁵Dy, γ -ray angular correlations 9-6494
¹⁷Eu, transitions in ¹⁴⁷Gd decay 9-6475

internal conversion continued

- ¹⁸⁰Hf, penetration effect in M2-component of K-forbidden transition 9-6500
¹²⁹I, γ -ray and X-ray radiation, internal conversion coeff. 9-6499
¹³⁹La, total IC coefficient for 166 keV transition 9-13613
¹⁴¹La, γ - γ coincidence and elec. conversion meas. 9-13252
¹⁶⁹Lu, internal conversion electron spectrum $E_c < 100$ keV, ¹⁶⁹Yb ground state population probability 9-6497
²³¹Pa α -decay, γ -rays and internal conversion spectrum, ²²⁷Ac levels and bands 9-45217
¹⁰⁹Pd decay, double K-shell vacancy creation per internal conversion 9-45212
¹⁵³Tb low excited states, γ -ray angular distrib. in ¹⁵³Dy decay 9-6471

internal conversion in atoms *see Auger effect***internal conversion in molecules** *see nonradiative transitions***internal fields, crystal** *see crystal field interactions***internal friction**

- see also Bordoni effect; damping; Snoek effect; Zener relaxation*
 automatic resonant-bar apparatus for plotting of internal friction against strain amplitude 9-14358
 Bordoni relaxation models, internal friction and microdeformation rel. to dislocations (French) 9-37758
 α -brass, acoustic harmonic generation by long-range dislocation motion 9-42150
 Collette torsion pendulum, limits of applicability to internal friction meas. 9-14359
 complex theory of hysteretic friction 9-18746
 Fourier transform method for elastic consts. and internal friction meas. in small specimens 9-14357
 Gentallay, in Fe-W system, damping capacity (Japanese) 9-20094
 measurement in solid metal via inverted torsion pendulum (French) 9-18847
 melting region, temp. depend. of internal friction 9-23675
 metals, group VA, O and N determ. from internal friction meas. 9-39246
 nondestructive eval., internal friction technique, computer-assisted digital processing system 9-43537
 polystyrene, intermol. interaction, conform. (Russian) 9-23539
 rocks, friction rel. to seismic attenuation 9-34755
 semiconductor, simple recording system using electronic circuit 9-37260
 steel, austenitic, alloyed with N, model of relaxation processes (Russian) 9-11650
 steel, Cr, H-dislocation interaction 9-8307
 steel, VN precipitation after heat treatment 9-29067
 styrene-methacrylic acid copolymer, intermol. interaction, conform., composition depend. (Russian) 9-23539
 thin films under plastic deform., internal friction meas. apparatus for 4.2-300K 9-5093
 Al, dislocation velocity, from amplitude-dependent internal friction 9-11653
 Al-Fe dil. alloy, bamboo struct., grain boundary internal friction peak 9-43306
 Al-Ge, internal friction and shear modulus after neutron irradi. at 80K 9-1468
 Al-Mg, elastic and anelastic props. in relation to Guinier-Preston zones, US investigation (French) 9-38833
 C fibre reinforced Al composite, C-Al contact interaction kinetics 9-20007
 Co, internal friction meas. during polymorphic transform. (Russian) 9-29049
 Cu-Au, (0.02-5 at.%), cold worked, internal friction peaks 9-11652
 Fe, damping during and after deformation 9-43344
 Fe, internal friction near Curie point 9-24567
 Fe, pure, deformed, internal friction, dislocation relax. and dislocation-defect interactions 9-29125
 Fe, pure, strain ageing and fatigue (Japanese) 9-20161
 Fe-Si, internal friction, domain boundary area (Russian) 9-24562
 Fe-Si (3 wt.%) alloy, H containing, H influence on internal friction (Russian) 9-38877
 Fe₃₆Cr₁₇Ti₇Mo₃, high temp. precipitation kinetics, internal friction study 9-43254
 Fe₄₀Ni₄₀P₁₄B₆ metallic glass, dynamic mechanical props. 9-10894
 Fe₂(Ti_{0.22}Dy_{0.22}Hf_{0.58}), highly magnetostrictive alloy, vibrating-reed meas. of ΔE effect and internal friction 9-42819
 GaP, containing matrix metal inclusions, internal friction study 9-42145
 HfO₂, monoclinic, microcracking, elasticity, internal friction, thermal expansion meas. 9-29195
 KH₂(SeO₃)₂, ferroelastic, low-frequency elastic props., -190 to 50°C 9-37759
 LiNbO₃, damping of LF elastic vibrs., internal friction meas. 9-28043
 Mg, internal friction spectrum after plastic deform. (French) 9-15737
 Nb, cold-worked, Snoek-Koster relaxation transient period, comparison with Schoeck's theory 9-34086
 Nb, high purity, dislocation relaxation by internal friction meas. over wide freq. range 9-38876
 Ni ferrites, internal friction and modulus defect at US freqs. 9-19762
 Ni, porous, internal friction and effective elasticity modulus, temp. depend. (Russian) 9-29118
 Ni wire, internal friction, influence of orientation of mag. field (Russian) 9-24559
 Ni-Cr complex alloy with good creep resistance, friction stress/flow stress relation 9-8337
 Pb, dislocation inertial effects, internal-friction meas. on normal and superconducting states 9-38883
 Pb impregnated porous Ni, porous, internal friction and effective elasticity modulus, temp. depend. (Russian) 9-29118
 Pb, US oscillations and dislocation unpinning in supercond. and normal states (Russian) 9-11648
 Pb-Bi, elastic moduli, internal friction from US velocity meas. 9-15717
 Pb-Sn, dil., dislocation inertial effects, internal-friction meas. on normal and superconducting states 9-38883
 TGSe:D,L- α -alanine crystals, with large unipolarity, dielec., piezoelec., elastic props. and internal friction 9-33615
 Ta, proton implanted, anelasticity, internal friction meas. 9-24560
 Ta-O, BCC, Snoek type reordering during strain ageing (French) 9-8312
 Ti, acoustic harmonic generation by long-range dislocation motion 9-42150
 Ti, cold worked, annealed, internal friction meas. of H degassing (French) 9-43304

internal friction continued

- TiSe₂, Young's modulus and internal friction obs., 1.3 to 300K 9-46750
 ZrV₂, supercond., Young's modulus and internal friction meas. 9-11654
- internal friction of liquids** *see viscosity of liquids*
- internal mechanics, molecular** *see molecular vibration*
- internal mechanics of atoms** *see atomic structure*
- internal modes** *see molecular vibration in solids*
- internal stresses**
 β -eucryptite, glass-ceramics, internal stresses 9-15770
 β -spodumene, glass-ceramics, internal stresses 9-15770
 axisymmetric bodies, integrated photoelasticity, nondestructive anal. 9-18842
 bars and tubes, anal. of axially symmetrical residual stresses 9-18734
 blind hole method with off centre hole, for residual stress meas. 9-20300
 brass, adsorpt. of Hg, effect on mech. strength, creep, fatigue, embrittlement, work hardening, roller burnishing effects (Russian) 9-29267
 calc. with integration methods, X-ray stress meas. 9-32415
 chinaware, semivitreous, eval. of crazing resistance by stress meas., after autoclaving (Japanese) 9-20235
 composite materials, internal stress depend. on density gradients (German) 9-1105
 crack propagation, fracture of practical materials, anal., recent developments, review 9-43428
 cubic single crystal, integrated photoelasticity 9-33671
 cylindrical welded rod with interlayer of lower elastic modulus, stresses in tension 9-24557
 discs, impact stresses, photoelastic investigation 9-37182
 Duralumin, adsorpt. of Hg, effect on mech. strength, creep, fatigue, embrittlement (Russian) 9-29267
 Duralumin, lifetime after preliminary plastic deform., kinetic theory of strength 9-43395
 Earth crust, in situ stress in N. America, compilation 9-29728
 enamel slips, control of rheological props. 9-29136
 fastener hole, cold worked, residual strain 9-29088
 graphite, CVD anisotropic thick hollow cylinder, residual stress due to uniform cooldown 9-42423
 ground and lapped metal surfaces, residual stresses determ. 9-34211
 high-speed stress detection and imaging, 100-element acoustic phased array 9-47876
 inner elastic constants, symm., depend. on symm. of interlattice tensors 9-28028
 inner elastic constants, tensor notation and relation to lattice dynamics 9-28027
 meas., nondestructive, acoustoelasticity appl. 9-34259
 measurement, bending deflection and stress source methods (French) 9-34265
 measurement using elastic punching method 9-34264
 measurement with hole-drilling strain gauge method 9-39108
 metal, BCC, intracrystalline fracture (Russian) 9-5031
 metal, stress concentration sensitivity, scale factor effect on fatigue strength 9-39064
 metal-dielectric-semiconductor structure, ponderomotive force effect on dielec. breakdown 9-15230
 non-homogeneous hollow cylinders stress determ. (French) 9-32423
 Permalloy film, perpendicular anisotropy, structural and thermal stresses (Russian) 9-4708
 plating, residual stress meas. by improved ring-core method (German) 9-34272
 polymer film, in adhesive joint contact layer, intermol. interaction with substrate and filler (German) 9-8421
 quartz, α and β phases coexistence state, elastic light scatt., birefringence 9-47412
 quartz, plate and fibre, internal stress and birefringence microanal. using optical phase microscope interference-polarisation 9-39109
 quartz, stress buildup due to UV irradi. (Japanese) 9-19278
 rectangular twist disclination loops, elastic energy and stresses 9-27987
 rock, trends in relationships between meas. in situ stresses and depth 9-29729
 rocks, primary stress meas. at Eisenhower Memorial Tunnel, Colorado 9-29727
 rod, variable residual stress meas. by holographic interferometry 9-29312
 static flow stress, decrease, by superimposition of ultrasonics 9-7652
 steel, austenitic, measured internal stress and anelasticity in creep (Czech) 9-38909
 steel, C, fatigue, residual stress and crack growth expts., notch and surface treatment effects 9-8356
 steel, C, wear, struct. changes in centres of galling 9-38985
 steel, case carburised, residual stress effect in mech. performance 9-24659
 steel, low alloy, high strength, residual stresses during low cycle fatigue 9-29201
 steel, low C, effective stress determ. during the loading cycle 9-38879
 steel, mild, residual stress meas., acoustoelastic, in a patch-welded disc 9-27604
 steel, structural martensitic, corrosion resist. under stress effect of strain ageing with hydroextrusion (Russian) 9-38853
 steel butt weld structure and mech. props., explosive treatment effects 9-24541
 transparent dielectrics, with inclusions, laser-induced stresses 9-28012
 turbine components (German) 9-32414
 Al alloy, residual stress gradient meas., modified hold-drilling technique 9-29300
 Al thin films, vacuum deposited, influence of film thickness on internal stresses magnitude (Russian) 9-37938
 Al-Mg (2.2 at.%), creep at 573K 9-20145
 Al₂Ga₂(γ -O₂Cr³⁺), luminesc., lifetime, 77 and 4K, struct., energy transfer 9-28798
 Al₂O₃, residual stress reduction by ultrasonics 9-24575
 bath, electroplated, polyphosphate, citrate-phosphate and sulphite baths comparison 9-7756
 Cd, thin film, vac.-deposited, X-ray diff. struct. obs., props. 9-37937
 Co-Mo alloy electrodeposits, codeposited impurities rel. to H₂ permeation, props. 9-19493
 Cr electrodeposit on steel, stress meas., X-ray methods 9-29298
 Cr film, residual stress meas. by X-ray diff. using sin² ψ method 9-15059
 DyPO₄, metamagnet, phase diagram, influence of internal strains 9-28544
 Fe-Co, amorphous alloy, stress effect on mag. domain struct. 9-33502

internal stresses continued

Fe-Cu composite plates, vol. fraction and residual stress, effect on fatigue strength (*Japanese*) 9-8349
Fe-N (0.03 at.%), single cryst., stress distrib. around spherical inclusion, TEM study 9-34038
Fe-Ni-Cr-Ti-Al Elinvar alloys, dispersion-hardened, structural transform. (*Russian*) 9-1872
Fe-Si (3 wt.%) layers, with ceramic coating, interface struct., electron microscopy and Mossbauer obs. (*Russian*) 9-28216
Ga_{1-x}Al_xAs, epitaxial layers, on GaAs substrates, X-ray double-cryst. diffractometry, state of strain 9-19480
Gd-Co amorphous films, mag. anisotropy, static and ferromag. reson. expts. 9-33477
n-Ge, internal stress effect on electron-phonon interaction, thermal cond. anal. 9-42468
LiF crystal, gamma irradiated, shear stress depend. on oriented dipoles conc. 9-28013
MgO polycrystals, hot-pressed, changes in residual strain on annealing 9-34073
NH₄Cl, order-disorder phase transform., effect of plastic deform. and electrooptic effect 9-33672
NH₄HSO₄·VO²⁺, ferroelastic, internal strains, ferroelec. transitions, EPR 9-47400
Nb film, low temp. thermal stresses (*Russian*) 9-11036
NbSn multifilamentary superconducting composites, micromechanics 9-38878
Ni alloys, welding crack resist. during welding, heating, stress reduction by hardening 9-24618
Ni electrodeposition from alkaline citrate electrolytes, coating impurity quantities and props. (*Russian*) 9-8252
Ni films, electrodeposition, current modulation, pulse freq. rel. to struct., props. (*German*) 9-11528
Ni, Hopkinson effect, mag. field depend. (*Russian*) 9-4657
Ni-Mo alloy electrodeposits, codelposited impurities rel. to H₂ permeation, props. 9-19493
NiFe_{2-x}Al_xO₄, stress-induced anisotropy in LPE grown single cryst. films, stripe domains and mag. bubbles struct. 9-28238
Pb film, thermal strain, strain relax. mech. 9-42427
Si, critical resolved shear stress, 800 to 1050°C indentation dislocation rosettes 9-24577
Si, dislocation generation, influence of film stress and thermal oxidation 9-23609
n-Si, internal stress effect on electron-phonon interaction 9-42468
n-Si, strained cryst., role of phonon reson. scatt. in phonon cond., appl. to Si:Li 9-19407
Si wafer, stresses generated by thermomigration of liquid inclusions 9-37875
SiC, CVD anisotropic thick hollow cylinder, residual stress due to uniform cooldown 9-42423
Si₃N₄ film, in MNOS struct., mechanical stress and elec. props. as function of nitride deposition temp. 9-42651
SiO₂-Na₂O-CaO-MgO, glass, fibre and plate, internal stress and birefringence microanal. using optical phase microscope interference-polarisation 9-39109
Ti-Al-V-(Sn), surface finishing effect on internal stresses, X-ray study (*German*) 9-34210
V, zone-refined, deform. behaviour, stress relax. and slip plane patterns 9-29163
ZrO₂, stabilised, coating for turbine components, degradation due to internal stresses 9-24671

internuclear double resonance see *INDOR*

interplanetary magnetic fields

see also *interplanetary matter*
auroral arcs, quiet time pattern rel. to IMF in X-Y plane 9-25382
charged particles transport in fluctuating mag. fields, Fokker-Planck eqn. soln. 9-27752
cometary tails, small-scale turbulence theory 9-44411
cosmic ray diffusion coefficients, calcs. from diurnal intensity var. 9-29952
cosmic ray intensity diurnal variation rel. to interplanetary mag. field, two approaches 9-29953
cosmic ray particles propag. in interplanetary region, transport eqn. 9-44315
current sheets struct. in mag. holes at 1 AU 9-35087
dayside south polar cusp, field-aligned currents rel. to interplanetary mag. field 9-35059
dipole structure, rel. to galactic cosmic rays solar mag. cycle depend. semiannual var. 9-16777
effect of interplanetary mag. field on geomag. activity (*Hungarian*) 9-25544
excursions and effect on magnetosphere, negative impulse at equatorial stations during SSC 9-16768
fluctuations, correl. with cosmic ray transient diurnal var. 9-25416
fluctuations spectrum, rel. to auroral pulsations harmonic anal. 9-8736
geomagnetic activity depend. on solar wind and interplanetary mag. field, statistical anal. 9-48402
geomagnetic field disturbance, low latit. interplanetary mag. field effect 9-35090
intensity rel. to geomag. perturb. (*Russian*) 9-40055
large-scale structure, between 1 and 0.3 AU during Helios 1 primary mission 9-29962
magnetic holes, theory 9-29961
magnetosphere interaction, dayside cleft field perturbations rel. to interplanetary mag. field 9-40023
northward field, polar cap electric field structure 9-44305
orientation, possible relationship with magnetic storms 9-12349
primitive solar nebula field 9-16847
radial dependences between 1-5 AU, Pioneer 10 obs. 9-2456
recurrent interplanetary streams, mag. field sources 9-2457
reversals rel. to equatorial spread-F 9-16747
sector polarity from cosmic ray north-south asymmetry 9-30009
sector structure and 50-1000 GV cosmic ray anisotropy 9-48639
sector structure rel. to geomag. activity aa index (*Russian*) 9-21261
sector structure rel. to mesospheric temp. vars. 9-34905
shock waves, parameters correl. with energetic storm particle events 9-35079
sign reversal and equatorial ionospheric anomaly 9-2430
solar high latitude field rel. to geomagnetic activity 9-44308
solar sector crossings, mid-latitude ionosphere response 9-35030

interplanetary magnetic fields continued

solar wind, mag. fields and flows between 1 and 0.3 AU during Helios 1 primary mission 9-29963
solar wind, magnetosonic instability driven by alpha particle beam 9-35089
solar wind, thin layered field aligned currents distrib. 9-12375
solar wind irregularities impulsive penetration into magnetosphere by interplanetary mag. field direction 9-29939
solar wind southward field component at beginning of 20th century 9-2464
structures between 0.3 to 1 a.u., two-spacecraft obs. comparison 9-25429
three-dimens. structure 9-5778

interplanetary matter

see also *comets*; *cosmic dust*; *interplanetary magnetic fields*
charged particles transport in fluctuating mag. fields, Fokker-Planck eqn. soln. 9-27752
cometary tails, small-scale turbulence theory 9-44411
corotating energetic particle streams radial var. in inner and outer solar system 9-16883
corotating nucleon fluxes separation from solar flare fluxes by radial gradients and nuclear comp. 9-25413
cosmic ray anomalous ⁴He component, solar latit. and radial depend. 9-35080
cosmic ray nuclei recurrent fluxes, 1-8 MeV/nucleon energies, Prognost-4 meas. 9-21112
cosmic ray particles propag. in interplanetary region, transport eqn. 9-44315
cosmic ray vars., rel. to Dhajala chondrite cosmogenic radioisotopes 9-35207
cosmic rays acceleration to relativistic energies 9-21111
cosmic rays anisotropic inhomogeneous diffusion around Sun 9-21113
dust, two independent populations suggested 9-21227
dust between 1 and 5 AU, conflicting Pioneer 10 and 11 data 9-44410
dust concentration toward Venus orbital plane, zodiacal light obs. 9-21228
Earth bow shock ions in upstream solar wind, two distinct populations obs. 9-21124
electron plasma oscills. assoc. with type III solar radio bursts, heliocentric radial var. 9-2454
energetic particles, ISEE obs. 9-40036
energetic particles pitch distrib. distortion by Earth's bow shock 9-35088
energetic proton bursts, simultaneous multispacecraft obs. 9-2440
hydromagnetic surface waves, theory 9-25462
inflowing interstellar gas, heating by solar electrons 9-16881
interplanetary Lyman α emissions, Mariner 10 obs., rel. to solar wind latit. struct. 9-35085
interstellar wind, Mariner 10 UV obs. and solar radiation models 9-48736
interstellar wind effect on interplanetary environment 9-5721
local interstellar medium, He component anal., UV obs. 9-30100
magnetic holes, theory 9-29961
MHD waves due to solar surface oscillations, geophysical effects 9-8777
micrometeoroids within 10 R_E, HEOS-2 dust expt. 9-48740
particle reflection by MHD shock waves, energy spectrum and pitch angle distrib. 9-35126
particles accelerated by Alfvén waves, distrib. function self-similar solns. 9-32757
pattern motion, spaced sensor obs. 9-25427
proton flux rises, 1973 Aug.-Sept., correl. with solar wind vars. 9-21123
recurrent proton streams, 1.3 to 2.3 MeV protons radial diffusion coeff. 9-16774
scintillation phenomena, theory, and appl. 9-8880
scintillations, radiosource size influence 9-25545
shock waves, flare-generated, scintillation obs., 1977 Sept. 9-48638
shock waves, parameters correl. with energetic storm particle events 9-35079
solar cosmic rays and shock waves interaction, 1973 April 29-30 events 9-21122
solar flare generated shock waves during 1972 August 9-16916
solar plasma inhomogeneous structure, Venera-9, 10 dispersion-interferometer meas. 9-8789
solar plasma inhomogeneous structure, Venera-9 and 10 radio sounding meas. 9-8788
solar wind, corotating streams, three-dimens. model, theory 9-35086
solar wind, mag. fields and flows between 1 and 0.3 AU during Helios 1 primary mission 9-29963
solar wind, magnetosonic instability driven by alpha particle beam 9-35089
solar wind, models with Alfvén waves 9-16789
solar wind, proton temp. heliocentric gradient from Pioneer 10 obs. 9-40052
solar wind corotating events, energetic particles comp. 9-25414
solar wind corotating stream interaction regions obs. by Pioneer 10 and 11, dynamic MHD modelling 9-2461
solar wind density struct. var., interplanetary scintillation response 9-2455
solar wind flow rel. to coronal open mag. structs. 9-2459
solar wind spatial struct., latit. gradients in obs. averaged over solar longit. 9-2458
solar wind turbulence rel. to interplanetary scintillation, synoptic anal. 9-2460
solar wind velocities, latit. and longit. struct. from interplanetary scintillation obs. 9-40049
submicron dust, cometary origin 9-30008
submicron grain orbits, gravit. attraction, radiation press. and electrodynamics 9-8879
H I, parameters from OSO-8 high resolution meas. of solar H Lyman-alpha profile 9-2452

interplanetary medium see *interplanetary matter*

interpolation

see also *function approximation*
astronomical optical surface control, Hartmann method, use of splines 9-35149
cubic spline interpolation of unequally spaced data points 9-30210
data sets with jump discontinuities, interpolation method 9-30211
electrochemical data interpolation, fast Fourier transform method 9-16061
finite elements construction for natural boundary conditions satisfaction 9-2610
generalized quadrature technique for transport eqn. soln. 9-22363

- interpolation** continued
moment-method solutions, convergence improvement using interpolants 9-18335
multirate digital filtering approach, appl. to common-depth-point stacking 9-29876
- interpreters (program)** *see program interpreters*
- interpretive programs** *see program interpreters*
- interstellar dust** *see cosmic dust*
- interstellar magnetic fields**
see also interstellar matter
clouds, ambipolar diffusion, rel. to star form. 9-40237
clouds containing magnetic fields, stability 9-5876
cosmic rays acceleration by moving magnetic mirrors, efficiency 9-44310
Crab Nebula, small-scale polarisation rel. to mag. field 9-25656
Crab nebula, static mag. field rel. to magnetoparametric instabilities 9-8829
dark clouds, H I 21 cm Zeeman effect obs. 9-8977
dense cloud complexes, mag. fields determ. via Zeeman splitting obs. 9-5757
dense molecular clouds, mag. field upper limit from SO obs. 9-21375
galactic corona, closed mag. field lines 9-25709
galactic dynamo, numerical models 9-40262
gas hydrostatic equil. in solar neighbourhood 9-30098
local inter-arm region field from absorption bands in O, B and A stars, polarized intensities 9-8915
M51, spiral galaxy, mag. fields config. from Faraday rot. data 9-48934
magnetic braking of self-gravitating, oblate interstellar clouds 9-35325
molecular clouds, cosmic ray penetration 9-8979
origin and superdense cosmogony (*Russian*) 9-8985
Parker instability with curved field lines 9-5889
 α Persei star cluster, polarisation wavelength depend. rel. to mag. field strength 9-48865
turbulent galactic mag. field and cosmic ray diffusion 9-48627
- interstellar matter**
see also cosmic dust; H I regions; H II regions; interstellar magnetic fields; nebulae
10 and 20 μ m absorpt. bands, comparison with Nogoya meteorite IR spectrum 9-48741
absorption lines in UV spectrum of γ Velorum 9-35324
accretion by stars, stability of Bondi accretion 9-44359
accretion onto binary systems, numerical simulation 9-21358
atoms, fine struct. levels population ratios 9-35351
Carina-Crux-Centaurus region of Milky Way, interstellar extinction investigation 9-40242
 η Carinae, dust condensation 9-17066
charged dust grains accretion, role of induced charges 9-8966
cloud accretion by white dwarfs, spectral evolution 9-35252
cloud material, contribution to planetary atmospheres 9-25698
clouds, ambipolar diffusion, rel. to star form. 9-40237
CO isotope mapping of L 134 N 9-30108
collisionally induced transition rates, estimation from lab. data, rel. to interstellar mol. 9-45787
colloidal plasmas in space: some aspects of condensation and growth of solids 9-41795
comets possible origin in interstellar gas cloud 9-8882
cool stars, effective temps; ang. dias. and reddening determ. from 1 to 5 μ m flux curves 9-44458
Corona Austrina dark cloud, interstellar reddening law meas. 9-17050
cosmic ray deuterons and antiprotons production mechanisms 9-29955
cosmic ray electron spectrum in local interstellar medium, determ. from bremsstrahlung gamma radiation 9-25417
cosmic ray ionization and D abundance in clouds 9-17063
cyanoacetylene, and ^{13}C substituted species, in Sagittarius B2 and Orion A, relative isotope fractionation 9-21374
cyanoacetylene, lab. study of ion-molecule reactions, rel. to interstellar synthesis 9-1940
cyanodiacyetylene, cyanotriacyetylene, detect. in C star (IRC+10216) 9-17126
cyanodiacyetylene, form. in RF discharge 9-5156
cyanodiacyetylene, lab. study of ion-molecule reactions, rel. to interstellar synthesis 9-1940
cyanodiacyetylene (HC_3N), J=2-1 transition detect. 9-25692
Cygnus Loop, X-ray image rel. to interstellar medium inhomogeneities 9-25663
cylindrical clouds, two-dimensional collapse calcs. 9-40247
D and density of matter in open, expanding Universe 9-12548
dark clouds chemical and thermal equil., grain surface reactions rel. to mol. form. 9-44593
dense cloud complexes, mag. fields determ. via Zeeman splitting obs. 9-5757
dense molecular clouds, mag. field upper limit from SO obs. 9-21375
deuterated molecules, obs. and implications for interstellar chemistry 9-5891
diffuse absorption bands, origin, transition metal ions in oxide grains 9-30101
diffuse EUV radiation field obs. 9-30099
diffuse interstellar bands in 6500-8900 Å region 9-21373
diffuse interstellar lines 9-21401
dust, composition, origins (*French*) 9-30116
dust, extinction curve, rel. to plasma reson. in Fe granular deposits 9-21387
dust, turbulence effect on coagulation 9-35356
dust cloud in Corona Austrina, mm wavelength obs., nonhomologous collapse, rel. to star form. 9-30102
dust clouds above galactic plane, light scatt. detect. possibility 9-30124
dust grain props. in H II regions (*Italian*) 9-48897
dust grains distrib. in intercloud medium, from K-type giant stars colour excesses 9-40251
dust shell around α Orionis, scattered polarized light 9-12473
E/SO radio galaxies, ionized gas obs. 9-17105
early-type galaxies, in Virgo cluster, H I survey 9-30123
effects on correlation functions for galaxy counts (*Russian*) 9-25740
excitation temps. and column densities in direction of supergiant HD 154368, spectra 9-8981
extinction, influence on galactic globular cluster system apparent flattening 9-48908
formaldehyde, ^{18}O isotope, 4389 MHz obs. 9-44591
formaldehyde, detect. at 1.3 mm in mol. clouds 9-25683
formaldehyde, detect. in M31 9-48929
formaldehyde, obs. along galactic plane 9-48893
- interstellar matter** continued
formaldehyde, prod. in diffuse interstellar clouds 9-40246
formaldehyde and CH abundance 9-48883
formaldehyde- d_1 , unsuccessful search in dark clouds 9-12500
formamide, ^{13}C isotope detect. in galactic centre 9-25680
formyl ion (HC^{18}O^+), detect. in Sagittarius B2 9-35346
galactic abundances of stable isotopes of common elements 9-44615
galactic centre, variable IR extinction obs., role of formaldehyde mol. clouds 9-48909
galactic centre direction, 4 to 8 micron spectrum rel. to interstellar extinction 9-48922
galactic corona, origin and props. 9-25709
galactic density waves, maintenance and phase shifts between stellar and gaseous arms 9-44618
galactic H_2O vapour sources, maser phase duration galactic distrib. 9-35343
galactic winds, supernovae-driven, rel. to Hubble sequence 9-8989
in galaxies, criteria of local gravit. instability of double gaseous discs (*Chinese*) 9-17099
galaxies material arms, tidal disturbances by spiral density waves (*German*) 9-17086
Galaxy, dark clouds and emission nebulae review 9-25723
gas, semitoroid, obs. in direction of γ^2 Velorum and Gum Nebula 9-48890
gas clouds, masses 9-17046
gas clouds, stability of self-gravitating magnetized system 9-21170
gas clouds, thermal instability in nonstationary medium, rel. to star form. 9-21178
gas clouds in Seyfert galaxies and quasars, containment by particle flux 9-8820
gas flowing into interplanetary space, heating by solar electrons 9-16881
gas hydrostatic equil. in solar neighbourhood 9-30098
gas mixing rel. to abundances in unevolved stars (*Russian*) 9-40192
gas motion in rotating disc-shaped galaxies 9-21424
gas properties from spectral line surveys 9-5879
gas replenishment rates in galaxies, stripping of spirals to form S0 galaxies 9-40253
gas response to rotating stellar bar 9-48930
giant molecular cloud near M17, H I abundance, 21 cm obs., chem. evolution 9-21383
giant molecular clouds, collisional growth 9-48877
glycine, 22-83 GHz search in mol. clouds 9-30115
Gould's belt, anomalous extinction, grain growth 9-44603
grain size distrib. 9-21388
grain size versus colour excess ratios 9-17040
grain sputtering and disruption in intermediate vel. clouds 9-21378
grain synthesis and Be and B abundances in meteorites 9-16894
grains, charge distrib., induced charge effects 9-25679
grains, ice mantle and silicate core, emission props. (*Italian*) 9-48898
grains, luminesc. emission 9-8967
grains, spin-related magnetism 9-5883
grains shape, spheroidal model, rel. to polarization and extinction 9-40236
hot interstellar medium 9-25699
hot tenuous gas, cosmic ray particle streaming at speeds above Alfvén vel. 9-40068
hydromagnetic surface waves, theory 9-25462
IC 1848 A, bright-rimmed mol. cloud, IR source obs. rel. to star form. 9-5810
IC 2581, young open cluster, ratio of total to selective extinction determ. 9-5870
ice, 45 μ m signature possible identification in Orion 9-17068
interplanetary Lyman α emissions, Mariner 10 obs., rel. to solar wind latit. struct. 9-35085
in interplanetary space, Mariner 10 UV obs. 9-48736
ionized gas motion and distrib. in central parsec of Galaxy 9-25719
IR emission from dust in stellar aggregates (*Italian*) 9-48869
LMC, interstellar 4428 Å feature 9-35335
LMC, interstellar extinction meas., UV sky-survey telescope obs. 9-35384
LMC, IUE obs. and 2200 Å feature detection 9-16959
local H and D Lyman α towards cool stars 9-5886
local interstellar medium and cosmic ray anisotropy 9-44313
local mass density from AF stars near N.Galactic Pole 9-40267
RR Lyrae stars, interstellar reddening from VBLUW photometry 9-48806
M17 SW, obscured IR point source spectroscopic anal. 9-48878
in M81, M51, spiral galaxies, phase shifts between gaseous arm and stellar arm (*Chinese*) 9-17098
M82 nucleus, λ 6 cm formaldehyde absorpt. detect. 9-17088
M87, model for optical knots in jet 9-30127
magnetic braking of self-gravitating, oblate interstellar clouds 9-35325
masers, review of physics 9-21455
masers, time vars. and radiative stability 9-35340
massive molecular clouds dispersal by young O-type stars 9-25693
metal abundances, three-level models of chemical evolution 9-48873
metastable isomers 9-48872
methane, detect. in Orion A molecular cloud 9-17060
methanol, and deuterates, dissociation mechanisms, photoionisation mass spectra, ionic struct., interstellar formation 9-3503
methyl alcohol, obs. 9-25666
microwave spectroscopy, appls. to obs. of interstellar mol. 9-41160
molecular abundance variations in interstellar clouds 9-17055
molecular clouds, cosmic ray penetration 9-8979
molecular clouds, Fourier interferometer for IR line emission obs. (*Italian*) 9-48679
molecular clouds, line formation, radiative transfer effects 9-5884
molecular clouds, shock waves rel. to massive stars birth 9-2542
molecular isotopic abundance ratio $\text{H}_2^{13}\text{CO}/\text{H}_2^{12}\text{CO}$ determ. from 6.8 cm obs. 9-35347
molecular spectra, predicted radioastronomical freqs. accuracy, determ. from OH spectrum 9-48666
molecule abundances in clouds, steady-state calc., chem. reactions 9-21381
molecule formation in clouds from singly or multiply ionized atoms 9-17039
molecules, prod. on interstellar oxide grains 9-25690
molecules of low electron abundance in dense clouds 9-21384
NGC 1275, Seyfert galaxy, nucleus, relation between gas and radio source structs. (*Russian*) 9-48936
NGC 2264, open cluster, CO obs. of mol. cloud 9-21363

interstellar matter continued

NGC 752, interstellar reddening from DDO astrophysical study 9-48864
 open star clusters, gas loss rel. to dynamical evolution early stages 9-8958
 χ Ophiuchi, foreground interstellar material optical obs. 9-25673
 ρ Ophiuchi dark cloud, ice mantles and abnormal extinction 9-21376
 organic grains in interstellar medium, existence questioned 9-21397
 Orion, shock chemistry 9-21391
 Orion Molecular Cloud, HCN, HNC and HCO⁺ J=3-2 lines detect. 9-25669
 particle acceleration in collisionless shocks, regulated injection and high efficiency 9-44311
 PKS 0735+178, BL Lacertae object, spectrum, multiple components in $z=0.424$ absorpt. system 9-25707
 polarisation in α Persei star cluster, wavelength depend. 9-48865
 prestellar gas, element separation by gravitational diffusion 9-21386
 protostellar clouds evolution, three dims. dynamics 9-16929
 pulsar signal scattering by turbulent interstellar plasma 9-5854
 radiative shocks and UV precursors, theoretical models 9-25660
 radioastronomical obs. of galactic struct. (*Spanish*) 9-40275
 reddening, distance of Nova Cygni 1978 determ. 9-21310
 reddening in clouds near Sun from SA colour excesses 9-30111
 reddening law in Carina OB I association 9-8957
 refractory grain destruction in low-velocity shocks 9-17041
 scattering from a cylindrical dust cloud in an isotropic radiation field 9-30107
 scintillation of low-freq. variable radio sources, evidence for relativistic expansion 9-9018
 Scorpius X-1, interstellar extinction and UV flux distrib. 9-25754
 Scutum Cloud direction, interstellar reddening distrib. from stellar RGU photometry 9-35242
 self-gravitating gas-particle suspension, magneto-gravitational instability, with conduction 9-29989
 Seyfert galaxies, exploratory obs. of gas near nuclei 9-48906
 shock waves, post-collisional propag. and amplification (*Russian*) 9-44360
 shock waves, vel. determ. from high vel. H I absorpt. features 9-48891
 shocked dense molecular clouds, nonequilib. chemistry 9-21377
 shockwaves and their radiations: problems and prospects 9-48899
 silicates, emission and extinction in 4-14 μ range 9-44581
 SMC, lack of absorption of 1 keV diffuse X-rays 9-35381
 solar accretion, props. of surface contaminated dirty solar models 9-44436
 solar neighbourhood, UV interstellar lines in α Virginis line of sight $z=0.35323$
 spectral lines, form. and widths rel. to vel. fields 9-12398
 spiral galaxies, light absorpt. by interstellar dust 9-35393
 stability of magnetic interstellar clouds 9-48885
 starlight polarization, intrinsic and interstellar components separation 9-30079
 stellar kinematics and interstellar turbulence 9-35313
 submillimetric lines, possible detect. via laser heterodyne techniques 9-44377
 supergiant stars intrinsic colours rel. to interstellar reddening material distrib. 9-8908
 Taurus dark cloud complex, IR study 9-8963
 tholins, complex organic solids prod. from cosmically abundant mols., rel. to interstellar grains and gas 9-25695
 UV and optical spectral obs. towards λ Andromedae, absorpt. lines 9-30087
 volatile dust effects in H II regions (*Italian*) 9-21394
 W3-W4-W5 complex, CO emission mapping 9-17059
 W49 H₂O vapour maser source, correlated variability 9-35352
 water ice mantles on grains, max. interstellar polarisation wavelength 9-5882
 wind, effect on interplanetary environment 9-5721
 C depletion, from Cygnus Loop UV spectrum obs. 9-21398
 C I, interstellar lines obs. in ζ Puppis and ζ Ophiuchi 9-35332
 C II region, narrow radio recomb. lines prod. around X-ray source 9-8972
 CH, excitation temps. and abundance rel. to H₂CO 9-48883
 CH⁺, electron impact excitation, rot. transitions 9-41244
 CN towards interstellar clouds, EHF emission obs. 9-17037
 CO clouds, blister model for assoc. H II regions 9-25681
 CO distrib. in central region of Galaxy 9-21416
 CO, emission obs. in galactic H I self-absorpt. features 9-35350
 CO line radiation transfer in collapsing dark cloud, Monte Carlo method appl. 9-44357
 CO, obs. in young cluster (IC 5146) 9-48881
 CO obs. of southern H II regions, RCW 38, RCW 122 and G316.8-0.1, star form. regions 9-35353
 CO, population inversion mechanism for rot. levels 9-21406
 CO₂ in dark clouds, abundance 9-35322
 CS, population inversion mechanism for rot. levels 9-21406
 CSiH, matrix Hartree-Fock calcs. 9-5874
¹³C emission intensity rel. to H I absorption column density, EHF meas. 9-35319
 Ca II, interstellar lines obs. towards 47 stars 9-25676
 D, galactic distrib., radial gradient, from DCN/H¹³CN and DCO⁺/HC¹⁸O⁺ ratios 9-40232
 DNC in HNC interstellar clouds, temp. effects and D fractionation 9-44578
 Fe, gaseous depletion from Fe II resonance line UV obs. 9-44584
 Fe, Mn and Mg, interstellar depletion derived from S 59 obs. of 67 stars 9-2563
 H and D, obs. towards α Canis Minoris 9-21275
 H I column densities and galactic reddening determ. 9-5875
 H I deficient region in Hercules, O VII emission line obs. in diffuse soft X-rays 9-25759
 H I+¹⁴molecular/H II shells from 1 to 2000 pc dia., wind-driven or supernova remnants 9-25678
 H+CO, total different collision cross section meas., interstellar gas clouds appl. 9-45786
 H₂ densities from CO obs. 9-25687
 H₂ dissociation fronts 9-5881
 H₂ emission from Orion Nebula, interstellar extinction meas. 9-25668
 H₂, form. on interstellar grain surfaces 9-21367
 H₂ formation, reaction rates and chemical kinetics 9-17070
 H₂, ortho/para abundance ratio 9-40252
 H₂, recombination on interstellar grains, translational and rot. energy 9-17045
 H₂, reson. fluoresc. with Lyman α 9-8821

interstellar matter continued

H₂, rot. transitions rel. to interstellar hot gases cooling 9-12505
 H_n (n=5 to 13), ion-induced dipole clusters, binding energies and geometries 9-41261
 HCN confirmed in galaxies M82 and NGC 253, 89 GHz obs. 9-44582
 HCN, J=1-0 transition obs. in southern mol. clouds 9-8983
 HCO⁺ detected toward M82 galaxy, 89 GHz obs. 9-44582
 HCO⁺ isotopes, anomalous line intensities towards dark clouds 9-17054
 HCS⁺ formation 9-17038
 HD, rotationally excited, towards ζ Ophiuchi, column density 9-25674
 H₂D⁺, interstellar and circumstellar search, upper limit determ. 9-2562
 H₂O, high abundance in Orion, dynamical explanation 9-48876
 H₂O masers, Herbig-Haro objects and interstellar bullets 9-35329
 H₂O masers, high vel. structures, origin (*Russian*) 9-25697
 H₂O masers, in mol. clouds assoc. with small H α emission regions 9-17042
 H₂O masers assoc. with mol. clouds, VLB aperture synthesis obs. 9-21368
 H₂O masers located near Herbig-Haro objects, discoveries 9-21369
 He component of local interstellar medium, UV obs. 9-30100
 HeH⁺, electron impact excitation, rot. transitions 9-41244
³He from dm stars 9-48810
³He⁺, probable detect. and significance 9-25689
 Mg I interstellar line structure, balloon UV obs. of ζ Orionis spectrum 9-35251
 N₂ in diffuse clouds, Copernicus search, upper limits 9-25661
 NCO as possible interstellar species 9-17065
 N₂D⁺, dissociative recomb., interstellar mols. appl. 9-31704
 NH₃, absorpt. in Sagittarius B2 direction 9-35341
 NH₃ emission line in Orion, 23 GHz obs. 9-30109
 NH₃ in galaxies 9-48886
 NH₃, nonmetastable levels obs. 9-25665
 NH₃, obs. in DR 21, NGC 1333 and NGC 6334 N 9-17044
 N₂H⁺, dissociative recomb., interstellar mols. appl. 9-31704
¹⁵NH₃, detection at 23 GHz 9-44590
 Na I, interstellar lines obs. towards 47 stars 9-25676
 OH 18 cm line obs. of young stellar clusters 9-25655
 OH and H₂O searches in diffuse clouds, Copernicus UV obs. 9-40233
 OH masers, 18 cm lines pumping by H+OH collisions 9-48892
 OH, radical, microwave spectra, search possibilities 9-26972
 SO₂ in Orion Molecular Cloud-1 (OMC-1), rot. temp. 9-25670
 SiCH, matrix Hartree-Fock calcs. 9-5874
 SiO, population inversion mechanism for rot. levels 9-21406
 T 9-3766

interstitials

see also Cottrell atmospheres; crowdions; Snoek effect
 alloys, storage of H₂, review 9-10956
 BCC lattice, low temp. interstitial hardening 9-20060
 α -brass, electron irradiated, vacancy migration props., effect on enhanced atomic mobility 9-46829
 diamond, structure and motion of self-interstitials 9-37700
 diffusion tensor for atomic migration in crystals 9-7705
 FCC metals, (100)-split interstitials, internal modes reson. hybridization 9-42194
 ferromagnetic BCC and HCP crystals, anisotropy of dipole fields, at interstitial sites 9-33584
 Gorsky effect for low interstitial conc., theory 9-10896
 graphite, neutron irradi., annealing of radiation damage 9-1465
 halides, vacancy-interstitial pair prod. by electron-hole recomb. 9-4530
 ideal solution, const. press. and vol. effect on nonideality 9-7698
 ideal solution const. press. and vol. effect on nonideality 9-7697
 inert gas solid, delocalisation probability of interstitials 9-7801
 intercalation compounds, physical and chemical props. 9-19209
 ionic compounds, hopon mechanism for ion transport 9-14957
 irradiation enhanced diffusional mass transport 9-14844
 Laves phase AB₂ intermetallic compounds, H₂ sorption, capacity and preferred location 9-43791
 loop finite, modelling of growth under irradi. 9-23607
 metal, BCC, strain depend. elastic dipole tensor for interstitial impurities, nonlinear Snoek effect 9-8311
 metal, BCC small-polaronic diffusion in light interstitials 9-42315
 metal, HCP, long-range interstitial migration rel. to c/a ratio 9-28125
 metal, unstable vacancy-interstitial atom pair, scatt. of electrons 9-15129
 metals, group VA, O and N determ. from internal friction meas. 9-39246
 metals, irradiated, solute segregation and annealing kinetics at sinks 9-23640
 metals, light interstitials, self-trapped, quantum diffusion 9-19405
 ordering alloys, BCC lattice, diffusion of interstitial atoms (*Russian*) 9-19400
 oxide films, diffusing pt. defects recomb. 9-19475
 oxide fuels, in-pile densification by vacancy boil-off and vacancy knockout, model 9-8259
 oxides, nonstoichiometry influence on plasticity (*German*) 9-24592
 phonon perturbation by complex defects, expt. studies review 9-42190
 recombination of vacancies and interstitial atoms in primary cluster of radiation defects (*Russian*) 9-1429
 refractory metal solid solutions, thermodynamic study (*Ukrainian*) 9-37845
 silicates, nonstoichiometry influence on plasticity (*German*) 9-24592
 simple cubic lattice, drift mobility correlation of interacting ions 9-37868
 spatial pore lattice, parameter of vacancy pores, temp. depend. 9-27976
 spin migration amongst tetrahedral or octahedral interstitials in FCC cryst. symmetric and asymmetric jump model 9-15127
 steel, austenitic stainless, HYEM irradi., point defect trapping influence on void swelling 9-23652
 steel, rare earth addition effects and behaviour, review (*Chinese*) 9-43257
 steel, stainless, solution treated, irradiated to low doses with 22 MeV C²⁺ and 46.5 MeV Ni⁸⁺ ions, interstitial loops 9-14855
 superionic crystals, structural transition theory 9-23731
 superionic fluorides, disordered anions exam. 9-42299
 Zircaloy-2, interstitial/vacancy nature of neutron induced dislocation loops, TEM study 9-42110
 Zircaloy-2 irradiation growth at 353 and 553K, texture and temp. cycling effect 9-46709
 Ag-Zn, electron irradi. self-interstitials, migration and elimination characts. 9-37872
 AgBr, Ag⁺ migration vol. for vacancy and interstitial motion, influence of anharmonicity 9-14965

interstitials continued

- AgBr, film and microcrystal, interstitials and surface conductance 9-23776
- AgBr, Frenkel defects, interstitials, neutron scatt. study 9-42059
- *AgBr thin film interstitials, Frenkel and space-charge contributions 9-18494
- AgCl, Frenkel defects, interstitials, neutron scatt. study 9-42059
- Al, interstitial clustering following electron irradiation at low temp. 9-19243
- Al-Ag, dil., radiation damage by channelled and random He⁺ ion beams 9-46719
- Al-Mg 0.1 at.%, neutron-irradiated, dislocation loop characterisation by TEM 9-23614
- Al-Mg (5 wt.%), static strain ageing at low temp. 9-29116
- β -Al₂O₃-Na₂O-K₂O, cation interstitial pair modes in vibr. spectra 9-37788
- β -Al₂O₃-Na₂O-Rb₂O, cation interstitial pair modes in vibr. spectra 9-37788
- Au, sputtering, by point defects, time-of-flight spectra 9-47573
- B, in transition metals, electronic structure 9-1583
- Be:Li, ion-implanted, interstitial props. 9-37876
- C, in transition metals, electronic structure 9-1583
- CaF₂, anion-void superlattices (*Danish*) 9-14796
- CdS:Li, thermochemical changes in microstructure of anisotropic centres, polarisation modulation method meas. 9-38027
- CdTe, diffusion of Sn and intrinsic defects role 9-33116
- Co, dipole field anisotropy, at interstitial sites, lattice-deformation effects 9-33584
- (Cr_{1-x}Fe_x)_{1- δ} Sb, interstitial occupancy, Cr:Fe distrib., X-ray and neutron diff. study 9-42012
- Cu, electron radiated, formation of Frenkel pairs 9-23598
- Cu_{2-x}S, digenite related phases, electron microscope study 9-10840
- Fe, Armcro, discontinuous laser beam effect on mass transfer (*Russian*) 9-33109
- α -Fe, BCC, stress-induced interaction and ordering 9-42057
- α -Fe, H ordering 9-7597
- Fe, pure, deformed, internal friction, dislocation relax. and dislocation-defect interactions 9-29125
- Fe, structural stabilisation, influence of C interstitials, HF calc. 9-11611
- Fe:He, BCC, process of interstitial trapping by impurities 9-46697
- FeCo, ordered and disordered alloy, annealing of point defects created by neutron irradi. at 20K (*French*) 9-1467
- FeCo₂V, ordered and disordered alloys, annealing of point defects created by neutron irradi. at 20K (*French*) 9-1467
- Fe₂SiO₄, nonstoichiometry influence on plasticity (*German*) 9-24592
- FeTe₂Fe₂Te₃, defect struct. compounds, room temp. ⁵⁷Fe Mossbauer spectra 9-47371
- GaAs:Sn, nature and conc. of point defects over conc. range 10¹⁷ to 6.10¹⁸ cm⁻³ 9-14802
- Gd, dipole field anisotropy, at interstitial sites, lattice-deformation effects 9-33584
- In₂O₃, lattice defects, optimum prep. conditions w.r.t. stoichiometry 9-27974
- KBr:Li(Na), low temp. radiation hardening mechanism, single halogen interstitials as hardening agent, Ha annealing 9-23634
- KCl, gamma irradi. relationship between thermolum. and deform. luminesc. 9-19942
- LaNi₅D₆, cryst. struct., neutron diff. obs. 9-19221
- MgO:Li, oxidation and reduction up to 1700K, defect prod. 9-39013
- Mn film, heat treated, lattice distortion energy, resist. meas. 9-19492
- Mn-MgF₂, cermet, heat treated, lattice distortion, resist. meas. 9-19492
- Mo-N solid solution, exam. of enthalpy of solution, variation with temp. 9-10947
- N, in transition metals, electronic structure 9-1583
- Na, thermodynamics of light interstitials, rel. to delocalised particles 9-46653
- Nb, BCC, stress-induced interaction and ordering 9-42057
- Nb, neutron irradiated, TEM obs. of interstitial clusters 9-19288
- Nb, resistivity studies of interstitial He mobility 9-14800
- Nb-N, dil., low temp. interstitial hardening 9-20060
- NbH(D), ordered, TEM obs. of anisotropic lattice distortions 9-7579
- NbH_{0.004}N_{0.007}, H-diffusion, interstitial trapping, quasielastic neutron scatt. study 9-42298
- Nb₂O₇-Nb₂O₅, oxide defect structures of stable and metastable phases, 800 to 1100°C 9-46651
- Ni:B, impurity electronic struct. calc., ¹²B NMR data anal., magnetisation decrease 9-47046
- Ni:He, defect props., quantum-chemical and lattice-defect hybrid approach 9-4528
- O, in transition metals, electronic structure 9-1583
- PbS₂Se_{1-x}, chalcogen interdiffusion, electron microprobe obs. 9-28145
- PdH_x, PdD_x, ordering, resistivity, annealing and neutron diff. obs. 9-34303
- Si, electron-hole droplets nucleation at swirl defects 9-15095
- p-Si, radiation defects by annealing, kinetics anal. 9-33018
- p-Si, self-interstitials, influence of white light on annealing process (*German*) 9-19245
- p-Si wafer, self-interstitials form. during chemicomech. polishing (*German*) 9-34175
- Si:Co, Mossbauer spectra unstable line due to interstitial Co 9-11631
- Si:D, ion implanted, struct. of impurity centre 9-7623
- Si:Fe⁰ interstitial localisation, EPR spectrum 9-1582
- SiO₂, vitreous and cristobalite, interstitial struct. anal. from gas solubility data, review 9-23525
- β -Sn, dissociative diffusion of ⁵⁷Fe, Mossbauer expts., 90-462K 9-7714
- Ta, BCC, stress-induced interaction and ordering 9-42057
- Ta₂D_{1+x}, atomic displacement of Ta determined by deuteron magnetic resonance 9-37701
- Ta₂H, single cryst., X-ray diff. study on H ordering 9-14736
- Ti:O, channelled ions, flux peaking study using protons, H₂⁺ and H₃⁺ ions 9-1450
- β -Ti-Al-V, annealed, differing interstitial O content, fatigue crack propag. resist. 9-11696
- Ti-C₂(N₂)(O₂), solid soln. film prep. by reactive sputtering, solubility and effect on props. 9-28231
- Ti-V-H system, BCC, hydrogen effects on anisotropic elastic props. 9-24565
- Ti-V-Mo alloy system, phase equilibria and interstitial effects, TEM and X-ray diff. study 9-43204
- UO_{2+x}, model of response of fission gas bubbles to dynamic behaviour of point defects 9-37735

interstitials continued

- V, BCC, stress-induced interaction and ordering 9-42057
- V, trapping of D by O interstitials, channelling study using ion induced nuclear reactions 9-4316
- V:O, lattice location study, of 0, 1 MeV deuteron channelling 9-10846
- α -VD_{0.7}, interstitial vibr., coherent neutron scatt. study 9-42196
- VO_x, defect ordering, electron diff. obs. 9-23595
- V_{0.97}O_{0.03}, lattice dynamics exam., neutron scatt. 9-23689
- W, Frenkel pair creation and stage I recovery of electron irradi. cryst. near threshold 9-1463
- W, ion implantation, ⁴He⁺ range profile and ⁴He diffusivity meas. 9-33022
- ZnO, electron irradi., vacancies and interstitials, EPR meas. 9-14803
- ZnS:Al, IR studies of Al complexes 9-33741
- α -Zr:H, energy of interstitial H calc. 9-23596
- ZrH_{1.8}, radiation-induced defects in hydrogen sublattice 9-37739
- ZrH_{1.8}, laser irradi. effect on interstitial phases, metallographic obs. 9-37734

intersystem crossing see nonradiative transitions**intramolecular potentials see potential energy functions****intramolecular vibrations see molecular vibration; molecular vibration in solids****intrinsic magnetisation see spontaneous magnetisation****Invar**

- amorphous alloy, mag. and elastic props. (*Japanese*) 9-20100
- deformed, magnetism and temp. depend. of effective field on ⁵⁷Fe (*Russian*) 9-24234
- films, exchange interaction depend. on lattice parameter, spin-wave reson. and magnetisation meas. (*Russian*) 9-42751
- magnetic inhomogeneity, ⁵⁷Fe and ⁶¹Ni NMR 9-19803
- magnetic structure, small angle neutron scatt. study 9-47249
- plastically deformed, struct. inhomogeneities, positron annihilation meas. 9-33859
- γ -Fe-Ni Invar alloy, phase mixture produced by long annealing 9-5065
- Fe-Pt, Invar alloy, strong ferromagnetism, magnetostriction and thermal expansion 9-8037
- Fe-Pt, thermodynamic properties, effects of forced magnetostriction 9-11331
- Fe₆₅Ni₃₅ ferromagnetic alloy, zero sound anomaly, inelastic neutron scatt. 9-46764

invariance**see also conservation laws**

- Poisson brackets, canonical invariance, for teaching 9-25810

inversion layers

- dielectric-semiconductor interface, anal. of fast surface states 9-42648
- hopping conduction, anal. in impurity bands in inversion layers 9-47171
- MOS structures, quasi-2-dimens. system, review 9-33352
- MOS structures, surface piezoelectric waves, interaction with two-dimens. plasmons 9-28683
- MOSFET, ionic scatt. effect on Shubnikov-de Haas amplitudes in Si inversion layers 9-42653
- MOSFET inversion layer, localised highly correl. phase cond. 9-33354
- one-dimensional inversion (enrichment) layers in MOS structure semicond. surface, production method 9-42663
- semiconductor, narrow gap, boundary conditions, energy spectrum, and optical transitions 9-42614
- Al-SiO₂-Si, MOS struct., lateral photovoltaic effect 9-4601
- n-Cd₂Hg_{1-x}, Te, action of laser pulses, elec. characs. 9-11212
- GaAs-SiO₂ MIS structures, fabrication and elec. props. 9-47166
- Si, 1/f noise and percolation in impurity bands 9-24029
- Si (100)-SiO₂ system, exchange and correl. contribs. to subband energies 9-42654
- Si (111) inversion layers, CDWs, effect of four valley interaction terms 9-33324
- Si, (111) surface, electron inversion layers, obs. of sixfold valley degeneracy 9-38176
- Si inversion layer, Γ and X electric breakthrough interference effect 9-47137
- Si, inversion layer, impurity scatt., self-consistent calc. 9-28415
- Si, inversion layer, magnetoplasmon reson. lineshape theory 9-1615
- n-Si inversion layers, broken symmetry states 9-15229
- Si, MOSFETs, Shubnikov-de Haas oscils. from electron irradi. induced two-dimens. leakage channel 9-19671
- Si, n-channel (100) inversion layers, valley splittings due to elec. break through 9-4592
- Si, n-channel inversion layers, multivalley effective mass theory 9-47136
- Si, n-type, thermally oxidised, natural inversion layer, UV photodiode construction 9-30559
- Si-sapphire, interface radiation induced charge trapping, rapid anneal phenomena 9-19666
- Si-SiO₂, interface, hopping conduction, anal. in impurity bands in inversion layers 9-47171
- Si-SiO₂ interface, inversion layer transport, radiation hardness effects, review 9-19673
- Si-SiO₂ system, bound states at interface 9-42655
- Si(100)-SiO₂ interface, mobility in Si inversion layers, screening and neutral impurity effects 9-28412
- Te, surface quantum levels, calc. from Shubnikov de Haas meas. and triangular surface pot. well 9-15207

invertors

- Synchrotron Radiation Source booster magnet power supply 9-31272

iodine**see also nuclei with**

- ¹³¹I fixation in solid/liquid systems 9-13530
- absolute quantum yields of (²P_{1/2}), (²P_{3/2}), photolysis of C₂F₄I, CF₃CFICF₃ and CF₃OCF₂CF₃I 9-34339
- atom, collision-induced ⁵²P_{1/2}-⁵²P_{3/2} radiative transition 9-31461
- atom, orbital calc., model potential method 9-36513
- atom, state determ. following photodissoc. of KI, time of flight meas. 9-18105
- α -cellulose iodination for dietary fibre analogue tracing 9-48339
- dissolved I in Yarra River estuary water 9-34855
- gas fission product release, effect on LWR fuel performance calcs. 9-31054
- heat of sublimation, laser photometric meas. 9-5942
- Iodox process for iodine removal from air with hyperazotropic nitric acid 9-31107
- laser, 1.315 μ m, Ni complex BDN II as saturable absorber 9-27297

iodine continued

- laser, $^{21}P_{1/2}(F=3) \rightarrow ^{21}P_{3/2}(F=4)$ transition, stimulated emission cross section determ. 9-13961
- laser, current design aspects, pumping system, optical arrangement and gas flow 9-31945
- laser, high power, developmental possibilities 9-975
- laser, large-scale, implications of $n\text{-C}_3\text{F}_7\text{I}$ Raman spectrum and cross sections 9-23022
- laser, photodissociation, diff. limited output beam 9-27286
- laser, Q-switched, emission at two frequencies 9-18413
- laser, short pulse amplification, multilevel paraxial Maxwell-Bloch eqn. 9-36889
- laser, terawatt, ASTERIX III system 9-3713
- laser intracavity absorption of I_2 vapour 9-22992
- laser of high efficiency, low-pres. Hg lamp pumped 9-31929
- laser oscillator or amplifier, photodissociation, Faraday rot. in active medium 9-10296
- molecular, reson.-enhanced three-photon absorption, CW intracavity absorption 9-10160
- molecule, fluoresc. in 340 nm band, buffer gas press. depend. 9-13762
- molecule, photodissoc. cage effect, computer simulation 9-24771
- molecule, reson. CARS spectrum, electronic resonance enhancement 9-14033
- molecule, reson. Raman scatt. (German) 9-26983
- molecule, stepwise two-photon excitation, E-state vibr. bands, B-state vibr. rot. levels 9-26962
- optical frequency standard, highly stable, utilising an atomic beam 9-35685
- polyacetylene: I film, Raman scatt. 9-47457
- radioactive, airborne, diffusion coeffs. 9-2142
- radiography, I isolated images using spatial frequency encoding 9-39485
- radioiodination, microelectrolytic, of polypeptide hormone, using Pt microcell 9-48340
- saturated absorption for Ar^+ laser freq. stabilisation 9-22965
- saturated absorption for He-Ne laser stabilisation 9-22964
- solutions, vibr. and rot. relax., reson. Raman lineshape meas. 9-31616
- sorption, by dextran struct. modifications, porosity depend. (Russian) 9-23535
- switch, active modulation of transmission based on Zeeman effect 9-22994
- thyroid, microscopic dose distrib. due to I isotopes 9-39522
- Zircaloy-4 tubes, I stress corrosion cracking (Korean) 9-34195
- AgBr: I, activator luminesc., energy model 9-28808
- AgBr: I, isoelectronic trap 9-43016
- AgBr: I, emission spectra at 4.2K 9-4841
- He-Cd positive column laser power, effect of I_2 additive (Japanese) 9-7121
- I^{-2} ions in gas phase 9-36449
- $\text{I} + \text{Z}$ (total $\text{Z} \geq 100$) adiabatic collision, inner shell X-ray prod., vacancy prod. 9-31675
- I^+ + sulphorhodamine G, physical and chem. kinetics competition, fluoresc. quenching obs. 9-43567
- $\text{I}^{2+} + \text{Xe}(\text{Ar})(\text{N}_2)$, 20 MeV, electron loss cross sections, pot. model data anal. 9-27082
- I_2 , HFS and mag. parameters of B state, ab initio calc. 9-45865
- I_2 laser, CW optically pumped, laser oscill. 0.57 to 1.35 μm 9-943
- I_2 , multiphoton ionis. and dissoc. vibronic/mass spectra method 9-3507
- I_2 , saturated absorpt., freq. stabilisation of He-Ne laser (French) 9-31935
- I_2 , UV laser transitions, electronic designation 9-944
- $\text{I}_2 + \text{SiAs}(\text{GeAs})$, high temp. Raman spectra, cryst. growth mechanism (French) 9-26999
- $\text{I}^{2+}(\text{P}_{1/2})$ energy transfer and reactive collisions, laser pumping possibility 9-949
- $\text{I}^{2+}(\text{P}_{1/2}) + n$ -iodopropane (iodoethane), quenching rate coeff., in UV photolysis of n -iodopropane (iodoethane) 9-11799
- ^{125}I , labelling of α -iodohippuric acid for diagnostic nuclear imaging 9-39503
- ^{125}I , fibrinogen, detection of deep venous thrombosis 9-16282
- ^{125}I , interstitial seed implants, new afterloading technique 9-34652
- ^{125}I , oxytocin radioimmunoassay, human plasma 9-5353
- ^{125}I , procedures for safe working in labs. 9-35698
- ^{125}I , tumour tracer accumulation, autoradiographic study, experimental infectious lesions 9-5348
- ^{127}I , ^{129}I isotope separation possibility using photodissociation I laser 9-7030
- $^{127}\text{I}_2$, two photon excitation, rot.-vibr. structure of E-state 9-41213
- $^{127}\text{I}_2$ saturated absorption stabilised He-Ne laser, wavelength meas. (Russian) 9-22996
- $^{127}\text{I}^{2+} + \text{atom}$ (molecule), multiple electron loss cross sections meas. 9-45818
- ^{129}I , nuclear reactor radioactive gaseous effluents, abatement techniques 9-3221
- $^{129}\text{I}_2$, hyperfine struct., saturated fluoresc. obs. 9-31591
- ^{131}I , air concs. during thyroid therapies 9-25122
- ^{131}I , airborne conc. in nuclear medicine lab. 9-34674
- ^{131}I , blood plasma, vol. meas. in man using labeled serum albumin 9-29602
- ^{131}I fibrinogen, comparative deep-vein thrombosis imaging with ^{111}In platelets 9-29607
- ^{131}I , high thyroid dose associated with adrenal scanning 9-29629
- ^{131}I in human thyroid gland, rapid monitoring using $\text{Ge}(\text{Li})$ detector 9-2134
- ^{131}I , kidney function studies following radiation therapy of spleen 9-20615
- ^{131}I , milk transfer coeff., review of meas. values 9-2141
- ^{131}I renograms, single injection technique for subtraction of blood background 9-29581
- ^{131}I thyroid, scintigraphic volume and dose estimation 9-16302
- ^{131}I thyroid activity meas. improvement in precision 9-29635
- $\text{I}^* + \text{H}_2\text{O}(\text{D}_2\text{O})(\text{HDO})$, $^{54}\text{P}_{1/2}$ electronic to vibr. energy transfer, quenching and time resolved IR fluoresc. 9-3537
- $(\text{I}^{5+}\text{P}_{1/2}) + \text{iodomethane-d}_0(-\text{d}_3)$, temperature dependence for quenching 9-45755
- K+I chemi-ionisation, integral cross section calc. for two state model 9-18282
- K+I chemiionis. differential cross-section calc. for two-state model 9-18283
- KBr: I, energy transfer due to excitons and holes under host sensitization 9-15526
- KBr: I, luminesc., exciton and hole migration to I^- sites 9-38626
- NbB_2 vapour transport in temp. gradient in presence of iodine 9-19997

iodine continued

- $\text{O} + \text{I}_2(\text{CS}_2)(\text{OCS})$, crossed-beam investigation of translational energy 9-5145
 - $\text{O}_2\text{-I}_2$ 100 W transverse-flow chem. laser 9-41374
 - TaB_2 , vapour transport in temp. gradient in presence of iodine 9-19997
 - $\text{VO}_2 + \text{I}_2$ transport react., thermochem., appl. to $\text{MoO}_2\text{:V}$ cryst. growth 9-43116
 - ZnSe: I , Schottky diode, direct impact excitation of luminescent centres 9-7900
- ## iodine compounds
- tetrachloroiodates, ^{35}Cl NQR freqs., correl. with crystallographic data 9-33559
 - As-S-I system glasses, IR transmission spectra, structure-chem. comp. 9-42974
 - $\text{ClF}_3\text{-IF}_3$ determ. of phase diagram, using DTA 9-4955
 - $\text{I}^- \text{-S}_2\text{O}_8^{2-}$ aqueous redox mixtures, γ -radiolysis 9-16017
 - ICN, BrCN, and isotopic forms, force field calc., freqs., rot. const. 9-22693
 - ICl intercalation in graphitised C fibres and its removal 9-43561
 - ICl, mol. beam focusing in rot. states 9-18317
 - ICl-graphite intercalation compounds, anomalous sp. ht. due to order-disorder transform. 9-42235
 - IF, $\text{B}^{\text{II}}(\text{O}^+)$, radiative and predissoc. lifetimes, laser-induced fluoresc. 9-31589
 - IF, elec. dipole moment, Stark effect 9-18233
 - IF, He(I) photoelectron spectra, interpretation 9-13766
 - IF₄, statistical thermodynamic functions calcs., force const., vibr. amplitudes, between 250-1000K (French) 9-31504
 - IF₇, molecular vibr. calc. 9-18169
 - $\text{I}(\text{H}_2\text{O})_n$, geometric and electronic struct., CNDO/2 calc. 9-41113
 - I_2 He, Van der Waals mol., photodissoc. lifetime, I_2 vibr. depend. 9-6977
 - $\text{IO}_4^- \text{-NO}_2^-$ aqueous redox mixtures, γ -radiolysis 9-20392
- ## ion-atom collisions
- see also ion-ion collisions
- ## ion beam effects
- see also ion-surface impact; ionoluminescence; plasma-beam interactions
- bombardment, simultaneous with He, H_2 , heavy ions to simulate microstruct. damage from fission or fusion neutrons 9-46723
 - charge exchange in solids, studies with Van de Graaff tandem (French) 9-4339
 - cleaning, plasma accelerator with closed drift of electrons for ion beam formation (Russian) 9-38993
 - damage correlation with neutron effects, predicted temp. shift on swelling with radiation dose rate change 9-7630
 - dechanneling by dislocation loop, energy depend. 9-42127
 - fast charged particles, prod. and impact effects 9-45492
 - ferromagnet, magnetic field asymmetry correction on fast moving ions 9-14862
 - fusion reactor materials, in-situ analysis of ion irradiation and implantation effects 9-45408
 - graphite, cloth erosion by 20 keV H_2^+ and He^+ ions 9-46725
 - graphite, irradiated with MeV He ions, expl. study of effects 9-4341
 - graphite, wall and limiter material for Tokamaks, induced desorption diffusion and gas production by 100 eV electrons and ions 9-675
 - graphite, X-ray photoelectron diffraction, influence of radiation damage 9-19970
 - heavy ion beam targets, damage, lifetime, uniformity, book contrib. 9-31291
 - heavy ion irradiated target, number of point defects in displacement cascade, computational code (French) 9-19300
 - hydroxide surface, XPS exam. of chemical changes induced by Ar^+ ion bombardment 9-14993
 - impurity depth profiling of H and He isotopes within near surface region of solids using ion beams 9-7622
 - Inconel 675, wall and limiter material for Tokamaks, induced desorption diffusion and gas production by 100 eV electrons and ions 9-675
 - Inconel-718, blistering and exfoliation by 2 MeV He^+ beam 9-46722
 - metal, FCC He ion irradi., He gas bubbles lattices obs. 9-14858
 - metal, He deposition and promotion of void nucleation during accelerator expts. computer simul. 9-23658
 - metals, radiation effects, ion beam study, review 9-10883
 - metals, void swelling, depth dependent, by self-ion irradiation, generalized model 9-14856
 - metals and metal tritides, He behaviour 9-17981
 - muscovite mica, annealing of latent tracks of heavy ions (French) 9-19290
 - Nimonic PE16, Ni ion irradiated, Ni segregation to voids 9-28020
 - nucleation of defect clusters in crystalline solids 9-42051
 - oxide surface, XPS exam. of chemical changes induced by Ar^+ ion bombardment 9-14993
 - pyrographite, surface struct., amorphisation, secondary electron spectra and AES 9-43077
 - quartz, bombardment by B^+ ions, waveguide layer form. 9-27454
 - range and damage distributions, Sonine expansion 9-19303
 - rhabdomyosarcoma, rat, response to Ne and He ion irradi. 9-25042
 - semiconductor structure defect exposure in SEM 9-23507
 - sputter profiling, depth resolution 9-33874
 - steady-state space charge blowup and recovery of intense ion beams 9-1323
 - steel, austenitic stainless, DIN 1.4970, influence of He on high temp. mech. props. 9-7636
 - steel, austenitic stainless, type FV 548, 20% cold worked irradiated with 22 MeV C^{2+} ions or 46 MeV Ni^{6+} ions, study of void swelling 9-37744
 - steel, low C, kinetic aspects of diffusion zone and compound layer formed during ion-softrinitriding (Japanese) 9-15866
 - steel, stainless, absorption of O ions 9-1547
 - steel, stainless, blistering and exfoliation by 2 MeV He^+ beam 9-46722
 - steel, stainless, He induced blistering, during simultaneous sputtering 9-1808
 - steel, stainless, solution treated, irradiated to low doses with 22 MeV C^{2+} and 46.5 MeV Ni^{6+} ions, interstitial loops 9-14855
 - steel, stainless, type 316, blistering by 2 MeV He^+ ions, optical microscopy and SEM obs. 9-42119
 - steel, stainless, wall and limiter material for Tokamaks, induced desorption diffusion and gas production by 100 eV electrons and ions 9-675
 - steel, stainless 304, secondary ion emission due to H ion bombardment 9-8216
 - stress wave generation in metal by electrons excited by nucl. fission fragments 9-37747
 - surface effects, ESCA obs. 9-33020

ion beam effects continued

- swelling of fast reactor materials, inert gas ion irradiation 9-40999
thin films, ion-bombarded, simple model of dose depend. of resist. 9-42669
Ag, ion-irradiation studies of damage function 9-37746
Ag, recoil implanted ¹¹¹In impurities, interaction with radiation damage, TDPAAC meas. 9-11362
Al alloy 6061 9-675
Al, blistering and exfoliation by 2 MeV He⁺ beam 9-46722
Al, ion-implanted, dechannelling by dislocations, backscatt. expts. 9-7642
Al, sputtered excited Al particles, effect of O during ion bombardment on spectra 9-38703
Al-Ag, dil., radiation damage by channelled and random He⁺ ion beams 9-46719
Al_{0.5}Ga_{0.5}As MBE layers, ionized beam doping, elec. and optical characts. 9-37721
Au, epitaxial growth and nucleation on NaCl during ion bombardment 9-11024
B and B-rich borides, protective coatings, in situ prep. for controlled nuclear fusion devices 9-3238
Be, ion bombarded, D trapping 9-19291
Be, surface morphology, effect on low energy H ion erosion yield 9-42121
CdS, ion irradi. damage, obs. using SEM in cathodolumin. mode 9-7633
Cu film, ion bombardment induced preferential orientation 9-19293
Cu, impurity defect configuration, by DPAC-technique with ¹¹¹In 9-28021
Cu, inertial confinement fusion reactor, surface damage and thermal effects from transient thermonuclear radiation 9-648
Cu, ion-irradiation studies of damage function 9-37746
Cu, positron source using Na²² ion-implantation for annihilation lifetime expts. 9-45489
α-Fe, heavy ion irradiated, TEM exam. 9-7638
Fe-Ni-Cr (20, 15 wt.%), fusion reactor struct. alloys, dual-ion irradi. effects 9-45403
GaAs, ion-bombarded, energy band struct., electrorefl. obs. 9-19517
GaAs, X-ray and Rutherford backscatt. yields from channelled ⁴He⁺ ions 9-46730
GaAs:p⁺(N⁺), struct. characts. of radiation damage produced by high energy ion implantation 9-4340
GaAs:Zn MBE layers, ionized beam doping, elec. and optical characts. 9-37721
GaP, ion-bombarded, energy band struct., electrorefl. obs. 9-19517
Gd-Co film, amorphous ferrimagnet, mag. anisotropy, effect of ion bombard. during prep. 9-1692
Ge amorphous films, self-ion bombard., electronic props. 9-28422
Hf film on Si substrate, ion-beam induced silicidic form. 9-46718
p-InSb, ion bombardment using 30-80 keV ions, isochronous annealing, elec. props. obs. 9-19295
InSb, ion implantation at elevated temps. 9-10870
Inconel-718, blistering by 2 MeV He⁺ ions, optical microscopy and SEM obs. 9-42119
Mo, dual beam ion bombardment 9-7634
Mo single crystals, ion implanted, energy dependent channelling and backscatt. anal., ⁴He⁺ ions, 1 to 2.8 MeV 9-4360
MoO₃ film, optical absorpt. after ion irradi., appl. to ion beam profile monitoring 9-26181
Nb₃Sn, low temp. irradi. with 20 MeV S ions, effect on supercond. props. 9-38223
Ni, defect cluster evolution, ion implanter adaption on 100 kV electron microscope 9-2888
Ni film on Si substrate, ion-beam induced silicidic form. 9-46718
Ni, irradiated with Cu and Ni ions, depth depend. damage profile 9-14857
Ni, neutron and heavy ion damage correlation, dose rate and He injection effects 9-7629
Ni-base binary alloys, solute segregation and precip. under heavy-ion bombard. 9-11623
Ni-Si (1 at.%), dose depend. of ion irradiation induced segregation 9-42123
O adsorbed layer on Cu (100), ejection by ion bombard 9-42373
O₂ adsorbed layer on Cu (100), ejection by ion bombard. 9-42373
¹⁶O backscatt. appl. (*Japanese*) 9-28871
PbS epitaxial layers, ion bombardment effects on struct., and annealing 9-10882
Pd, disordered film, supercond., occurrence and crit. temp. after He⁺ irradi. 9-11261
Pd_{0.8}Si_{0.2}, amorphous, He⁺ ion irradiation effect on structure 9-42120
Pt film on Si substrate, ion-beam induced silicidic form. 9-46718
Pt:¹⁸¹Ta, lattice defect induced elec. field gradient, PAC meas. 9-42878
Si, amorphised by ion implantation, EPR obs. of mag. ordering 9-24186
Si, amorphised by ion irradi., doping effects on cond. in hopping transport regime 9-28424
Si, amorphous, ion-implanted, hopping parameter at natural phonon freqs. 9-15152
Si amorphous films, self-ion bombard., electronic props. 9-28422
Si, displacement of group III, IV, V, and VI impurities in Si by He⁺ and H⁺ analysing beam 9-4330
Si, ellipsometry of anodised layers on clean and ion bombarded Si surfaces (*Russian*) 9-24382
Si, ion irradiated, room temp., depth distrib. of disorder 9-37745
Si, low energy Ar ion bombardment, evidence for spike-effects 9-19292
Si, surface oxidation, after Ar⁺ bombardment (*Russian*) 9-15028
Si:Ar, ion implanted, amorphous, epitaxial regrowth 9-10868
Si:B, ion implanted, radiation defect accumulation and annealing, X-ray diff. obs. 9-37726
Si:B⁺, TEM of lateral implantation effects near mask edges in wafers 9-37724
Si:Ne ion implanted; channelling anal. of disorder struct., ⁴He ions, 0.7 to 2.2 MeV 9-4321
Si:Ne(Ar)(Kr), ion implantation damage, annealing, comparative study 9-10867
Si:Ne(Kr), ion implanted, amorphous, epitaxial regrowth 9-10869
Si:P, implanted, two-stage laser annealing of lattice disorder 9-1452
SiO₂ film, bombardment by B⁺ ions, waveguide layer form. 9-27454
^{119m}Sn, in FCC metals, isotope separator implanted, Mossbauer spectroscopy 9-24240
Ta₂O₅, ion-bombarded cryst., structural and compositional changes 9-46724
Ti-64, -811, 15333, fusion reactor structural alloys, dual-ion irradi. effects 9-45403

ion beam effects continued

- Ti-Al (14.4 at.%), void form. and solute segregation under Ni ion irradiation 9-42122
Ti-Al-V (6.4 wt.%), heavy ion irradi. effect on microstructure 9-10884
Ti₄C, deep doping during ion-beam welding, microhardness meas. 9-19294
V, He ion bombard., blister diameter and skin thickness, SEM obs. 9-28019
V single crystals, ion implanted, energy dependent channelling and backscatt. anal., ⁴He⁺ ions, 1 to 2.8 MeV 9-4360
V-Cr (15 wt.%), fusion reactor struct. alloys, dual-ion irradi. effects 9-45403
V-Cr (wt.%), 3.5 MeV ⁵¹V⁺ irradi. induced void swelling and solute segregation 9-7637
VO₂ film, metal-dielec. transition, refl. after 40 keV ion bombardment 9-23899
VO₂ film, optical characts. of phase transition, ion bombardment effects 9-28281
V₂Si, low temp. irradi. with 20 MeV S ions, effect on supercond. props. 9-38223
WO₃ film, optical absorpt. after ion irradi., appl. to ion beam profile monitoring 9-26181
YAG, interrelationship between mech. props. and elec. relief on surface layer 9-23821
Zr, blistering and exfoliation by 2 MeV He⁺ beam 9-46722
Zr, blistering by 2 MeV He⁺ ions, optical microscopy and SEM obs. 9-42119
- ion beams** *see also beam-foil spectra; beam-foil spectroscopy; energy loss of particles; ion beam effects; ion optics; ion-surface impact; mass spectrometers; particle accelerators; sputtering*
alignment and energy meas. analyser 9-6781
alpha particle beams in solar wind, magnetosonic instability prod. 9-35089
calorimeter for ion implanter neutral beam component meas. 9-30605
collectively accelerated protons, nucl. activation, time-of-flight, and foil activation meas. 9-4195
collimating slit, edge effect on ion scatt. 9-27160
compensated ion beams, handling and expts. (*Russian*) 9-46461
consecutive microsecond pulse ion beams from reflex tetrode ion source 9-41323
drifting gas approach cf. optical approach 9-31788
dynamic recoil implantation, two-gun ion beam system 9-14833
electron beam ion source for multiply charged ions 9-30608
energetic neutral beams, development to MW power level of controlled thermonuclear research 9-45508
expansion due to ion cyclotron wave interactions 9-31786
fast, (Z≤18), semi-empirical determ. of charge states (*French*) 9-45867
fast ion beam vel. distrib. meas. with probe 9-13890
focusing from quadrupole mass filter using electrostatic lens 9-229
focusing in linear accelerators using magnetically hard quadrupole lenses 9-3261
fusion reactor microexplosion ignition 9-18030
heavy ion beam linear energy transfer distribution calc. 9-20630
heavy ion interactions with gases, measurement apparatus 9-31741
heavy ions, experimental methods, targets and detectors, book 9-31242
heavy-ion beam inertial-confinement fusion, commercial power generation 9-6762
high current particle beam prod. by low pressure spark discharges, accelerator 9-31247
HV generator for accelerator beam control 9-26797
implantation type accelerator, 400 kV, energy resolution, stability and calib. using (p,γ) react. 9-30604
inert gas, metastable fraction determ., by W surface impact secondary electrons obs. 9-28873
inertial confinement fusion by high-energy heavy ions 9-18047
intense low energy ion beam transportation, space charge blow up 9-44982
linear accelerator development for neutron radiotherapy 9-20654
magnetic focusing of proton beams by single dipole coil 9-40642
merged electron-ion beam profile scanning system 9-35891
negative ion based neutral systems, generation, handling and acceleration 9-44981
neutralised, ion-acoustic instability in transverse mag. field 9-13891
overneutralisation, by electrons in mag. field 9-10256
positive, charge ejection system for charged spacecraft 9-12379
profile, monitoring using optical absorpt. of MoO₃ and WO₃ films 9-26181
remote ion beam position measurement from random beam modulation 9-30606
RF ion source, ion beam extraction device 9-22513
rotating proton beam, generation and propag. 9-6217
space charge, in intense ion beams 9-41325
space charge neutralisation 9-45507
space charge neutralization regions for mixed positive and negative ion beams 9-27159
synchrotron, methods of increasing heavy ion beams intensity 9-26790
Van de Graaff accelerator, ion drift time measurement in gap 9-694
Ar, plasma accelerator with closed drift of electrons for ion beam formation for surface cleaning (*Russian*) 9-38993
Ar⁺⁺, prod. from RF sources 9-18070
C⁺ vacuum arc source 9-21853
H⁺ beam, intense, from Penning surface-plasma source, ion-optical characts. 9-13892
H⁺ short bunch shaping at entrance of linear accelerator, calcs. 9-700
H⁺ beam, 0.5 TW pulses, production with spherically focusing mag. insulated diode 9-31288
H⁺ γ-ray yield curves from ²⁷Al(p,γ) 9-3530
Ne⁺⁺, prod. from RF sources 9-18070
Xe, plasma accelerator with closed drift of electrons for ion beam formation for surface cleaning (*Russian*) 9-38993
- ion counters** *see counters*
ion cyclotron resonance heating *see plasma heating*
ion cyclotron resonance spectra *see mass spectra*
ion cyclotron resonance spectroscopy *see mass spectroscopy*
ion density *see also plasma density*
D-region, negative ion densities rel. to Thomson scatt. in presence of electron heating 9-16739
ionosphere, effect of floating pot. of spherical ion trapper 9-44287

ion density continued

ionosphere, O^+n_e relative densities at 170 km for specific heliogeophysical conditions 9-12332
 plasma source, multifilament, mag. field effects on characts. 9-46462
 H_2 plasma, radial density and temp. profiles, using magnetoacoustic oscils. 9-19082

ion emission

see also field ion emission; secondary ion emission; thermionic ion emission
 negative sputtered ion emission by O_2 , anomalous enhancement 9-19962

ion engines

see also aerospace propulsion; rockets
 navigation capability for comet rendezvous using ion drive 9-35096

ion etching *see sputter etching*

ion exchange

bentonite, selective sorption props., thermodynamics of ion-exchange reactions 9-39203
 bentonite, selectivity of ion-exchange reactions 9-34360
 cetyl pyridinium bromide, adsorpt. on Aerosil, pH depend., mechanism 9-20466
 clinoptilolite, natural zeolite, ion-exchange, struct. rel. to heating 9-39145
 ion chromatography, method using conductimetric detection 9-16109
 ion-exchanger membranes, coarse-grained, oscillatory phenomena 9-34356
 membrane detector for liquid chromatography, characterisation appls. 9-16055
 nuclear class resins, radiation stability in γ field 9-43609
 nuclear water solutions, radioactive ion removal by electrodialysis 9-36338
 radioactive waste, liq., treatment with chem.-treated mica and vermiculites 9-45370
 spinels, entropy of cation transitions 9-11812
 zeolites, type Y, containing catalysts, cryst. struct., IR spectra 9-42958
 $Fe^{+3}(III)$ water-glycerine solution-U(IV) cationic resin, inverse break through study on U isotope separation 9-41025
 β^- and β^+ - $Ga_2O_3-Na_2O$, fast ion conductor, Na^+ self diffusion and Na-K exchange 9-28133
 $Li_2O-Al_2O_3-SiO_2$, with refractive index gradient, produced by ion exchange diffusion, exam. of refractive index and concentration changes 9-4782
 $Na_2O-B_2O_3-SiO_2/AgNO_3$ exam. of ion exchange equilibria 9-5178
 $Na_2O-CaO-Bi_2O_3-SiO_2$, electro-conducting glass-ceramic production by ion-exchange and reduction treatment 9-1616
 $Na_2O-SiO_2/AgNO_3$, exam. of ion exchange equilibria 9-5178
 $Na_2O-SiO_2/AgNO_3$, thermodynamic characteristics of ion exchange process 9-8452
 $Na_2O.nAl_2O_3$, polycrystalline, Na^+ ion exchange rates with Ag^+ and K^+ ions from the molten nitrates 9-24737
 SiO_2 glass, porous, adsorption of inorganic cations, in distilled water medium 9-24814
 $SiO_2-Al_2O_3-CaO-MgO-Na_2O$ (1.58, 7.16, 3.59, 14.9 mole.%), polished sheet, strength in commercial state and after strengthening by ion exchange 9-1904
 $SiO_2-Al_2O_3-CaO-MgO-Na_2O$, ion exchange and electrodiffusion of Li ions in surface layer 9-20227
 $Ta_2O_5-H_2O_n$, influence of preparation on pore structure and ion exchange props. 9-1970

ion exchanging *see ion exchange*

ion excited X-ray emission *see ion microprobe analysis*

ion implantation

see also semiconductor doping
 accelerator applications outside nuclear physics (Polish) 9-40641
 alloys, ion implantation in tribology and corrosion science, overview 9-14830
 alloys, ion-implanted, annealing behaviour and appls. 9-14829
 amorphous metals and ion implantation, review 9-14686
 carbides, technological appl. 9-28008
 colour centre research, appl. of ion implantation, review 9-19272
 depth distributions, calc. in path-length approx. 9-23626
 dynamic recoil implantation, two-gun ion beam system 9-14833
 fusion reactor materials, in-situ analysis of ion irradiation and implantation effects 9-45408
 garnet, ion-implanted film, large automation of $S=1/2$ bubble 9-24203
 implantation type accelerator, 400 kV, energy resolution, stability and calib. using (p,y) react. 9-30604
 inhomogeneous media, ion implantation range distribs. 9-23625
 lateral spread of implanted ions (Japanese) 9-4322
 limits of composition achievable by ion implantation, review 9-14827
 magnetic bubble technology appls. 9-15329
 materials modification, symposium, Yorktown Heights, USA (June, 1978) 9-14826
 metal, He deposition and promotion of void nucleation during accelerator expts. computer simul. 9-23658
 metal cavity, lifetime of trapped excited atom, broadening mech. for optical absorption line 9-38578
 metals, book contrib. 9-1835
 metals, H and D implantation, ion beam analysis 9-5206
 metals, heavy ion implantation, site populations in case of immobile defects 9-23624
 metals, heavy ion implantation, stochastic formulation of site populations 9-19271
 metals, ranges of $^{15}N^+$ ions, conc. distribs. meas. 9-37749
 metals, technological appl. 9-28008
 metals and alloys, finishing, use of ion implantation techniques, effect on wear and corrosion props. 9-34204
 metastable alloy formation 9-14828
 nozzle erosion, ion implantation effects, ion beam anal. 9-48011
 phase diagrams, ion beam determination of phase boundaries, exam. of techniques 9-8418
 photodetector fabrication, synthesis of Si_xC_{1-x} , Si_xGe_{1-x} , $GaAl_xAs_{1-x}$, and $GaP_{1-x}As_x$ 9-46688
 PMOS process with ion implanted threshold adjust, radiation hardening 9-46689
 quartz, He^+ ion implanted, SAW velocity, influence of annealing 9-14996
 quartz, waveguide layer form. on bombardment by B^+ ions 9-27454
 recoil implantation profile for thick film 9-1454
 remote ion beam position measurement from random beam modulation 9-30606
 semiconductor structure defect exposure in SEM 9-23507

ion implantation continued

semiconductors, recent progress 9-14831
 n-Si:B, ion implanted, rapid identification of faulted loops 9-19254
 solid state studies with Van de Graaff tandem (French) 9-4339
 steel, fatigue life enhancement by ion implantation 9-1910
 steel, stainless, He induced blistering, during simultaneous sputtering 9-1808
 steel, stainless, implantation of He ions, TEM exam. of He gas bubble lattice 9-46726
 surface alloys, metastable, prod. by ion implantation, empirical rules for substitutability 9-14832
 thin films, ion-bombarded, simple model of dose depend. of resist. 9-42669
 Tokamaks, ion beam anal. of surface modifications, review 9-46457
 Ag, recoil implanted ^{111}In impurities, interaction with radiation damage, TDPAC meas. 9-11362
 Al, ion-implanted, dechannelling by dislocations, backscatt. expts. 9-7642
 Al, sacrificial anode dissolution, Hg effect study using ion implantation 9-39016
 AlAs-GaAs stripe heterojunction laser, O^+ implantation effect on threshold characts. 9-41383
 Be:Li, ion-implanted, interstitial props. 9-37876
 Be:Li, lattice location of implanted 6Li , ion beam channelling study 9-37730
 Cr-SiO film, elec. props., effect of P^+ and Ar^+ implantation 9-11239
 Cu implantation of He ions, TEM exam. of He gas bubble lattice 9-46726
 Er^{3+} implanted crystals, laser active media, nonradiative losses due to $^{41}Li/^{41}Li_{1/2}$ transition 9-31911
 Fe, Pb implantation effect on corrosion 9-39015
 Fe-Cr(Ni) surface alloys, corrosion resistant, formation by ion implantation 9-28009
 $Ga_{1-x}Al_xAs$, solid solution, synthesized by ion implantation, Raman scattering 9-42972
 n-GaAs, epitaxial, thermoelec. power, temp. depend. in mm wavelength range 9-23996
 GaAs, laser-induced recrystallisation and damage of ion-implanted amorphous samples 9-47557
 GaAs, lateral spread of implanted ions (Japanese) 9-4322
 GaAs, lattice location of S and Mn implanted impurities, ion channelling and ion induced X-ray meas. 9-4332
 GaAs technology, 1978 state of art review 9-42089
 GaAs:Be, implanted, determ. of Be concentration profiles by $^9Be(p,\alpha)$ reactions and SIMS anal. 9-4335
 p-GaAs:Be, ion implanted, annealing characts., defect cond. profiling, electron diffr. obs. 9-4318
 GaAs:O, deep traps, photocapacitance meas., complementary transition energy threshold determ. 9-19550
 GaAs: $^{19}N^+$, struct. characts. of radiation damage produced by high energy ion implantation 9-4340
 GaAs:S(Se), ion-implanted, evaluation by contactless mobility meas. 9-1448
 GaAs:Se, implanted, multilayered encapsulation using $SiO_2:As$ and Si_3N_4 9-11715
 GaAs:Se $^+$, Cs $^+$ -SIMS and negative ion spectrometry 9-12882
 GaAs:Se(Te), laser annealed, donor implanted, elec. props. 9-4556
 GaAs:Si, encapsulated by SiO_2 and Si_3N_4 , ion-implanted As profiles 9-4319
 GaAs:Si, ion-implanted, elec. props. 9-46686
 GaAs:Te, amorphous, ion implanted layers, optical refl., 1.5-7.0 eV 9-8152
 n-GaAs:Zn substrate, ion implantation as predeposition process 9-19268
 GaAs: $_{P_x}$, solid solution, synthesized by ion implantation, Raman scattering 9-42972
 GaAs: $_{P_x}SiO_2:N$, Zn ion-implanted multiple layers, ion range distribs., secondary ion microprobe meas. 9-42129
 Ge, amorphous, laser reordering of implanted amorphous layer 9-19270
 Ge, amorphous film, ion-implanted, regrowth 9-15043
 Ge surface ion implanted far IR composite bolometers 9-30549
 Ge:Te, thermally assisted Xe-flash annealing, Rutherford backscatt. meas. 9-10881
 $Gc_{1-x}Si_x$, with Si implanted ions, optical and photoelec. props. 9-24014
 H surface layers anal., influence of ion beam bombardment 9-37731
 H trapping studies in fusion first wall materials 9-45407
 InGaAsP:Be ion-implanted avalanche photodiode, struct. and characts. 9-17487
 $In_{1-x}Ga_xAs_{2-x}P_{1-y}$, p-n junction diodes, fabrication by Be ion implantation 9-47156
 $In_{1-x}Ga_xAs_{2-x}P_{1-y}$:Be, ion implantation, hole conc. and mobility, junction depth 9-46685
 InMn, ion implanted, influence of O and lattice disorder on Kondo resist. 9-38061
 InP p-n junction diodes, fabrication by Be ion implantation 9-47156
 InP:Be, ion implantation, hole conc. and mobility, junction depth 9-46685
 InP:Si(Mg), ion implantation and PH_3 ambient annealing under VPE conditions 9-42085
 p-InSb, ion bombardment using 30-80 keV ions, isochronous annealing, elec. props. obs. 9-19295
 InSb, ion implantation at elevated temps. 9-10870
 n-InSb:Zn, Zn diffusion out of implanted layers 9-10984
 Mo single crystals, ion implanted, energy dependent channelling and backscatt. anal., $^4He^+$ ions, 1 to 2.8 MeV 9-4360
 n-Si, ion implantation causing surface defects, electrorreflectance 9-19274
 Nb, He depth profile meas. by nuclear reaction methods 9-14839
 Nb, replacement of implanted 3He by subsequent 4He bombardment, and vice versa, using $^3He(d,\alpha)$ 9-4325
 Nb $_2$ Si epitaxial layers, ion implantation synthesis, supercond. transition temp. optimization 9-38218
 Nb $_3$ Sn, produced by Sn implantation, supercond. and Mossbauer effect 9-4612
 Ne depth profiling with resonant ^{20}Ne 9-7621
 Ni, defect cluster evolution, ion implanter adaption on 100 kV electron microscope 9-2888
 Ni, He depth profile meas. by nuclear reaction methods 9-14839
 Ni, implantation of He ions, TEM exam. of He gas bubble lattice 9-46726
 Ni, implanted with Dy, annealing study by Rutherford backscatt., TEM, and total current spectroscopy 9-4343
 Ni neutron and heavy ion damage correlation, dose rate and He injection effects 9-7629

ion implantation continued

- Ni:F, mag. hyperfine field, anomalous temp. depend., PAC meas. 9-4754
 Ni-Si:As(Sb), implanted dopant redistrib. after silicide form., appl. to ohmic contacts 9-37729
 Ni-Ta(Sn)(Er)(La) ion implanted surface alloys, solid solubility and radiation-induced disorder, backscatt. obs. 9-46692
 Pd-Si:As(Sb), implanted dopant redistrib. after silicide form., appl. to ohmic contacts 9-37729
 Pt-Si:As(Sb), implanted dopant redistrib. after silicide form., appl. to ohmic contacts 9-37729
 α -quartz, reflection and surface polariton spectra, ion implantation effect (Russian) 9-47451
 S:P, ion implanted, defect annealing 450-800°C, deep-level transient spectroscopy 9-47042
 Si, amorphised by ion implantation, EPR obs. of mag. ordering 9-24186
 Si, amorphous, asymmetrical profile of ion implanted P 9-46693
 Si, amorphous film, ion-implanted, regrowth 9-15043
 Si, epitaxial layers, cryst. quality improvement by ion implantation, backscatt. and TEM obs. 9-42397
 Si gates, polycrystalline, ion implantation into SiO₂ insulating layer avoidance 9-7619
 Si, H⁺ and H₂⁺ ion implantation profiles determ. by SIMS 9-4334
 Si, ion implantation of noble gases, high fluence retention 9-23627
 Si, ion implanted, difference between ruby and Nd:YAG laser annealing 9-37723
 Si, ion implanted, EPR line shape exam. of amorphous centres 9-28587
 Si, ion irradiated, room temp., depth distrib. of disorder 9-37745
 Si, ion-implanted, laser annealing at 1.06 μ m, computer simulation 9-47556
 Si, laser pulse train shaping for polycrystal recovery in self-ion implanted samples 9-47555
 Si, proton irradiated, IR absorption 9-33742
 Si wafer, colour-band generation during high dose ion implantation 9-1449
 Si:Ar, ion implanted, amorphous, epitaxial regrowth 9-10868
 n-Si:Ar(P), single cryst., positron annihilation parameters, energy-band struct. on surface in free-electron approx. 9-15555
 Si:As, anomalous diffusion of As 9-14842
 Si:As, dislocation loops and etch pits, X-ray diffr. and TEM obs. 9-42068
 Si:As, implanted As redistrib. during annealing in oxidising ambient, carrier distrib. meas. 9-19275
 Si:As, laser annealing, channelling, optical obs., and resist. meas. 9-1444
 Si:As wafers, laser annealing, Rutherford backscatt., optical, and TEM obs. 9-1445
 Si:B, annealing mechanism of radiation change and dopants in pulsed laser irr. ion implanted layers 9-46691
 Si:B, implanted, laser-annealed, lattice dilatation 9-46690
 Si:B, ion implantation using B₂O₃-B mixture, Auger spectra, channelling anal. 9-4317
 Si:B, ion implanted, radiation defect accumulation and annealing, X-ray diffr. obs. 9-37726
 Si:B, ion implanted, SOS device struct., nonlinear impurity redistrib. 9-1625
 Si:B, ion-implanted, annealing by incoherent light source 9-19267
 Si:B, ion-implanted, influence of US waves on charged particle channelling 9-23668
 Si:B, ionisation-assisted annealing 9-23628
 Si:B, low noise avalanche photodiode fabrication by channelling implantation 9-35827
 Si:B, sputtering influence on distrib. profile of ion-implanted impurities 9-42091
 Si:B MOS structures, implanted laser beam irr. effects on interface electrophys. props. 9-1627
 Si:B⁺, TEM of lateral implantation effects near mask edges in wafers 9-37724
 Si:B(P), ion implanted processing parameters for diffusion redistribution 9-10871
 Si:B(P)(As)(Sb), ion implanted, redistrib. of dopants by pulsed laser annealing 9-7620
 Si:Cu, segregation effects after laser pulse melting 9-1843
 Si:D, ion implanted, struct. of impurity centre 9-7623
 n-Si:Fe 9-28312
 Si:Ga, heavily damaged, channelling investigation of diffusion behaviour 9-37877
 p-Si:N₂⁺ implanted, anneal behaviours of lateral photovoltaic method 9-14825
 Si:Ne ion implanted, channelling anal. of disorder struct., ⁴He ions, 0.7 to 2.2 MeV 9-4321
 Si:Ne(Ar)(Kr), ion implantation damage, annealing, comparative study 9-10867
 Si:Ne(Kr), ion implanted, amorphous, epitaxial regrowth 9-10869
 Si:O, Xe, ion implanted, Xe retention, Rutherford backscatt., comparison with SiO₂+Xe 9-4320
 Si:P, heavily ion implanted, polycrystalline, grain growth 9-19477
 Si:P, implanted, two-stage laser annealing of lattice disorder 9-1452
 Si:P, selective annealing of amorphous layers by Nd³⁺:YAG laser irr. 9-14823
 Si:P,B, wafer, long range enhancement of B diffusivity induced by high surface conc. P diffusion 9-46687
 Si:P solar cell, minority carrier lifetime degradation during ion implanted processing, surface photovoltage 9-39305
 Si:Sb, vacuum deposition combined with ion implantation (Japanese) 9-28005
 Si:Sb ion implantation combined with Si vacuum deposition neutron activation anal. 9-47631
 Si:Sb wafers, laser annealing, Rutherford backscatt., optical, and TEM obs. 9-1445
 Si:Th, ion implanted, meas. of stopping power of channelled B ions 9-28025
 Si:Zn, implanted atom diffusion during laser annealing 9-37725
 Si-Au alloys, direct synthesis by implantation of Au⁺ (Japanese) 9-28006
 Si-Cu alloys, direct synthesis by implantation of Cu⁺ (Japanese) 9-28006
 Si-SiO₂, intentionally contaminated interface, transient capacitance meas. 9-33349
 Si-SiO₂, interface, effect of ¹¹B and ¹⁹F ion implantation on charge density 9-10865
 α -SiC:Al diodes, ion implanted, transient characts. of electrolum. 9-24369
 Si₃N₄ layers, prep. by N₂ ion implantation into Si, TEM and IR absorpt. obs. 9-46974

ion implantation continued

- Si₃N₄-SiO₂:N,Zn ion-implanted multiple layers, ion range distrib., secondary ion microprobe meas. 9-42129
 SiO₂, Al implanted, electron traps characts. obs. 9-15226
 SiO₂, Al-implanted, in MOS struct., trapped charge location, using photo I-V technique 9-15227
 SiO₂ layer of MOS structures, centroid location of implanted ions by photo I-V technique 9-24079
 SiO₂:F-ion implanted, mobile-ion drift compensation 9-19664
 SiO₂:Xe, ion implanted, Xe retention, Rutherford backscatt., comparison with Si-O, Xe 9-4320
 SiO₂-Si system, implanted with N, P, and Te ions, reflectance spectra and interference fringes 9-23629
 SiO₂ film, waveguide layer form. on bombardment by B⁺ ions 9-27454
^{119m}Sn, in FCC metals, isotope separator implanted, Mossbauer spectroscopy 9-24240
 Ta, of ¹⁴N⁺, target preparation 9-45501
 Ta, proton implanted, anelasticity, internal friction meas. 9-24560
 Ti:O, channelled ions, flux peaking study using protons, H₂⁺ and H₃⁺ ions 9-1450
 Ti-Pd, dil., ion implanted, corrosion rate and electrochemical props. 9-43467
 TiB₂, fusion reactor first wall material, activation energies and populations of H traps 9-45409
 TiB₂, ion microanalysis and implantation applied to fusion surface research 9-45405
 TiL₂C, deep doping during ion-beam welding, microhardness meas. 9-19294
 V single crystals, ion implanted, energy dependent channelling and backscatt. anal., ⁴He⁺ ions, 1 to 2.8 MeV 9-4360
 W (110), D⁺ depth distrib., effect of surface impurities, channelling model 9-1451
 W, ion implantation, ⁴He⁺ range profile and ⁴He diffusivity meas. 9-33022
 (YEuTmCa₂)(FeGe)₅ bubble garnet films, ion-implanted, mag. susceptibility meas. 9-47311
 (YEuYbCa₂)(FeGe)₅O₁₂ bubble films, Ne⁺-implanted, cryst. and mag. props., X-ray diffr. obs. 9-38362
- ion lasers**
 engineering aspects, colloquium, London, England (Nov. 1978) 9-31940
 high-power lasers and appls., conf., Munich, Germany (June 1977) 9-964
 hollow cathode lasers, high voltage, spectroscopy appls. 9-27274
 intracavity intensity modulated, 0.01 Hz to 1.2 GHz 9-41400
 metal pure vapours, apparatus for stimulated emission obs. from transverse discharges 9-13954
 multicomponent laser plasma, soft X-ray population inversion by resonant photoexcitation 9-10680
 multiply charged laser plasma, rapid cooling, possible short-wavelength radiation generation 9-41852
 rare earths in vapour and solid phases as high intensity lasers, laser line prediction 9-3700
 UV laser (Japanese) 9-3686
 whitelight hollow-cathode type laser design based on cathode fall theory 9-27282
 Al XII, multiple photoexcitation in optically thick Si-Al plasma, lasing at 44 Å 9-3684
 Ar, high power problems 9-31944
 Ar high-power CW laser, resonator configs. for mode selection 9-10327
 Ar III, CW laser, short wavelength multiline performance 9-926
 Ar ion laser, CW 250 W output 9-18440
 Ar ion laser, He, Ne, impurity effects, ignition enhancement and instability suppression 9-13948
 Ar laser, endoscopic laser photocoagulation of bleeding lesions (French) 9-34627
 Ar, mode-locked pulses, second-order intensity correl., two-quantum photoeffect 9-10332
 Ar, possible appl. in head surgery 9-8529
 Ar, vacuum arc discharge, lasing action 9-18402
 Ar⁺, freq. stabilisation by saturated absorption in external ¹²⁷I₂ cells 9-22965
 Ar⁺, upper laser levels collisional excitation and de-excitation, rate coeffs. 9-7112
 Be III, X-ray lasers pumped with synchrotron radiation and low-energy photons 9-41371
 C VI laser produced plasma, transient population inversion at 18.2 nm 9-41876
 Ca-Xe charge exchange system, optical gain meas. 9-10285
 Cd-He hollow-cathode laser, small signal gain 9-31881
 Cu⁺ transitions in He-Cu halide gas discharges, CW laser oscill. 9-7116
 H-like ions, emission spectrum, depend. on electron density in laser plasma 9-27248
 He-Ar high voltage hollow cathode discharge, new Kr II CW laser lines new Ar II CW laser lines 9-13947
 He-As CW laser, excitation mechanism 9-3685
 He-Au, UV ion laser, dominant transition at 280 nm 9-942
 He-Cd, whitelight hollow-cathode type laser design based on cathode fall theory 9-27282
 He-Cd hollow-cathode laser tube, description and performance (Bulgarian) 9-27279
 He-Cd II hollow-cathode laser, 4416 Å pulse oscillation 9-7122
 He-Cd positive column laser power, effect of I₂ additive (Japanese) 9-7121
 He-Cd⁺ laser, cathaporetic, power noise meas. 9-36885
 He-Cd⁺ output radiation, influence of discharge-current fluctuations 9-10289
 He-Cu hollow cathode discharge, Cu II CW laser oscill. at 8096 Å 9-31878
 He-Kr HV hollow cathode laser, gain meas. of Kr II 4694 Å, 4318 Å CW transitions 9-45928
 He-Kr high voltage hollow cathode discharge, new Kr II CW laser lines 9-13947
 He-Kr hollow-cathode discharge, CW and pulsed lasing at Kr ion lines 9-3679
 He-Kr hollow-cathode discharge, CW laser oscills. on Kr II 4694 Å, 4318 Å lines 9-3680
 Kr III, CW laser, short wavelength multiline performance 9-926
 Kr II, ion laser, mode-locked near UV output, chem. and appls. 9-45966
 Li II, III, X-ray lasers pumped with synchrotron radiation and low-energy photons 9-41371
 N₂⁺, regenerative power amplifier operating on blue-green line 9-7139

ion lasers continued

- N₂-He laser, charge transfer pumping at atm. press., in elec. avalanche discharge 9-10286
 Ne high power laser, continuous operation 9-22974
 Ne like multiply charged ion transitions, stimulated emission possibility in far UV 9-10292
 Ne-Ag, UV ion laser, dominant transition at 318 nm 9-942
 Ne-Cu, UV ion laser, dominant transition at 260 nm 9-942
 Sr vapour pulsed laser, power characts. of laser transitions in Sr I, II 9-10290
 Sr⁺ cyclic ion laser oscillating at 1033 and 1092 nm, single and double pulse expts. 9-22940
 Xe, plasma-recombination laser, CO₂ laser prod. using periodic pumping 9-45927
 Xe-Ne-He hollow cathode discharge, laser oscill. at 5314 Å Xe II line 9-3679

ion lenses *see lenses***ion microanalysis***see also ion microprobe analysis*

- ion-bombardment Auger spectroscopy for studying surfaces of solids 9-20497
 metals, H and D implantation, ion beam analysis 9-5206
 near-surface microanalysis of solids using ion beam techniques 9-24868
 semiconductor design, ionic microanalysis 9-40648
 steel, stainless, ferritic, 430, precipitate study using ion microprobe mass analyser 9-15678
 surface, composition analysis, by ion beams (*French*) 9-8467
 thin film analysis and characterisation, conf., Les Arcs, France (Jan. 1978) (*French*) 9-8466
 Tokamaks, ion beam anal. of surface modifications, review 9-46457
 H profiling in Si, calibration standard, from anal. of H profiling methods using ion beams 9-5197
 TiB₂, ion microanalysis and implantation applied to fusion surface research 9-45405

ion microprobe analysers *see ion microprobe analysis***ion microprobe analysis***see also ion microanalysis*

- accelerator applications outside nuclear physics (*Polish*) 9-40641
 accuracy, basic relationships 9-43688
 apatite minerals, α -induced X-ray anal. of Y, La, Ce, Nd content 9-16084
 applications, in mineralogy (*French*) 9-5628
 bielemental thick samples, atomic comp. determ., H⁺ and He⁺ induced X-ray anal. 9-5223
 biological specimens, elemental anal. by proton excitation of charact. X-ray emission 9-1976
 bulk material, determ. of impurity parameters from depth distrib. of foreign atoms 9-4331
 conference on ion beam anal., Washington, USA (June-July 1977) 9-5194
 counting rate effect elimination 9-5237
 depth, effect of impurity fluoresc. by matrix X-rays 9-5224
 depth profiling by ion microprobe with high mass resolution 9-46894
 gas mixtures, kinetic studies rel. to gas lasers and pollutant detect. 9-48013
 gas proportional scintillation counter, performance and applications evaluation 9-3289
 geochemical applications of quantitative anal. 9-34976
 glass fibres and spheres, microscopic, production and charact. for microanal. 9-24487
 Heidelberg proton microprobe, for PIXE anal. of small, 4 μm^2 , size samples 9-5239
 heterogeneous materials, conc. inhomogeneities control, electron and ion probe testing 9-43505
 HIXE, theory and appls. 9-48006
 ion excited UV lines, materials anal. appl., feasibility study using noble gas-ion impact 9-5230
 ion induced optical emission for surface and depth profile analysis 9-4333
 Kirin meteorites, proton-induced X-ray emission anal. (*Chinese*) 9-40145
 low energy proton-excited X-radiation, composition anal. appls. 9-20498
 LT-1 ion microprobe mass analyser (*Chinese*) 9-30628
 metallurgy, use of combined ion-, electron-beam techniques 9-43700
 microbeam anal., conf., Ann Arbor, MI, USA (June 1978) 9-39258
 NBS low alloy steel standard, electron induced X-ray spectrosc., detection sensitivity anal. 9-5229
 NBS low alloy steel standard, PIXE detection sensitivity anal. 9-5229
 nozzle erosion, ion implantation effects, ion beam anal. 9-48011
 PIXE, absorpt. edge method of charact. filters 9-8461
 PIXE, applications 9-48007
 PIXE, biological applications 9-48008
 PIXE, comparison of elemental composition of normal and diseased tissues from biological samples 9-5364
 PIXE, external beam elemental anal. method, sensitivity obs. for biological samples 9-5227
 PIXE, procedure for thick target yield data anal. 9-8455
 PIXE, sensitivity of high energy anal. in different matrix materials 9-16086
 PIXE, trace element determ. in bovine retina rod outer segments and disc membranes 9-48012
 PIXE, uncertainties in elemental quantitative anal. 9-39254
 PIXE anal. of insulating samples, reduction of bremsstrahlung background 9-20489
 PIXE anal. on liquid samples, with external proton beam, matrix effects 9-34406
 PIXE of thick samples in air, trace element analysis 9-24866
 proton excited X-rays, appl. to thin film profiling 9-4490
 proton induced X-ray emission, K or L shell ionisation cross section meas., comparison with theory 9-5226
 proton induced X-ray fluoresc., anal. of lateral distrib. of trace elements in biological samples using microbeam scanner 9-5431
 proton microprobe, X-ray and γ -ray, appls. 9-48010
 proton microprobe with windowless-exit port 9-16085
 proton-induced X-ray emission anal. for mass determ., spectrum decomp. code 9-11845
 S aerosols characts. in Florida, PIXE anal. 9-21030
 scanning ion microprobe, possible applications of a high brightness Ga source 9-2896
 scanning microprobe, digitally controlled for p and heavy ions 9-13571
 secondary electron imaging system for a nuclear microprobe 9-26799

ion microprobe analysis continued

- secondary ion mass spectrometry at close to single-atom concentration using DC accelerators 9-48004
 sensitivity, quality assurance, and cost in automated analysis via ion induced X-rays 9-5222
 sputter induced emission spectroscopy, anal. of H₂ in solids 9-5231
 steel, C hot dipped aluminised, phase composition anal. of alloy layer by X-ray, electron probe and hardness meas. 9-34192
 surface, control and data analysis software 9-11860
 surface structure anal., discussion of ion optics 9-46902
 water, PIXE trace element anal. with detection limits in ppb range 9-48005
 α -particle induced X-ray emission, K or L shell ionisation cross section meas., comparison with theory 9-5226
 γ -ray spectrometry with low-energy t and α particles, 0.1 to 100 ppm 9-8460
 Ar ion induced X-ray fluorescence, surface anal. appl. using Ar⁺ and Ar⁺⁺ MeV ions 9-5228
 GaAs and GaAlAs, anal. by combined ion beam techniques with IEXE 9-7760
 GaAs, use of ion induced X-rays for lattice location of S and Mn implanted in single crystals 9-4332
 Nb-Ga-Y system, X-ray and microprobe anal., isothermal section and supercond. transition temp. (*Ukrainian*) 9-38793
 Nb-Ti films, ion beam sputtered, study by ⁴He backscattering and nucl. reaction microanal. 9-42400
 Ni-Cr thin film resistors, α -particle elastic scatt., and PIXE anal. 9-48022
 Ni-Nb (5, 10 at.%), initial oxidation process at high temps., appl. of high energy ion backscattering anal. for O oxidation (*Japanese*) 9-24651
 S, determ. of the chemical state of particulate S in ambient aerosols, PIXE anal. 9-5225
 Si wafers, B predeposited, anal. by combined ion beam techniques and X-ray microanal. 9-5238
 Si wafers, channelling dips for K and L X-ray prod., PIXE and Rutherford backscatt. anal. 9-4363
 α -SiC, ³⁰Si self-diffusion, ion microprobe anal. 9-42309
 Si(Li) energy dispersive X-ray spectra, computer anal. 9-1981
 Sn, charged particle stopping power meas. by 100 keV proton induced X-ray emission 9-45593
 thin film and surfaces, quantitative anal., He²⁺ induced X-ray emission technique 9-43548
 Y, charged particle stopping power meas. by 100 keV proton induced X-ray emission 9-45593
- ion microscopes**
see also field emission ion microscopes; ion microscopy
 No entries
- ion microscopy**
see also field emission ion microscopy; ion microscopes
 heavy ion microradiography, of hydrated cells with SEM imaging 9-16360
 heavy ions, advantages for high resolution microscopy using megawatt protons and N ions 9-2894
 high-energy ion electron-loss microscopy, signal-to-damage ratio 9-25175
 three-electrode emission lens, appl. for secondary ion microscopy 9-41324
- ion mobility**
see also electrolytic ion mobility; ionic conduction in solids
 alkali halides, shell model calc. of defect energies, crystal-independent interionic potential parameters 9-28141
 cyclohexane, gaseous, crit. and liq., positive ion mobility 9-37439
 cyclopentane, gaseous, crit. and liq., positive ion mobility 9-37439
 gaseous ion transport, three temperature theory 9-46412
 n-hexane, gaseous, crit. and liq., positive ion mobility 9-37439
 membranes, negative resist., current controlled, model 9-34357
 negative ion mobility in O₂ and N₂, temp. depend. 9-14513
 nematic mixtures, Merck 5 and 7a, EHD, ion mobility 9-33104
 neutron scattering techniques in applied research, medium-flux research reactors 9-13514
 plasma chromatograph/mass spectrometer simultaneous electron impact/chem. ionisation carrier gas mixture 9-30600
 resonant charge transfer influence, modified moment method 9-37440
 solvent, ion migration and frequency-dependent dielectric loss 9-19832
 water vapour at saturation, droplet nucleation by ions, ion mobilities 9-46794
 AgCl(Br) emulsion, photomoment investigations of ionic and electronic props. 9-24782
 Cs⁺+Cs, mol. ion form. rate, from mobility meas. 9-34299
 He, normal and superfluid phases positive ion mobility 9-4449
 He²⁺, mobility in He gas 9-7440
³He, liq., contamination by ⁴He, multiple positive ionic mobility 9-46876
³He, liq., positive ion nonlinear behaviour, expt. and parameterless theoretical prediction comparison 9-14978
³He, normal liq., negative ionic mobility, absence of non-linearity at low temp. 9-28167
³He-⁴He mixture, dilute solution, of ⁴He in ³He positive ion mobility 9-33151
³He-⁴He mixtures, rotating, ion trapping on vortex lines 9-28169
⁴He charged drops in cryogenic vap., He⁺ mobility, 1.3-2.0K 9-32734
 K⁺ in Kr(Xe) gas, XX 9-10625
 Kr₂⁺, mobility and clustering reaction in Kr 9-10628
 NH₃, gas, ion mobility meas. 9-23393
 Rb⁺, ionic mobility in Ar, Kr and Xe, interaction pot. determ. 9-18991
 Xe²⁺, mobility in parent gas 9-7439
- ion-molecule collisions**
see also charge exchange; ion-molecule reactions
 bromobenzene molecular ion+neutral atom, collisional relax., 2-photon photodissoc. 9-18258
 collision spectroscopy, book 9-27065
 heavy ion+atom (molecule), multiple electron loss cross sections meas. 9-45818
 hydrocarbons+N⁺, chemiluminescence, total reaction cross sections dependence on collision energy 9-47530
 induced dipole-induced dipole potential, capture rate const. 9-13783
 tissue equivalent gas, stopping of heavy particles, W-values expt. results 9-7000
³⁵Cl⁴⁺+atom (molecule), multiple electron loss cross sections meas. 9-45818
 Feⁿ⁺+atom(molecule), multiple electron loss cross sections meas. 9-45818

ion-molecule collisions continued

- $H^+ + H_2$, elastic scatt. and rot. excitation, multistate semiclassical orbital method 9-27058
 $H^+ + H_2$, electron capture cross-section, anal. evaluation 9-36756
 $H^+ + \text{molecule}$ (C-, F- or O-containing), K X-ray yields 9-45736
 H_2 , energy dependence of W for alpha particles 9-6999
 $H_2 + He^+$, 25-90 keV, fast beam form, $He(2^1S)$ population 9-31740
 $He^+ + H_2$, charge transfer, appl. of atom-photon coincidence meas. 9-45829
 $^{127}I^{5+} + \text{atom}$ (molecule), multiple electron loss cross sections meas. 9-45818
 $Li^+ + H_2$, elastic scatt. and rot. excitation, multistate semiclassical orbital method 9-27058
 $Li^+ + \text{methane}$, vibrational excitation, time of flight measurements 9-45826
 $N^+ + H(\text{hydrocarbons})$, chemiluminescence, total reaction cross sections dependence on collision energy 9-47530
 N_2^{n+} , Coulomb explosion following heavy ion impact, ab initio SCF calc. 9-18277
 $N_2 + Cl^{1+}(1^+)$, 20 MeV, electron loss cross sections, pot. model data anal. 9-27082
 $N_2 + He^+$, K-shell ionisation, total cross-sections calcs. 9-31663
 $NO + H^+(He^+)(O^+)$, dissociative ionis. 9-10188

ion-molecule reactions

- acetaldehyde, primary and secondary photoionis. processes, ion-mol. reactions 9-36709
 acetyl chloride, thermal ion-mol. reactions, long-lived intermediate ion form. 9-20360
 acetylene cation+methane, reaction, vibr. and translational energy depend., mass spectros. obs. 9-47908
 anisotropic molecular polarisability, effect on rate const. 9-15968
 anisotropic molecular polarisability, effects on rates 9-15967
 chemical ionization mass spectrum (*Japanese*) 9-43669
 cyanoacetylene, lab. study of ion-molecule reactions, rel. to interstellar synthesis 9-1940
 cyanodiacetylene, lab. study of ion-molecule reactions, rel. to interstellar synthesis 9-1940
 drift tube determination, selections from 1977 Comments on Modern Physics, book 9-30181
 equilibrium constants, determ., rel. to thermodynamics 9-5154
 ethyl chloride- NH_3 , positive ion molecule reactions 9-24729
 ferrocene, proton irradiated, Mossbauer study of induced chemical changes 9-28656
 hydrocarbons (H_2) + N^+ , rotational vibrational product excitation 9-47901
 interstellar chemistry, implications of strongly deuterated molecules obs. 9-5891
 interstellar molecule formation in clouds from singly or multiply ionized atoms 9-17039
 interstellar shocked mol. clouds, nonequilib. chemistry 9-21377
 ion beam focusing from quadrupole mass filter using electrostatic lens 9-229
 methane + $O_2^+(a^1\Pi_g)$, 0.04-1.2 eV, reaction rate consts. 9-47911
 methyl chloride- NH_3 , positive ion molecule reactions 9-24729
 molecule+fast heavy ion, dissoc. ionisation obs. 9-47899
 nucleic acid bases, protonated, anion binding, electrostatic mol. pots. 9-1999
 pentafluoromethyl iodide, ion-molecule reactions, amongst radiolysis products, reaction rates, mechanisms, mass spectra 9-5136
 positive ions + H_2O , reaction rate consts., product distrib., ICR obs. 9-8428
 semiclassical theory for near adiabatic photon assisted mol. collisions 9-5141
 state selected reactions, threshold electron-secondary ion coincidence method obs. 9-5190
 three-body ion-neutral assoc. reactions, saturation 9-39134
 trifluoromethyl iodide, ion-molecule reactions, amongst radiolysis products, reaction rates, mechanisms, mass spectra 9-5136
 $Ar^+ + O_2(N_2)(NO)(CO_2)$, reaction kinetics, mass spectrometer with selective introduction drift tube (*French*) 9-11839
 $CO_2 + C^+(N_2H^+)$, rate coeffs. meas. at 300 and 100K in flowing afterglow 9-20346
 $Cl^+ + H_2$, interstellar, as H ionisation source 9-40245
 $F^+ + H_2F$, proton transfer reaction, polarisation model 9-39131
 $F^+ + HF$, proton transfer reaction, polarisation model 9-39131
 $Fe(III) + SCN^-$, reaction kinetics, computer-controlled stopped-flow system 9-15953
 $H_2^+ + H_2 - H_3^+ + H$, state selected, threshold electron-secondary ion coincidence method obs. 9-5190
 $HF + H^+$, reaction, ab initio pot. energy surface calcs. 9-39127
 $H_3O^+ + \text{diatomic}$ (polyatomic) molecule, reaction, ICR obs. 9-8429
 $He^+ + N_2O$, rate coeffs. meas. at 300 and 100K in flowing afterglow 9-20346
 $N^+ + H_2$ (hydrocarbons), rotational vibrational product excitation 9-47901
 $N_2^+ + N_2$, three-body ion-neutral assoc. reactions, saturation 9-39134
 $N_2^+ + N_2 + He - N_4^+ + He$, ternary assoc., selected ion flow tube obs. 9-39128
 $NH_2^+ + H_2 = NH_3 + H^+$, chem. equil., ab initio calcs. 9-34282
 $Ne^+ + H_2(N_2)(CO)(CO_2)(N_2O)(O_2)(NO)(NH_3)(SO_2)(COS)(H_2O)$, thermal energy, reaction rate coeffs. and product distrib. 9-29333
 $Ne^+ + \text{methane}$ (chloromethane) (ethylene), thermal energy, reaction rate coeffs. and product distrib. 9-29333
 $O^+ + H_2$ in Venus, contrib. to exosphere non-thermal H budget 9-12416
 $O^+ + N_2(O_2)$, reaction rates, 300-900K 9-8434
 $O^+ + N_2(O)$, rate coeffs. in thermosphere, AE satellite meas. 9-48594
 $O_2 + N^+(O^+)(C^+)$, rate coeffs. meas. at 300 and 100K in flowing afterglow 9-20346
 $O_2^+ + O_2$, three-body ion-neutral assoc. reactions, saturation 9-39134
 $O_2^+ + O_2$, reactions with CO_2 , O_3 and methane rel. to stratospheric ion chemistry 9-2343
 $O_2^+ + O_3$, reactions with H_2O and methane rel. to stratospheric ion chemistry 9-2343
 WF_6 , electron and fluoride affinities, ICR spectra 9-39130

ion optics

- see also ion beams; ion microscopes; mass spectrometers
 beam source, optical props., convergent iterative numerical procedure 9-3620
 beamlet-beamlet interaction in multiaperture sources, effect of electrode shielding 9-10254

ion optics continued

- collimating slit, edge effect on ion scatt. 9-27160
 drifting gas approach cf. optical approach 9-31788
 duoplasmatron, beam emittance as function of discharge modes 9-45511
 electric quadrupole lens, fringing field, conformal mapping method 9-41315
 electrostatic coaxial probe forming lens suitable for high-energy ion beams 9-31787
 electrostatic lenses, lens properties and computational techniques 9-44983
 energy analyzer, two-stage with cylindrical mirrors, aberration reduction 9-40640
 ionisation chamber acceptance characts. distortion by ion source mag. field 9-21852
 magnetic analyser, sector type, fringing fields and focusing 9-41328
 magnetic spectrometers, for heavy ion reactions, book contrib. 9-31314
 mass filter performance, quadrupole field distortion effects 9-35887
 mass spectrometer, double-focusing, and MIKE spectrometer, characts. 9-2871
 mass spectrometry, ion source and focusing optics, high-luminosity 9-44979
 multistage cylindrical analyzer for simultaneous detection of several beams with different energies 9-22891
 plasma lens, unipotential, for proton beam focusing 9-41326
 precision magnet homogenising surface coils 9-41329
 quadrupole ion microprobe for secondary ion emission investigs., ion optics 9-35892
 SIN π -channel and spectrometer, technical aspects of pion scatt. facility 9-13574
 surface structure anal., discussion of ion optics 9-46902
 synchrotron, methods of increasing heavy ion beams intensity 9-26790
 tokamak, beam focusing, by aperture displacement, in two-stage acceleration system 9-46496
 two stage linear accelerator, H ion beam optics 9-36438
 visual ion beam images, on insulator surfaces, by the coincident interaction of a rastered electron beam 9-3622
 Wien filter, inhomogeneous field, theory and expt. of ion optics 9-45510
 H^- beam, intense, from Penning surface-plasma source, ion-optical characts. 9-13892

ion plating

- coatings for wear and lubrication 9-19494
 induction-heated source, arcing elimination by top coil grounding 9-47639
 ion deposition techniques, AES exam. of surface cleaning methods 9-15878
 Al film, deposited through mask hole, thickness nonuniformity (*Japanese*) 9-19999
 Al film, ion plated, morphology exam. by SEM 9-28251
 CrN, deposition by hollow cathode discharge process, and hardness 9-24452
 Cu film on Ni, AES comparison of ion plated and vacuum evaporated films 9-28250
 Cu films, ion plated on polyethersulphone, structural and resistivity study 9-42411
 Cu ion-plated coating, grain structure 9-28249
 Ti alloy, mechanical props. at high temp., effect of Pt ion plating 9-29156
 Ti film, ion plated, morphology exam. by SEM 9-28251
 TiC coating on WC-NbC-Co, ion plating, and cutting tests 9-24678
 TiC_x film, form. by hollow cathode discharge reactive deposition process, on mild steel sheet 9-24451
 TiN coating on WC-NbC-Co, ion plating, and cutting tests 9-24678
 TiN_x, deposition by hollow cathode discharge process, and hardness 9-24452

ion probe analysers see ion microprobe analysis**ion probe microanalysis** see ion microprobe analysis**ion pumps**

- orbitron device, electronic injection, ionisation phenomena and space charge influence 9-40587
 single particle trajectories, through ionising regions 9-6218

ion recombination

- acetone, gas, electron-ion recombination, at 292K, three-body interaction 9-46418
 atmosphere small ions, recomb. rates and attachment to aerosol particles 9-39817
 Cl, shock heated, radiative recombination under nonequilib. expansion in supersonic nozzle (*Ukrainian*) 9-37421
 D-region recombination coefficients for normal and winter anomalous days 9-35042
 dielectron recombination of electrons colliding with ions (*Russian*) 9-3564
 dissociative recombination, energy depend. below 0.8 eV, merged beam obs. 9-31716
 E-region, coeff. at midlatitudes, determ. from daytime N_e profiles 9-5700
 F₂-layer, nighttime height, influence of linear recomb. coeff. 9-8745
 fluoromethane, gas, electron-ion recombination, at 292K, three-body interaction 9-46418
 geminate species, recomb. in presence of a scavenger, probability calcs. 9-31644
 heavy ion+electron radiative recombination as cooling process, dipole approx. (*Russian*) 9-3565
 n-hexane, geminate ion scavenging yield, external elec. field effect 9-47909
 interstellar medium, ion recomb. rel. to fine struct. levels population ratios 9-35351
 ionospheric F₁-layer, implications of dynamical effect for dissoc. recomb. rate 9-12340
 large molecular ions, dissoc. recombination 9-7012
 low-conductivity fluids, dark currents, forced diffusion model 9-15182
 neo-pentane, gas, electron-ion recombination, at 292K, three-body interaction 9-46418
 plasma, ion recombination rate in boundary layer 9-1286
 plasma, multiply charged ions, collisional dielectronic recomb. rate, effect on level populations 9-1287
 positive ion bunches, gas neutralisation, without mag. field (*Russian*) 9-27744
 spark plasma ion source effects on mass spectroscopic quantitative anal. 9-14631
 supernova AD 1006 optical remnant, peculiar H ion recomb. spectrum 9-21371

ion recombination continued

- TMPD, nonpolar photoionised soln., geminate pair quantum field, recombination fluoresc. elec. field quenching 9-20389
 variational principle, equiv. to quasiequilib. condition, in low-density ambient gas 9-37443
 Ar arc discharge atomic excitation, effect of ion conversion (*Russian*) 9-10731
 Ar^{2+} dissociative recombination in $\text{Ar}+\text{N}_2$ early afterglow 9-34305
 CO^+ in cometary coma, dissoci. recomb. rel. to C prod. 9-16885
 CO_2 , gas, electron-ion recombination, at 292K, three-body interaction 9-46418
 H, recomb. kinetics in presence of low mass primordial black holes (*Russian*) 9-17152
 H_2^+ , dissociative recombination in low energy electron collisions 9-3563
 H_3^+ , dissociative recombination in low energy electron collisions 9-3563
 H_2O , gas, electron-ion recombination, at 292K, three-body interaction 9-46418
 He, excited state formation from He_2^+ in afterglow, theory 9-22802
 He plasma, cryogenic, recombination decay (*Russian*) 9-4104
 He plasma expansion, supersonic, population inversion 9-27755
 He plasma in electron beam-excited discharge, atm. press., relax. obs. and model 9-37569
 K^+ , dielectronic recomb., in crossed beams, UV emission obs. (*Russian*) 9-10212
 K-Kr, afterglow of laser plasma, fluoresc. spectra 9-19085
 Kr^++F^- and Kr_2^++F^- , ionic recomb. rates in buffer rare gases 9-8425
 N_2^+ , electron impact, rate coeff. in thermosphere, AE satellite meas. 9-48594
 N_2D^+ , dissociative recomb., interstellar mol. appl. 9-31704
 NH_3 , gas, electron-ion recombination, at 292K, three-body interaction 9-46418
 N_2H^+ , dissociative recomb., interstellar mol. appl. 9-31704
 NO^+ , electron impact, rate coeff. in thermosphere, AE satellite meas. 9-48594
 $\text{NO}^++\text{e}=\text{N}+\text{O}$, in hypersonic air wake, temp. depend. meas. 9-27834
 Ne afterglow, recombination processes, microwave quenching 9-14624
 Ne_2^++e , in recombination afterglow, line intensity decay complex struct. 9-7503
 O_2^+ , electron impact, rate coeff. in thermosphere, AE satellite meas. 9-48594
 OH^+ , dissociative recomb. in Venus atmosphere rel. to exosphere non-thermal H budget 9-12416
 Pb^+ , electron collisional laser populated by recomb., excitation and decay mechanisms 9-18405

ion solvation *see solvation***ion sources***see also ion emission*

- alkali and noble gas atoms, fast on-line mass separation from high temp. carbide targets 9-22515
 alkali ion source, duofilament, for undergraduate laboratory 9-40329
 alkali metal solid ion source for low-energy Van de Graaff accelerator 9-31292
 Berkeley multifilament, ion source, modified 9-6784
 cold cathode ion gun for sputter etching apparatus 9-34170
 cold cathode ion source, floating potential of metal surface under bombardment of ions 9-41057
 Cryebis, ion source of Saturne II synchrotron (*French*) 9-41055
 duoplasmatron, beam emittance as function of discharge modes 9-45511
 electron beam ion source for multiply charged ions 9-30608
 electrostatic well accumulation of multicharged ions in mag. mirror plasma by electron cyclotron reson. 9-32804
 elementary discharge theory, discharge equilibrium problem, single-valued soln. 9-26801
 energetic neutral beams, development to MW power level of controlled thermonuclear research 9-45508
 fast charged particles, prod. and impact effects 9-45492
 field evaporation, possible applications of a high brightness Ga source to ion microprobes 9-2896
 heavy ion beam source, high charge and intensity beam prod. 9-12884
 heavy ion generator, 150 keV, for sputtering 9-697
 heavy ion interactions with gases, measurement apparatus 9-31741
 heavy ions, experimental methods, targets and detectors, book 9-31242
 HF source of low-energy ions 9-36447
 implantation type accelerator, 400 kV, energy resolution, stability and calib. using (p,y) react. 9-30604
 ionisation chamber acceptance characts. distortion by ion source mag. field 9-21852
 laser, for MI-1309 mass spectrometer 9-21849
 liquid metal, analytical instrum. appl. 9-3266
 low energy, high permeance, quiescent ion source, with single electrode extraction system 9-45509
 magnetic multipole containment ion source 9-22510
 magnetron, Penning phenomena effects on Hg ionisation in plasma 9-18069
 magnetron ion source, influence of gas press. on charge comp. of emitted ion beam 9-37516
 mass spectrometer, two-photon ionis. of mol. beam 9-27118
 mass spectrometer sources, field ionisation and desorption, experimental techniques, review 9-26176
 mass spectrometry, ion source and focusing optics, high-luminosity 9-44979
 metal ion, gas-discharge source 9-36448
 multicharged, control of the axial ion motion in Krion source 9-13575
 multifilament plasma source, multipole mag. field effects on characts. 9-46462
 multiply charged heavy ion prod., book contrib. 9-31290
 negative ion based neutral systems, generation, handling and acceleration 9-44981
 negative ion source and beam development for fusion reactor ignition 9-45411
 neutral beam injectors for the mag. fusion energy program, development and appl. 9-45404
 neutral beams for fusion research, review 9-45406
 OSTIS, on-line mass separator for thermally ionisable fission products 9-714
 particles and radiation therapy, conference, Berkeley, USA (1976) 9-20619
 plasma, appearance of radial electric field, due to extraction 9-45500
 polarised H and D ion sources review of recent advances 9-45498

ion sources continued

- polarized source based on nuclear polarization by charge-exchange 9-22514
 proton beam heavy ion source, possible use as cyclotron injector 9-45496
 quadrupole ion storage trap chemical ionisation source, for mag. sector mass spectrometer 9-12877
 QUISTOR, phase synchronised ion ejection, ejection phase width and detection pulse delay effects 9-44976
 QUISTOR, phase-synchronised ion ejection from quadrupole ion storage mass spectrometer 9-44975
 QUISTOR, total press. mode operation with phase-synchronised ion ejection 9-44977
 reflected beam sputter source, output improvement with CS collection techniques 9-702
 reflex tetrode ion source, consecutive microsecond pulse ion beams 9-41323
 remote ion beam position measurement from random beam modulation 9-30606
 RF ion source, ion beam extraction device 9-22513
 RF metal ion source, struct., operating characts. (*Chinese*) 9-22520
 RF sources, effect of an axial magnetic field on an improved constricted source 9-1325
 RF sources, triply charged Ar and Ne beams 9-18070
 rod pinch diodes, intense electron-beam pinch form. and propag., ion generation 9-14589
 scanning laser excitation, milliprobe appls. 9-35882
 self-triggered channel type, with continuous dynode electron multiplier 9-17562
 SIMS primary ion sources, selection 9-39267
 space charge in beam transport 9-30610
 spark plasma ion source effects on mass spectroscopic quantitative anal. 9-14631
 sputter ion source, Pt plate ioniser 9-26800
 stable ion source discharge theory 9-31278
 surface-plasma Penning source, intense H^- beam production, ion-optical characts. 9-13892
 therapeutic proton and heavy ion source capabilities 9-20629
 Ar^{3+} , Laval 7 MV Van de Graaff accelerator, upgrading using triply charged beams 9-45476
 C^+ , vacuum arc source 9-21853
 C_s^+ mass spectrometer quadrupole mass filter transmission 9-21851
 ^{137}Cs sputtering negative-ion source, design and perform characts. 9-13568
 D^+ , 10 kV continuous service extractor 9-45468
 D^+ source, performance improvement, appl. to fusion reactor neutral beam lines 9-22511
 Ge^+ , low energy mass analysed ion beam deposition on Ge and Si substrates 9-33946
 H molecular ions beams, appl. to prompt nucl. react. anal. 9-36452
 H^- , CW plasma device, current maximisation 9-22521
 I^{2+} ions in gas phase 9-36449
 Li ion prod., for backscatt. anal. in Al and Al_2O_3 9-3328
 N^+ , acceleration by intense relativistic electron beam in spatially periodic mag. field (*Russian*) 9-10255
 Na^+ , mass spectrometer quadrupole mass filter transmission 9-21851
 Ne_2^{2+} Laval 7 MV Van de Graaff accelerator, upgrading using triply charged beams 9-45476
 O^+ low energy ions interaction with solid C and Pt targets, preliminary study 9-34352
 Rb^+ mass spectrometer quadrupole mass filter transmission 9-21851
 Sb, high current, characts. 9-17561

ion-surface impact*see also particle backscattering; sputtering*

- ^{16}N ground state hyperfine structure quantum beats via ion-beam surface interaction at grazing incidence 9-10233
 active ion bombardment induced chemical reactions at surfaces detected by SIMS 9-16034
 anisotropic excitation at large inclination angles, foil angle depend. 9-45820
 Auger electrons in mol. ion+solid (gas) targets 9-45814
 backscattering channelling surface peak calc. 9-8219
 backscattering MeV spectrum., electron and ion currents rel. to accurate current integration 9-47571
 conference on solid-vacuum interface, Amsterdam, Netherlands (June 78) 9-42342
 depth profiling techniques for thin film interdiffusion and interfacial reactions, book contrib. 9-1564
 double-pass cylindrical mirror analyser, for ion scattering spectroscopy, resolution factors 9-16078
 elastic ion-surface interaction, review 9-47583
 energy analysed SIMS with Auger and XPS meas. 9-4457
 ESCA investigation 9-33020
 fast charged particles, prod. and impact effects 9-45492
 films by elastic scatt. of ^3He , microchem. anal. 9-1975
 graphite, pyrolytic, N_2^+ active ion bombardment, SIMS obs. 9-16034
 ion induced optical emission for surface and depth profile analysis 9-4333
 ion neutralisation spectroscopy, surface analysis, spectroscopic methods review (*Chinese*) 9-34414
 ion path identification in cryst. surface channels 9-15576
 ion-bombardment Auger spectroscopy for studying surfaces of solids 9-20497
 low energy ion scattering for composition and struct. anal. of outer surface 9-4458
 metal hydride, computer simulation of H reflection and scattering 9-1806
 noble gas ions, low energy, backscattering from single cryst. surface, computer simulation of ang. depend. 9-19961
 nonconductive materials, oscillatory scatt. ion yield, meas. for He^+ scatt. from Pb and Bi 9-4881
 phase diagrams, ion beam determination of phase boundaries, exam. of techniques 9-8418
 recoil implantation profile for thick film 9-1454
 reflected ion spatial distrib., surface semichannelling effects 9-46728
 scattering, medium and high energy, two-atom model for surface blocking calc. 9-4886
 scattering peaks, displacement from predicted positions, binary collision model 9-4880
 scattering spectrometry, appl. with protons, 5 to 8 MeV, and heavy ions, 15 to 25 MeV, to special anal. problems 9-5210

ion-surface impact continued

- secondary ion and photon emission under medium-energy ion bombard., influence of surface plasma 9-33881
- secondary ion yields, depend. on ionisation pot. and matrix sputtering yield 9-8214
- solid, secondary electron emission effect of alkali and alkaline-earth ion bombardment 9-8212
- solid surface and thin film anal. methods, review 9-34410
- spherical crystalline target, ion-electron emission 9-28878
- spherical insulating particle, ionic charging 9-45882
- sputter profiling, depth resolution 9-33874
- steel, ST M316, heavy ion irradi., numerical evaluation of combined self-ion injection and vacancy loop prod. 9-7635
- structure sensitive factors in molecular cluster formation by ion bombardment of single crystal surfaces 9-19964
- surface analysis, advantages and disadvantages of SIMS rel. to ion scattering spectrometry 9-12883
- surface analysis using double scattering effect 9-47584
- thin film, composition analysis, by ion beams (*French*) 9-8467
- thin layer thickness determ. from backscatt. ion spectrum 9-24399
- visual ion beam images, on insulator surfaces, by the coincident interaction of a rastered electron beam 9-3622
- Ag (111) surface, ionic bombardment, diffr. effects in angular distrib. of emitted secondary electrons 9-15577
- Al, determ. of optimum depth resolution for Rutherford backscatt. anal. using ^4He 9-14840
- Al, ion-implanted, dechannelling by dislocations, backscatt. expts. 9-7642
- Al, L_{23} shell ionisation cross-section under H^+ , heavy-ion impact, Auger spectra (*French*) 9-24406
- Al surface, Ar^+ and e^- excited Ar Auger electron emission 9-47560
- Al-Ag, dil., radiation damage by channelled and random He^+ ion beams 9-46719
- $\alpha\text{-Al}_2\text{O}_3$ axial-to-planar channelling transition study using He^+ ions 9-4367
- Au, 5 keV Ne ion scatt., energy spectra by TOF and electrostatic analyser methods, comparison 9-2895
- Au, amorphous, Au ion bombarded, collision cascades, computer simulation 9-46731
- Au, discontinuous film, degradation under MeV heavy ion bombard., Rutherford scatt. and TEM obs. 9-24397
- Au, sputtering, by point defects, time-of-flight spectra 9-47573
- Au surface, He, Ne, and Ar ion irradi., 0.05 to 3 MeV, orientation of fast ions excited in surface collisions 9-4876
- Au, transmission sputtering by $\text{Ag}^+(\text{Ar}^+)(\text{He}^+)$ ions 9-4885
- Au, X-ray cross sections, L-shell, proton induced, 1 to 3 MeV range 9-1799
- $\text{Au}+\text{H}^+(\text{He}^+)$ interactions, backscatt. ions energy spectrum, computer simulation of ion motion 9-43088
- C, determ. of optimum depth resolution for Rutherford backscatt. anal. using ^4He 9-14840
- Cu, 1035 keV Ar^+ bombarded, energy distrib. of ejected fast ionised recoils 9-47579
- Cu (100), 5-10 keV Ne^+ bombarded, time of flight meas. of ion fractions 9-47578
- Cu (100), adsorbed O layer, ejection by ion bombardment of atomic and mol. species 9-42373
- Cu, amorphous, Ar^+ ion bombardment, collision cascades, computer simulation 9-46731
- Cu, Ar^+ ion bombardment, blocking effect for fast ionised recoils 9-8221
- Cu, determ. of optimum depth resolution for Rutherford backscatt. anal. using ^4He 9-14840
- Cu, ion bombard., energy distributions of fast ionised recoils 9-24402
- Cu surface, He, Ne, and Ar ion irradi., 0.05 to 3 MeV, orientation of fast ions excited in surface collisions 9-4876
- Cu surface, low energy Ar^+ ion scatt., binary collision approx., SIMS meas. 9-47582
- Cu target, bombardment by Ar^+ -ion beam, luminosity spectrum 9-4884
- D_2 , solid, secondary electron emission, electron and ion induced 9-1803
- Dy, X-ray cross sections, L-shell, proton induced, 1 to 3 MeV range 9-1799
- GaP surface, Ar^+ and e^- excited Ar Auger electron emission 9-47560
- GdF_3 , chemically reacted film on ferroelectric-ferroelastic $\text{Gd}_2(\text{MoO}_4)_3$, characterisation 9-15057
- Ge films, adhesion to substrates, effect of Ar^+ ion irradi. 9-11047
- H surface layer anal., influence of ion beam bombardment 9-37731
- H_2 , solid, secondary electron emission, electron and ion induced 9-1803
- In, X-ray cross sections, L-shell, proton induced, 1 to 3 MeV range 9-1799
- Mg, L_{23} shell ionisation cross-section under H^+ , heavy-ion impact, Auger spectra (*French*) 9-24406
- Mg surface, Ar^+ and e^- excited Ar Auger electron emission 9-47560
- $\text{Mg(s)}+\text{Ne}^+$, O-dependent photon emission 9-1810
- Mg, H penetration of Mo cathode in glow discharge, point defect depend. 9-41903
- Mo surface, low energy ion scattering of absorbed layers 9-1807
- Mo surfaces, backscatt. of excited H atoms in the presence of oxygen 9-3388
- Nd, X-ray cross sections, L-shell, proton induced, 1 to 3 MeV range 9-1799
- Ni (101) surface, optical excitation of He projectiles during reflection under channelling conditions 9-47576
- Ni (110), surface relax., O_2 coverage effects, medium energy ion scatt. obs. 9-28181
- Ni, charge states of 1.5 to 15 keV backscatt. He and Ne ions 9-4882
- Ni, desorption of CO due to ion bombard., comparison of surface anal. methods 9-8213
- Ni, small angle backscattering of H_2 , D_2 , He and Ne from single and polycrystalline surfaces 9-24404
- Ni target, surface layer anal. medium energy ion backscatt. expts., solid state detector 9-4456
- Ni/Fe interfaces sputter profiling, by AES 9-15572
- O^+ low energy ions interaction with solid C and Pt targets, preliminary study 9-34352
- PaCl_3 , thin films, reduction to Pd by Ne^+ ion irradi., 2 MeV He^+ ion backscatt. anal. 9-4493
- Pt (111), relax. effects, and thermal vibrs., medium energy ion scatt. 9-28182
- Pt, X-ray cross sections, L-shell, proton induced, 1 to 3 MeV range 9-1799

ion-surface impact continued

- Si, 1-10 keV H^+ , He^+ irradi., role of Auger processes in electron emission 9-15579
- Si, 5 keV Ne ion scatt., energy spectra by TOF and electrostatic analyser methods, comparison 9-2895
- Si (100), N_2^+ active ion bombardment, SIMS obs. 9-16034
- Si (111) surface, 1-3 keV He^+ , Ne^+ , Ar^+ , Xe^+ bombard., AES obs. 9-33877
- Si, axially channelled protons, transmission meas. using two-dimensional position-sensitive detector 9-1471
- Si epitaxial layers, dechannelling by stacking faults, channelling effect technique using He^+ and D^+ ion backscatt. 9-4361
- Si surface, Ar^+ and e^- excited Ar Auger electron emission 9-47560
- Si, surface, sputter etched, damage, contamination, ion backscatt. obs. 9-33167
- SmB_6 (001) surface, azimuthal anisotropy in low-energy ion scatt. 9-28875
- Sn, X-ray cross sections, L-shell, proton induced, 1 to 3 MeV range 9-1799
- TaO_x , combined SIMS, AES and XPS investigation 9-33199
- Ti (1011), of CO, XPS, UPS, flash desorption mass spectra, and active ion bombard. obs. 9-11822
- Ti, K-shell ionisation probability, for 150 keV protons, impact-parameter depend. 9-10189
- Ti surface, Ar^+ and e^- excited Ar Auger electron emission 9-47560
- UF_4 , condensate and ion-bombarded powder, $4f_{7/2}$ electron XPS obs., spectra of UF_3 9-45763
- W (001), surface reconstruction and reordering by H adsorption, MeV ion scatt. 9-23835
- W (100) single crystal, surface studies by MeV He scatt. 9-4455
- W, H^+ and He^+ ion backscattering, reflection coefficients 9-43081
- WO_3 , H^+ and He^+ ion backscattering, reflection coeff. 9-43081

ion thrusters see ion engines

ionic conduction in solids

see also superionic conducting materials

- alkali halides, mass transport, contrib. of vacancy defects 9-46831
- alkali halides, shell model calc. of defect energies, crystal-independent interionic potential parameters 9-28141
- alkali metal metaphosphate glass, dielec. relax. at medium temp. 9-24257
- cuprous halides, cation or anion doped, ionic cond. 9-46837
- electrolytes, superionic, conductivities and activation energies 9-28137
- ethyl cellulose films, secondary ion injection 9-24094
- hollandite, one dimensional ionic and solitary wave conduction 9-23954
- ice, ionic cond., elec. cond. temp. depend., dielec. props., undergraduate expts. 9-35503
- interacting particle diffusion in periodic pots., two particle model, random motion 9-46828
- intercalation compounds, two dimensional, conductivity problems 9-28138
- ionic compounds, hopon mechanism for ion transport 9-14957
- perovskite type compounds, electrode catalysts for cathodic reduction of O_2 9-29371
- polarisable ion, Brownian motion in periodic pot., polarizability effect on cond. 9-4427
- polaritonic spectra 9-23908
- polyethylene, linear, films, elec. cond. rel. to drawing, annealing (*Japanese*) 9-15817
- polyethylene terephthalate, elec. cond., 120-180°C, anal. of results 9-47102
- solvents adsorbed on insulating substrate, ionic conduction 9-33180
- unipolar conduction model for solid electrolytes 9-28144
- zeolites, synthetic, effect of sintering on elec. cond., porosity and microstruct. 9-29009
- Ag halide microcrystals, topography of latent image centres and ionic conductivity 9-20442
- Ag halides, impurity ion migration 9-19406
- AgBr, Ag^+ migration vol. for vacancy and interstitial motion, influence of anharmonicity 9-14965
- AgBr emulsions, ionic thermocurrents 9-19399
- AgBr, far IR spectra, cond., cation local motion 9-1754
- AgBr, film and microcrystal, interstitials and surface conductance 9-23776
- AgBr, high-temp. ionic transport processes 9-23777
- AgBr, ionic cond., dielec. loss meas. 9-23768
- AgBr microcrystals, influence of Pb^{2+} ions on ionic conductivity and space charge characs. 9-23778
- AgBr microcrystals, S sensitization effects on ionic conductivity 9-19398
- AgCl, high-temp. ionic transport processes 9-23777
- AgCl(Br), multivalent impurities 9-19556
- $\text{Ag}_{0.85}\text{Cu}_{0.15}\text{Br}$, far IR spectra, cond., cation local motion 9-1754
- AgI, cation or anion doped, ionic cond. 9-46837
- $\beta\text{-AgI}$, ionic cond. and Frenkel pair form., dielec. loss meas. 9-33112
- AgI-Ag oxalate systems, solid electrolytes with glass-like struct., thermodynamic and electrochem. props. 9-10978
- $\text{AgPO}_3\text{-AgBr(Cl)(I)}$ system glasses, soln. calorimetry obs., thermodynamic activity correl. with ionic cond. (*French*) 9-33102
- $\text{AgPO}_3\text{-HgI}_2(\text{CdI}_2)(\text{PbI}_2)$ glass, elec. cond. and Raman. spectra rel. to struct. (*French*) 9-10979
- $\text{Ag}_9\text{S}_{10}\text{O}_{24}$, new cryst. data, elec. cond. 9-37685
- Ag_2Te , Ag movements, X-ray microanal. by SEM (*French*) 9-42304
- $\beta\text{-Al}_2\text{O}_3$ compounds, stoichiometry, phase transition and conductivity 9-23773
- $\beta\text{-Al}_2\text{O}_3\text{-Na}_2\text{O}$, grain boundaries and ionic cond. 9-23620
- $\beta\text{-Al}_2\text{O}_3\text{-Na}_2\text{O}$, hot pressing and phys. props. 9-4940
- $\beta''\text{-Al}_2\text{O}_3\text{-Na}_2\text{O}$, Li_2O stabilized, texture conductivity relationship 9-47788
- $\beta\text{-Al}_2\text{O}_3\text{-Na}_2\text{O}$, synthesis, ceramic form., sintering, cond. 9-11537
- $\text{As}_2\text{Se}_3\text{-Ag}$, amorphous, doping effect of gap states and elec. cond., dielec. relax. and DC cond. meas. 9-47098
- BaFCl, luminesc. and ionic conduction 9-28829
- BaMnF₄, spectroscopy, ferroelectric/ferromagnetic coupling, cond. meas. 1400-3400K 9-19845
- Bi_2O_3 , elec. props. of α , β , γ and δ phases 9-23771
- $\text{Bi}_2\text{O}_3\text{-M}_2\text{O}_3(\text{M}_2\text{O}_3)$ (where $\text{M}=\text{V}, \text{Nb}, \text{Ta}, \text{Y}, \text{Gd}$) ion cond. and oxide ion vacancy 9-28139
- $\text{CaF}_2\text{:O}$, absorpt., ionic cond., and thermal depolarisation 9-14960
- $\beta\text{-CuBr}$, far IR spectra, cond., cation local motion 9-1754
- $\text{H}_2\text{PO}_4(\text{WO}_3)_2$ electrochromic cells 9-15436
- $\text{H}_2\text{O}_4\text{PO}_4\cdot 4\text{H}_2\text{O}$ proton conductor applications 9-29466
- KBr-KI mixed crystals, ionic cond., 100-450°C 9-14961

ionic conduction in solids continued

- KCl, absorption spectra exam. of H-bearing complexes 9-8167
 KCl:Eu IR laser window lattice equilibrium obs. 9-14055
 KHSO₄, DC electrical cond. 9-37874
 KHSO₄:Cu, DC electrical cond. 9-37874
 KNbO₃ glass, quenched, ionic cond., appl. as solid electrolyte 9-1522
 KTaO₃ glass, quenched, ionic cond., appl. as solid electrolyte 9-1522
 LaAlO₃ perovskite electrolytes for high-temp. fuel cells 9-29467
 Li battery solid electrolyte evaluation 9-29465
 LiF:Mg(Eu)(Co)(Si)(O), elec. cond., influence of impurity ion 9-7709
 LiF-Li₂O-Al₂O₃-P₂O₅ glass, ionic cond., transport numbers determ. 9-28143
 Li₂N, ionic conductor, single cryst. defect struct. anal. data reduction and struct. refinements, 153-678K 9-32988
 Li₂N, NMR exam. of ion diffusion 9-19397
 LiNbO₃ glass, quenched, ionic cond., appl. as solid electrolyte 9-1522
 Li₂O-2SiO₂ glass, ionic cond. under DC potential 9-28134
 19Li₂O-19Al₂O₃-62SiO₂ glass, ionic cond. meas. 9-33110
 LiTaO₃ glass, quenched, ionic cond., appl. as solid electrolyte 9-1522
 NH₄ClO₄, elec. field effect on decomp. 9-15987
 (NH₄)₂Fe(CN)₆·1.5H₂O, cryst. struct., and possible ionic transport mechanism 9-14758
 NH₄TaWO₆, rapid ionic motion, spin-lattice and spin-spin relax. times meas. 9-38396
 NaCl:Mn, impurity-vacancy dipole aggregation, role of dimers and trimers, reanal. of dielec. and cond. data 9-1458
 Na₃Cr₂(PO₄)₃, Na₃Fe₂(PO₄)₃, Na₃Ti₂(PO₄)₃ and Na₃V₂(PO₄)₃, synthesis and cryst. struct. (French) 9-32964
 Na₂S-GeS₂ glass, synthesis, elec. cond., Raman spectra, temp. and composition depends. (French) 9-14962
 25Na₂O-75SiO₂ glass, ionic cond. meas. 9-33110
 β-PbF₂, anion mobility from noise meas. 9-46836
 PbF₂ film, ionic conduction, effect of hydrostatic press. (French) 9-28259
 Pb₂Nb₂O₇, electric cond. and dielec. props. of cathodic-sputtered films (French) 9-33371
 PbSnF₄, anionic conductor (French) 9-1523
 Pb_{1-x}Zn_{0.15}Na_{0.05}Nb₂O_{6.95}F_{0.05}, electric cond. and dielec. props. of cathodic-sputtered films (French) 9-33371
 RbI:Pb²⁺, optical and elec. props. 9-15493
 Rb₂O-Nb₂O₅(Ta₂O₅), phase equilib. relns. and crystal chemistry, structs. useful as ionic conductors 9-20033
 SiO₂-K₂O, thermodynamic approach to ionic conds., statistical model of chem. potential 9-46833
 SiO₂-Na₂O, thermodynamic approach to ionic conds., statistical model of chem. potential 9-46833
 SnCl₂·2H₂O layered single cryst., protonic cond. and crit. behaviour 9-28136
 SnF₂, α- and γ-phases, elec. cond. characts. determ. (French) 9-47093
 ThO₂, stabilised, ionic mech. of charge transport 9-10976
 TiNbO₃, ceramics, hysteresis loops and dielec. props. 9-42885
 TiTaO₃, ceramics, hysteresis loops and dielec. props. 9-42885
 Ti₂Ti₄O₉ ceramics, hysteresis loops and dielec. props. 9-42885
 ZrF₄ based glass, elec. and dielec. props. in freq. and temp. ranges 5-500 kHz and 130-280°C (French) 9-23772
 ZrO₂-Gd₂O₃, solid solution with fluorite and pyrochlore structure; exam. of elec. conductivity (German) 9-23766

ionic conductivity in solids see *ionic conduction in solids*

ionic thermocurrents see *thermally stimulated currents*

ionisation

- see also *associative ionisation; autoionisation; charge exchange; electron attachment; electron capture; field ionisation; ion recombination; ionisation of atoms; ionisation of gases; ionisation of liquids; ionisation of molecules; ionisation of solids; ionisation potential; Penning ionisation; photoionisation; surface ionisation*
 N-particle scatt. ionisation T matrix 9-44777
 planetary nebulae, ionisation struct. rel. to central stars temps. determ. 9-2565
 solar wind, nonequilibrium ionisation 9-48751
 stellar winds, nonequilibrium ionisation 9-48751

ionisation chambers

- acceptance characteristics distortion by ion source mag. field 9-21852
 acetylene, ionisation meas. and W_n derivation for neutron irradiation 9-36430
 avalanche chamber, multistep gated 9-45536
 avalanche multistep chamber 9-9965
 Baldwin-Farmer, C_K, C_L and effective wall material 9-22555
 counting gas mixtures, calc. of electron transport coeffs. 9-32727
 design, maximum permissible fluence instrument 9-22556
 dose from CT scan, meas. using pencil shaped ionisation chamber 9-20683
 dosimetry, Ar/propane, mixed X-ray/neutron fields 9-20682
 double ionization chamber for the differential method 9-22552
 drift chamber, transition radiation detection 9-22546
 electron avalanches, generated by thermionic electrons, pulse-height distrib. 9-6796
 exposure rate and absorbed dose meas. for 6-7 MeV 9-26766
 focal plane detector for both light and heavy ions 9-18077
 gas analysis, isotope technique appl., ionisation detectors, review 9-20481
 heavy ion detectors, book contrib. 9-31335
 high speed trigger system for total deposited energy measurement in a liquid argon calorimeter 9-45576
 high-vacuum gas-discharge electron counter 9-18086
 impurity monitor for liquid ionization chamber media 9-31331
 in-reactor small high temp. ionisation chamber 9-18087
 large liquid Ar shower detector for ISR expt. 9-22542
 large volume MRM-3, for X, gamma rays, performance monitoring of radiation shielding 9-6797
 liquid, current status of electron mobility and free-ion yield in high-mobility liquids 9-45531
 liquid ionisation chamber media, review of physical props. 9-41071
 low pressure gas counters, characts. meas. (Chinese) 9-13590
 Lyman-α ion chambers, water vapour contamination 9-8731
 modulated molecular beam recording 9-18316
 multiple plate total absorpt. ionisation spectrom. based on compressed X-e 9-36476
 multiwire and drift proportional chambers, design, operation, appls. 9-743
 neutron dosimetry, basic constants and meas. principles 9-20676
 neutron sensitivity, C walled, CO₂ filled chamber 9-22557

ionisation chambers continued

- optical gas-discharge chambers in mode of pulsed proportional amplification 9-726
 parallel plate avalanche counter heavy ion detectors, book contrib. 9-31335
 particle identification statistics 9-36491
 Penning mixtures, statistics of gas gain 9-45535
 position-sensitive ionization fission chamber 9-26819
 pulsed ion chamber methodology appl. to full range reactor power meas. 9-13480
 PWR multisection ex-core detector spatial weighting functions 9-13481
 radiation therapy, chamber factor reliability review, United States institutions 9-20685
 radioisotope pressure transducer with linear conversion charact. from 100 to 1000 torr 9-35704
 telescopes for fission fragment position and nucl. charge identification 9-36478
 time projection chamber, design, operation, appls. 9-745
 triaxial chamber use and experience at V.I. Lenin Leningrad nuclear power station 9-22377
 wall correction factors, ⁶⁰Co γ-ray beam standardisation, Monte Carlo calcs. 9-3288
 Al chamber, air-filled, 900 l, for cosmic ray sea level meas. 9-35081
 Ar, liquid calorimeter γ-detector, 5 to 80 MeV 9-6799
¹⁰B, neutron cross section standards, detection techniques 9-9970
 CO₂, ionisation meas. and W_n derivation for neutron irradiation 9-36430
⁶Li(n,α)³H reaction, as standard in neutron flux meas., instruments review 9-9969
 Rn concentration in groundwater continuous monitor 9-21068

ionisation gauges

- collector current vs. pressure characteristic, sensitivity (Japanese) 9-6135
 hot filament ionisation gauges, press. meas. limit up to 10 mm Hg (German) 9-17431
 single particle trajectories, through ionising regions 9-6218

ionisation of atoms

- see also *atomic electron impact ionisation*
 alkali anions, autodetaching sub ²P_{1/2} threshold states 9-22611
 alkali metal, quantum beats in photoionis. by fine struct. levels coherent superposition 9-6922
 alkali metal atom, resonant multiphoton ionis. (Russian) 9-3401
 atom+H⁺(He²⁺), excitation functions rel. to ionisation (French) 9-31669
 atom+ion, inner-shell ionisation of quasimolecular system, perturbation theory 9-31667
 atom+ion collisions, ionis. or excitation, binary encounter approx. 9-22804
 atom+ion collisions, quantum theory of ionisation in fast collisions 9-3553
 atom-ion collisions, electron loss cross section, asymptotic form 9-13807
 autoionising electronic states, Siegert eigenvalues 9-10075
 collision, two-centre one-electron, nonadiabatic couplings for ionising transitions, switching functions determ. 9-22813
 collisional ionization rate coefficients 9-14518
 collisions in intense light beams, quantum aspects (Russian) 9-6903
 direct Coulomb ionisation, origin and nature of universality 9-45791
 excited atom photoionisation by low intensity light, effective cross section 9-26946
 heavy atom + ⁴He²⁺ 2-5 MeV, inner shell ionisation cross section 9-45825
 heavy ion+atom, K-vacancy production, universal scaling law 9-22811
 heavy ion+atom, outer shell electron emission, differential cross sections 9-45817
 heavy ion collision, delta electrons as probe of high mag. fields 9-13810
 highly excited atoms, acted on by EM radiation, oscillator stochastic instability theory (Russian) 9-31487
 inner shell ionisation probability, multiple scatt. effects on coincidence yield 9-31670
 ion+atom collisions, K-shell vacancy prod., impact parameter depend. 9-13803
 ion pair form., vibr. energy depend. 9-34287
 ions, highly stripped, photoionisation, relativistic calcs. 9-26953
 K-shell collision excitation, absolute cross section, 0<Z<11, 40-600 keV 9-41231
 K-shell ionisation by Coulomb excitation, plane-wave Born-approx. 9-18272
 lanthanide atom+H⁺, L-subshell ionisation cross-section, 150-400 keV 9-45665
 laser detection, of individual atoms 9-26950
 laser-assisted excitive Penning ionisation 9-41232
 M-subshell direct Coulomb ionisation, X-ray emission, PWBA calcs. 9-45664
 microwave ionisation of highly excited states, and excitation 9-31482
 multiphoton ionis., probability rates 9-13686
 multiphoton ionisation, resonant, in strong EM wave field 9-10079
 multiphoton resonant ionis. in incoherent field 9-26952
 multiphoton transitions, continuum level shift effects 9-26956
 multiphoton transitions, perturbation theory, atomic ionisation and intermediate reson., dissoci., review 9-41145
 one-electron ion+He(N)(Ar), sum-rule Born cross sections, excitation and ions. contribs. 9-22812
 particle stripping analysers with solid and gaseous targets 9-1341
 perturbation of the atomic spectrum by a strong light field 9-10073
 photoionisation, electron spectrosc. obs. using synchrotron radiation 9-31485
 photoionisation, polarised electron prod., Fano effect (Russian) 9-26954
 photoionisation cross section calc. by model pot. method 9-26951
 photoionisation cross-section, intershell interactions 9-26948
 photoionisation cross-section calc., absorbing boundary method 9-31623
 photoionisation of atoms and molecules, UV photoelectron spectrosc. obs. 9-31603
 photoionization cross-section, ground state inversion pot. method 9-31484
 polarised nuclear beam production by reson. at. ionis. 9-13576
 recoil atoms meas. by laser spectroscopy neutron detect. possibility 9-22864
 renormalized plane wave-projected and Coulomb-projected T-matrices 9-17267
 resonant multiphoton ionisation (Russian) 9-3421
 Rydberg atom+Rydberg atom, ionisation cross-section calcs. 9-31664
 sputtered atoms, microscopical quantum-mech. model 9-8220
 statistical model of inner-shell vacancy production in atomic collisions 9-45792

ionisation of atoms continued

three-electron atom systems with two vacancies in K-shell excited states and autoionis. state energies (*Russian*) 9-31429
 three-photon ionisation, reson. and non-reson., theory 9-36590
 two-electron Fourier amplitudes of atomic and mol. wavefunctions using the $(\gamma, 2e)$ and $(e, 3e)$ processes 9-3419
 unpolarised atoms, spin polarisation of ejected photoelectrons 9-45682
 X-ray Compton and photo-effect in laser field 9-13688
 Ar, autoionising levels excited by heavy ion impact 9-13804
 Ar, collision processes, photoionisation mass spectra obs. 9-31479
 Ar, electron impact ionis., calc. for $3s^2$ subshell 9-31700
 Ar, Koopmans' ionis. pot., relax. correction 9-18308
 Ar, M-shell photoionis., many-body interactions 9-10081
 Ar, photoionisation, correl. satellites and subshell cross-sections, electron spectrosc. obs. 9-31485
 Ar, polarisation effects in photoionisation (*Russian*) 9-3420
 Ar, single-K multiple L-shell vacancy prod. in ion collisions, X-ray spectra 9-22809
 $Ar+Ar^{2+}(Ne^{2+})$, outer s-subshell vacancy production 9-18275
 $Ar+C^{2+}(O^{4+})(Si^{4+})$, $n=10,11,12$, intense low energy autoionisation lines 9-31674
 $Ar+H^+$, ang. and energy distrib. of ejected electrons 9-31668
 $Ar+H(H^+)$, 0.5 MeV $H(H^+)$ ionisation comparison 9-41230
 $Ar+He$, Penning ionis. of Ar, He in (2^2S) state 9-41228
 $Ar^+ + Ar(He)$, 100-550 keV, 3s vacancy production 9-13809
 $Au+He^{2+}$, L-shell ionis. probability, X-ray prod. 9-18276
 $Au+H^+$, atomic K-shell ionis., X-ray emission 9-18280
 $Au+He^{2+}$, high energy ionis. probability, semiclassical approx. with relativistic Hartree-Fock function 9-6998
 B isoelectronic sequence, ionization equilib. balance, solar and stellar atms. appl. 9-36587
 Ba, 4d subshell spectra, strong interaction regime 9-18165
 Ba, two-step autoionis., double ionis. anomaly 9-22671
 Be, ionisation energies and oscillator strengths, polarised frozen core approx. 9-36524
 Be isoelectronic sequence, ionization equilib. balance, solar and stellar atms. appl. 9-36587
 Be, one-particle ionis. energy, correlated wavefunction 9-45639
 $Ca+H^+$, K X-ray production, 0.2-0.5 MeV, ionis. cross-section 9-31459
 Cl, photoionis. cross sections, RPA with exchange method generalisation 9-10077
 $Cl^{1+} + Cl(Ar)$, branching ratio dependence on projectile velocity and nuclear charge 9-31475
 $Cl^{1+} + Cl(Ti)(Ni)$, K-shell ionization probability in energetic nearly symmetric heavy-ion collisions, 35 MeV 9-27078
 Cr, Koopmans' ionis. pot., relax. correction 9-18308
 $Cr+H^+$, K X-ray production, 0.2-0.5 MeV, ionis. cross-section 9-31459
 Cs, four-photon ionisation, reson. effects 9-45689
 Cs, reson. multiphoton ionis. 9-41146
 Cs, resonant multiphoton ionis. (*Russian*) 9-3421
 Cs, resonant multiphoton ionis. 9-36589
 Cs, two-photon ionisation rate, time depend. 9-31622
 $Cs+UF_6$, ion pair form. and atom abstraction reactions 9-1946
 Cu, highly ionised, spectral classifications below 55 Å 9-13658
 $Cu+H^+$, atomic K-shell ionis., X-ray emission 9-18280
 $Eu+H^+$, atomic K-shell ionis., X-ray emission 9-18280
 $Eu+H^+$, two-step laser isotope enrichment using charge transfer ionisation 9-867
 $^{19}F+Z$, $Z=22$ to 57, 2 to 28 MeV, prod. of target atom K-shell X-rays 9-18285
 Fe, photoionis. cross section meas. 9-22674
 Fe^{1+} , photoionis. cross sections, Hartree-Slater central pot. model calcs. 9-22673
 $Fe+H^+$, K X-ray production, 0.2-0.5 MeV, ionis. cross-section 9-31459
 H, backscatt. from Mo in the presence of O, ion form., line emission 9-3388
 H I, interplanetary, ionisation rate from solar H Lyman-alpha profile meas. 9-2452
 H, interstellar, ionisation through Cl chemistry 9-40245
 H, multiphoton ionisation potential, circularly polarized light 9-27101
 H, two-photon ionisation, Laplace transform method 9-10084
 $H+C^{6+}(He^{2+})$, ionis. cross sections 9-22805
 $H+H^+$, coupled state calc., charge transfer and direct ionis. 9-22810
 $H+H^+$, quantum theory of ionisation in fast collisions 9-3553
 $H+H^+(He^{2+})(Be^{4+})(O^{8+})$, electron capture into n, l levels, 100 keV/amu 9-22826
 $H^+ + He$, proton energy degradation, approx. yield spectrum 9-31643
 H(1s) and (2s), electron loss in passing through inert gases 9-13805
 He, 2^1S state, two-photon ionisation, multiple interference 9-22675
 He $2S$ metastable state, three-photon ionis. 9-18167
 He (1^1S) and (2^1S), electron loss in passing through inert gases 9-13805
 He, elastic electron scatt. phaseshifts, $2s2p^3P$ autoionisation, $1s2s^3S-1sep^3P$ triplet continuum photoionisation 9-31480
 He, electron impact ionis., distorted-wave model, 100-400 eV 9-45824
 He, isoelectronic spectra autoionisation states $n=3$ hydrogenic threshold, complex rot. method 9-31477
 He, Koopmans' ionis. pot., relax. correction 9-18308
 He, metastable, two-photon ionisation calc. for linearly and circularly polarised laser light 9-797
 He, multiphoton ionisation potential, circularly polarized light 9-27101
 He, photoionisation, correl. satellites and subshell cross-sections, electron spectrosc. obs. 9-31485
 He, photoionisation cross-section, using UV laser plasma light source 9-19096
 He^- , electron loss in passing through inert gases 9-13805
 $He+Ar(Kr)(Xe)$, 2^1S and 2^3S assoc. and Penning ionisation cross sections vel. depend. 9-3551
 $He+H^+$, ang. and energy distrib. of ejected electrons 9-31668
 $He+H^+$, ionising collision, first-order Faddeev approx. 9-22827
 $He+He$, (2^3S) and (2^1S) metastable states, direct and assoc. ionisation rate consts. in afterglow, electron energy spectra 9-13812
 He^+ multiply charged ions, electron capture and impact-ionis. cross sections, Monte Carlo calcs. 9-27083
 $He^{2+} + Li$, electron capture, ionis. cross section, low-vel. $He^+(3l)$ production, X-ray production 9-22822
 $He(2^3S)+H(D)$, Penning and assoc. ionis. cross sections, vel. depend. 9-22815
 K, fine-struct. intervals, polarisabilities, highly excited d states 9-27100
 $K+HCl$, ion pair form., energy loss spectra 9-34286
 K+I chemi-ionisation, integral cross section calc. for two state model 9-18282

ionisation of atoms continued

K+I chemi-ionis. differential cross-section calc. for two-state model 9-18283
 Kr, Koopmans' ionis. pot., relax. correction 9-18308
 La, 4d subshell spectra, strong interaction regime 9-18165
 Li isoelectronic sequence, ionization equilib. balance, solar and stellar atms. appl. 9-36587
 Li, photoionis., one-electron pseudopotential calc. 9-18166
 Li, two-photon ionis., many-body perturbation theory 9-22679
 Li^+ , S-autoionising states, energy calcs. 9-36520
 $Li(2^2S)$, electron loss in passing through inert gases 9-13805
 Mg, $K\alpha^h$ hypersatellite spectrum, K-shell electron double ionisation cross section, binding energy 9-36577
 $Mn+H^+$, K X-ray production, 0.2-0.5 MeV, ionis. cross-section 9-31459
 Mo, highly ionised, mean wavelength and spectral width of transition arrays 9-6913
 Mo XXXI-XXXIV spectra from exploded Mo wire plasmas 9-1295
 Na, high-lying Rydberg states, field ionisation 9-45683
 Na, ionisation and energy pooling in laser-excited vapour 9-795
 Na, photoionis., one-electron pseudopotential calc. 9-18166
 Na, reson. two-photon ionis., photoelectron ang. distrib. and polaris., nucl. spin influence 9-10083
 Na, Rydberg states, elec. field ionisation, sensitive detection of multiple thresholds 9-7026
 Na, Rydberg states, optically pumped, electric field ionis. (*Russian*) 9-27095
 Na, Stark effect for selective stepwise ionisation by laser radiation 9-13669
 $Na^+ + Ne$, nonadiabatic transitions, effective ionisation cross-section calcs. 9-10195
 Ne, atomic deexcitation effects of X-rays, X-ray preionisation in TEA lasers 9-793
 Ne, Koopmans' ionis. pot., relax. correction 9-18308
 Ne, photoionis. cross-sections, L-subshells, 30-300 eV 9-31483
 $Ne+H^+$, ang. and energy distrib. of ejected electrons 9-31668
 $Ne+Li^+(C^+)(N^+)(Ne^+)(Na^+)(Mg^+)$, slow collision, ionis. obs. 9-10194
 $Ne+Ne^+$, 2s vacancy prod., coupling state calcs. in mol. basis 9-13806
 $Ne^{1+} + Ar(Kr)$, $(n=1, 2, 3, 4)$, energy spectra of electrons produced 9-45822
 $Ne^{2+} + Ne(Ar)$, outer s-subshell vacancy production 9-18275
 $^{58}Ni+p$, K-shell X-ray photon proton coincidences, nucl. time delay 9-18281
 $^{58}Ni^{1+} + ^{25}Mn(^{50}Sn)(^{82}Pb)$, 45, 94, and 138 MeV Ni inner shell vacancy production, impact parameter depend. 9-41130
 O I, photoionis. cross section 9-13685
 $O^-/H_2O(D_2O)$, ionis. efficiency curves, Feshbach-reson. and dissoci. electron attachment 9-41246
 $Pb+Pb^+$, inner-shell ionisation of quasimolecular system, perturbation theory 9-31667
 ^{208}Pb , 1.4 to 5.9 MeV/u, K-shell ionisation cross-section meas. 9-31671
 Rb, photoionization cross-section, reson. induced by elec. field 9-13689
 $Rb+H^+$, atomic K-shell ionis., X-ray emission 9-18280
 $Sc+H^+$, K X-ray production, 0.2-0.5 MeV, ionis. cross-section 9-31459
 $Si+Fe^{1+}$, $q=3-9$, Si K-shell ionis., electron transfer cross sections, solid targets 9-10192
 Ti, K-shell ionisation probability, for 150 keV protons, impact-parameter depend. 9-10189
 Ti, Koopmans' ionis. pot., relax. correction 9-18308
 $Ti+H^+$, K X-ray production, 0.2-0.5 MeV, ionis. cross-section 9-31459
 Tm, intense 4d-f reson., cross-sections, spectra, calcs. 9-31426
 U, laser isotope separation by O_2 chemi-ionisation (*Japanese*) 9-13830
 ^{235}U isotope separation enhancement with RF hyperfine transitions 9-41249
 $V+H^+$, K X-ray production, 0.2-0.5 MeV, ionis. cross-section 9-31459
 Xe, photoelectron branching ratio in 4d subshell 9-18164
 Xe, photoionis. from excited states 9-10078
 Xe, photoionisation, correl. satellites and subshell cross-sections, electron spectrosc. obs. 9-31485
 Xe, polarisation effects in photoionisation (*Russian*) 9-3420
 ^{132}Xe , 1.4 to 5.9 MeV/u, K-shell ionisation cross-section meas. 9-31671
 Yb, Rydberg states, optically pumped, electric field ionis. (*Russian*) 9-27095
 Yb, single atom detection by selective laser excitation and field ionisation from Rydberg states 9-18159
 Zn, highly ionised, spectral classifications below 55 Å 9-13658

ionisation of gases

see also atmospheric ionisation; electron avalanches; Townsend discharge
 acetylene, ionisation meas. and W_a derivation for neutron irradiation 9-36430
 air, photoionisation kinetics ahead of strong shock fronts 9-7438
 corona discharge, computing process for electrons and ions distribution determ. 9-4204
 discharge lasers, use of surface discharge for gas preionisation 9-46504
 dissociation equilibrium, phase space allocation 9-27746
 freon- N_2 low-pressure mixture prebreakdown current obs. 9-18995
 laser beam with retractable focus, ionis. path form. in gases 9-18992
 methane, total ionization created by completely stopped H^+ ions 9-46419
 methane, W-value determ. for α -particles 9-39518
 microwave breakdown in gases, Schwinger variational principle 9-41788
 Penning mixtures, statistics of gas gain 9-45535
 positive column, of electroneg. gas, transverse stability, effect of dissoci. attachment 9-23475
 SEM, insulating surfaces, charge neutralisation by gas ionisation 9-6235
 tissue equivalent gas, total ionization created by completely stopped H^+ ions 9-46419
 Trichel corona negative ion transit times 9-19115
 Ar, W-value determ. for α -particles 9-39518
 CO_2 , ionisation meas. and W_a derivation for neutron irradiation 9-36430
 CO_2 , total ionization created by completely stopped H^+ ions 9-46419
 H_2 , fast electron retardation, ionisation cascade, degradation spectra, anal. (*Russian*) 9-27741
 He, fast electron retardation, ionisation cascade, degradation spectra, anal. (*Russian*) 9-27741
 KrF X-ray-preionized high-pressure laser 9-18403
 N_2 , breakdown threshold using laser radiation 9-1283
 N_2 , total ionization created by completely stopped H^+ ions 9-46419
 Ne, photoionization mass spectroscopy using synchrotron radiation, reson. width meas. 9-31478

ionisation of gases continued

- O₂, breakdown threshold using laser radiation 9-1283
 SF₆, electrical conductivity calc., 2000 to 50000K 9-14512
 SF₆, equilibrium composition calc., in 20000 to 50000K range, in dependence on pressure 9-14511

ionisation of liquids

- acid, weak, ionisation in aq. soln., rate const. meas., elec. field jump method errors 9-43611
 photographic development rate, effect of developer ion charge 9-24753
 solutions, induced ion pair separation, Coulomb cage pair 9-11811
 tetramethylsilane, liq., photocond., ionis. threshold 9-15191

ionisation of molecules

- see also molecular electron impact ionisation*
 acetaldehyde, primary and secondary photoionis. processes, ion-mol. reactions 9-36709
 acetone and acetone-d₆, molecular beam photoionisation 9-3504
 acetylene, ionis. by mol. orbital method, many-body calc. 9-36512
 aliphatic compounds, alkyl substitution effects on photoionisation, photoelectron spectrosc. obs. 9-31604
 aromatic higher perfluoro compounds, He(Ia) photoelectron spectra 9-31610
 benzene, ethylene, and fluorinated derivatives, photoelectron ang. distrib. of C-C π electrons 9-10146
 benzene, trifluoromethyl derivatives, first ionis. pots., CF₃ group nature 9-27110
 benzene, two-photon ionis. of mol. beam, mass spectrometer ion source 9-27118
 bromoform and Cl substitutes, VUV photoionis. during condensation with Ar, IR spectra of (CHX₂)⁺X and X⁻-HCX₂ ions 9-13773
 t-butyllithium, dissoci. photoionis. 9-6976
 collisions in intense light beams, quantum aspects (*Russian*) 9-6903
 cross-section calc., absorbing boundary method 9-31623
 dynamic symmetry breaking, mol. photoelectron ang. distrib. 9-829
 forced ionisation, appl. in secondary batteries 9-43755
 furan, trifluoromethyl derivatives, first ionis. pots., CF₃ group nature 9-27110
 1-heptene, field ionisation mass spectra, surface processes 9-11503
 ion pair form., vibr. energy depend. 9-34287
 laser-assisted excite Penning ionisation 9-41232
 liquid, electron-hole interactions and double proton transfer, picosec. laser obs. 9-45773
 many-electron systems, ionis. pot., excitation energy, cluster expansion direct calcs. 9-26912
 methane, ionis. by mol. orbital method, many-body calc. 9-36512
 methanol-O₂ flame, combustion and ionisation 9-20357
 molecular orbital methodology 9-36512
 molecule+fast heavy ion, dissoci. ionisation obs. 9-47899
 multiphoton ionisation and fragmentation, UV laser induced, time of flight mass spectra 9-31625
 naphthalene, photoionis., negative ions role in photoionis. plasma 9-27048
 naphthalene, trifluoromethyl derivatives, first ionis. pots., CF₃ group nature 9-27110
 organic molecules, core ionisation and electronic reorganisations, LCAO MO SCF calcs. 9-18115
 orthogonalised-plane-wave approximation, cross-section 9-41202
 photoionisation of atoms and molecules, UV photoelectron spectrosc. obs. 9-31603
 photoionization cross-section, ground state inversion pot. method 9-31484
 polyatomic molecules, multiphoton ionisation spectroscopy 9-41203
 POPOP, dye vapour, intense multiphoton photoionisation 9-10298
 pyrrole, multiphoton ionisation, photoionisation threshold meas. 9-27047
 quark influence on ionis. pot., ab initio SCF calcs., appl. to H₂O and SO₂ 9-10058
 tetracyanoethylene molecule with high electronegativity on field polarisation, electron affinity determ. 9-27111
 two-electron Fourier amplitudes of atomic and mol. wavefunctions using the (γ_2e) and (e_3e) processes 9-3419
 BF₃, threshold photoelectron, photoionisation and coincidence ion-threshold photoelectron spectra 9-820
 ClI₃, desorption from graphite expt., ionis. pot. 9-34392
 CN⁺, ionisation pot., CI and perturbation methods 9-31734
 CO⁺, photoabsorption, photoionisation cross section, separated channel static exchange Stieltjes-Tchebycheff calc. 9-3502
 CO₂, partial photoionisation cross-sections meas. 20 to 60 eV 9-31624
 CO₂+He, Penning ionisation of target mol., for He(2³S) 9-41228
 Cs+UF₆, ion pair form. and atom abstraction reactions 9-1946
 H₂, electron impact, energy deposition and energy degradation, 2, 10 and 30 keV 9-31709
 H₂, photoelectron ang. distrib., 304 Å line, vibr. state depend. 9-45764
 H₂, photoionisation cross-sections, involving vibr. states, data tables 9-18242
 H₃, correl., ionis. and attachment operators, diagrammatic method calcs. (*French*) 9-22607
 H₃⁺, correl., ionis. and attachment operators, diagrammatic method calcs. (*French*) 9-22607
 HCN, ionis. by mol. orbital method, many-body calc. 9-36512
 HCN, K-shell excitation by electron energy loss spectroscopy 9-31712
 HO⁺/H₂O and DO⁺/D₂O, ionis. efficiency curves, Feshbach-reson. and dissoci. electron attachment 9-41246
 H₂O, mol., ionisation pot., CI and perturbation methods 9-31734
 H₂S, valence shell binding energy spectrum, 8-34 eV, electron scatt. simulation of photoions. 9-10213
 He(2³S) and 2¹S)+H₂(D₂), Penning, rearrangement and total ionis. cross sections, vel. depend. 9-22816
 I₂, multiphoton ionis. and dissoci. vibronic/mass spectra method 9-3507
 K₂⁺, form. by electron impact in elec. discharge, low-pres. vap. 9-10738
 N₂, K-shell photoionisation, symmetry breaking hole localisation 9-829
 N₂, multiphoton ionization, nonlinear interaction order and kinetic energy 9-45771
 N₂⁺⁺, Coulomb explosion following heavy ion impact, ab initio SCF calc. 9-18277
 N₂+He, Penning ionisation of target mol., for He(2³S) 9-41228
 N₂+He⁺, K-shell ionisation, total cross-sections calcs. 9-31663
 NO, multiphoton ionis. spectrum 9-10157
 NO+He, Penning ionisation of target mol., for He(2³S) 9-41228
 N₂O, ionis. by low-energy electrons and near thermal inert gas ions, emission obs. 9-31707
 N₂O, partial photoionisation cross-sections meas. 20 to 60 eV 9-31624
 N₂O, photoionisation, partial oscill. strengths 9-6973
 N₂O+He, Penning ionisation of target mol., for He(2³S) 9-41228

ionisation of molecules continued

- N₂O₄, ionis. by mol. orbital method, many-body calc. 9-36512
 N₂O₄, second ionis. pot. by CI wavefunction 9-31732
 Na₂⁺, photodissoc. and photoionisation in Na₂ multiphoton absorpt. 9-31628
 O₂+He, Penning ionisation of target mol., for He(2³S) 9-41228
 SF₆, absorpt. structs. in VUV region, ionisation efficiencies 9-3458
 SF₆, partial photoionis. cross-sections, 20-54 eV, photoelectron spectrum 9-13769
 SO₂+He, Penning ionis. due to He(2³S), SO₂⁺ fluoresce. 9-13758
- ionisation of solids**
 spatial distrib. for 0.5 to 500 keV electron bombarded solids, empirical eqns. 9-19956
- ionisation potential**
see also work function
 acetone and acetone-d₆, molecular beam photoionisation 9-3504
 acetylene, vertical ionisation pots., CI calcs. 9-13645
 allyl radical, ionisation potential, ab initio valence bond calcs. 9-31407
 aromatic higher perfluoro compounds, He(Ia) photoelectron spectra 9-31610
 atom, Li to Ar, CI calcs. in spin density functional formalism 9-18122
 atomic ionisation potential, X_a eigenvalues and Slater transition state 9-31394
 atoms and ions, valence shell electronic energies from nucl.-electronic interaction energy 9-3347
 benzene, trifluoromethyl derivatives, first ionis. pots., CF₃ group nature 9-27110
 benzenoid aromatic hydrocarbons, ionisation pot. and electron affinities, semiempirical MO theory 9-6843
 1,2-bromochloroethane, photoelectron spectra, trans- and gauche-conformers 9-27034
 butadienes, cis- and trans-, ionisation potential, ab initio valence bond calcs. 9-31407
 cationic dyes, adsorbed, local environment effects 9-34337
 chlorofluoromethane negative ion products, in 0-10 eV near-monoenergetic electron impact 9-41245
 cyanoacetylene, photoelectron spectra, electronic states of radical cations 9-22756
 cyclopentadiene, HAM/3 calc. of ionis. and excitation energy and electron affinity 9-26894
 ethylene, and perfluoro derivatives, negative ion states, electron affinities, ionisation pots., overlapping spheres X_a calc. 9-26885
 ethylene, benzene, and fluorinated derivatives, photoelectron ang. distrib. of C-C π electrons 9-10146
 ethylene, ionis. pot., Green's function method and CI calcs. 9-13839
 ethylene, ionisation potential, ab initio valence bond calcs. 9-31407
 ferriyctochrome c and c₃, ionis. pot. from VUV photoelectron spectra 9-43821
 ferrocyclochrom c, ionis. pot. from VUV photoelectron spectra 9-43821
 freon-N₂ low-pressure mixture prebreakdown current obs. 9-18995
 furan, HAM/3 calc. of ionis. and excitation energy and electron affinity 9-26894
 furan, trifluoromethyl derivatives, first ionis. pots., CF₃ group nature 9-27110
 haloacetylenes, photoelectron spectra, electronic states of radical cations 9-22756
 heterocyclic molecules, ionisation pot. and heat of form., IOC- ω method 9-31733
 hydrocarbons, nobenzoid, ionisation pot. and heat of form., IOC- ω method 9-31733
 Koopman's ionisation potential, virial scaling corrections, appl. to He, Ne and Ar series 9-45655
 LNDO/S, semiempirical SCF-CI method for calc. ionis. pot. and electronic transition energies 9-18117
 many-electron systems, ionis. pot., excitation energy, cluster expansion direct calcs. 9-26912
 molecule, influence of quarks, ab initio SCF calcs., appl. to H₂O and SO₂ 9-10058
 naphthalene, trifluoromethyl derivatives, first ionis. pots., CF₃ group nature 9-27110
 naphthalene and fluoro derivatives, CNDO calcs., σ core effect 9-41107
 nitromethane, ab initio SCF MO calcs. of geom. and bond energies 9-31381
 nitromethyl anion, ab initio SCF ab initio MO calcs. of geom. and bond energies 9-31381
 nonperturbative open shell theory, mol. ionisation pot. and excitation energies, HF multiple cluster expansion 9-22599
 open-shell systems, ionisation pots. and dissoci. energies, correl. energy calcs. 9-31413
 parabenzoquinone, and perfluoro derivatives, negative ion states, electron affinities, ionisation pots., overlapping spheres X_a calc. 9-26885
 polycyclic aromatic ring systems, localised MOs and wave functions 9-31398
 pyrrole, HAM/3 calc. of ionis. and excitation energy and electron affinity 9-26894
 secondary ion yields, depend. on ionisation pot. and matrix sputtering yield 9-8214
 11,11,12,12-tetracyanonaphthoquinodimethane, XPS of solid and mol., ionis. pot. 9-31593
 transition metal atoms, electron impact expts. 9-45849
 transition metal hydrides, electron affinities and ionis. pots. MS X_a calcs. 9-10031
 transition metal pentachlorides, photoelectron spectra 9-821
 valence ionisation pots., SCF-MS-X_a calcs., mol. space partitioning 9-36529
 AlF₆³⁻, SCF X_a SW calcs., ionis. pot. 9-26887
 Ar, Koopmans' ionis. pot., relax. correction 9-18308
 AuV, gas, bond dissoci. energy, from high-temp. mass spectra of V-Nb-Mo-Au 9-45860
 B(I) hydrides, ab initio calcs., proton and hydride affinities 9-10029
 Be, one-particle ionis. energy, correlated wavefunction 9-45639
 CH₂ and CH₂⁺, valence states, ab initio calcs. 9-6859
 ClI₃, desorption from graphite expt., ionis. pot. 9-34392
 CN⁻, ionisation pot., CI and perturbation methods 9-31734
 CO, single and double ionisation by electron impact, energy depend. and ionisation pot. 9-13827
 CO₂, electron impact single and double ionisation cross-sections 9-3584
 Cr, Koopmans' ionis. pot., relax. correction 9-18308
 Fe complex, [Fe(CN)₆]³⁻, electronic struct., optical transitions, XPS, Mossbauer isomer shift, valence ionisation pot., SCF-MSX calc. 9-6864

ionisation potential continued

- H, multiphoton ionisation potential, circularly polarized light 9-27101
- HCN, vertical ionisation pots., CI calcs. 9-13645
- H₂O, mol., ionisation pot., CI and perturbation methods 9-31734
- H₂O, vertical ionisation pots., CI calcs. 9-13645
- He, Koopmans' ionis. pot., relax. correction 9-18308
- He, multiphoton ionisation potential, circularly polarized light 9-27101
- K, vapour, absorpt. spectra 9-21509
- Kr, Koopmans' ionis. pot., relax. correction 9-18308
- Li, vapour, absorpt. spectra 9-21509
- Mn I, absorpt. spectrum, 1305-2040 Å, ionis. energy 9-26921
- N₂, Koopmans' theorem, corrections using energy shifted perturbation theory 9-6845
- N₂, vertical ionisation pots., CI calcs. 9-13645
- NF₃, ionis. pot., many-body diagrammatic RSPT calc. 9-31378
- NO⁺, pot. energy curves, dissociation energy 9-22623
- NO₂, ionis. pot., many-body diagrammatic RSPT calc. 9-31378
- N₂O₄, second ionis. pot. by CI wavefunction 9-31732
- Na, vapour, absorpt. spectra 9-21509
- Ne, atom, calculation from optimised potential model 9-6895
- Ne, Koopmans' ionis. pot., relax. correction 9-18308
- SB₂, transient species, He(I) photoelectron spectroscopy, discrete variational HFS calc. 9-31594
- SiF₄, photoelectron spectra, bonding, MS Xα calcs. 9-18116
- SiF₆²⁻, SCF Xα SW calcs., ionis. pot. 9-26887
- SiH₄, photoelectron spectra, bonding, MS Xα calcs. 9-18116
- SiH₃Br, mol. ionis. and excitation energy, Xα calcs. 9-41105
- SiH₃Cl, mol. ionis. and excitation energy, Xα calcs. 9-41105
- SiH₃F, mol. ionis. and excitation energy, Xα calcs. 9-41105
- SiH_{4-n}F_n (n=1 to 3), photoelectron spectra, bonding, MS Xα calcs. 9-18116
- SiH₄, mol. ionis. and excitation energy, Xα calcs. 9-41105
- Ti, Koopmans' ionis. pot., relax. correction 9-18308
- UO₂, ionisation potential, cohesive, electronic and redox props. 9-47916

ionisation time see *ionisation*

ionogen see *electrolytes*

ionoluminescence

- excited state lifetimes, differential meas. 9-13672
- obsidian, hydration profiles meas. by sputter-induced optical emission, rel. to dating technique 9-24871
- Al, sputtered excited Al particles, effect of O during ion bombardment on spectra 9-38703
- Cu target, bombardment by Ar⁺-ion beam, luminosity spectrum 9-4884
- CuCl, H⁺ irradi., luminesc., high density excitons in particle tracks 9-47020

ionosondes see *ionospheric measuring apparatus*

ionosphere

- see also *D-region; E-region; F-region; ionospheric electromagnetic wave propagation; ionospheric techniques; sporadic-E layer*
- Alfven wave at ATS 6, soln. with finite ionospheric conductivity 9-12346
- Alfven waves, axisymmetric, dipole field model with finite ionospheric cond. 9-29941
- ARAKS Project 9-21021
- Arctic ionosphere, study by European Incoherent Scatter (EISCAT) project (French) 9-2437
- auroral current system oscillations, Earth induction effects on Pc 5 pulsations vertical polarisation 9-12355
- auroral electrojet, parameters from mag. vars. along meridian 9-25395
- auroral plasma, stability, parallel and perpendicular propag. of electrostatic waves 9-35040
- auroral pulsations, harmonic anal. rel. to wave-particle interactions 9-8736
- auroral substorm expansion phase, ionospheric currents and elec. field vars. assoc. with absorpt. spikes 9-35039
- auroral zone, elec. currents induction in Alaska pipeline 9-39645
- cleft currents determined from magnetic and electric fields 9-35036
- collision frequencies, recomb. coeffs., rel. to resistivity of semiconductors and metals 9-8742
- collisionless electrostatic drift waves, linear theory, space plasma appls. 9-1305
- conductivity of high-latit. ionosphere, determ. from auroral electrons 9-12334
- conjugate photoelectrons in predawn ionosphere, rocket obs. 9-29931
- critical frequency data analysis, Ionosphere Sounding Satellite appl. to topside (Japanese) 9-16750
- critical ionization vel., Spacelab expt. 9-44289
- current systems during magnetic storms 9-12349
- currents during polar magnetic substorm observed in the evening sector with a two-dimensional magnetometer array 9-8776
- cusplike electron precipitation regions during 1977, September 19 to 21 event, DMSP-F2 obs. 9-35056
- dayside polar cusp, ionospheric and field-aligned currents relationship 9-35058
- dayside south polar cusp, field-aligned currents rel. to interplanetary mag. field 9-35059
- daytime positive storm effects at middle latits., prod. by travelling atmospheric disturbances 9-25394
- differential charging and sheath asymmetry of nonconducting spacecraft due to plasma flows 9-12378
- diffuse auroral zone, form, and dynamics of polar edge of ionospheric trough 9-8743
- drift meas. of mesopause wind, geomagnetic storm effects 9-35025
- drift measurements, rel. to upper mesopause region wind systems behaviour 9-44220
- dynamo regions, auroral and equatorial, global scale electrodynamic coupling 9-44297
- E- and F-regions, vars. due to solar EUV flux changes, calcs. 9-44293
- Earth-ionosphere cavity, Schumann resonance problem, convergence of zonal harmonic series 9-2348
- electric current collection, by long wire in near-Earth orbit 9-25438
- electric fields and currents in the ionosphere generated by field-aligned currents observed by TRIAD 9-40013
- electrical conductivity, enhancement by particle precip. rel. to magnetosphere convection 9-25400
- electron and ion drift motions, in situ meas. technique 9-29893
- electron content data, mixing freq. components identification by multiplicative homomorphic filtering 9-29929
- electron content in S. Atlantic geomag. anomaly region, east-west asymmetry 9-21097

ionosphere continued

- electron densities and temperatures, results from Intercoms-10 Langmuir probe expts. (German) 9-2469
- electron density and temp. meas. by sounding rockets 9-8760
- electron density in S hemisphere middle latits., Universal Time effect model 9-25396
- electron density models, review 9-48617
- electron flux, energy spectrum and latitude depend., Kosmos 490 meas. 9-2424
- electron flux measurements at altitude 250-500 km 9-2425
- electron production and loss rates, satellite meas. 9-35047
- electrostatic field structure in wake of disc, external mag. field effect 9-10648
- electrostatic waves, obs. in unstable polar cap ionosphere 9-29927
- ELF ion plasma oscills. in Nike-Apache rocket apogee region 9-40012
- energetic electron efflux, caused by plasma jet injection from rocket (Russian) 9-5701
- equatorial, modelling of H₂ gas release effects 9-16741
- equatorial anomaly and interplanetary mag. field sign reversal 9-2430
- equatorial bubbles, topside sounder obs. 9-16737
- equatorial electrojet and assoc. plasma instabilities 9-8750
- equatorial horizontal plasma waves, HF radar obs. 9-29930
- flight conditions simulation 9-16796
- geomagnetic crochet, two-layer current model 9-44300
- geomagnetic field elements annual line, ionospheric source component 9-20752
- geomagnetic field line forced oscills. due to ionospheric cond. change 9-48623
- geomagnetic H-component regular daily var. at Alibag, solar cycle depend. 9-8593
- gravity waves, obs. at S. hemisphere station using total electron content technique 9-21096
- gravity-acoustic waves, self-localisation, non-linear effect in non-uniform atmosphere 9-8761
- heating at night, contribution of O(¹D) 9-44288
- high-latitude ionosphere, obs. during near-steady state conditions 9-40000
- inhomogeneities drift, in presence of geomagnetic field, ionospheric wind influence (Russian) 9-29926
- International Reference Ionosphere, goals and status 9-5714
- ion density, effect of floating pot. of spherical ion trapper 9-44287
- ion exchange with solar wind 9-40050
- ion-cyclotron noise excitation in topside, Intercoms 14 obs. 9-8755
- ionisation structure, fluctuations rel. to SHF refr. scatt. and scintillations 9-48615
- IPDP pulsations, ionospheric propag. and assoc. source movements 9-25404
- Kelvin-Helmholtz instability in magnetoplasma 9-23407
- lower ionosphere, solar soft X-rays effects anal. rel. to nature of solar flares 9-8740
- MHD modes in plasmasphere, lower ionosphere effect 9-35055
- mid-latitude, response to solar mag. sector crossing 9-35030
- mid-latitude charged particle precipitation, optical evidence 9-44291
- midlatitude electric fields at ionospheric heights, magnetospheric effect 9-2433
- midlatitude ionosphere, relative ion comp. model 9-21094
- moving current systems, EM induction in Earth 9-16370
- negative storms, numerical simulation using observed neutral comp. data 9-25393
- nocturnal topside, midlatit. electron density enhancements, longit. inequalities 9-16746
- pattern motion, spaced sensor obs. 9-25427
- Pc 4 pulsation event in plasmasphere, meridional characts. 9-5716
- photoelectron flux, calcs. 9-21103
- photoelectron flux near photoionization peak energies 9-16738
- photoelectrons, Coulomb-collision induced trapping by geomag. field rel. to plasmasphere electron gas heating 9-8739
- photographic investigation by Salyut-6 (French) 9-40059
- plasmasphere of Earth, review 9-12329
- polar regions, adiabatic potential transitions properties 9-5713
- positive ionospheric storms, worldwide distrib. 9-44290
- positive ions, photodissociation, 3500-8600 Å 9-24763
- S_q variation currents, day to day variability over Europe 9-44299
- S polar cusp, low energy electrons obs. by AE-C during 1977, September 21 geomag. storm 9-35076
- satellite gyroharmonic resonance obs., interpretation 9-48614
- scintillation-producing irregularities in southern mid-latits., horizontal struct. 9-12339
- sheet-like auroral ionospheric irregularities 9-35033
- small-scale stratification in upper ionosphere, influence of strong radio wave with amplitude modulation 9-12330
- Space Experiments with Particle Accelerators (SEPAC), program for first Spacelab mission 9-48650
- spatial resonance mechanism, rel. to equatorial spread-F drifting patches 9-21095
- storm time auroral ionosphere, anomalous transport coeffs. effect on thermal struct. 9-16743
- synthesised trough ionogram 9-8759
- temperature domains, nonlinear stationary 9-35052
- thermal electrons energy distrib. distortion near focus of S_q current vortex 9-35053
- topside, turbulent transport and heating of auroral plasma 9-35054
- topside ionosphere, O⁺ to H⁺ transition level height rel. to very low dispersion whistlers 9-44301
- total electron content, lunar var. at Lunping 9-21100
- total electron content during 1971-4 period above Melbourne 9-5712
- transport eqns. for low speed thermal proton flows 9-44304
- travelling ionospheric disturbances, detec. by auroral zone incoherent scatter radar 9-48610
- travelling ionospheric disturbances, Faraday rot. modulation obs. 9-21101
- travelling ionospheric disturbances (TIDs), wave-normal depression and disturbance amplitude height depend. 9-40006
- VLF emission, mid-latit. modulation theory 9-12335
- 0.1, 63 μm emission as cooling mechanism in thermosphere and ionosphere 9-16732
- H⁺ distribution in equatorial anomaly, empirical model 9-8768
- H⁺ field-aligned downward vels. at mid-latitudes 9-40015
- He⁺, Atmosphere Explorer-C abundances rel. to solar EUV flux 9-16919
- He⁺ escape fluxes from polar ionospheres, calcs. 9-35037
- MgO, wavelengths and relative intensities of IR bands 9-2407

ionosphere continued

O^+ reaction rates with O_2 and N_2 , ionospheric implications 9-16726
 O^+/n_e relative densities computation at 170 km for specific heliogeophysical conditions 9-12332

ionospheric electromagnetic wave propagation

see also atmospherics

ARAKS expt., EM wave meas. 9-21071
 Arctic ionosphere, European Incoherent Scatter (EISCAT) project (French) 9-2437
 atmospherics, sweepers modulation struct. in HF and VHF bands 9-5707
 ATS-6 radio beacon signals, Faraday rot. modulation rel. to travelling ionospheric disturbances 9-21101
 auroral absorption spikes, currents and elec. fields vars. during substorm expansion phase 9-35039
 auroral E-layer, plasma lines meas. 9-25386
 auroral radio absorption obs. by riometers rel. to 10-80 keV electron precip. at geosynchronous orbit 9-48606
 backscatter echo spectral analysis and radio transmission forecasts (French) 9-29912
 backscatter obs. at 3 m wavelength rel. to F-region irregularities 9-12338
 backscatter sounding method using spatial and spectral sampling, for investigation of plasma inhomogeneities (French) 9-29911
 bounded beams dispersion due to anisotropic heterogeneity (Russian) 9-12341
 broad-band wave meas. in ARAKS expt. 9-21072
 Cherenkov radiation, prod. by unstable plasma wave coupling 9-40003
 corrugated reflector model for one-hop oblique propagation 9-35041
 D-region, electron density profiles from gyrowave interaction expt., error anal. 9-5705
 D-region, mid-latit., energetic particles precip. during baylike absorpt. disturbance 9-12333
 D-region, polar electron density profiles during solar proton event, from VLF refl. height vars. 9-8764
 Doppler processing of HF backscatter radar and mode structures of ionospheric propagation 9-16753
 E_s-layer, Langmuir wave prop. and enhanced plasma line 9-29928
 F-region critical penetration freq. prediction methods, accuracy (Japanese) 9-40017
 electron densities meas. by radio wave scattering, by artificial plasma inhomogeneities (Russian) 9-5636
 ELF eigenvalues approx. determ. in Earth-ionosphere waveguide 9-8763
 ELF normal mode reflection and absorption, nighttime ionosphere effects 9-8754
 ELF radiation, from New Zealand power system, in Earth-ionosphere waveguide 9-48609
 ELF waves assoc. with equatorial spread-F, satellite obs. 9-35051
 engineering problems from ionospheric effects in VLF to VHF bands 9-16751
 equatorial bubbles, echo signatures in topside sounder obs. 9-16737
 equatorial spread-F, nonlinear Rayleigh-Taylor instability 9-16748
 equatorial spread-F irregularities drifting patches, support for ionospheric spatial reson. mechanism 9-21095
 f₀E, geomag. storms effect at mid-latits. 9-44294
 f₀E, storm time var. at low latit. station 9-44295
 F2 critical frequency, solar influence 9-2423
 f₀F₂, correl. with S. hemisphere mid-latit. gravity waves obs. 9-21096
 f₀F₂, lunar daily var. correl. with ionosphere total electron content var. 9-21100
 f₀F₂ diurnal var. at equatorial latitudes and counter electrojet 9-48600
 F₂-layer nighttime critical frequency variation through a solar cycle, SW radio communication appl. 9-21102
 F-region, nighttime equatorial, coexistence of km and m scale irregularities, radar and scintillation obs. 9-2427
 F-region critical frequency small scale fluctuations at Kodaikanal 9-16745
 F-region irregularities from plasma reson. phenomena obs. by rocket-borne relax. sounding expt. 9-8767
 fixed frequency sounding, appl. to gravity waves obs. in high latit. F-region 9-25390
 geostationary satellite signals, mid-latit. ionospheric scintillation at 137 MHz 9-25388
 gyrowave interaction expt., diurnal var. of impressed modulation 9-5706
 heating due to parametrically excited Langmuir waves, short-scale field-aligned density striations form. 9-8766
 HF Doppler sounder array obs. of travelling ionospheric disturbance 9-48619
 HF fading ionospheric reflection channel, delay and Doppler power spectra 9-8765
 HF max. usable freq. prediction algorithm, MINIMUF-3 9-25372
 HF mode predictions using simple method with approximation 9-16754
 HF phased array radar for ionospheric and diagnostic appls. 9-5639
 HF prop. in ionosphere in minimum sunspot cycle, records 9-25397
 HF radar obs. of horizontal plasma waves, in equatorial ionosphere 9-29930
 HF radioemission during ARAKS expt., ground-based obs. 9-21078
 HF radiowave absorption variation in ionosphere (Spanish) 9-16735
 incoherent scattering, physical processes (Portuguese) 9-2417
 ion-cyclotron noise excitation in topside, Intercoms 14 obs. 9-8755
 LF band, noise field and skywave prop. 9-5708
 LF radio prop. at high altitudes 9-16752
 LF radio wave absorpt. temp., seasonal variation 9-48602
 LF radiowave absorpt. events rel. to meteoric ionization 9-48608
 LF/VLF prop. below nonuniform isotropic ionosphere 9-44224
 lunar tides in equatorial ionospheric absorption 9-44286
 medium wave broadcasting, interference fading (Russian) 9-40018
 MF skywave attenuation, polarisation coupling loss and sea gain effects 9-5709
 partially reflected radio signals (Russian) 9-48603
 phase scintillation of 40 MHz signals rel. to ionization irregularities in equatorial ionosphere 9-44303
 radio transmission in Earth-ionosphere waveguide, concise theory 9-48616
 radio waves, diff. from discrete and homogeneously structured irregularities 9-48612
 radio waves, phase path changes due to gravity waves 9-35043
 radio waves reflection from E-region arrival direction meas. system 9-25387
 radio waves self action in ionospheric plasma, nonstationary theory (Russian) 9-48604

ionospheric electromagnetic wave propagation continued

radiowave, magnetoionic components lateral deviations during vertical sounding 9-8747
 radiowave absorption mag. equator, obs. using A₂-technique 9-21099
 radiowave absorption near 100 km height, travelling (wave) disturbances 9-25392
 radiowave propagation, satellite expt. using Doppler effect in presence of wave perturb., modelling 9-8744
 radiowave propagation in E-region, quasi-periodic artificial inhomogeneities formation (Russian) 9-21093
 radiowave scatter communications, review 9-34935
 radiowave scattering signals, incoherent, computerised spectral analysis (Russian) 9-5621
 radiowave scintillation enhancements rel. to sheet-like auroral ionospheric irregularities 9-35033
 radiowaves, ATS-6 signals diff. by isolated irregularities 9-35049
 radiowaves, ATS-6 signals equatorial scintillations, freq. depend. 9-35050
 radiowaves, multiple scattering, iterative treatment method 9-8709
 radiowaves, pulse delay and distortion by random scattering 9-29934
 radiowaves, trans-ionospheric, scattering due to equatorial F-region irregularities 9-29933
 scintillation meas. at 1.7 GHz at midlatitude 9-2434
 scintillation observations in southern mid-latits., horizontal struct. 9-12339
 scintillations, night-time, at mag. equator, obs. 9-44292
 scintillations at 4 and 6 GHz using INTELSAT programs 9-5715
 scintillations of ISIS-1 VHF beacon signals 9-8752
 SHF scintillations, refr. scatt. explanation 9-48615
 single-hop high-latit. path prop., upper and lower rays signal levels ratio 9-8748
 spatial and temporal variation meas., differential Doppler technique using satellite 9-12311
 sporadic-E (E_s) layer over Japan, sky-wave backscatter obs. 9-44298
 strong radio wave with amplitude modulation, upper ionosphere disturbance 9-12330
 strong VLF waves action on ionosphere, obs. 9-48613
 Thomson scattering in presence of electron heating, effect of negative ions 9-16739
 time-varying medium, EM wave reflection anal. 9-25385
 topside HF noise meas. for F₂ critical freq. determ. 9-8756
 topside temporal variation of intensity measurements, Ionosphere Sounding Satellite appl. (Japanese) 9-16750
 transequatorial prop. in 144 MHz amateur radio band, forward scattering at rising plasma bubbles 9-35057
 vertical incidence absorption during winter anomaly, calcs. using electron density profiles 9-21098
 VHF double-peaked spectra at negative Doppler shifts in the morning sector of radio aurora 9-40014
 VHF Faraday rotation meas. of total electron content at low latitudes 9-16749
 VHF scintillations, equatorial, nature and dynamics of irregularities 9-48601
 VHF signals, ionospheric radio fluctuation obs. from geostationary satellite 9-21091
 VLF, over Greenland Ice Cap, mode conversion coeff. calc. 9-25398
 VLF propagation in lower ionosphere, solar flares soft X-ray affects 9-8740
 VLF signal phase and amplitude vars. over transequatorial path, Australia-New Delhi 9-5703
 VLF signal propagation, multi-mode, statistical characts. (Russian) 9-5702
 VLF signals in ionosphere-Earth waveguide, geomag. activity effects (Russian) 9-2426
 VLF triggered emissions, beam-plasma instability appl. 9-14564
 VLF waves observed on ground, props. characts. after emerging from ionosphere ducts 9-8741
 whistler, occurrence rate variation with geomagnetic latitude 9-40010
 whistler pulse, self-distortion in plasma 9-46456
 whistlers with very low dispersion, non-ducted low latit. VLF path model 9-44301
 wireless transmission, 1900-1935, early ionospheric research 9-9070
 O I, red line luminesc. amplification by radiowave anomalous absorpt. (Russian) 9-29925
 O₂, affecting EM wave prop. 9-8762

ionospheric measuring apparatus

HF phased array radar for ionospheric and diagnostic appls. 9-5639
 Ionosphere Sounding Satellite, operation planning and data analysis ground support system (Japanese) 9-16799
 KYOKKO (EXOS-A), ionospheric and auroral research satellite, instrumentation 9-48648
 Langmuir double modulation probe, current ratio optimisation 9-48576
 Langmuir probe, technique for accurate electron temperature 9-2379
 radiospectrograph for 25-50 MHz range 9-21077
 spherical ion trapper, floating pot. effect on ion density meas. 9-44287

ionospheric measuring instruments see ionospheric measuring apparatus

ionospheric propagation see ionospheric electromagnetic wave propagation

ionospheric techniques

see also electron density; ion density

ARAKS expt., EM wave meas. 9-21071
 broad-band wave meas. in ARAKS expt. 9-21072
 D-region negative ions, detect. via Thomson scatt. in presence of electron heating 9-16739
 E-region critical penetration freq. prediction methods, accuracy (Japanese) 9-40017
 E-region reflected radiowaves arrival direction, meas. technique 9-25387
 electron and ion drift motions, in situ meas. technique 9-29893
 electron content data, mixing freq. components identification by multiplicative homomorphic filtering 9-29929
 electron densities meas. by radio wave scattering, by artificial plasma inhomogeneities (Russian) 9-5636
 electron density and temp. meas. by sounding rockets 9-8760
 electron density determ. from topside ionograms, comparison of methods 9-39978
 electron temperature, cylindrical Langmuir probe techniques 9-2379
 electron-ion turbulence in collision dominated regime, ionospheric turbulence meas. appl. 9-48605
 EM sounding method using spatial and spectral sampling, for investigation of inhomogeneities in ionospheric plasma (French) 9-29911
 European Incoherent Scatter (EISCAT) project, for Arctic ionosphere obs. (French) 9-2437

Ionospheric techniques continued

- fixed frequency sounding, appl. to gravity waves obs. in high latit. F-region 9-25390
 HF max. usable freq. prediction along foF2 line, MINIMUF-3 algorithm 9-25372
 Langmuir double modulation probe, current ratio optimisation 9-48576
 pulsed oblique sounding, upper and lower rays signal levels ratio 9-8748
 radio transmission forecasts, backscatt. echo spectral anal. appl. (*French*) 9-29912
 satellite sounding, gyroharmonic reson. obs. interpretation 9-48614
 spatio and temporal variation meas., differential Doppler technique using satellite 9-12311
 travelling ionospheric disturbances, detec. by auroral zone incoherent scatter radar 9-48610
 tsunami-generating earthquakes, ionosphere detect. method 9-44681
 vertical sounding by radiowaves, magnetoionic components lateral deviations 9-8747

ionotophoresis *see electrophoresis***ions**

- see also atoms; electrolytic ions; hydrogen ions; negative ions*
 multiply charged, two-electron, parity nonconservation in spectra 9-10087
 parity nonconservation effects in at. and ions 9-10086
 H-like ions, scaled Coulomb-Born-Oppenheimer collision strengths 9-28839

i.r. astronomy *see infrared astronomy***i.r. detectors** *see infrared detectors***IR drop** *see electric potential***i.r. imaging** *see infrared imaging***i.r. sources** *see infrared sources***irasers** *see lasers***iridium**

- see also nuclei with*
 adsorption of O, structure of c(2x2)O overlayer 9-19463
 chemisorption of O₂ on (110) surface, sorption and disoc. kinetics 9-33186
 chemisorption on clean and oxidised Ir (110) surfaces, kinetics obs. 9-11015
 desorption of CO, coverage dependence of kinetic parameters 9-19462
 electrodeposition, from molten chloride and cyanide 9-24640
 Kambalda (W.Australia) komatiite sequence, Au, Pd, Ir and Ag in interflow sedimentary rocks 9-20830
 particles, nucleation centres in polyethylene terephthalate crystn. 9-15658
 surface, (110), unreconstructed, determ. of atomic arrangement by LEED 9-14990
 surface, (110)-(1x2) reconstructed, adsorption, of S, AES study 9-42384
 work function changes rel. to O₂ adsorption, continuous meas. method 9-33328
 Ir I, radiation lifetimes, beam-sputtering technique meas. 9-18142
 Ir II, term anal. of spectrum 9-6902
¹⁹²Ir, dose calc. system, interstitial radiation therapy 9-16268
¹⁹²Ir, tongue carcinoma, dose and dose rate for interstitial irradiation 9-16267
 Si:Ir, magnetosensitive diodes, characts. 9-24069

iridium alloys

- see also iridium compounds*
 Gd₂Y_{1-x}Ir_x, ESR meas., bottleneck and relax. rates 9-38369
 Ir₂Sn₇, cryst. struct. determ. (*German*) 9-27952
 Pt-Ir alloys, surface composition 9-19433
 Pt-Ir coating electrodeposition, from molten chloride and cyanide 9-24640
 Th-Ir system, phase diagram and thermodynamic props. (*German*) 9-47958
 Zr-Ir, high temp. modification, X-ray diffr. obs. (*Ukrainian*) 9-32947
 Zr-Ir hardened alloys, metastable phases (*Ukrainian*) 9-34000

iridium compounds

- see also iridium alloys*
 [IrBr₆]²⁻, resonance spectra, vibrational and electronic Raman effects 9-47437
 [IrCl₆]²⁻, resonance spectra, vibrational and electronic Raman effects 9-47437
 IrF₆, $\Gamma_{8g}(^2T_{1g})$ state, electronic Raman scatt. and absorption spectra at 1.6 μ , resolution of Jahn-Teller Problem 9-36648
 IrF₆, neat and mixed cryst., Raman scatt., Jahn-Teller interaction in ground state 9-38540
 IrO₂ anodic films, electrochromism, on transparent substrates 9-19861
 IrO₂ heat-treated anodic films, pH depend. of electrochromism 9-8120
 IrSi, Schottky barrier height meas. 9-47160

iron

- see also nuclei with*
⁵⁹Fe fixation in solid/liquid systems 9-13530
 abrasion, low speed, strain rate effects 9-20208
 abundance in red giant star ϵ Virginis, differential model atmosphere analysis 9-25604
 abundance in X-ray galaxy clusters 9-12530
 adsorbed on W (100) surface, field emission microscopy study 9-15015
 adsorption and condensation on W foil, meas. by thermal desorption in pulse time-of-flight mass spectra 9-15023
 adsorption of CO, resistance changes, work function change and thermal desorption meas. 9-19450
 adsorption of CO and O₂ obs., core-level photoemission and LEED methods appl. 9-15003
 adsorption of water under the influence of 2.5 keV electrons 9-28199
 aerosol powders, oxidised, nucl. gamma reson. study (*Russian*) 9-1725
 alloy systematics, rel. to the long periodic table, allotropy of Fe and Mn 9-37649
 amorphous, tensile deform., three-dimens. computer simulation 9-43350
 amorphous film, getter sputtering at 25K 9-38741
 amorphous structure, chain of Bernal holes, dislocation model 9-4249
 amorphous structure obtained by liq. state quenching 9-46573
 annealed, and deformed, exam. of immobile dislocation distrib. (*Russian*) 9-32995
 Armo, adsorpt. of Hg, effect on mech. strength, creep, fatigue, embrittlement (*Russian*) 9-29267
 Armo, coated and uncoated, laser interferometric obs. of corrosion 9-47810
 Armo, discontinuous laser beam effect on mass transfer (*Russian*) 9-33109

iron continued

- Armo, flat-rolled and annealed, dislocation struct. and mech. props. (*Russian*) 9-20062
 Armo, fracture in liq. metals, Rebinder effect (*Russian*) 9-29266
 Armo, fracture toughness characts. under cyclic loading 9-11703
 Armo, membrane, superpermeability to D 9-24830
 Armo, microstruct. and hardness after electron bombardment 9-38956
 Armo, sleeve, deformed by cold drawing, exam. of surface and texture (*Russian*) 9-34057
 Armo, transform. of observed crack traces on section to true crack density for fracture calcs. 9-10533
 atom, elastic electron scatt., 1-8 keV, differential shielded cross section calc. 9-13824
 atom, orbital calc., model potential method 9-36513
 atom, photoionis. cross section meas. 9-22674
 atomic and metallic 3p excitation 9-22633
 BCC, stress-induced interaction and ordering 9-42057
 biomolecules, Fe-containing, appl. of spectroscopy 9-24956
 brittle fracture mech., review (*Russian*) 9-34139
 bulk modulus and thermal expansion coefficient, mag. contributions 9-8039
 casting, fatigue strength, section size and surface struct. effect (*Japanese*) 9-20170
 catalyst, decomposition of NH₃, kinetics, IR obs. 9-11792
 catalytic synthesis of NH₃ on Fe, promoter action of K 9-29390
 cavitation erosion, exam. of mechanism and rates 9-5063
 close-packed phases, eqns. of state and implications for Earth core 9-20780
 coadsorption of CO and H, effect of preadsorption of one on adsorption of other 9-19451
 coercive force measurement method of quality inspection of heat and thermomechanically treated parts 9-5113
 compacts, sintered, prod. directly from Fe₃O₄ powder (*Slovak*) 9-15626
 contact interaction with graphite at high press. and temp. (*Russian*) 9-11722
 corrosion, effect of Pb ion implantation 9-39015
 corrosion, oxidation, combined ion-, electron-beam techniques appl. 9-43700
 corrosion in acids, inhibition by thiourea and its derivatives 9-20262
 corrosion in H₂SO₄ soln., inhibiting effect of Mn, Cd, and Zn ions, H₂ evolution 9-47803
 corrosion in hot conc. caustic soda soln. (*Japanese*) 9-43473
 corrosion in O₂ free water, catalytic effect of certain metals 9-47804
 corrosion products, Raman spectroscopic detect. 9-16063
 cracking, H₂ induced, stress state effect 9-20147
 crystal grain analysis, using SIMS utilising digital image processing 9-43684
 damping during and after deformation 9-43344
 deformation, influence of crystallographic lattice type (*Russian*) 9-34106
 deformation twin form. during high temp. creep (*Russian*) 9-24573
 deformed, internal friction, dislocation relax. and dislocation-defect interactions 9-29125
 desorption, of O₂(N₂), surface anal., XPS appl. 9-24875
 determination, in salt, spectrochem. method (*Russian*) 9-29440
 determination, in silicate materials, by flame emission and absorpt. spectrometry, additive method (*German*) 9-39235
 determination in bauxite by neutron activation anal. 9-24858
 diffusion, in Ti, under plastic deformation (*Russian*) 9-28146
 diffusion in Th at 500 to 800°C (*German*) 9-28157
 dissociative diffusion in β -Sn, Mossbauer expts., 90-462K 9-7714
 dissolved Fe in rivers, removal during estuarine mixing 9-34830
 distribution in olivine and lunar basaltic liquids 9-35158
 dust particles, respirable, meas. of mass and thickness by SEM backscattered electron imaging 9-21707
 electrochemical displacement reactions, electron microscope obs. of nucleation and growth, comparison of Cu/Fe and Cu/Al cementation systems 9-47939
 electrode, evaporation rate from cathode spot in vacuum arcs 9-37566
 electrodeposited coatings, microhardness, H_A design appl. 9-39069
 electroplastic effect 9-24589
 EM cascades caused by electrons and photons, 10-100 GeV, longit. development 9-21120
 epitaxial growth, on alkali halide substrates, role of phase interaction, TEM study 9-46979
 fatigue crack direct obs. by SEM, propag. mechanism (*Japanese*) 9-20164
 fatigue cracking in air and vacuum, optical and SEM obs. (*Japanese*) 9-8387
 ferromagnetic, evidence for itinerant electron model, angle resolved photoemission from surface 9-24414
 ferromagnetic, spectral thermal emission, partial circular polarization 9-23751
 ferromagnetic, transient mag. field for ¹³C 9-47362
 film, bounded by dielec. layers, surface polariton in ATR angular spectra 9-15545
 film, core electron polarisation measurement 9-4756
 film, evaporated, oxidation resistivity change meas. (*Japanese*) 9-11723
 film, ferromag. reson., thermodynamical anal. 9-42840
 film, low-angle grain boundary struct. (*Russian*) 9-42807
 film pulse biased sputter deposited, Kr entrapment 9-28255
 fine particles formed by gas-evap. technique, cryst. struct. and habit 9-27935
 fracture mechanism in various temperature and stress intervals (*Russian*) 9-24600
 fracture under influence of high power US waves (*Russian*) 9-5034
 friction in liq. Sn, Rebinder effect (*Russian*) 9-29269
 GaAs:Fe, superparamagnetism, spontaneous magnetization 9-11285
 gamma to alpha transform. 9-29051
 grain boundaries, electron microscope obs. (*Russian*) 9-4311
 grain growth, abnormal, kinetics 9-24537
 granular deposits, plasma reson., rel. to interstellar dust extinction curve 9-21387
 graphite and cast Fe dissolution during sintering 9-33969
 group consts., neutron spectra of small pile surrounded by Pb reflector 9-6738
 heavy ion irradiated, TEM exam. 9-7638
 Hercules X-1, Fe line emission discovery in low-state spectrum by (HEAO-1) 9-5922
 hot galvanising with liquid Zn, Fe-Zn compound form. (*French*) 9-20275
 hydrogen, induced cracking, crystallographic and fractographic studies 9-5052

iron continued

- hydrogen adsorption at dislocations and cracks 9-20146
intermediate layer in Zircaloy-4/stainless steel diffusion couple 9-10987
internal friction near Curie point 9-24567
interstellar Fe, depletion derived from S 59 obs. of 67 stars 9-2563
interstellar gaseous Fe depletion from Fe II resonance line UV obs.
toward early-type stars 9-44584
intracluster Fe mass and distrib. between rich clusters of galaxies 9-5895
itinerant ferromagnet, neutron inelastic scatt. 9-7970
itinerant ferromagnet, spin-wave dispersion and linewidth 9-4668
K shell prod. cross section of Ti, Cr, Fe, Ni, Cu, Zn for 75 to 150 keV p
and e excitation 9-47552
lattice hardening and anomalous softening caused by electrolytic H₂
charging (*Japanese*) 9-43398
liquid, C saturated, decarburization by CO₂, effect of S 9-11726
liquid, electrical transport 9-38040
liquid, N solubility and AlN precipitation 9-11630
liver tissue and tumour proton mag. relaxation rel. to Fe content
9-39355
lunar regolith, reduction of Fe, Ti, Si in H atom., X-ray photoelectron
spectra 9-25527
lunar soil grains, surface related component of Fe metal 9-16851
magnetic domain structure, neutron small-angle scatt. from dynamical
theory of diff. 9-24189
metallic coated, produced by electrospray alloying, corrosion behaviour in
Cl saturated NaCl solns. (*Russian*) 9-39026
metalised pellet, factors influencing crushing strength after H₂ reductions
9-11531
microcrystal, Mossbauer effect 9-1736
molten, mag. small-angle scatt., persistent spin fluctuations 9-11288
muon⁺, 40 MeV, traversing magnetised plates, dynamic mag. fields
9-38422
neutron irradiated, low temp. mag. relaxation 9-8022
neutron irradiation damage simulation, reliability of use of fission frag-
ments 9-42113
neutron slowing-down equation, with inelastic scatt. 9-26465
nuclear orientation and NMR/ON on implanted ^{114m}In 9-47345
oxidation, reflectance IR study rel. to component of stainless steel
9-47811
oxidation and domain structure, electron microscope exam. (*Russian*)
9-1437
oxidation at Curie temp. 9-29279
oxidation in CO₂ at 1330°C 9-5077
particles in Hg, ferromagnetic liquid, resistivity 9-1591
phase diagrams, use in production 9-11572
photoemission study of (100), (110) and (111) surfaces, ferromag. band
struct. 9-38714
photon absorption and photoelectric cross-sections calcs. 9-31486
planetary nebulae, Fe condensation and nebula form. models 9-40238
plastic flow props. of single crystals, hydrostatic press. effects 9-38887
plastically deformed by pulsed mag. field, mobility of Fe atoms, radiot-
racer profiles 9-28584
plasticity, athermal and thermal (*Russian*) 9-11685
plasticity, temp. and rate dependence for different rigidities of stressed
state (*Russian*) 9-29139
powdered compacts and Armco, electrolytic boriding 9-39044
powders, exam. of production, props. and testing methods (*German*)
9-4927
quartz, single-cryst., Fe²⁺ absorpt. spectra in polarised light and struct.
position 9-43007
radioactivation of shielding materials Fe, Benelex by fast neutrons, γ-ray
spectra, decay rates 9-682
rolled sheet, magnetic film form. at metal/calamine interface after ferrous
products cooling (*French*) 9-43274
secondary electron emission 2-12 MeV electron impact, Monte Carlo calc.
9-28868
secondary ion emission, energy spectra, 0-55 eV, contamination levels
9-15573
segregation of C or N, equil. and struct. (*German*) 9-47690
sintered, fracture behaviour, microscopic obs. 9-47771
sintered friction material, wear rate, depend. of phase struct. 9-15801
smoke-particle aggregates, long-range correlations 9-46369
solar abundance, determ. from 300 to 900 nm Fe I lines using precise
oscillator strengths 9-40155
solution mechanism in fused KNCO 9-39271
spin polarised electron tunnelling results 9-28417
stopping power meas. of 0.3 to 2.6 MeV ⁴He ions 9-3329
strain ageing and fatigue (*Japanese*) 9-20161
strengthening in H₂SO₄, H₂ hardening rel. to struct., anodic behaviour
(*Russian*) 9-15855
structural stabilisation, influence of C interstitials, HF calc. 9-11611
surface, (110), adsorption of Xe, UPS obs. 9-33897
surface, (111), (100) and (110), UPS obs. 9-38712
surface, (111), interaction with hydrazine 9-46956
surface, form. and decomp. of nitrides 9-24831
surface, newly generated, occurrence of salt films during repassivation
9-15860
surface films formed in inhibitive solns., optical props., protective quality
9-20260
surface subjected to friction, wear, exoelectron emission, rel. to O₂, H₂O,
gaseous adsorpt. 9-1816
ultrafine particles, Fe₃O₄/γ-Fe₂O₃ surface layers, Mossbauer expts.
9-8081
ultrafine particles prepared by vacuum evap. on running oil substrate,
mag. behaviour 9-28565
vapour laser, 4529 Å emission 9-10282
whiskers, cryst. morphology and dislocation struct. study using optical and
SEM, X-ray diff. topography 9-23876
whiskers, high strength, polycrystalline, microstruct. obs. 9-33214
whiskers, struct., dislocations, mag. domains (*Polish*) 9-33210
zone-refined, positive muon diffusion at room temp. 9-47377
Al₂O₃-Fe cermet, microstruct. and physical props. 9-42279
BaTiO₃-Fe, photoinduced Rayleigh scatt. and bulk photovoltaic effect
9-38554
BaTiO₃-Fe, short circuit photocurrent, depend. on polarization 9-38121
CaO-Al₂O₃, binary slag, reduction of Al₂O₃ by C saturated Fe (*Japanese*)
9-24735
CaWO₄:Fe³⁺, EPR, spin Hamiltonian parameters from anal. of Kramers'
doublets 9-28595
Co-Ni-Fe, semi-hard magnet, irreversible magnetisation changes, direc-
tional distrib. 9-24196

iron continued

- CoV₂O₄:Fe, spinel, prep. and Mossbauer spectra 9-28660
⁵⁷Co:Fe Mossbauer source linear polarisation rate meas. (*French*)
9-30633
α-Fe, (001), surface relax. and thermal expansion calcs. 9-23820
Fe, Armco, fracture in liq. metals, Rebinder effect (*Russian*) 9-29266
α-Fe, carburisation and decarburisation kinetics in methane/H₂ mixture
(*German*) 9-1949
α-Fe, crack initiation study at low-cycle fatigue using slip bands (*Slovak*)
9-38949
α-Fe, creep and fracture between 77 and 673K 9-7649
α-Fe, deformed, changes in dislocation density, mech. props., dependence
on deformation temp. (*Russian*) 9-20130
γ-Fe, diffusivity of N₂ 9-46845
α-Fe, dislocation loops, equilib. shape under shear stress 9-7608
Fe, effect on nitriding of Si powder 9-33985
α-Fe film, mag. mechanism, at mag. moment (*Korean*) 9-7973
γ-Fe, grain boundary diffusion of Ni 9-23787
α-Fe, growth rate of γ-phase 9-20049
α-Fe, H ordering 9-7597
Fe I, excited levels measured lifetimes compared with calcs. from oscilla-
tor strengths 9-36586
Fe I, isoelectronic sequence, abnormal intensities in multiplets 9-22635
Fe I, precision oscillator strengths from levels a²F_{1,5} and a²D_{0,4}, compari-
son 9-36584
Fe I 5383 Å line width, Stark broadening 9-31463
Fe I transition from levels a²F_{1,5}, relative oscillator strengths precision
meas. 9-36585
Fe I transitions from levels a²D_{0,4}, relative oscillator strengths precision
meas. 9-36583
Fe II, Fe III, lifetimes, VUV beam-foil spectroscopy 9-22657
Fe II, spectrum, term system 9-778
Fe II permitted emission, excitation mechanism in Seyfert 1 galaxies and
QSOs 9-21412
Fe II permitted emission in Seyfert 1 galaxies and QSOs, obs. 9-35361
Fe II permitted lines in spectra of type I Seyferts and quasars 9-44602
Fe III, metastable states in Be star φ Persei rel. to mass loss 9-5832
Fe III-VI, struct. and transition probabilities, ab initio calc. using Tho-
mas-Fermi central pot. 9-3360
Fe IX lines in solar corona, appl. as plasmas density indicators 9-44429
Fe, in chloride solns., role of Mo as localised corrosion inhibitor 9-20255
α-Fe, lattice and force consts., pairwise atomic repulsions in cluster model
9-32939
Fe VI, forbidden emission under nebular conditions 9-8970
Fe VIII to Fe XXVI, wavelength tables (*Japanese*) 9-13661
Fe vapour, line strengths, energy-level structure for 3p-edge absorption
spectrum 9-45673
Fe X and XIV forbidden line emission from supernova remnants
9-44580
Fe XVII, mag. quadrupole lines, in TFR600 Tokamak plasma, 10-20 Å
9-13662
Fe XVII, X-ray spectra due to n=3 and 4 quantum nos. 9-22641
Fe XVII-XXIV X-ray line complex obs. of M87 galaxy halo 9-21425
Fe XVIII, Fe XXII, forbidden transitions in solar flares, fine struct.
9-22634
Fe XVIII-Zn XXII, transitions between 1s²2s²p⁵-1s2s²2p⁴3d
and 1s²2s²2p⁵-1s²2s²2p⁴3s configs. 9-26925
Fe XXI as electron density diagnostic in solar flares 9-44435
Fe XXIII, 2s2p(P₁⁰)→2s²(S₀⁰) transition probabilities, CI calcs.
9-36544
Fe XXIV, dielectronic satellite spectra calc., solar flare spectra appl.
9-35123
Fe XXV, He-like ion resonance line satellites 9-10064
Fe XXV and Fe XXVI emission lines in SC 0627-544 galaxy cluster
9-48941
Fe⁺, electron affinity, nonstatistical fine-struct. detachment intensities at
488 nm, laser electron spectra 9-41144
Fe⁺ ions in high latitude F-region, distrib. 9-16736
Fe³⁺ ions, in frozen aq. solns., spin-spin relax., Mossbauer obs. of effect
of paramag. impurity ions 9-33573
Fe²⁺, n=8-13, in plasma, collisional dielectronic recombination rate,
effect on level populations 9-1287
Fe²⁺, photoion. cross sections, Hartree-Slater central pot. model calcs.
9-22673
Fe:He, BCC, process of interstitial trapping by impurities 9-46697
Fe/H abundance ratio in giant stars of G and K type 9-16944
Fe-Cr diffusion couple, tracer diffusion meas. using tracer anal. 9-7716
Fe-Cu composite plates, vol. fraction and residual stress, effect on fatigue
strength (*Japanese*) 9-8349
Fe-Fe₂C, cavity nucleation, by plastic deform. 9-29127
Fe-Mn deposits on abyssal sea floor, geochem. 9-12107
Fe-MoS₂, exam. of props., using differential thermal analysis, and metallo-
graphy (*Russian*) 9-15653
Fe⁺/O₂+V₂O₅=FeV₂O₄ react., free energies of form., 1400-1750K,
electrochem. method determ. 9-43613
Fe+H⁺, K X-ray production, 0.2-0.5 MeV, ionis. cross-section 9-31459
Fe+Ne⁺, charge exchange obs. through spectral line enhancement
9-7005
Fe(III)+SCN⁻, reaction kinetics, computer-controlled stopped-flow
system 9-15953
⁵²Fe, recovery of uptake in erythropoietic bone marrow following large
field radiation therapy 9-20616
⁵⁵Fe and stable Fe forms and availability in oceanic aerosols 9-12241
⁵⁵Fe, susceptibility of haematopoietic stem cells to radiation damage
9-11975
⁵⁷Fe, Mossbauer effect-time dependent PAC technique, theory of com-
bined method 9-28645
GaAs:Fe, exchange-coupled pairs, ESR 9-11343
GaAs:Fe, impurity atom charge exchange, Mossbauer spectroscopy
9-47050
GaP:Fe, impurity atom charge exchange, Mossbauer spectroscopy
9-47050
GaSb:Fe, shallow acceptor level, electrical meas. 9-11087
H₂SO₄:Fe²⁺, frozen soln., photo- and radiation-produced H-atoms obs.
9-39162
KMg₂Fe²⁺, US relax. absorpt., acoustic wave-impurity coupling, spin-
orbit splitting 9-4375
KNbO₃:Fe, photovoltages, photocurrents and photorefractive effects
9-42580
KNbO₃:Fe photorefractive and photocurrent effects (*Russian*) 9-7091

iron continued

- KTa_{1-x}Nb_xO₃:Fe³⁺ (0 ≤ x ≤ 0.16), ferroelec., EPR meas. (*French*) 9-11337
 KTaO₃:Fe³⁺, EPR, elec. field effect, local fields (*Russian*) 9-8048
 LiNbO₃:Fe, bulk photovoltaic effect in ferroelects. 9-15181
 LiNbO₃:Fe, electron irradi., photoinduced charge transfer and hologram recording 9-36859
 LiNbO₃:Fe, influence of anomalous photovoltaic effect on exoelectron emission 9-28374
 LiNbO₃:Fe, intensity enhanced bulk photovoltaic effects 9-19616
 LiNbO₃:Fe, local photodeformation 9-42932
 LiNbO₃:Fe, optical damage induced by laser light, X-ray irradi., carrier mobility effects 9-33657
 LiNbO₃:Fe, optical damage, Fe ion conc., EPR and optical spectra evaluation 9-42933
 LiNbO₃:Fe, photocond. and photorefractive effects 9-38124
 LiNbO₃:Fe, photoinduced Rayleigh scatt. and bulk photovoltaic effect 9-38554
 LiNbO₃:Fe, photorefraction kinetics under irradiation and heating 9-42934
 LiNbO₃:Fe, photovoltaic effect and charge transport mechanism 9-38123
 LiNbO₃:Fe, pure and doped, nonlinear excitation, multiphoton photorefractive process 9-36950
 LiNbO₃:Fe, recording dynamical holograms in crystals with photovoltaic effect, nonstationary energy exchange (*Russian*) 9-31842
 LiNbO₃:Fe crystals, reflection hologram recording 9-10272
 LiNbO₃:Fe³⁺, electrooptical effect, charge transfer mechanism, defect. pair form. 9-38519
 LiNbO₃:Fe, anomalous photovoltaic effect and diffraction efficiency (*Russian*) 9-15190
 MgF₂:Fe²⁺, γ-irrad., F-centres, Fe²⁺ ion hole traps, absorpt. and EPR meas. 9-7598
 MgO:Fe, X-ray stimulated luminesc. 9-28802
 MgO:Fe²⁺, thermal magnetoresist. calc. 9-10994
 NH₄H₂PO₄:Fe²⁺, mechanism of habit change due to Fe³⁺, Mossbauer study 9-19821
 NaClO₄:Fe²⁺, frozen soln., photo- and radiation-produced H-atoms obs. 9-39162
 Ni/Fe interfaces sputter profiling, by AES 9-15572
 Ni/Fe layers, interdiffusion, Auger sputter profiling obs. 9-46848
 NiO:Fe, exchange anisotropy of Ni-ferrite precipitates 9-28520
 PbMoS₄:Fe, influence on supercond. transition temp., and mag. props. (*Russian*) 9-42686
 Si:Fe, EPR line intensity and widths, temp. depend. 9-28604
 Si:Fe, photoconductivity and Hall effect 9-4579
 n-Si:Fe 9-28312
 Si:Fe⁰ interstitial localisation, EPR spectrum 9-1582
 Si₃N₄:Fe, α- and β-phases, Mossbauer and Raman obs. of state of Fe 9-33572
 SiO₂, vitreous, Fe²⁺ absorpt. spectra in polarised light and struct. position 9-43007
 SnO₂:Sb, Fe, CVD thin film, resist. temp. coeff. 9-38198
 V-Fe interface, diffusion above 500°C (*German*) 9-28156
 ZnS_{Se}_{1-x}:Fe, photolum. meas. 9-19921

iron alloys

see also *Elinvar*; *Invar*; *iron compounds*; *Permalloy*; *steel*

- amorphous ribbon, saturation magnetostriiction, and electronically controllable delay line 9-1700
 brass leaded, effect of Al, Sn, Fe on solidification, differential thermal analysis exam. (*Russian*) 9-29041
 cast, Fe, ferritic, spheroidal, graphite nodule size and distrib. effect of fracture (*French*) 9-20176
 cast, Fe, graphite nodule form., ion microprobe mass anal. appl. 9-43295
 cast, Fe, with uniaxial loading, changes in ultrasonic waves vel. and attenuation 9-15756
 cast, fracture toughness prediction 9-5045
 cast, high tensile, with spheroidal graphite, depth length relationship of fatigue crack developing in circular specimens during bending 9-11705
 cast, Fe, anodic protection under boiling H₂SO₄ in industrial conditions 9-20245
 cast, Fe, atomised powder, reduction and decarburisation annealing in converted gas 9-24463
 cast, Fe, atomised powder, reduction-decarburisation annealing with converted gas, optimum conditions 9-24465
 cast, Fe, atomised powders, particle size effect on purification in US pickling 9-28985
 cast Fe, C and Si effect on spheroidal graphite (*Korean*) 9-38839
 cast Fe, eutectic solidification, expt. study by quantitative metallography 9-24516
 cast Fe, form. of surface graphitisation centres (*Russian*) 9-11720
 cast Fe, graphite spheroidization, Mg residue effects (*Korean*) 9-43286
 cast Fe, grey, abrasive wear rate rel. to fracture toughness and microstructure (*German*) 9-29232
 cast Fe, grey, chromisation, influence on surface roughness (*German*) 9-11729
 cast Fe, grey, electric arc sprayed coating on wire, elastic and elastic-plastic props. (*German*) 9-34089
 cast Fe, grey, wear of plasma-sprayed TiO₂ coating 9-34155
 cast Fe, high Cr, phase composition, mech. props. rel. to heat treatment 9-29108
 cast Fe, homogenization of property difference due to mass effect by repeated heat treatment (*Japanese*) 9-38857
 cast Fe, hypoeutectic, primary crystn. features by means of apparent viscosity meas. in early stages of solidification (*Japanese*) 9-43231
 cast Fe, internal notch effect on abrasive wear in martensitic, lamellar, grey Fe (*German*) 9-29231
 cast Fe, liquid metal embrittlement, eval. by quasistatic crack propag. technique 9-29262
 cast Fe, mech. props., demodification influence of isothermal holding and Mg addition (*Bulgarian*) 9-15707
 cast Fe, Mg, high strength bainitic transform. in C-shape diagram (*Russian*) 9-1860
 cast Fe, parts inspection of unmachined surfaces using fluorescent penetration method 9-11754
 cast Fe, powder, exam. of reaction between C and O, before and after annealing in converted gas 9-33973
 cast Fe, turning, wear of cemented carbide tools 9-43442
 cast Fe, unalloyed and alloyed, addition effects on struct., thermodynamics of microsegregation 9-8305
 cast Fe, wear resist., effect of rolling friction strengthening, oil abrasive environment (*Russian*) 9-15799
 cast Fe, white, prep. and morphological obs. (*French*) 9-43168
 compacts, sintered, prod. directly from Fe₃O₄ powder (*Slovak*) 9-15626
 compatibility with Si₃N₄, solid-solid reactions 9-28151
 containers for liquid Li, corrosion resistance properties 9-47815
 F (*Russian*) 9-42800
 f-Fe-Zn layer formed during hot dip galvanizing, texture 9-29287
 fracture mechanism in various temperature and stress intervals (*Russian*) 9-24600
 Gentalloy, in Fe-W system, damping capacity (*Japanese*) 9-20094
 gray, Mg bearing, high strength, eutectic grain determ. by Si reverse liquation 9-15886
 Hastelloy X-R, reaction with sintered Li₂O pellets 9-39137
 high heat resistant, industrial appl. and comp. (*Korean*) 9-24716
 Incoloy 800, and 800 H, low cycle fatigue behaviour comparison 9-43438
 Incoloy 800, and 800H, proposed specification changes 9-43298
 Incoloy 800, appl. 9-43553
 Incoloy 800, cast, microstruct. evolution during creep, TEM obs. 9-43366
 Incoloy 800, chem. behaviour and mech. performance in HTR He at high temps. 9-47842
 Incoloy 800, contamination and decontamination of samples from KFA experimental duct of DRAGON reactor 9-45600
 Incoloy 800, corrosion and carburization in liquid Na up to 973K 9-47841
 Incoloy 800, corrosion fatigue crack propagation in pure water at 85°C (*Japanese*) 9-43472
 Incoloy 800, corrosion resist. props. in high temp. steam, review 9-47839
 Incoloy 800, creep and fatigue props. in high temp. gas cooled reactor He environment 9-47776
 Incoloy 800, creep crack growth, age hardening effect 9-43436
 Incoloy 800, creep rupture, creep strength and tensile data, 500 to 800°C 9-43371
 Incoloy 800, creep rupture ductility, 500 to 600°C, hardness and metallurgical exam. 9-43435
 Incoloy 800, creep rupture props. at 525°C 9-43437
 Incoloy 800, design codes and lifetime prediction aspects for nuclear and non nuclear appls. 9-47778
 Incoloy 800, design problems in steam generators of high temp. reactors 9-45352
 Incoloy 800, effect of liquid Na on creep and rupture props. 9-47775
 Incoloy 800, exam. of caustic stress corrosion cracking, comparison with type 304 stainless steel 9-29261
 Incoloy 800, exam. of mech. and microstructural props. 9-5022
 Incoloy 800, from KFA experimental duct at 700°C and 480 d in DRAGON reactor, mech. props. before and after contamination 9-47777
 Incoloy 800, high temp. corrosion and mech. props. in Na environment 9-47840
 Incoloy 800, high temp. gaseous corrosion in sulphidising environments 9-47838
 Incoloy 800, high temp. oxidation in low O₂ pressures, SEM obs. of oxide morphologies 9-47844
 Incoloy 800, mech. props. above 600°C 9-43370
 Incoloy 800, mechanical props., heat treatment and appl., conf., Petten, Netherlands (March 1978) 9-43296
 Incoloy 800, mechanisms of corrosion in He 9-47843
 Incoloy 800, microstruct. effect on mech. props. 9-43367
 Incoloy 800, pretreatment potential effect on pit generation (*Japanese*) 9-43474
 Incoloy 800, reaction with sintered Li₂O pellets 9-39137
 Incoloy 800, review of mech. props. up to 600°C 9-43368
 Incoloy 800, review of structural charact., heat treatment and comp. effects 9-43297
 Incoloy 800, review on high temp. gaseous corrosion in carburising and oxidising environments 9-47837
 Incoloy 800, sensitisation and intergranular corrosion 9-47721
 Incoloy 800, solution annealed, low and high cycle fatigue correlation 9-43439
 Incoloy 800, stress corrosion cracking in contaminated aq. media at high temp. (*French*) 9-20273
 Incoloy 800, thin wall tubing, creep-rupture testing in steam under constant and cyclic load 9-47774
 Incoloy 800, use up to 550°C, creep ductility 9-43369
 Incoloy 800H, high temp. low cycle fatigue, ageing and cold working effect 9-43277
 Incoloy 800H, high temp.-low cycle fatigue, ageing and cold working effect on initial stress/strain curve 9-47720
 Inconel 600, corrosion fatigue crack propagation in pure water at 85°C (*Japanese*) 9-43472
 Inconel 600, exam. of caustic stress corrosion cracking, comparison with type 304 stainless steel 9-29261
 Inconel 600, reaction with sintered Li₂O pellets 9-39137
 Inconel 600, surface composition depend. on H atom influx, AES 9-5192
 Inconel 600, XPS exam. of initial growth of oxide films 9-20240
 Inconel 625, secondary ion emission due to H ion bombardment 9-8216
 Inconel 625, surface treatment of plane and hollow components in glow discharges 9-1923
 Inconel 675, wall and limiter material for Tokamaks, induced desorption diffusion and gas production by 100 eV electrons and ions 9-675
 Inconel 718, blistering by 2 MeV He⁺ ions, optical microscopy and SEM obs. 9-42119
 Inconel 718, heat capacity 313 to 1053K 9-10964
 Inconel 738, SEM and electron beam analyser study (*German*) 9-20056
 Inconel X-750 foil, surface pretreatment for improved coating adherence 9-15877
 Inconel-718, blistering and exfoliation by 2 MeV He⁺ beam 9-46722
 Kovar substrate, TiB₂ coating prep. by CVD and interaction with substrate 9-24680
 magnetically-soft materials, mag. characts. determ. methods, review 9-40593
 metastable alloy formation by ion implantation 9-14828
 Metglas 2605, and 2605 A, transport props., resist. and magnetoresist. 9-1590
 Metglas 2826A, direct meas. of decomp. on crystn. by X-ray microanal. in STEM 9-48025
 Mossbauer isomeric effects (*Dutch*) 9-1731
 Nimonic alloy, effect of annealing on hardness, carbide phase strengthening (*Russian*) 9-34137
 porous powder metallurgical components, gamma nitriding 9-20088

iron alloys continued

- rare earth-Fe₂ Laves phase intermetallics, mag. ordering temps. by DTA 9-47283
- resistivity, effect of sp-3d impurity interactions 9-46696
- slip band theory, model for creep based on dislocation climb at grain boundaries, comparison with expt. data 9-37756
- spin glass-ferromag. alloys, high-field magnetisation 9-33488
- systematics, rel. to the long periodic table 9-37649
- Th₆Mn₂₃ type struct., mag. susceptibility (*Russian*) 9-42736
- wear resistance, struct. effect 9-29229
- Ag-Fe alloy film, mag. susceptibility max. 9-24173
- Al-Al₃Fe, fibre reinforced eutectic, deformation behaviour by rolling, TEM and SEM study 9-29129
- Al-Cu-Fe, liquid, mag. moment and transition from mag. to nonmag. state 9-24132
- Al-Cu-Mn-Mg-Fe-Si (4.48, 0.66, 1.55, 0.43, 0.23 wt.%), alloy D16, relationship between intercrystallite corrosion depth, and elec. cond. 9-20220
- Al-Cu-Mn-Mg-Fe-Si-Zn alloy D16, surface layers chem. composition rel. to fatigue resist., corrosion-fatigue resist. 9-29275
- Al-Fe (1 wt.%), depth resolved ⁵⁷Fe conversion electron Mossbauer spectra 9-38413
- Al-Fe dil. alloy, bamboo struct., grain boundary internal friction peak 9-43306
- Al-Fe-Ni, oxidation in hot water, electron microscope obs. of initial stages 9-11718
- Al-Fe-Si commercial alloy, elevated temp. low cycle fatigue behaviour under rotating bending 9-47766
- Au-Fe, dil. alloys, spin glasses, modified bond model calcs. 9-33489
- Au-Fe, polygonisation, recrystallisation, precipitation microstruct. without external plastic deform. 9-43276
- Au-Fe, spin glass, spin relaxation rates, neutron scatt. study 9-47235
- Au-Fe, spin-glass, characteristic temps. 9-38348
- Au-Fe (1-7 at.%), extraordinary Hall effect, near ferromag. percolation limit 9-19575
- Au-Fe (15 at.%), small angle neutron scatt. study 9-47293
- Au-Fe (20 at.%), mag. virtual bound state alloys, XPS of core states 9-47588
- Au-Fe alloy film, mag. susceptibility max. 9-24173
- Be-Al-Fe system, phase equilibria using high energy ion beams 9-43203
- Be₂Mn_{1-x}Fe_x, mag. props., giant moment clusters 9-28508
- Ce-Sm-Co-Fe-Cu, permanent magnet props. 9-8013
- Co-Fe, neutron radiation stimulated diffusion, electrical resistivity exam. (*Russian*) 9-14959
- Co-Fe (6 wt.%), magnetic properties, 850 to 1000°C range (*Slovak*) 9-4698
- Co-Fe alloy films, magnetostriction and orientation of easy magnetisation axes (*Russian*) 9-19756
- Co-Fe alloys, transformation induced microstructs. extended total dislocations, TEM study 9-42073
- Co-Fe-B sputtered amorphous films, mag. props. and corrosion resist. 9-28567
- Co-Fe-Cr-P-B sputtered amorphous films, mag. props. and corrosion resist. 9-28567
- Co-Fe-Nb, heavily cold worked, magnetic hardening 9-20073
- Co-Ga-Fe, small-angle mag. neutron scatt., states of mag. order study rel. to Mn and Fe substitution 9-11292
- Co-Ni-Fe, semi-hard magnet, irreversible magnetisation changes, directional distrib. 9-24196
- Co_{0.91}Fe_{0.09}, X-ray scatt. factor 9-41907
- Co_{0.92}Fe_{0.08}, phonon dispersion and Debye temp. temp. depend., neutron inelastic scatt. 9-33047
- Co₂Ga_{2-x}Fe_x, elec. resist. anomalies 9-38044
- Cr-Fe, magnetically insensitive Invar-type alloys (*Japanese*) 9-8034
- Cr-Fe, superparamagnetism and mag. order charact. near critical conc., neutron scatt. study 9-11293
- Cr-Fe (0.6 at.%), antiferromag., anomalous press. effect on resist. minimum 9-15138
- Cr-Fe-Co dilute alloys, Neel temp., thermal expansion rel. to Co content 9-47281
- Cr-Fe-Ni, phase diagram calc. 9-1848
- Cr-Fe-Si, mag. excitation, neutron spectrometry 9-4654
- Cr-Fe-Si, spin density wave, neutron diffraction studies 9-1664
- Cr-Fe (2.8 at.%), antiferromag., meas. of incoherent elastic neutron scatt. cross section 9-19723
- Cr-Mo-Fe, dil., behaviour of mag. impurities 9-4672
- Cr-V-Fe alloy, resistivity minimum, press. effect 9-38043
- (Cr_{1-x}Fe_x)_{1-x}Sb, interstitial occupancy, Cr-Fe distrib., X-ray and neutron diff. study 9-42012
- Cu-Al-Fe-Mn (10,3,2 wt.%), phase comp. struct., continuous cooling from β -phase effect 9-24499
- Cu-Fe, biphasic material X-ray stress determ. (*Russian*) 9-5097
- Cu-Fe, cluster form., Fe solubility determ., 450 to 1000°C, Mossbauer spectra obs. (*German*) 9-29021
- Cu-Fe, dil. alloy, spin relaxation rates, neutron scatt. study 9-47235
- Cu-Fe, liquid, surface tension (*Japanese*) 9-19431
- Cu-Fe, Mossbauer studies of ageing and precip. 9-38415
- Cu-Fe, precipitation kinetics study by thermoelectric power measurement (*French*) 9-20050
- Cu-Fe, preferred crystallographic orientation of unidirectionally solidified polycrystals (*Czech*) 9-43233
- Cu-Fe (1.2 at.%), Fe moment and lattice distortion, neutron scatt. meas. 9-24133
- Cu-Fe alloy film, mag. susceptibility max. 9-24173
- Co-ferrous alloy, hard inclusion composite exam. of wear resistance props. 9-34153
- Co-Ni-Fe, spinodal alloy, heat treatments for improved mech. props. 9-5024
- Cu-Ni-Fe tube, stressed, corrosion failure caused by cooling water, denickelation (*German*) 9-29286
- Dy-Fe, amorphous film, Kerr readout characts. 9-15439
- Dy₂(Fe,Co)₁₇, mag. anisotropy fields by singular pt. detection 9-24156
- DyFe₂ powders, mag. and hysteresis props. (*Russian*) 9-42800
- ErFe₂ powders, mag. and hysteresis props. (*Russian*) 9-42800
- ErFe₂, spin waves, exchange interaction, neutron scatt. study 9-47267
- EuFe₂Al₈, mag. ordered, mixed valency of Eu, X-ray, susceptibility and Mossbauer spectra studies 9-19728
- (Fe,Ni)₈₃B₁₅C₂, amorphous alloy, mag. props., possible appl. to power transformers 9-28558
- (Fe,Ni)₈₀P₁₄B₆, amorphous alloy, mag. props., possible appl. to power transformers 9-28558

iron alloys continued

- Fe, cast, white martensitic, centrifugally cast metallurgical coatings for wear resistance in plastics molding machines 9-29285
- Fe-Al, Mossbauer study of ordering (*Japanese*) 9-19822
- Fe-Al, optical props., comp. and order-disorder transform. depend. (*Russian*) 9-28852
- Fe-Al, positron lifetime and angular correl. curves 9-47538
- Fe-Al, single crystal, twinning and pseudoelectricity 9-15718
- Fe-Al, variation in absolute thermolec. power under heat/treatment (*Ukrainian*) 9-38051
- Fe-Al (1 to 4 wt.%), effect of nitriding on surface structure and props., and on diffusion layer (*Russian*) 9-34197
- Fe-Al-C alloys, C migration and mag. aftereffect, mag. permeab. disaccommodation and long-range order meas. 9-8020
- Fe-Al-Co-Ni, Alnico alloys, irreversible remagnetisation processes in rotating fields (*Russian*) 9-8015
- Fe-Al(Si), disordered, obs. of Kohn singularities in X-ray diffuse scatt. 9-27874
- Fe-B, metallic glass, theoretical studies on structural models 9-37633
- Fe-B, rapidly solidified, metastable phases (*German*) 9-29045
- Fe-B (15-25 at.%) glass, quasicryst. struct. Mossbauer expts. 9-4255
- Fe-B ferromag. film, props. 9-4709
- Fe-B glass, crystallisation kinetics, elec. resist. meas. 9-4254
- Fe-B glass, X-ray obs. of struct. 9-1399
- Fe-B metallic glass, struct. and crystallisation, Mossbauer spectra, calorimetry and magnetisation meas. 9-23528
- Fe-B metastable alloys, Mossbauer spectroscopy and electron microscopy 9-28653
- Fe-B-C amorphous alloys, room-temp. saturation induction over 17.5 kG 9-47300
- Fe-B(-Co), two amorphous phases form. and crystallisation 9-27924
- Fe-B(-Si)(-Ni), amorphous alloy, anelastic relaxation 9-4997
- α -Fe-Be(P)(Mo)(W)-Co, effect of Co on solubility anomaly due to mag. transition (*Japanese*) 9-42257
- α -Fe-Be(Ti)(Mo)(P)(Sb), effect of mag. transition on solubility of alloying elements (*Japanese*) 9-42256
- Fe-C, dil., Hall-field electrotransport of C, effective valence numbers 9-28148
- Fe-C, dil. alloys, softening, conventional and in situ expt. 9-47744
- Fe-C, dilute alloys, softening, conventional and in situ expt., HVEM obs. 9-47743
- Fe-C, effect of H on elastic props., due to internal microcracking (*Russian*) 9-24561
- Fe-C, electronic structure of interstitials 9-1583
- Fe-C (0.64 wt.%), quasicleavage during fatigue crack propag., pearlitic microstruct. effect 9-11702
- Fe-C (0.8-4.2 wt.%), eutectoid transform., effect of heat treatment in H₂ (*Russian*) 9-4947
- Fe-C (30 at.%), production of Fe₇C₃ at high press., morphology and microstruct. (*Russian*) 9-38828
- Fe-C martensite, crystal struct. and morphology of ordered phase 9-42011
- Fe-C solid solns., surface graphite layer form., high-temp. metallography investig. 9-29306
- Fe-C solid solution, martensite, carbide decomposition, electron microscopy and X-ray diff. obs., review (*Russian*) 9-33998
- Fe-C sputtered amorphous films, mag. props. and corrosion resist. 9-28567
- Fe-C-B, exam. of phase diagram using neutron autoradiography 9-8279
- Fe-C-H phase diagram, effect of H on eutectoid equilb. (*Russian*) 9-15648
- Fe-C-N, BCC, Snoek type reordering during strain ageing (*French*) 9-8312
- Fe-C-S-Mg melt, S and Mg effect on graphite growth shape 9-38817
- Fe-C-Si (0.62, 2.0 wt.%), interfacial struct. of broad faces of ferrite plates 9-46660
- Fe-C-Si-Mn, cast, high C, K₁ phase formation due to peritectoid transitions (*Russian*) 9-11548
- Fe-C-Si-Mn (1.5-2.9, 2.4-3.4, 0.54-31.7 wt.%), discontinuous decomp. of supersaturated austenite (*Ukrainian*) 9-38788
- Fe-CR, ion-etched, surface comp., effect of adsorbed CO, AES obs. 9-46896
- Fe-Co, amorphous alloy, stress effect on mag. domain struct. 9-33502
- Fe-Co, dil., Mossbauer source, self-absorption effects (*French*) 9-24246
- Fe-Co, long range order, neutron powder diff. meas. 9-42243
- Fe-Co, mag. moment of Cr and Mn atoms, polarised neutron scattering 9-11290
- Fe-Co (33 wt.%), oxidation and domain structure, electron microscope exam. (*Russian*) 9-1437
- Fe-Co based alloys (52KF, 35KKh, 35KFN), effect of heat treatment and mech. working, on sensitivity of mag. props. to mech. stresses (*Russian*) 9-34161
- Fe-Co films, ordered and disordered, Mossbauer study 9-24241
- Fe-Co-Cr, magnetic, phase transform. obs. (*French*) 9-47676
- Fe-Co-Cr (50, 0.4 wt.%), ordering and recrystallisation 9-34029
- Fe-Co-Ni, at. mag. moments, neutron scatt. and Mossbauer meas. 9-42744
- Fe-Co-Ni-Si-B amorphous alloy, magnetostriction and permeability, effect of annealing 9-1701
- Fe-Co-Ta for semipermanent magnets (*French*) 9-47675
- Fe-Co-V-Cr alloys, struct. transform., appl. of mag., thermomag. methods (*French*) 9-20318
- Fe-Co(-V), neutron irradiated, influence of dislocation doping on recovery 9-46715
- σ -Fe-Cr, brittle fracture stresses under high hydrostatic press. and high temp. (*Japanese*) 9-43397
- Fe-Cr, high temp. oxidation, internal stable nitride and oxide dispersion 9-39017
- Fe-Cr, mag. props. of Fe, local coupling with spin modulation of matrix 9-15299
- Fe-Cr, nondestructive in-depth surface anal. by XPS with different excitation X-ray energies 9-20328
- Fe-Cr, segregation of ¹²¹Sb, Mossbauer spectroscopy 9-47698
- Fe-Cr (20 wt.%), high temperature oxidation resistance, effect of rare earth and reactive element additions (*Japanese*) 9-20271
- Fe-Cr (25wt.%), surface comp. rel. to passivation phenomena (*French*) 9-43479
- Fe-Cr (27.4 wt.%), oxidation, alloy depletion profiles resulting from preferential removal of less noble metals 9-11728
- Fe-Cr (28 wt.%), intergranular corrosion and anodic polarization at grain boundary groove (*Japanese*) 9-15869

iron alloys continued

- Fe-Cr (5, 10 and 20 wt.%), microcrack generation, healing of oxide scale 9-20280
 Fe-Cr alloys, corrosion, oxidation, combined ion-, electron-beam techniques appl. 9-43700
 Fe-Cr based coatings, hot corrosion resist. 9-24674
 α -Fe-Cr solid soln., thermodynamic activity of components 9-38797
 Fe-Cr-Al (14, up to 2 wt.%), Al effects on high temp. oxidations (Japanese) 9-15865
 Fe-Cr-Al, thermodynamic predictions in coal gasifier environment 9-38799
 Fe-Cr-C solid solns., ordering and γ to α transforms, effect of heat treatment (Russian) 9-24520
 Fe-Cr-Co, mag. props. of ductile permanent ductile alloys (Chinese) 9-19746
 Fe-Cr-Co martensite, ordering and segregation (Russian) 9-20052
 Fe-Cr-Co-Al(V)-(Nb)(Ti), phase equilib., X-ray diff. meas. (Russian) 9-47658
 Fe-Cr-Mo-Ti (13, 1.5, 3.5 wt.%), equilibrium studies on chi-phase strengthening 9-24496
 Fe-Cr-Mo(Ni)(Mo-Ni), AES using peak-to-peak value (Japanese) 9-20485
 Fe-Cr-N system, distrib. of Er between austenite and ferrite at 1200°C 9-43205
 Fe-Cr-Ni, analysis and synthesis of phase diagrams 9-11563
 Fe-Cr-Ni, α -particle induced precip. and phase instability 9-1470
 Fe-Cr-Ni, shock loading effect on phase equilib. (Russian) 9-29017
 Fe-Cr-Ni, solid soln. strengthened and precipitation hardened, in-reactor creep 9-43327
 Fe-Cr-Ni, thermodynamic prediction in coal gasifier environment 9-43206
 Fe-Cr-Ni alloy, quantitative anal. method based on ion bombardment induced secondary ion and photon emission 9-19963
 Fe-Cr-Ni-C (17.2, 7.34, 0.2 wt.%), twin related laths, fracture elongation, TEM study 9-29192
 Fe-Cr-O-C, stability diagrams, characteristics and calc. 9-10917
 Fe-Cr-P-C sputtered amorphous films, mag. props. and corrosion resist. 9-28567
 Fe-Cr(Cr-Ni)(Cr-Ni-Mo)-Al, liquid, N solubility, AlN precipitation 9-11630
 Fe-Cr(Ni) surface alloys, corrosion resistant, formation by ion implantation 9-28009
 Fe-Cu, generation of self-consistent Gibbs energy functions 9-11565
 γ -Fe-Cu, lattice and grain boundary diffusion of Cu 9-23765
 Fe-Cu (0.34 wt.%), neutron irradiated, field-ion microscope detection of ultra-fine defects 9-42116
 Fe-Cu (1.77%) alloy, influence of neutron irradiation on electric resist. (Russian) 9-38041
 Fe-Cu-Ti, improvement of irradiation-enhanced Cu embrittlement by Ti addition 9-43393
 Fe-Gd films, crystallisation, electron microscope obs. 9-15034
 Fe-Ge, liquid alloy, thermodynamic mixing function determ. by mass spectrometric meas. 9-29025
 β -Fe-Ge, mag. props. from X-ray, magnetisation and Mossbauer meas. 9-42755
 Fe-Ge melts, struct. determ. 9-41940
 Fe-Mn, dil. alloy, mag. moment distrib., temp. depend., diffuse polarised neutron scatt. study 9-47250
 Fe-Mn, electron redistrib. and BCC struct. stability, Mossbauer meas. (Russian) 9-42873
 Fe-Mn, jump stress relaxation obs. during cooling before martensitic transform. (Russian) 9-38884
 Fe-Mn, mag. susceptibility and conc. depend. of Neel point (Russian) 9-47279
 Fe-Mn (22 wt.%), ϵ - γ transformation, effect of H_2 pressure up to 23 kbar on transition temp. (Russian) 9-24517
 Fe-Mn alloys, elasticity modulus anomaly and magnetoelastic effect (Russian) 9-28578
 Fe-Mn-C, γ - ϵ - α' martensitic transform. 9-24523
 Fe-Mn-S, thermodynamics, solid/liquid phase equilibria, 1100 to 1300°C 9-47663
 Fe-Mn-S, thermodynamics, solubility of S and Mn in γ -Fe, 1100 to 1300°C 9-47662
 Fe-Mo (0 to 6 wt.%), in chloride solns., role of Mo as localised corrosion inhibitor 9-20255
 Fe-Mo (1.8 at.%), high temp. creep mech., use of stress exponent 9-5025
 Fe-Mo (1.8 at.%), recovery creep theory estimation using high temp. creep data 9-15747
 Fe-Mo (4.1 wt.%), substructs. developed during steady state creep at 1100-1200K, TEM obs. (Japanese) 9-38900
 Fe-N, neutron irradiation effects on mech. props. 9-4338
 Fe-N (0.03 at.%), single crystal, stress distrib. around spherical inclusion, TEM study 9-34038
 Fe-N system, spattering phenomenon during arc melting 9-39053
 Fe-NbC, exam. of phase diagram, and mech. props. (Russian) 9-20028
 Fe-Nb(Ta)-Co, Recalloys, semihard mag. alloys, mag. and elec. props., hardness, thermal expansion (Japanese) 9-5066
 Fe-Ni, alloy 20N24, martensitic, exam. of structure after laser treatment, and recrystallisation (Russian) 9-11608
 Fe-Ni, α to γ transformation, changes in Young's modulus and electro-physical props. (Russian) 9-20042
 Fe-Ni, cryst. growth from melt, distrib. of growth directions 9-33924
 Fe-Ni, enthalpy of transform. of γ to α' and α' to γ transforms. (French) 9-47683
 Fe-Ni, exam. of mech. adhesion, with vitreous coating 9-20336
 Fe-Ni, FCC alloy, magnetovolume instability 9-8031
 Fe-Ni, FCC alloy, thermoelec. power, anomalous conc. depend. at high temp. 9-4548
 Fe-Ni, ferro-nickel oxidation, appl. of mag., thermomag. methods (French) 9-20318
 Fe-Ni, low-noise, for cores of ferromag. probes and mag. modulators 9-8017
 Fe-Ni, martensitic transformation, microscopic mechanism (Russian) 9-34036
 Fe-Ni, quenched irreversible alloy, zero or negative thermal dilatation 9-4419
 Fe-Ni, reference material for determ. of C activity, interaction parameter (Czech) 9-42278
 Fe-Ni, segregation of ^{121}Sb , Mossbauer spectroscopy 9-47698
 Fe-Ni, solid and liquid, determ. of activities for temp. range 1500-1900K, using mass spectroscopy 9-11558

iron alloys continued

- Fe-Ni (1 to 5 at.%), mech. props. below 300K (French) 9-8314
 Fe-Ni (15, 25 at.%), longitudinal forces in the hot torsion test (German) 9-38889
 Fe-Ni (29.58 wt.%), acoustic absorpt. and emission associated with martensitic transform. 9-34035
 Fe-Ni (3 wt.%), low temp. softening (German) 9-29081
 Fe-Ni (31 wt.%) alloy, Bridgman grown, cellular to dendritic crystn. transition, morphology and microstruct. (Russian) 9-14709
 Fe-Ni (32 at.%), exam. of streaming due to intrinsic fluctuations 9-11602
 Fe-Ni (32.86, 30.65 wt.%), characts. of quenched struct. formed in textured sheets, TEM and optical microscopy study 9-34084
 Fe-Ni (33.7 wt.%), γ -phase stability near martensitic transform., shear modulus obs. (Russian) 9-4966
 Fe-Ni (50 wt.%), obs. in Santa Catharina meteorite 9-30024
 Fe-Ni alloy, anodic oxide film formed in $\text{H}_2\text{BO}_3\text{-Na}_2\text{B}_4\text{O}_7$ soln., exam. in depth profile by AES and sputter etching 9-20247
 Fe-Ni alloy, detection in Santa-Catharina meteorite (French) 9-16895
 Fe-Ni alloys, diffusivity of N, 9-46845
 Fe-Ni alloys, electronic struct. by XPS obs. 9-33226
 Fe-Ni alloys, influence of hydrostatic press. on γ to α' transform. during plastic deform. (Russian) 9-15663
 Fe-Ni austenite, precipitation hardened, transform. strengthening 9-24531
 Fe-Ni based metallic glasses, nonisothermal crystallisation kinetics, DSC anal. 9-27927
 Fe-Ni films, dynamic domains and pulse mag. reversals (Russian) 9-28571
 Fe-Ni martensitic alloys, age hardening 9-47736
 Fe-Ni powder, Ni clad Fe grains, exam. of electrochemical formation process 9-33974
 Fe-Ni two-phase films, alloy component redistrib. during annealing, electron diff. anal. (Russian) 9-20053
 Fe-Ni, hyperfine field, variation with atomic order 9-7953
 Fe-Ni-Al alloys, ordering X-ray and neutron diff. obs. (Russian) 9-20038
 Fe-Ni-Al-Co-Cr-Ti, YbNDK35T5BA, exam. of hypodissociation process (Russian) 9-11547
 Fe-Ni-C, calc. of activity data, and exam. of phase equilibria 9-10912
 Fe-Ni-C, couplings of thin plate martensites 9-24492
 Fe-Ni-C, Fe rich portion of phase diagram determ. 9-24497
 Fe-Ni-C, HVEM study of strain induced martensite 9-20047
 Fe-Ni-C, martensitic delayed fracture (Slovak) 9-43401
 Fe-Ni-C, phase diagram determ. 9-24495
 Fe-Ni-C (24, 0.45 wt.%), single crystal, plastic deform. effect on martensitic burst transform. 9-15695
 Fe-Ni-C (24, 0.5 wt.%), struct. of burst and isothermal martensites 9-38825
 Fe-Ni-C (26.4, 0.24 wt.%), austenitic single crystals, effect of prior deformation on martensite burst transformation, SEM obs. 9-38823
 Fe-Ni-C (30.59, 0.02 wt.%), effect of loading on transformation of retained austenite to martensite 9-47686
 Fe-Ni-C (31.9, 0.02 wt.%), metallographic study of austenite grain size effect on martensite kinetics 9-1863
 Fe-Ni-C austenitic single crystals, deform. props., martensitic transformation, SEM study 9-29143
 Fe-Ni-C-Mn (3.56, 3.25, 0.6 wt.%), solid soln., quenched, changes during annealing to crystal structure, mech. props. (Russian) 9-34076
 Fe-Ni-Co alloys, struct., appl. of mag., thermomag. methods (French) 9-20318
 Fe-Ni-Co foils, mag. reversals of mag. domains in low-coercivity channels (Russian) 9-42813
 Fe-Ni-Cr, compatibility with Li_2O pellets, mass spectrometric study of Li_2FeO_4 evaporation 9-8385
 Fe-Ni-Cr, diffusion in Th at 500 to 800°C (German) 9-28157
 Fe-Ni-Cr, oxide film form., combination anal. using ESCA, AES and SIMS 9-16092
 Fe-Ni-Cr (10, 6 to 14 wt.%), electrochemical polarisation in high temp. water (Japanese) 9-15868
 Fe-Ni-Cr (20, 15 wt.%), fusion reactor struct. alloys, dual-ion irradiation effects 9-45403
 Fe-Ni-Cr-S, phase relations rel. to sulphidation of austenitic stainless steel 9-38800
 Fe-Ni-Cr-Ti-Al Elinvar alloys, dispersion-hardened, structural transform. (Russian) 9-1872
 Fe-Ni-Cr-Y, oxidation at 800 to 1300°C, Y addition effects, comparison with Ni-Cr-Y alloy (French) 9-43481
 Fe-Ni-Mo(13.3wt%), welded alloy, fracture and strength for cryogenic service 9-38930
 Fe-Ni-P-B(C), amorphous alloy, anelastic relaxation 9-4997
 Fe-Ni-S, exam. of liquidus surface and tie lines, using electron probe analysis 9-11557
 Fe-Ni-Te alloys, magnetisation 9-7975
 Fe-Ni-Ti (25.9, 2.15 wt.%), exam. of effect of inhomogeneous solid soln., on martensitic transformation (Russian) 9-34034
 Fe-Ni-Ti-Al, martensite, nature of tetragonality 9-32936
 Fe-Ni-(Cr)(Ti)(Al) austenite, high N content, cryst. struct. electron diff. and electron microscope anal. (Russian) 9-24490
 Fe-Ni(Co), liquid, activity meas. by transportation method (Japanese) 9-4949
 Fe-P, metallic glass, theoretical studies on structural models 9-37633
 Fe-P, P equilib. grain boundary segregation 9-38835
 Fe-P-Al(Si)(B), amorphous alloy, anelastic relaxation 9-4997
 Fe-P(S) sintered materials, antifriction props. 9-24626
 Fe-Pd (47 at.%) alloy, powders and powder compacts, mag. props. rel. to heat treatment (Russian) 9-15816
 Fe-Pd alloy, uniaxial ferromag., anisotropic component of localised mag. field, Mossbauer meas. (Russian) 9-15382
 Fe-Pd-Pt alloy powders, coercive force and specific remanence (Russian) 9-47302
 Fe-Pt, crystallography and morphology studies, lenticular thin plate transition, thin plate morphology 9-1862
 Fe-Pt films, mag. and magneto-optic props., appl. to holographic and bit-by-bit storage 9-33512
 Fe-rare earth, amorphous thin film, crystallisation; TEM obs. 9-19483
 Fe-Rh, ferromag., spin wave stiffness constant calc. 9-38307
 Fe-Rh, mag. phase transitions, triple point 9-1672
 Fe-Rh alloy, nonmag. and mag., band theory 9-37973
 Fe-Se, low conc. binary system, Mossbauer spectroscopy meas. 9-24239
 Fe-Si, (3wt.%) alloys, grain boundary anal., scanning AES 9-43256

iron alloys continued

- Fe-Si, dynamically strained, temp. depend. of twinning characts. (*Russian*) 9-46673
- Fe-Si, grain oriented, fatigue crack direct obs. by SEM, propag. mechanism (*Japanese*) 9-20164
- Fe-Si, grain-oriented, magnetostriction, and domain struct. 9-1703
- Fe-Si, H_2 , induced cracking, crystallographic and fractographic studies 9-5052
- Fe-Si, hysteresis loops described by 180° Bloch wall (*French*) 9-15322
- Fe-Si, internal friction, domain boundary area (*Russian*) 9-24562
- Fe-Si, Mossbauer study of mag. ordering 9-24245
- Fe-Si, ribbon, prep. by rapid quenching 9-33957
- Fe-Si, strips and rods, spatial extent of flux due to irreversible changes of mag. polarisation 9-33506
- Fe-Si, temperature dependence of the twin growth rate (*Russian*) 9-27999
- Fe-Si (3 wt.%), eddy current losses, domain structure influence obs. and calc. (*Slovak*) 9-4693
- Fe-Si (3 wt.%), hysteretic losses, domain struct. and cryst. defects 9-19747
- Fe-Si (3 wt.%), prediction of magnetisation hysteresis loops for distorted waveforms 9-47303
- Fe-Si (3 wt.%), singularities in geometry of slip, point temp. depend. (*Russian*) 9-24574
- Fe-Si (3 wt.%), temp. depend. of migration rate of secondary recrystallisation grain boundaries (*Russian*) 9-1436
- Fe-Si (3 wt.%) alloy, H containing, H influence on internal friction (*Russian*) 9-38877
- Fe-Si (3 wt.%) BCC single crystals, low cycle fatigue (*French*) 9-20177
- Fe-Si (3 wt.%) laminations, orientation and stacking influence on losses obs. (*Slovak*) 9-4696
- Fe-Si (3 wt.%) layers, with ceramic coating, interface struct., electron microscopy and Mossbauer obs. (*Russian*) 9-28216
- Fe-Si (3 wt.%) mag. domain motion quasi-lifetime topography using white synchrotron radiation, mag. field effects 9-42797
- Fe-Si (3.1 wt.%), solubility product of BN 9-10955
- Fe-Si (3.22 wt.%), topographic and type-2 magnetic contrast, effect of collector position in SEM 9-12909
- Fe-Si (3.25 wt.%), single crystals and polycrystals, cutting surface texture 9-20291
- Fe-Si (3.5 wt.%) plastic deform., slip initiation, X-ray topography study 9-47750
- Fe-Si alloy, deformed by slip, polygonal boundary form. (*Russian*) 9-24534
- Fe-Si ferromag. film, props. 9-4709
- Fe-Si sheets, grain oriented, with insulating coating, nondestructive grain identification methods (*Slovak*) 9-5090
- Fe-Si-Al (5.10 wt.%) struct. anal. by electron microscopy and electron diff. (*Chinese*) 9-11618
- Fe-Si-B sputtered amorphous films, mag. props. and corrosion resist. 9-28567
- Fe-Si-B-S, grain-oriented, high induction, B and S addition effect on magnetic props. (*Slovak*) 9-4697
- Fe-Si-Mg, Mg residue effects on graphite spheroidization in cast Fe (*Korean*) 9-43286
- Fe-Sn, dil., ferromag., temp. anomalies of Sn mag. hyperfine field and thermal expansion 9-33270
- Fe-Ti, BCC, mag. moment distrib. 9-47240
- Fe-Ti, D storage, desorption isotherm and struct. study by neutron diff. 9-1549
- Fe-Ti alloys, kinetic trapping model for H_2 -induced grain boundary cracking 9-29164
- Fe-Ti:H(D), isotope effects of diatomic TiH and TiD complexes 9-47259
- Fe-Ti-C, quantitative anal. of H trapping 9-23622
- Fe-Ti-(Mn)(O), exam. of interrelations between phase diagrams and hydriding props. 9-8277
- Fe-V, Curie temp. determ. using deviation from Mattheisen's rule 9-15306
- Fe-V (10 to 50 at.%), solid soln., tempered, exam. of long and short range order, using Mossbauer effect (*Russian*) 9-29105
- Fe-Y(Th)(Zr), amorphous, charge transfer and mag. props., ^{57}Fe Mossbauer spectra 9-19719
- Fe-Zn alloys, electrochem. corrosion of ξ , δ_1 phases (*French*) 9-20274
- Fe-Zn compound form. after hot galvanising Fe with liquid Zn and by diffusion (*French*) 9-20275
- FeAl intermetallic, constitutional vacancies, lattice parameter and thermal vacancy conc. obs. 9-23599
- FeAl, order parameter, atomic scattering factor, thickness fringes in electron micrographs 9-10832
- Fe₃Al, order-disorder transition, elec. resistance meas. 9-42518
- Fe₃Al, order-disorder transition effect on low energy spin waves 9-47271
- Fe_{70.8}Al_{29.2}, meas. of ordering instability 9-38818
- Fe₇₁Al₂₉, DO₃ structured, ferromag. lattice parameters 9-42010
- Fe₇₃Al₂₇, DO₃ structured, ferromag. lattice parameters 9-42010
- Fe_{100-x}B_x, amorphous, effect of metalloids on mag. props. 9-11304
- Fe_{100-x}B_x, amorphous alloys, magnetostriction meas. 9-19760
- Fe₈₀B₂₀, absolute thermoelectric power between 300 and 1000K 9-19579
- Fe₈₀B₂₀, amorphous, crystn. temp. under press. 9-23523
- Fe₈₀B₂₀ amorphous alloys, domain struct. exam., magneto-optic Kerr effect 9-28550
- Fe₈₀B₂₀ amorphous ribbons, magnetomechanical coupling constant and Young's modulus, mag. annealing 9-15333
- Fe₈₀B₂₀, elastic, magnetoelastic and thermal props. 9-19759
- Fe₈₀B₂₀, glassy, ferromag. anisotropy of resistivity 9-23939
- Fe₈₀B₂₀, hardness, elec. cond., photo emission, and mag. props. (*Norwegian*) 9-32909
- Fe₈₄B₁₆, amorphous, struct., X-ray diff. meas. 9-4252
- Fe₇₈B₂₂Si₁₀, amorphous, continuous versus discrete hyperfine field distrib., Mossbauer spectra 9-33583
- Fe_{100-x}Be_x, amorphous ribbon, saturation magnetostriction, and electronically controllable delay line 9-1700
- FeCo, isothermal annealing effect on lattice const. (*Japanese*) 9-20076
- FeCo, ordered and disordered alloy, annealing of point defects created by neutron irradi. at 20K (*French*) 9-1467
- Fe₅₀Co₅₀, disordering by laser irradiation, Mossbauer transmission spectroscopy and electron microscopy study (*French*) 9-23639
- Fe_{80-x}Co_xB₂₀, spontaneous Hall effect and resistivity 9-19576
- (Fe_{1-x}Co_x)₇₇Si₁₀B₁₃ alloys, amorphous, induced mag. anisotropy by mag. annealing 9-4671
- (Fe_{1-x}Co_x)₇₇Si₁₀B₁₃, amorphous, mag. moments at 0K, Curie temp., mag. interactions 9-4670

iron alloys continued

- Fe_{1-x}Co_xSn, transferred hyperfine fields at ^{119}Sn , Mossbauer spectroscopy 9-33582
- FeCo₂V, ordered and disordered alloys, annealing of point defects created by neutron irradi. at 20K (*French*) 9-1467
- Fe₂₆Cr₁₂Ti₇Mo₃, high temp. precipitation kinetics, internal friction study 9-43254
- FeCd, H₂ and N₂ contaminated amorphous films, mag. props. 9-1690
- FeGe, cubic, spin reson., 4.2-300K, 3-35 GHz 9-38384
- FeGe₂, antiferromagnet, de Haas-van Alphen effect 9-4505
- FeGe₂, interface struct. and growth mechanism from melt 9-14715
- Fe₆₇Ge, Mossbauer and X-ray expts. 9-1734
- Fe₇₆Ge, interface struct. and growth mechanism from melt 9-14715
- Fe₇₆Ge, ^{119}Sn mag. hyperfine interaction, Mossbauer spectra (*Russian*) 9-38420
- Fe_{1-x}Mn_x, elec. resist., anomalies in temp. depend. 9-23942
- Fe₂MnAl, plastically deformed, domain struct., X-ray diff. and electron microscope obs. (*Russian*) 9-20110
- Fe_{1-x}Mn_xSn, transferred hyperfine fields at ^{119}Sn , Mossbauer spectroscopy 9-33582
- Fe₇₈Mo₂₂B₂₀, amorphous ferromag., mag. props. 9-38309
- Fe₇₈Mo₂₂B₂₀, glassy, ferromag. anisotropy of resistivity 9-23939
- γ -Fe₂N film, mag. mechanism, at mag. moment (*Korean*) 9-7973
- Fe_{1-x}Ni_x, elec. resist., anomalies in temp. depend. 9-23942
- Fe_{1-x}Ni_x, FCC, anomalies in sp. ht. and thermal expansion 9-19739
- Fe₄₀Ni₄₀B₂₀, amorphous, hyperfine field distrib., Mossbauer effect meas. 9-4755
- Fe₄₀Ni₄₀B₂₀, amorphous, hyperfine field distrib., Mossbauer study 9-28657
- Fe₄₀Ni₄₀B₂₀, amorphous and crystalline, resist. minimum 9-47079
- Fe_{80-x}Ni_xB₂₀, Fe_{80-x}Ni_xP₁₀B₆, amorphous, microhardness meas., dependence on mag. props. (*Croatian*) 9-11688
- Fe_{80-x}Ni_xB₂₀, spontaneous Hall effect and resistivity 9-19576
- (Fe₈₁Ni₁₉)₈₀B₂₀, (Fe₈₁Ni₁₉)₈₀P₁₄B₆, new soft amorphous ferromagnetic glasses (*Croatian*) 9-11298
- Fe_{8180-x}B₂₀, Fe_{8180-x}P₁₄B₄, amorphous Hall effect voltage meas. (*Croatian*) 9-11102
- Fe₃₂Ni₃₆Cr₁₄P₁₂B₆, metallic glass, dynamic mechanical props. 9-10894
- Fe₃₂Ni₃₆Cr₁₄P₁₂B₆, elastic, magnetoelastic and thermal props. 9-19759
- Fe₃₂Ni₃₆Cr₁₄P₁₂B₆, glassy, ferromag. anisotropy of resistivity 9-23939
- Fe_{0.5}(Ni_{0.5}Mn_{0.5})_{0.5}, elec. resist., anomalies in temp. depend. 9-23942
- Fe_{0.5}(Ni_{0.5}Mn_{0.5})_{0.5}, FCC, anomalies in sp. ht. and thermal expansion in paramag. temp. range 9-19739
- Fe₄₀Ni₃₈Mo₄B₁₈, metallic glass, reorientation kinetics of magnetization 9-24155
- Fe₄₀Ni₄₀P₁₄B₆, amorphous, energy dispersive X-ray diff. study of structural relaxation 9-14689
- Fe₄₀Ni₄₀P₁₄B₆, amorphous, annealed and unannealed, temp. depend. of flow stress and ductility 9-29119
- Fe₄₀Ni₄₀P₁₄B₆, amorphous alloy sheet, fabrication by gas melt spraying method 9-24466
- Fe₄₀Ni₄₀P₁₄B₆, amorphous ferromagnet, domain struct., Rayleigh region and coercive field 9-28559
- Fe₄₀Ni₄₀P₁₄B₆, amorphous, continuous versus discrete hyperfine field distrib., Mossbauer spectra 9-33583
- Fe₄₀Ni₄₀P₁₄B₆, elastic, magnetoelastic and thermal props. 9-19759
- Fe₄₀Ni₄₀P₁₄B₆, glassy, ferromag. anisotropy of resistivity 9-23939
- Fe₄₀Ni₄₀P₁₄B₆, hardness, elec. cond., photo emission, and mag. props. (*Norwegian*) 9-32909
- Fe₄₀Ni₄₀P₁₄B₆, metglas 2826, amorphous, Hall resistivity, thermal cycling and annealing effects 9-38050
- Fe₄₀Ni₄₀P₁₄B₆-y, amorphous, mag. props. effect of metalloid elements 9-28658
- (Fe₆₅Ni₃₅)₇₅P₁₆B₆Al₃, mag. excitations 9-7984
- (Fe₆₅Ni₃₅)₇₅P₁₆B₆Al₃, amorphous, spin wave excitations and low temp. magnetisation 9-33468
- Fe₇₁Ni₁₄B₆(S₂), coiled ribbons, stress relaxation 9-29120
- (Fe_{1-x}Ni_x)₈₀PyB_{20-y}, local struct. disorder and crystallisation, Mossbauer exam. 9-1728
- Fe_{1-x}Ni_xSn, transferred hyperfine fields at ^{119}Sn , Mossbauer spectroscopy 9-33582
- Fe_{1-x}P_x, dilute alloys, electronic struct., mag., elec. and struct. props. 9-37971
- FePd_{1-x}Pt_x, permanent magnet, coercive force increased by Pt 9-24157
- Fe₂Pd, quenched, or annealed exam. of magnetostriction, galvanomagnetic props. (*Russian*) 9-19757
- Fe(Pd_{1-x}Au_x)₂, ordering alloys, mag. props., 4.2 to 500K (*Russian*) 9-47301
- Fe₂Pt, plastically deformed, struct. inhomogeneities, positron annihilation meas. 9-33859
- Fe₂Pt, premartensitic phenomena (*French*) 9-8297
- FeSi, (110), Neel cryst., refr. of neutrons in Bloch walls using double cryst. arrangement 9-24191
- FeSi, single cryst., orientation of pieces of zigzag Bloch walls, neutron small-angle scatt. determ. 9-24190
- FeSi-Fe₂Si₂ eutectic, FeSi₂ formation, annealing temp. and time effects 9-24512
- FeSi₂, effect on nitriding of Si powder 9-33985
- FeSi₂ films, structural and Anderson transitions, cond. and IR reflectance meas. 9-15200
- α -FeSi_{2.33}, interface struct. and growth mechanism from melt 9-14715
- Fe₉Si₂, thermal and elec. cond., heat transport by spin waves 9-38047
- Fe₇₈Si₁₀B₁₂ amorphous ribbons, magnetomechanical coupling constant and Young's modulus, mag. annealing 9-15333
- Fe₂Sn_{1-x} amorphous alloy, elec. resistivity, Ziman's formula 9-15130
- Fe₂Sn_{1-x}, amorphous alloy stability, comp. and temp. depend. 9-19156
- Fe₂(Tb_{0.2}Dy_{0.2}Hf_{0.8}), highly magnetostrictive alloy, vibrating-reed meas. of ΔE effect and internal friction 9-42819
- FeTi, surface segregation and catalytic effect on hydrogenation, AES and XPS study 9-11626
- Gd-Fe, amorphous film, Kerr readout characts. 9-15439
- Gd-Fe, amorphous sputtered film, magnetostriction 9-47320
- Gd-Fe amorphous films with CeO₂ coatings, Kerr magneto-optical effect enhancement 9-19866
- Gd(Co,Fe)_{1-x}Sn_x, mag. props., composition and temp. depend. 9-15289
- Gd(Fe,Co)₁₇, mag. anisotropy fields by singular pt. detection 9-24156
- GdFe, amorphous films, thermal stability of mag. props. (*Japanese*) 9-47307
- GdFe₂, amorphous, small angle neutron scatt. study of mag. order and mag. microstruct. 9-15283

iron alloys continued

- GdFe₂ films, electron beam deposited, amorphous and cryst., mag. and struct. props. 9-4710
 Ge-Fe film, polycryst., struct. props. determ. 9-4494
 H₂ trapping, electrical analogue model 9-46841
 HoFe₂, amorphous, small angle neutron scatt. study of mag. order and mag. microstruct. 9-15283
 LaNi_{5-x}Fe_x, Fe effect on hydride form. (*Japanese*) 9-43202
 Mg cast Fe, isothermal dissociation of supercooled austenite, exam. of kinetics (*Russian*) 9-29013
 Mg-Fe alloy film, quench-condensed, resistance meas. 9-15235
 NbFe₂ layers form. by diffusion during Nb wire drawing 9-28153
 NdFe₂, amorphous, small angle neutron scatt. study of mag. order and mag. microstruct. 9-15283
 Ni-Al-Fe system, order-disorder phase transform., Gorskii-Bragg-Williams approx. (*Russian*) 9-29048
 Ni-Cr-B-Si-Fe alloy, Cr content by X-ray fluoresc. 9-43654
 Ni-Cr-Fe, high temp. corrosion and creep in carburizing and oxidising atmos. 9-11727
 Ni-Cr-Fe steam generator tubes, stress corrosion susceptibility, heat treatment effect 9-20258
 Ni-Fe, elementary excitations, exchange stiffness const., inelastic neutron scatt. study 9-47294
 Ni-Fe, fatigued, struct. and cyclic stress strain, influence of stacking fault energy and atomic size-module-interactions (*German*) 9-42082
 Ni-Fe, high-permeability alloys developments (*Slovak*) 9-4694
 Ni-Fe, influence of atomic ordering on spin waves 9-7987
 Ni-Fe, new soft magnetic material for pulse transfer and choking in power electronics (*German*) 9-28555
 Ni-Fe metallic glass, METGLAS 2826, creep props. 9-15746
 Ni-Fe reed contact, Au-plated, submicron Auger spectroscopy exam. 9-15027
 Ni-Fe-Co, alloy with step hysteresis loops (*German*) 9-42806
 Ni-Fe-Cr soft magnetic film plating bath 9-43465
 Ni-Fe-Mo(Cr), determ. of preferential locations of Mo or Cr on Fe and Ni sublattices, by X-ray intensity study 9-37662
 Ni-Ta-Al-Fe, Al and Fe effect on precipitation kinetics 9-20054
 Ni₃Al-Fe (10 at.%), activation anal. of plastic deform. 9-1900
 NiFe film, ferromag. reson., thermodynamical anal. 9-42840
 NiFe film, stationarity and behaviour of Barkhausen noise 9-24198
 NiFe, influence of order on Mossbauer spectra of ⁵⁷Ni 9-42876
 Ni₄₀Fe₆₀P₁₄B₆ metallic glass alloy, US spot welding to Cu 9-21730
 Pd-Fe, dil., anomalous lattice parameters and H₂ solubilities 9-33091
 Pd-Fe, dil., depend. of neutron small-angle scatt. intensities on appl. mag. field and temp. 9-11291
 Pd-Fe, dil., spin polarisation effect on hyperfine interactions, anal. of Mossbauer meas. (*Russian*) 9-47055
 Pd-Fe, dil., transport props. at low temp. 0.05 to 5K 9-38046
 Pd-Fe-H, elec. resistivity, 4.2 to 300K (*Russian*) 9-7814
 Pd₂Fe, itinerant ferromagnet, neutron inelastic scatt. 9-7970
 Pd_{100-x-y-z}Si_xFe_y, amorphous, ⁵⁷Fe Mossbauer spectra, X-ray diff., ageing behaviour 9-28651
 Pd_{100-x}Si_xFe_y, amorphous, low x, hyperfine interactions and mag. ordering temp. 9-15303
 Pt₂Fe, transport and mag. props. near Neel temp. 9-7976
 PuFe₂, ferromag. mag. cross section, form factors, saturation magnetisation values, polarized neutron study 9-47245
 Rh-Fe (25, 20 at.%), mag. virtual bound state alloys, XPS of core states 9-47588
 Sm-Co-Cu-Fe-Ti magnets, comp. and sintering effects on coercivity 9-15326
 Tb-Fe, amorphous film, Kerr readout characts. 9-15439
 Tb-Fe, amorphous sputtered film, magnetostriiction 9-47320
 Tb_{0.3}Dy_{0.7}Fe₂, magnetostriiction, resonant coupling of shear waves 9-33517
 TbFe₂, amorphous and crystalline, small angle neutron scatt. study of mag. order and mag. microstruct. 9-15283
 TbFe₂ powders, mag. and hysteresis props. (*Russian*) 9-42800
 Tb_{0.018}Fe_{0.982}, amorphous, small angle neutron scatt. study of mag. order and mag. microstruct. 9-15283
 TbFe₂Al_{0.5}, crystalline, small angle neutron scatt. study of mag. order and mag. microstruct. 9-15283
 ThFe₂, mag. props., ferrimag. moment arrangement 9-33475
 Th₂Fe₃, H induced change from supercond. to mag. ordered state 9-28525
 Ti-Fe, eutectoid decomposition 9-24491
 β-Ti-Fe (1 to 6 wt.%) alloys, H diffusion (*Korean*) 9-42312
 Ti-Mo-Zr-Sn-Fe-C-Si alloy, β-II, cold deform. and annealing, effect on struct. and mech. props. (*Rumanian*) 9-24533
 Ti-Ni-Fe, shape memory temp., alloying effect 9-38912
 Ti(Al_{1-x}Fe_x)₂, 0<x<0.4, influence of Al on H sorption props. X-ray cryst. struct. determ. 9-28198
 TiFe₂, mechanism of mixing and reactive diffusion 9-7706
 TmFe₂, amorphous, small angle neutron scatt. study of mag. order and mag. microstruct. 9-15283
 V₃(Fe,Ge), struct. and supercond. transition temp. (*Russian*) 9-7920
 Y-Fe alloys, mag. interactions, effects on moments (*Rumanian*) 9-15296
 Y₂(Fe,Co)₁₇, mag. anisotropy fields by singular pt. detection 9-24156
 YFe₂, amorphous, small angle neutron scatt. study of mag. order and mag. microstruct. 9-15283
 Y(Fe,Al)_{1-x}, mag. props. 9-38308
 YbFe₂, Mossbauer spectra, cryst. elec. field and exchange interaction 9-47368
 Zr-Nb-Fe (13 wt.%, 5 wt.%), struct. changes during decay of BCC β solid solution 9-15669
 Zr-Nb-Fe alloys, decomp. of β solid soln., metastable and equilib. phases 9-11632
 Zr-Nb-V-Fe (12 wt.%, 6 wt.%, 4 wt.%), struct. changer during decay of BCC β solid soln. 9-15669

iron compounds

- see also ferrites; iron alloys
 behaviour during RBMK reactors start up and shutdown, investigation 9-9822
 (2,2'-bi-2-thiazoline) iron thiocyanate, high spin to low spin transition, X-ray diff. and Mossbauer obs. 9-38418
 electronic props. CC Fe₂Co_{1-x}S₂, ferromagnetic solid soln. 9-7990
 ferrous tetraphenylporphyrin, Mossbauer effect, mag. hyperfine interaction 9-24236
 garnet film in mag. field, domain dynamics (*Russian*) 9-4711

iron compounds continued

- garnets, low-freq. excitation spectra, mobility of domain boundaries 9-42815
 hydride, computer simulation of H reflection and scattering 9-1806
 hydroxides, crystallogenesis, Mossbauer study 9-31564
 ilmenite, roasted ore, Fe chlorination kinetics in fluidized bed reactor 9-47979
 K-absorption edge energy shift 9-4870
 magnetites, cond. mechanisms (*Russian*) 9-42539
 Mg_{1.34}Fe_{0.16}Al_{0.12}Ti_{0.38}OBO₃, warwickite, cation distrib. from X-ray struct. and Mossbauer spectra anal. 9-1424
 oxalate, quadrupole splitting, Mossbauer spectroscopy 9-11365
 oxides containing V as NO₂ reduction catalysts 9-12285
 pyroxenes, high Ca, of diopside-hedenbergite series, change in struct. geometry with Fe²⁺ content 9-14783
 spin 3/2, in strong crystal field, axial and rhombic symmetry, EPR parameters 9-28591
 AgFeSe₂(S₂)(Te₂), elec. props., band gap (*Russian*) 9-11116
 Al₂O₃-Fe₂O₃-Cr₂O₃, dil. paramag. system, Cr³⁺ conc., effect on cross relax. 9-15387
 Al₂O₃-Fe₂O₃-(Cr³⁺) paramag. system, cross relax. temp. and mag. field effects on Mossbauer spectra 9-33576
 Al₂O₃-SiO₂-TiO₂-B₂O₃-Fe₂O₃, exam. of porous structure, using a combinational method 9-29303
 B₂O₃-Li₂O-Fe₂O₃, prep. by quenching methods, exam. of microcrystalline precipitates of Li₂O-Fe₂O₃ (*French*) 9-20019
 B₂O₃-Na₂O-Fe glass, mag. susceptibility 9-42733
 BaFe₂MnFe₂FeF₃ system, X-ray investigation, struct. relations, liquid-solid equilibria diagram, study by DTA (*French*) 9-34017
 BaO-Fe₂O₃-B₂O₃ glass, Mossbauer study of struct. and mag. props. 9-47369
 C₈FeCl₃, behaviour with H₂ and CO, effect of activation 9-43623
 CaO-Fe₂O₃-SiO₂ glass, struct. behaviour at melting, Mossbauer exam. 9-10802
 Cd_{1-x}Fe_xCr₂S₄, single cryst., mag. semicond., spinel-type, magneto-optical effects (*Japanese*) 9-47415
 Co₂²⁺Fe_{1-x}²⁺Fe_{3-2x}O₄, Mossbauer parameters, effect of Fe²⁺, Zeeman patterns 9-28647
 CoFeSe₄, low-temp. thermal expansion anomalies and isothermal compressibility, mag. ordering and magnetorestriction 9-38363
 Cr-Fe-O, rutile type oxides, obtained from thermal decomp. of Cr_{1-x}Fe_xOOH, Curie temp. and saturation magnetisation 9-24740
 Cr₂O₃-Fe₂O₃ solid soln., completely annealed, recluster of Fe³⁺ ions 9-33578
 (1-x)Cr₂O₃-xFe₂O₃, influence of Fe³⁺ on phase transition (*Russian*) 9-28522
 (1-x)Cr₂O₃-xFe₂O₃, mag. phase diagram, EPR method (*Russian*) 9-28521
 CsFeCl₃, linear chain cryst., quadrupole and mag. reson., rel. to RbFeCl₃ 9-38403
 Cs₂NaFe(CN)₆, structural phase transformations 9-19178
 Cu_{1-x}Fe_{2+x}O₄, elec. resist., Seebeck coeffs., 20 to 900°C, cation distrib. 9-4575
 (Fe, Mn)-V spinels, complex, oxidation, effect of Cr₂O₃, TiO₂, MgO additions 9-43453
 Fe complex, [Fe(CN)₅]³⁻, electronic struct., optical transitions, XPS, Mossbauer isomer shift, valence ionisation pot., SCF-MSX calc. 9-6864
 Fe complex, [Fe(S₂C₂O₂)₂]²⁻, (X=Cl,Br,I), Mossbauer effect, EPR, mag. susceptibility 9-11366
 Fe complex, cis-dichlorotetrakis (dimethylformamide) iron (III) tetrachloroferrate, cryst. struct. 9-32981
 Fe complex, FE II cyclohexanone thiosemicarbazone, Mossbauer spectrum, quadrupole splitting 9-28641
 Fe complex, Fe(II)[S₂CN(C₂H₅)₂]₂, susceptibility near critical pt. 9-24147
 Fe complexes, paramag., XPS, temp. depend. 9-15582
 Fe³⁺ ions, in frozen aq. solns., spin-spin relax., Mossbauer obs. of effect of paramag. impurity ions 9-33573
 Fe-Fe₃C system, cavity nucleation, by plastic deform. 9-29127
 Fe-O, exam. of thermodynamic data, using a computer aided strategy 9-11592
 Fe-S (34.0-41.0 wt.%), Mossbauer investigations 9-47376
 Fe-S-O, equil. cond. (*Rumanian*) 9-29029
 FeAl_{2-x}Cr_xO₄, spinel, elec. cond. behaviour during oxidation 9-19593
 γ-(Fe_{1/3}Al_{2/3-x}Cr_x)₂O₄, lacunar spinels, elec. cond. behaviour during oxidation 9-19593
 FeAsO₄, XPS of cryst., inner shell binding energies of elements 9-43092
 Fe₃₀B₇₀, binary amorphous ferromagnet, Mossbauer spectra 9-4749
 Fe(BF₄)₂.6H₂O(6D₂O), phase transition, mag. susceptibility and anisotropy and permittivity meas. 9-23718
 FeBO₃, antiferromag., optical absorpt. spectra, role of local mag. mode 9-28785
 FeBO₃, antiferromag., two magnon reson. Raman scatt. 9-33703
 FeBO₃, basal mag. anisotropy, antiferromag. reson. (*Russian*) 9-47338
 FeBO₃, FeBO₆, magneto-optical materials, single cryst. growth (*Japanese*) 9-47612
 FeBO₃, Mossbauer coherent scatt. polaris., rel. to cryst. mag. struct. (*Russian*) 9-11368
 FeBO₃, weak ferromagnet, spin wave band struct. and microwave props. 9-1661
 FeBr₂Mn²⁺, layered antiferromag., infinity mode NMR study 9-38390
 FeBr₂MnBr₂, magnon modes and impurity spin reson. 9-15501
 FeBr₃ aqueous soln. photogalvanic effect 9-24902
 FeC₂, electron impact appearance pot. in disoc. of Fe(CO)₅ 9-34281
 Fe₃C melts, measuring C content using automatic device 9-39252
 Fe₂C₈, p=1 to 4, clusters, electronic props., mass spectra obs. (*French*) 9-45877
 FeCO₃, Mossbauer quadrupole splitting of ⁵⁷Fe, vibronic effects 9-19813
 Fe(CO)₅, electron impact appearance pots. for ion fragments, mass spectra obs. 9-34281
 FeCl₂, antiferromag. reson., 2-D Ising model interpretation 9-47323
 FeCl₂, electron-phonon coupling, temp. depend. Raman scatt. obs. 9-15451
 FeCl₂, in transverse mag. field, magnetoelastic coupling effect on mag. props. 9-28582
 FeCl₂, magnon-phonon hybridisation, inelastic neutron scatt. study 9-47272
 FeCl₂, metamagnet, one-magnon light scatt., effect of anisotropy 9-33678
 FeCl₃, thermodynamic phase diagram determ., using pulsed dye laser, piezoelectric modulator, and gated amplifier 9-7991
 FeCl₂ vibrational excitations, polarised Raman spectra 9-19888

iron compounds continued

- FeCl_3 aq. soln., quasi-elastic neutron scatt. 9-37607
 FeCl_3 intercalated with graphite, vibrational excitations, polarised Raman spectra 9-19888
 FeCl_3 intercalation in graphite, form. kinetics and microstruct. (German) 9-43560
 FeCl_3 , nonaq. solns., solvent-solute interactions, Mossbauer investig. of equil. consts. 9-1729
 FeCl_3 pyrolysis, effect of CO presence 9-43623
 FeCl_3 -intercalated graphite, plasmon spectra 9-38011
 FeCl_4 on Dowex 1X2, Mossbauer study of Fe complexes and Cl^- soln. effects (Russian) 9-19817
 $\text{FeCl}_4(\text{Br}_2)_2$, prep. using chem. transport via gas complexes (German) 9-15599
 $\text{FeCl}_2\cdot 2\text{D}_2\text{O}$, metamagnetic, excitonic Davydov splitting in Raman spectrum 9-33704
 $\text{FeCl}_2\cdot 2\text{H}_2\text{O}$, metamagnetic, resonant magnon-optical phonon coupling 9-28773
 $\text{FeCl}_2\cdot 2\text{H}_2\text{O}(2\text{D}_2\text{O})$, phonons and electronic transitions, Raman spectra 9-28761
 FeCoCrO_4 , Mossbauer study, cation distrib. and Neel temp. determ. 9-33571
 FeCoCrO_4 spinel, elec. resistivity, temp. var. 9-38065
 $(\text{Fe}_{1-x}\text{Co}_x)_2\text{P}$, magnetisation, susceptibility, thermal expan. 9-11302
 $\text{Fe}_{3-x}\text{Cr}_x\text{O}_4$, electron transfer and spin density distrib., Mossbauer spectra 9-24243
 FeCr_2S_4 , normal ferrimag. spinel, NMR studies 2-77K (Russian) 9-19785
 FeCr_2S_4 , pure and doped, CVD grown, surface struct., elec. props. and band struct. 9-4905
 FeCr_2S_4 , single crystals, vapour grown, growth of triple unit cell steps on surface 9-19984
 FeCr_2S_4 , vapour grown, struct. and stoichiometry, X-ray fluoresc. anal. 9-4263
 $\text{Fe}_2\text{Cr}_3\text{S}_4$, $x=1, 1.2$, specific heats 9-11315
 $\text{Fe}_{0.7}(\text{SO}_4)_{0.3}\cdot 6\text{H}_2\text{O}\cdot \text{VO}^{2+}$, EPR, spin Hamiltonian parameters 9-19771
 $\text{Fe}_{1-x}\text{Cu}_x\text{Cr}_2\text{S}_4$, mag. semicond., mag. props. and elec. cond. (Japanese) 9-47111
 $\text{FeF}_2\cdot \text{Mn}$, mag. polariton, impurity mode enhancement and superradiance effects 9-28622
 FeF_3 , antiferromag. Mossbauer spectrum, effect of mag. hyperfine struct. at low temps. 9-28662
 FeF_3 , thin film, optical absorpt. meas. 9-15546
 $\text{Fe}_2\text{F}_2\cdot 2\text{H}_2\text{O}$, ferrimagnetism, susceptibility obs. 5-300K, phase transition 9-4658
 FeH , identification in S-type stars 9-21280
 $\text{Fe}(\text{H}_2)_n(\text{OSO}_3)_n$ complex., form. in $\text{Fe}_2(\text{SO}_4)_3$ aq. soln., X-ray diff. 9-32875
 $\text{FeH}(\text{SO}_4)_2\cdot 4\text{H}_2\text{O}$, cryst. parameters and X-ray powder diff. data (French) 9-14765
 $\text{Fe}_{3-x}\text{In}_x\text{O}_4$, ferrosinels, cation distrib., Curie point and magnetisation meas. 9-42095
 Fe_2LiO_6 , magneto-crystalline anisotropy, magnetoelectric effect interpretation (French) 9-47316
 Fe_2LiO_6 , magnetoelec. effect interpretation by magneto-cryst. anisotropy (French) 9-33515
 Fe_2LiO_6 , magnetoelectric-effect and magnetisation process 9-1688
 $\text{Fe}_2\text{Mg}_{1-x}\text{Cl}_2$, metamag. percolation, Ising model calc. 9-28542
 FeMn , matrix isolated Mossbauer spectra, ground state determ. 9-45740
 $\text{FeNH}_4(\text{SO}_4)_2\cdot 12\text{H}_2\text{O}$, Mossbauer study mag. transition in region 0.024-0.029K 9-38417
 $\text{Fe}(\text{NO}_3)_3$, aq. soln., Fe (III) hydration shells, X-ray diff. 9-29337
 FeNb_2O_6 , low temp. Mossbauer exam. 9-28659
 $\text{Fe}_2\text{Nb}_2\text{V}_2\text{O}_{14}$ complex solid solns., synthesis and phase diagram, semi-cond.-metal transition temp. 9-43214
 $(\text{Fe}_x\text{Ni}_{1-x})_8\text{P}_4\text{B}_6$, amorphous, hyperfine field distrib., ^{57}Fe Mossbauer spectra 9-11367
 FeO , solubility in NiO at 1273K (French) 9-33089
 FeO-MnO-SiO_2 system, melts, viscosity rel. to temp., composition (Czech) 9-19387
 $\text{FeO-P}_2\text{O}_5$ glass, elec. props. effect of high energy γ -radiation 9-11173
 FeO-SiO_2 , molten, X-ray diff. exam. of struct. 9-46543
 FeO^{2-} ion, electronic struct., hyperfine interactions, SCF X α calcs. 9-37951
 Fe_{1-x}O , low-energy mag. excitation dispersion curves 9-4665
 $\alpha\text{-Fe}_2\text{O}_3$, antiferromag., two magnon reson. Raman scatt. 9-33703
 $\alpha\text{-Fe}_2\text{O}_3$, antiferromag. reson. in absence of external field, 150 and 320K (Russian) 9-4730
 $\alpha\text{-Fe}_2\text{O}_3$, exchange parameters including temp. effects 9-24153
 Fe_2O_3 , haematite, annealing of nonequil. defects 9-43283
 Fe_2O_3 , haematite, single domain, defect moment origin and props. 9-16438
 $\alpha\text{-Fe}_2\text{O}_3$, hematite, weakly ferromag. domain struct., X-ray topography obs. 9-28551
 $\alpha\text{-Fe}_2\text{O}_3$, mutual orientations and morphology obs. (French) 9-37647
 $\alpha\text{-Fe}_2\text{O}_3$, prep. by evaporative decomposition of $\text{Fe}(\text{NO}_3)_3\cdot 6\text{H}_2\text{O}$ soln. 9-20011
 $\alpha\text{-Fe}_2\text{O}_3$, surface struct., adsorptive interactions rel. to rusting process, IR spectra 9-34363
 $\text{Fe}_2\text{O}_3\cdot \text{MoO}_3$, on SiO_2 and Al_2O_3 , Mossbauer effect 9-47365
 $\text{Fe}_{1-x}\text{O}_4$, vacancy diffusion from relax. of deviations from stoichiometry 9-23769
 Fe_2O_3 , electron energy band theory, thermodynamic functions (Korean) 9-7785
 Fe_3O_4 , ferrofluid, mag. birefringence, estimation of particle size 9-33511
 Fe_3O_4 , magnetite, ARM, TRM and magnetic interactions: concentration dependence 9-44177
 Fe_3O_4 , magnetite, reduced A-site moments, polarised neutron study 9-47253
 Fe_3O_4 , magnetite crystals, skull melter growth 9-24430
 Fe_3O_4 , partial thermal dissociation in air, using solar concentrator (French) 9-20015
 Fe_3O_4 powder, used for prod. of Fe, Fe alloy sintered compacts (Slovak) 9-15626
 Fe_3O_4 , tetrahedral-site Fe^{3+} ion, spin-transfer due to covalency 9-15285
 $\text{Fe}_3\text{O}_4\cdot^{119}\text{Sn}$, magnetic interactions, Mossbauer spectra 9-15301
 $\text{Fe}_2\text{O}_4/\gamma\text{Fe}_2\text{O}_3$ surface layers formed on small Fe particles, Mossbauer expts. 9-8081
 Fe_2O_3 crystal dissolution, electrical potential effect, review 9-46809
 Fe_2O_3 , non-stoichiometric, mag. struct., neutron diff. exam. 9-42737

iron compounds continued

- FeOCl , cathodic reduction in organic electrolytes, intercalation complex production 9-1833
 $\text{Fe}_2\text{O}_4\text{-F}_x$, specific heat in neighbourhood of Verwey temp. 9-33500
 $\text{Fe}(\text{OH})_3$, adsorpt. of CO_2 rel. to prep. method 9-39192
 $\text{Fe}(\text{OH})_3\text{-Cr}_2\text{O}_3$ catalysts, for water-gas shift react., porous struct. 9-29407
 FeOHSO_4 , mag. props., Mossbauer spectra meas. 9-19824
 $\beta\text{-FeOOH}$, akaganeite, struct. changes due to radiation damage 9-28014
 FeOOH , ferric hydroxide gel, struct. determ. 9-11832
 $\alpha\text{-FeOOH}$, surface struct., adsorptive interactions rel. to rusting process, IR spectra 9-34363
 $\gamma\text{-FeOOH-Cr}_2\text{O}_3$ catalysts, for water-gas shift react., porous struct. 9-29407
 $(\text{Fe}_2\text{O}_3)_x(\text{B}_2\text{O}_3)_y(\text{PbO})_{1-x-y}$ glass, X-ray diff. struct. obs. 9-32915
 FeP_4 , prep. and props., struct. anal. 9-14775
 FeP_4 , twinned cryst., synthesis and cryst. struct. 9-4278
 FeP , grown in liq. Cu medium, composition and mag. props. 9-11313
 FePO_4 , XPS of cryst., inner shell binding energies of elements 9-43092
 FePS_3 and FePSe_3 , antiferromag., mag. props., NMR meas. 9-24223
 FeS , structural chem., influence of itinerant 3d electrons and valence-band holes 9-23563
 FeS_2 , dielec. constant meas. 9-15395
 FeS_2 , optical absorpt. 9-43002
 FeS_2 , pyrite, single cryst. growth by chem. vapour transport, surface struct. and morphology 9-23550
 FeS_2 , pyrite, stacking faults, TEM obs. (French) 9-28004
 $\text{FeO}_0.9\text{S}$, ferrimag. transition, mag., thermodynamic props., kinetics 9-47280
 Fe_2S_3 , 3C pyrrhotite, cryst. struct. refinement 9-42017
 FeSO_4 dosimetry by NH_4CNS method 9-2136
 $\text{Fe}_2(\text{SO}_4)_3$ aq. soln., solute struct. by X-ray scatt., $\text{Fe}(\text{III})$ sulphate complexes 9-32875
 $\text{FeSO}_4\cdot 7\text{H}_2\text{O}$, single cryst., elec. and dielec. props., temp. depend. 9-19826
 Fe_{1+x}Sb , hyperfine interactions of ^{57}Fe , room temp. Mossbauer meas. 9-47374
 Fe_{1-x}Se , phase relation 9-14926
 FeSi , FeSi_2 , valence shell XPS 9-43105
 Fe_2SiO_4 , determ. of electronic polarisabilities of ions 9-7570
 Fe_2SiO_4 , nonstoichiometry influence on plasticity (German) 9-24592
 $\text{Fe}_2\text{SiO}_4\text{-KAlSi}_2\text{O}_6\text{-SiO}_2$, phase relations at 1 atm., and low temp. liq. immiscibility 9-47664
 Fe_2Sn_2 , mag. props., neutron diff. and magnetisation meas. 9-11294
 FeSnO_3 , Mossbauer spectral anal. (German) 9-19819
 $\text{Fe}_2(\text{SnO}_3)_2$, Mossbauer spectral anal. (German) 9-19819
 $\text{Fe}_2\text{Ta}_2\text{V}_2\text{O}_{14}$ complex solid solns., synthesis and phase diagram, semi-cond.-metal transition temp. 9-43214
 FeTeFeTeTe , defect struct. compounds, room temp. ^{57}Fe Mossbauer spectra 9-47371
 FeTiO_3 , single cryst. growth by floating-zone method 9-19991
 Fe_2TiO_5 , grain size pseudobrookite oxide, microcracking relations 9-29194
 FeV_2O_4 , free energies of form., 1400-1750K, electrochem. method determ. 9-43613
 Fe_2VO_2 , reduced, microstruct., crystallographic shear planes, electron microscope obs. 9-1443
 $\text{K}_2[\text{PO}_4]\text{F}$, synthetic, cryst. struct. determ. 9-14780
 $\text{K}_2\text{Mn}_{1-x}\text{Fe}_x\text{F}_4$, layered antiferromag., anisotropy effects on mag. ordering, neutron diff. study 9-47254
 $\text{K}_2\text{Mn}_{1-x}\text{Fe}_x\text{F}_4$, mag. and neutron scatt. exam. 9-33466
 $\text{MgFeFe}_2\text{O}_4\text{-Ca}(\text{Mg}_{0.5}\text{Fe}_{0.5})\text{Ge}_2\text{O}_6$, solid solns., phase equilibria, cryst. optical, X-ray struct. characts. 9-11577
 $\text{MgO-Al}_2\text{O}_3\text{-Fe}_2\text{O}_3\text{-SiO}_2$, cordierite, in ceramic, effect of heat treatment on cordierite content 9-20039
 $\text{MgO-Fe}_2\text{O}_3$, composition obs. by thermogravimetry 9-16081
 $\text{Mn}_{1-x}\text{Fe}_x\text{P}$, magnetisation, susceptibility and mag. transitions 9-47256
 $(\text{NH}_4)_4\text{Fe}(\text{CN})_6\cdot 1.5\text{H}_2\text{O}$, cryst. struct., and possible ionic transport mechanism 9-4758
 $\text{Na}_3\text{Fe}_2(\text{PO}_4)_3$, synthesis and cryst. struct. (French) 9-32964
 $\text{Na}_{0.56}\text{Fe}_{0.28}\text{Ti}_{1.72}\text{O}_4$, non stoichiometric, X-ray cryst. diff. determ., heavy atom method 9-4293
 $\text{Na}_2\text{O-B}_2\text{O}_3\text{-SiO}_2\text{-Fe}_2\text{O}_3$, effect of liquid phase separated structure on transparency in near UV and visible regions 9-4823
 $\text{Na}_2\text{O-Fe}_2\text{O}_3\text{-SiO}_2$, Mossbauer spectra, crystallisation study (Russian) 9-19816
 $\text{NiO-CdO-Fe}_2\text{O}_3$ system, phase equilibria 9-11582
 $(1,10\text{-phenanthroline-2-carbaldehyde phenylhydrazine})$ iron perchlorate, high spin to low spin transition, X-ray diff. and Mossbauer obs. 9-38418
 RbFeCl_3 , linear chain cryst., quadrupole and mag. reson., rel. to CsFeCl_3 9-38403
 $\text{SiO}_2\text{-Al}_2\text{O}_3\text{-Fe}_2\text{O}_3\text{-CaO-MgO-Na}_2\text{O-B}_2\text{O}_3\text{-SO}_3$, exam. of white flaky inclusions, causes and formation time 9-29237
 $\text{SiO}_2\text{-CaO-Na}_2\text{O-Fe}_2\text{O}_3$ system, water, alkali, acid resist., chem. durability 9-34162
 $\text{SnFe}(\text{CN})_6$, Mossbauer spectral anal. (German) 9-19819
 $\text{Sn}_2\text{Fe}(\text{CN})_6$, Mossbauer spectral anal. (German) 9-19819
 $\text{Sn}_{0.225}\text{Fe}^{3+}_{0.575}\text{Fe}^{2+}_{1.465}\text{Mg}_{0.735}\text{BO}_3\text{O}_2$, hulsite, cation distrib., X-ray determ. 9-19225
 TiN-FeO , solid-phase reactions 9-11774
 YFeO_4 , parasitic ferrimagnetism 9-4703
 YIG film, with periodic mag. struct., dispersion characts. anal. (Japanese) 9-42809
 YIG , relax. after spin wave excitation in ferrite (Russian) 9-19783
 $\text{ZnO-Fe}_2\text{O}_3\text{:Fe}$, ceramics, impurity at. states, elec. cond. 9-11130

iron phosphate semiconductor glasses see amorphous semiconductors

irradiation effects see radiation effects

irradiation induced creep

- anisotropic dislocation struct. effect on irradiation creep due to stress induced preferred point defect absorption 9-42140
 fast reactors Na cooled, core component material irradiation induced void swelling and creep, technological consequences summary 9-36327
 metal, radiation stimulated diffusional flow, neutron irradi. (Russian) 9-29132
 reactor core bowing history computer program 9-9688
 SIPA irradiation creep, material with preferred direction for dislocation Burgers vector, cold worked 9-20118
 steel, austenitic AISI 310, creep damage and rupture 9-20127

irradiation induced creep continued

- steel, stainless, proton simulation of fusion reactor first wall environment 9-24707
- steel, stainless 316, carbide precipitation rel. to in-reactor deform. 9-8302
- steel stainless capsules, soln. annealed He pressurised, type 304L, neutron irradiation-induced creep 9-42111
- stress-induced interaction between point defects and dislocations and irradiation creep 9-19313
- vacancy dislocation loop contribution to irradiation induced creep rate 9-42141
- void swelling and radiation creep, bias factors in reaction-rate-theory anal. 9-46700
- Zircaloy-2, anisotropic irradiation creep 9-8333
- Zircaloy-2, irradiation induced creep in reactor claddings under biaxial stress conditions 9-30912
- Fe-Cr-Ni, solid soln. strengthened and precipitation hardened, in-reactor creep 9-43327
- NaCl whiskers, X-irrad., stress oriented dislocation loop nucleation 9-33213
- Zr, and its alloys, TEM obs. of irradiation damage, critical review 9-10879

Ising lattices

see also *Ising model*

- Abelian and non-Abelian models, dual transforms., phase transition points (*Russian*) 9-2735
- anisotropic 3-D Ising lattice 9-156
- Ashkin-Teller-Potts model, renormalisation group anal. 9-154
- cluster size and shape, Whitney polynomial 9-33080
- cluster size and shape in random and correlated percolation 9-35633
- cluster size distribution, percolation problems, asymptotic behaviour, essential singularity 9-2731
- confinement criteria for gauge invariant, lattice, and Abelian models 9-22023
- connected diagram expansion for lattice Hamiltonian models 9-21916
- crystal growth, stochastic models, diffusion and relax. kinetics 9-37642
- decimation transformations in lattice systems of continuous spins 9-25997
- dimer and Ising models on the Lobachevskii plane 9-21677
- duality between blocked Ising models 9-12735
- gas, Mayer cluster sums 9-153
- generalised Glauber-Ising chain, dynamics in a mag. field, biopolymer appl. 9-155
- ground state struct. in 3-D model with three steel interaction 9-21676
- heteropolymers, melting theory, correlated chains 9-25996
- heteropolymers, melting theory, random chains 9-25995
- lattice gas, Ising-like, thermodynamic props., Monte Carlo calcs. 9-6054
- Monte Carlo renormalisation group analysis, Ising model and three state Potts model calcs. 9-44880
- Monte Carlo simulation of Ising chain showing several phase transitions 9-12732
- one dimensional Ising system with random long-ranged interaction, density of eigenvalues of random matrix PV 9-12733
- spin transformation, universality classes 9-17358
- triangular Ising model coupled to honeycomb model via four spin interactions 9-30386

Ising model

see also *Ising lattices*

- alloy, binary, quenching, cluster growth, first order phase transition, computer simulation anal. 9-34039
- alloy, FCC, binary, on Ising system, sublattice magnetisation, tricrit. point, simulation 9-33491
- anisotropic antiferromagnet, phase transition, with external mag. field 9-11316
- anisotropic paramagnets, temp. depend. single ion excitation 9-33445
- antiferromagnet, finite field, second-order phase boundary, series investigation 9-42777
- antiferromagnetic Ising lattice, degeneracy at crit. mag. field and zero temp. 9-8007
- antiferromagnets, magnetic susceptibilities in Heisenberg and Ising models 9-24185
- aqueous mixtures, lower crit. soln. pt. theory 9-4415
- austenite, activity of C, computer simulation 9-37852
- Bethe lattice, bootstrap percolation 9-30376
- block spins in the edge of an Ising ferromagnetic half-plane 9-47220
- bond-dilute two-dimensional, crit. behaviour 9-8009
- Cayley tree, phase transition of continuous order 9-40488
- compressible, elastic anomalies inducing first order transitions 9-47288
- compressible Ising double chain, mag. susceptibility and thermodynamic props. 9-15320
- coupled Ising chains, Monte Carlo anal. 9-42721
- coupled one-dimens. system, first-order phase transition 9-42720
- critical behaviour, non-universality in the Ising model with nearest and next-nearest neighbour interactions 9-44870
- critical exponent γ estimates for 3-D model 9-12727
- critical isotherm of the four-dimensional Ising model 9-44871
- crystal growth-disorder models and Ising models 9-46585
- dilute ferromagnet, Ising model, crit. props. in percolation limit 9-1677
- disordered, two-dimens. Ising models, real space renormalisation group 9-42788
- disordered Ising model at low temperatures, thermodynamic pot., ferro- and antiferromagnetic bonds, mag. moment and entropy (*Russian*) 9-19714
- DNA solution, thermodynamic props., phase transition, one-dimens. Ising model study 9-16125
- effective field theory 9-4684
- equilibrium characteristics in the condensed state with the nearest-neighbours interaction (*Russian*) 9-12726
- equivalent neighbour model, high-temp. series expansions 9-44877
- ferromagnet, crit. props. of site and bond diluted Ising model 9-42766
- ferromagnet, rectangular, susceptibility, determ. of critical indices 9-28537
- ferromagnet, spin-s Ising model, crit. curve 9-4679
- ferromagnet, three-dimens., transition temp. with two- and four-spin interactions 9-42769
- ferromagnet, upper bounds for correlation functions 9-42718
- ferromagnet ordering conditions 9-42719
- ferromagnetic-paramagnetic transitions, critical surface calc. 9-4692
- field theory, 2-D, $T < T_c$, three point function string structure 9-270
- field theory 2-D, $T < T_c$, Green's function strings in n-point functions 9-271

Ising model continued

- field theory in mag. field, cut breakup in two point function 9-272
- finite amorphous Ising system, exact ground state calcs. 9-12725
- finite one-dimens. Ising systems, renormalisation group transform. 9-40485
- first-order phase transition, nonlinear relaxation, Ginzburg-Landau theory including fluctuations 9-35658
- generalised Glauber-Ising chain, dynamics in a mag. field, biopolymer appl. 9-155
- Griffiths singularity, and upper bounds on cluster distrib. functions 9-7958
- Heisenberg-Ising chain, correlation functions at $T=0$ 9-24123
- independent chains in transverse field, equivalence with spin 1/2 dimerized XY chain 9-19713
- interface entropy, phase transitions in frustrated Ising systems 9-19711
- Ising model, renormalisation of the interaction amplitude 9-30384
- kinetic Ising model, quenched relaxing impurities, critical dynamics 9-40484
- liquid-gas transitions in the spin-1 asymmetrical Ising model 9-42212
- magnetic resonance, in 2-D Ising model, appl. to FeCl_2 9-47323
- magnetically dilute ferromagnets, Curie temp. 9-11312
- metal-insulator transition, Ising model, for transition temp., Green's function calc. 9-15084
- Monte Carlo simulation of model with logarithmic exchange interaction 9-19712
- non-universality, polarisation and magnetisation exponents 9-40480
- one dimensional Ising system with random long-ranged interaction, density of eigenvalues of random matrix PV 9-12733
- one-dimensional, in transverse field, variational treatment, static props. at zero temp. 9-4642
- one-dimensional alloy, end effects 9-35634
- one-dimensional kinetic Ising model, real-space renormalization group 9-15317
- one-dimensional kinetic Ising model in a field 9-42722
- order/disorder quantum field operators associated with 2-D Ising model in continuum limit 9-9276
- paramagnets, at very low temps., formalism 9-4647
- phase transition of spin-one Ising system with biquadratic interaction 9-4683
- quantum lattice spin theory, Jastrow wave functions 9-25999
- random bond Ising chains, thermodynamics and correl. functions 9-15270
- random magnet, ROP type, dynamics 9-15269
- random magnetic systems, gauge symmetries, Ising and X-Y models anal. 9-38295
- random ordered phase, effective field approx. 9-1676
- random-bond Ising chain, entropy, depend. on temp. and mag. field 9-1679
- random-bond Ising chain, ground-state energy, magnetostriction and zero-point entropy calcs. 9-7957
- random-bond Ising systems, thermodynamic props. at low temp. 9-28532
- randomly dilute, crit. and thermodynamic props. 9-8005
- randomly located spins with oscillatory exchange interactions 9-42778
- renormalisation, zero-temp. method, Ising model in transverse field in one-dimens. 9-38347
- renormalisation transformations in position space, parameters determ. criterion 9-17357
- renormalised mean-field approach to crit. behaviour, two- and three-dimens. Ising models 9-38339
- replica method and solvable spin glass model 9-38327
- $S=1$ Ising model and third law of thermodynamics 9-17372
- scaling and multiplicative renormalising in solid state physics, review (*Hungarian*) 9-11289
- solution by star-triangle relations 9-9191
- spherical ferromagnetic models, Yang-Lee edge singularity density in thermodynamic limit 9-30378
- spin correlation functions, class of inequalities, identities 9-44878
- spin glass, crit. behaviour, appl. of n-replica method to Ising system 9-42767
- spin glass, dil., at zero temp., (1/2)-state Potts model 9-42768
- spin glass, dynamical theory of quenched site model 9-19742
- spin glass, mean field theory 9-4680
- spin glass, replica symm. and massless modes 9-33486
- spin glass, Sherrington-Kirkpatrick model generalisation m-component spins 9-11320
- spin glass, with RKKY interaction, props. 9-24177
- spin glasses, fluctuation theory, mag. susceptibility and sp. ht. 9-24176
- spin glasses, long-range Gaussian-random Ising model 9-15319
- spin glasses, quartic operators in Ising, X-Y, and Heisenberg systems 9-33498
- spin glasses, thermodynamic props., cluster mean-field theory using Ising Hamiltonian 9-33499
- spin glasses and other glasses, symmetry and topology concepts 9-28541
- spin operators, general commutator eqn. 9-4638
- spin-flop multicritical points in systems with random fields and in spin glasses 9-33495
- spin-systems, double-time Green functions method, thermodynamics 9-15313
- square lattice Ising type models statistical mechanics, variational approx. 9-44873
- square-lattice Ising antiferromagnet, interface props. and transition temp. 9-42787
- symmetric models of crystal growth disorder graphical solns. for correlations 9-1401
- Takada model, central peak 9-4641
- temperature Green's function for tunnelling model, new contraction method 9-35635
- three-dimensional, two-spin correlation function 9-28533
- Toulouse frustration effect 9-24167
- transverse Ising model, dipolar interaction, crit. relax. function 9-40487
- tricritical two dimensional behaviour, ϵ expansion universal quantities 9-35642
- tricritical two-dimensional behaviour, finite size effects, model depend. 9-35641
- two dimensional, surface critical exponent η_{\perp} 9-44879
- two dimensional second neighbour interaction, Padé approximant, critical behaviour 9-4682
- two-dimens., real-space calc. of spin-spin correl. 9-42724
- two-dimensional, variable bond strength, partition function calc. 9-25998
- two-dimensional model, small mag. field approx. near T_c 9-42773
- uniaxial dipole system, order-disorder transition, computer expt. and high temp. expansion 9-38494

sing model continued

- Ursell function inequality 9-4640
water, Ising model and config. heat capacity 9-33096
Yang-Lee edge singularity, field theoretic formulation 9-17354
Au-Fe, dil. alloys, spin glasses, modified bond model calcs. 9-33489
Ca₂La₂(SiO₄)₂O₂, cation ordering, X-ray diffr. meas. 9-23577
CrBr₃, crit. anomaly in transverse spin-spin relaxation rate 9-15310
CsCoCl₃, Ising-like antiferromag., spin dynamics 9-42747
CsCoCl₃, Ising-like antiferromag., instantaneous spin correlations 9-42746
Fe₂Mg_{1-x}Cl₂, metamag. percolation, Ising model calc. 9-28542
(NH₄)₂SO₄, phase transition theory 9-24275
Ni(OH)₂, quasi-two-dimensional antiferromagnet, specific heat 9-11317
RbFeCl₃·2H₂O, pseudo one-dimens. Ising cpd., multiple magnon bound states 9-42723

island-like metallic thin films see discontinuous metallic thin films

islet-like metallic thin films see discontinuous metallic thin films

isobaric analogue resonances

- see also nuclear collective states and giant resonances
continuum shell model description of resonant structures in nuclear reactions 9-13345
giant multipole resonances, isotopic splitting 9-6378
total neutron widths, isobaric analogue reson. 9-6540
40Ar(d,p)⁴¹Ar, 1.354 MeV, spectroscopic factor comparison with isobaric analogue reson. 9-30787
80Br isobaric analogue resonances and spectroscopic factors from ⁸⁰Se(p,n) 9-36212
13C, ¹³N mirror nuclei, 15.1 MeV resonance width, isospin forbidden transitions 9-13265
Cu, A=59, 61, 63, 65, f and p shell analogue resonances, γ -decay (Russian) 9-30800
Ga, isobaric analogue reson., statistical reaction model anal. 9-13267
Mn fragmented $g_{9/2}$ isobaric analogue resonance, transitions, J^π assignments from ⁵²Cr(p, γ) 9-45240
53Mn(p,n)⁵⁵Fe, 1.35-5.42 MeV, total cross section and isobaric analogue resonances, shape anal. 9-6604
90Mo(p,p'), time development function at isobaric analogue resonances, compound nuclear level decays 9-3124
90Mo, analogue resonances, direct neutron decay, anal. of ⁹³Nb(p,n)⁹³Mo data (Russian) 9-3128
90Nb isovector resonance analogues, Gamow-Teller transition from ⁹⁰Zr(³He,t) 9-9539
45Sc, fragmented analogue state, ⁴⁴Ca(p,p' γ) amplitudes 9-17882
119Sn(p,n')¹¹⁹Sb, 17-19 MeV, analogue state excitation and decay 9-6542

isobaric analogue states

- see also isobaric analogue resonances
Coulomb isospin mixing, self consistent theory, isobaric states in RPA, isovector forces (Russian) 9-22181
N=27 nuclei levels and analogue states, DWBA anal., from (³He, α) reaction 9-17808
As, A=73,75,77, probabilities for analogue-antianalogue transitions 9-6496
35Cl, fine struct. of 7/2⁻ isobaric analogue states 9-9466
50Cr, 1f_{7/2} shell isobaric analogue states, displacement energies 9-13207
50Cr, time struct. of the 2d_{5/2} analogue state 9-6591
63Cu $g_{9/2}$ analogue state fragmentation from γ -transitions in ⁶²Ni(p, γ) 9-22202
63Cu, $g_{9/2}$ isobaric analogue state, using ⁶²Ni(p, γ) 9-22258
62Fe, 1f_{7/2} shell isobaric analogue states, displacement energies 9-13207
4Ge, A=70, 72, 74, appl. of crystal blocking technique to study highly excited nuclear continuum using (p,p') 9-45261
2H(d,n)³He and ²H(d,p)³H, comparison of analysing powers 2.5 to 11.5 MeV 9-6628
3He(t,d)⁴He, charge asymmetry effects 9-3159
20Mg, β -delayed proton obs., mass excess of T=2 state in ²⁰Na 9-22234
32Mn, 1f_{7/2} shell isobaric analogue states, displacement energies 9-13207
16O T-mixed analogue states, (³He,p)/(t,p) cross section ratio from ¹⁴N(t,p), ¹⁴N(³He,p) 9-9478
119Sb, p decay, isobaric analogue states from ¹¹⁹Sn(p,n') 9-6542
45Sc, A=44,46,48, 1f_{7/2} shell isobaric analogue states, displacement energies 9-13207
28Si, isobaric multiplet mass eqn., test from decay 9-40890
4Ti, A=44-46, 48,49, 1f_{7/2} shell isobaric analogue states, displacement energies 9-13207
4V proton hole, analogue and high spin states, distorted wave anal. from ⁴²Cr(p, α) 9-9482
50V, 1f_{7/2} shell isobaric analogue states, displacement energies 9-13207

isobars see atmospheric pressure and density

isoelectronic series

- alkali anions, autodetaching sub ²P_{1/2} threshold states 9-22611
Hartree-Fock expectation values, systematic behaviour 9-3365
hydrogenic atoms, Compton profile and X-ray scatt. factors, elec. field and elec. field gradient effects 9-31458
hydrogenic ion + H⁺, electron capture in highly excited s-state 9-45839
hydrogenlike ions, electron impact excitation, Coulomb-Born-Oppenheimer calcs. 9-10211
ions, H-, He-like, Z=4 to 34, wavelengths, radiative transition probabilities, autoionisation rates 9-25776
one-electron ion + He(N)(Ar), sum-rule Born cross sections, excitation and ionis. contris. 9-22812
total HF SCF energy, of ats. and ions, approximation methods comparison 9-31366
two-electron atom, long-range electron density, function reliability test 9-26875
two-electron atom, Schrodinger local energies 9-41090
two-electron atomic systems, correl. energy calcs. 9-36543
AgBr:1, isoelectronic trap 9-43016
Ar, Koopmans' ionis. pot., virial scaling corrections 9-45655
B, ionization equilb. balance, solar and stellar atms. appl. 9-36587
B-like ions, EUV emission density sensitivity 9-16910
Be, ionization equilb. balance, solar and stellar atms. appl. 9-36587
Be, pot. energy relationships 9-22584
Be-like ions, 2s2p(³P₁)₁-2s(¹S₀) transition probabilities, CI calcs. 9-36544
Be-like ions, oscil. strengths and transition probabilities, Breit-Pauli approx. calcs. 9-36570
Cu I to Ni XXIII, forbidden transitions calc. 9-31444
Cu, oscillator strengths of reson. transitions 9-22666
Cu-like atoms, core polarisation influence on oscillator strengths 9-45672

isoelectronic series continued

- F isoelectronic series, transitions between 1s²2s²p³-1s²2s²p⁴3d and 1s²2s²2p³-1s²2s²2p³3s configs. 9-26925
Fe I, abnormal intensities in multiplets 9-22635
H, isoelectronic series, X-ray line excitation 9-44453
H-like, average spectral lifetime, asymptotic expression 9-45671
H-like atom, Stark effect on fine struct. 9-26929
H-like atoms, bound states, so(2,1) algebra 9-10016
H-like atoms, electron exchange scatt., high impact vels. 9-22846
H-like ion + H⁺, electron capture, Coulomb-Born approx. 9-45838
H-like ions, elastic electron (positron) scatt., relativistic Glauber amplitudes 9-31681
H-like ions, emission spectrum, depend. on electron density in laser plasma 9-27248
H-like ions, spectral broadening in plasma 9-46431
H-like ions + H⁺, charge transfer cross sections 9-18286
He, (H⁻ to C⁴⁺), correl. energy calcs. 9-36543
He ion isoelectronic series, X-ray line excitation 9-44453
He, isoelectronic sequence, Schrodinger eqn. finite difference. soln. 9-31373
He isoelectronic series, time depend. Hartree Fock theory, reduced Green's function anal., multipole polarisability 9-3358
He, isoelectronic spectra autoionisation states n=3 hydrogenic threshold, complex rot. method 9-31477
He, Koopmans' ionis. pot., virial scaling corrections 9-45655
He like ions Z=12-19, 1s² ¹S₀-1s3p¹P₁ lines satellites obs. in laser 9-22640
He, pot. energy relationships 9-22584
He-like atoms, oscillator strength calc., allowed np-n'd and nd-n'f transitions 9-31467
He-like ions, spectroscopy, review 9-10060
He-like ions, X-ray form factors and total scatt. X-ray intensities 9-10063
He-like positive ions, electron impact excitation, electron exchange, CBO approx. calcs. 9-36771
He-like three-electron atoms and ions, inelastic-reson. quasiprojection operators 9-3581
He-like two electron atoms, three-body problem 9-3372
Li, Be⁺, B²⁺, C³⁺, ²S, ²P^o and ²D autoionising states, positions and widths 9-26944
Li, ionization equilb. balance, solar and stellar atms. appl. 9-36587
Li isoelectronic sequence, Hartree-Fock eqns., perturbation calcs. 9-6846
Li isoelectronic sequence, doubly-excited states, relative ordering 9-31424
Li, pot. energy relationships 9-22584
Li-like atoms, ⁴S^e doubly excited states, orbital config. assignment 9-41118
Li-like ions, cross sections for electron impact ionisation 9-45850
Mg I sequences for elements Cr to Zn, n=3-n'=4 transitions 9-26922
Na isoelectronic sequence, hypervirial theorem, screening parameters and oscil. strengths 9-6882
Na-like ions, Kr-Mo, 2-3 transitions, plasma X-ray spectra classification 9-37544
Ne I isoelectronic sequence, X-ray spectra, K X to Fe XVII 9-22641
Ne, Koopmans' ionis. pot., virial scaling corrections 9-45655
Ne-like ions, Kr-Mo, 2-3 transitions, plasma X-ray spectra classification 9-37544
O I-like ions, solar emission lines density depend. 9-40165
O, two photon transition probabilities 9-22680
Si I sequences for elements Cr to Zn, n=3-n'=4 transitions 9-26922
Y III to Mo VI, 4p⁴4d-4p³4d5s transitions, level assignments 9-22631
Zn isoelectronic sequence, resonance oscil. strengths 9-3413
Zn, oscillator strengths of reson. transitions 9-22666

isomer shift

- alkali metal nitroprussides, Mossbauer spectra, dehydration effects 9-24237
2-aryl-3-benzylidenamino-4-thiazolidones, IR and NMR spectra, solvent effects and isomer conform. (Italian) 9-3596
transition metal nitroprussides, Mossbauer spectra, dehydration effects 9-24237
Cd nitroprussides, Mossbauer spectra, dehydration effects 9-24237
Fe complex, [Fe(CN)₆]³⁻, electronic struct., optical transitions, XPS, Mossbauer isomer shift, valence ionisation pot., SCF-MSX calc. 9-6864
Fe-Se, low conc. binary system, Mossbauer spectroscopy meas. 9-24239
Fe-Y(Th)(Zr), amorphous, charge transfer and mag. props., ⁵⁷Fe Mossbauer spectra 9-19719
FeNb₂O₆, low temp. Mossbauer exam. 9-28659
Fe₄₀Ni₄₀B₂₀, amorphous, hyperfine field distrib., Mossbauer effect meas. 9-4755
Fe₄₀Ni₄₀B_{20-y}, amorphous, mag. props. effect of metalloid elements 9-28658
FeO₄²⁻ ion, electronic struct., hyperfine interactions, SCF X α calcs. 9-37951
Kr isotopes, spectrometer for meas. of isotopic, isomeric shifts and hyperfine structure 9-6191
Np, ternary oxides, electronic and structural props., ²³⁷Np Mossbauer spectroscopy 9-33570
Pd_{100-x-y}Si_xFe_y, amorphous, ⁵⁷Fe Mossbauer spectra, X-ray diffr., ageing behaviour 9-28651
Si:Co, substitutional Co and Co precipitates, identification by Mossbauer spectroscopy 9-11631
119mSn in FCC metals, isotope separator implanted, Mossbauer spectroscopy 9-24240
YIG, Al substituted, transferred hyperfine fields, Mossbauer effect meas. 9-1726
170Yb in some metal and metal-like compounds, Mossbauer study, isomer shift and intermediate valence state 9-33569
Zn nitroprussides, Mossbauer spectra, dehydration effects 9-24237

isomerisation

- anthracenophanes, fluoresc. and photoisomerisation 9-33781
bimolecular isomerisation in liq., kinetic theory, spatial nonequilb. effects 9-5138
n-butoxy radicals, intramol. isomerisation, following n-butyl nitrite pyrolysis 9-20355
chlorin in n-alkane host, photoautoisomerisation and hole-burning 9-47954
1,1-cyclopropane(-d₃), isomerisation in He bath, vibr. transfer, temp. depend. 9-24723
1,2-di(1-naphthyl)-ethylene, cis-trans photoisomerization in condensed phase, polycryst. phase transition 9-10139
1,2-dicyanocyclopropane, stereomutations, isomerizations, reaction rate consts., extended Huckel calcs. (Italian) 9-20348

isomerisation continued

- p-dimethylaminoacetophenone, ps reversible isomerisation kinetics, O₂ quenching obs. 9-5133
 2,3-dioxogulonic acid, reversible transformation to enol, kinetics, pH effects 9-5152
 ethyl isocyanide, N isotope enrichment, IR laser isomerisation 9-27096
 d-limonene-1,2-epoxide, isomerisation (*Japanese*) 9-8435
 methyl isocyanide, N isotope enrichment, IR laser isomerisation 9-27096
 methyl isocyanide, unimol. isomerisation to methyl cyanide 9-24725
 m-methyl-p-cyanodimethylaniline, ps reversible isomerisation kinetics, O₂ quenching obs. 9-5133
 methylsilylene, isomerisation, lowest triplet state reaction surface studies 9-15963
 1,4-Bis(2-methylstyryl)benzene, laser dye, picosec. laser obs. 9-36891
 photoisomerisation, SCF MO pot. surfaces 9-11772
 polymethylene dye unstable photoisomers, superluminesc. and stimulated emission 9-31896
 porphyrin in n-alkane host, photoautomerisation and hole-burning 9-47954
 potential surfaces, electron correl. theories 9-39125
 racemization, relative and absolute rate consts., kinetic isotope effects 9-43558
 rate processes in condensed media, anharmonicity effects 9-19349
 silaethylene, isomerisation, lowest triplet state reaction surface studies 9-15963
 silylcarbene, isomerisation, lowest triplet state reaction surface studies 9-15963
 trans-stilbene, fluoresc. decay, picosecond anal. 9-31569
 symmetry of nonrigid molecules 9-22859
 thermal isomerisation rate theory 9-34291
 water, heat capacity and structure, isomerisation reaction role 9-33097
 H₂O⁺, ortho→para conversion, on CoO, MnO mag. surfaces 9-47969
 HNO⁺, ab initio pot. surface, and isomerisation barrier of lowest states 9-22622
 NOH⁺, ab initio pot. surface, and isomerisation barrier of lowest states 9-22622

isomerism

- see also isomerisation; nuclear isomerism; rotational isomerism*
 adenine, tautomers, polarisation, barriers and tunneling times calcs. 9-41114
 bromoacetic acid, microwave spectrum, rot. consts., nucl. quadrupole coupling, conform. 9-13702
 t-butyl alcohol, and deuterates, gaseous and matrix IR spectra, liq. Raman spectra, vibr. assignment 9-10113
 carbocations, degenerate (CH)_N⁺ type, permutation description (*German*) 9-45658
 chiral molecules, theory 9-41121
 dicyanobenzene, deuterated isomers, vibr. spectra 9-31521
 dynamic isomers and spontaneous generation of optical activity, phase rule prediction 9-34421
 enantiomers, discrimination using liq. crystalline solns., IR rot. dispersion meas. 9-16064
 ethylene oxide cation, existence of open isomer, ab initio calcs. 9-22593
 1-fluoro-2-propanol, conformational energies and rot. barrier, ab initio calc. 9-31390
 furan-2-aldehyde, mol. struct., electron diff. and IR spectroscopic examination 9-10106
 guanine, ¹⁵N and D substituted, in acid and base solutions, vibr. anal. 9-26994
 2-haloethanols, gauche conformer stability, exchange interaction 9-18311
 2-haloethyl ethers, relative conformational energies, Raman obs. 9-27002
 metastable isomers as new class of interstellar molecules 9-48872
 multi-molecular clusters, isomeric structures, weights and effective charact. 9-31759
 perfluoro-1-heptene, electron attachment, ≤ 3 eV, rel. to perfluoromethylcyclohexane 9-36755
 n-propanol, centrifugal distortion constants, OH-trans-trans and OH-trans-gauche conformers (*Russian*) 9-10089
 retinal, isomers, intersystem crossing quantum efficiencies, solvent effects 9-22751
 rhodanines, tautomeric, electronic struct. and spectra, MO calcs. 9-13629
 symmetry of nonrigid molecules 9-22859
 thiazolidine, valence force field transferability (*French*) 9-10091
 thymine, tautomers, polarisation, barriers and tunneling times calcs. 9-41114
 vibrational spectroscopy, structure identification 9-10092
 HNCO, barrier to linearity, ab initio SCF and CI calcs. 9-3363
 Hg complex, trihalogenomercurate II ions in amide solvents, config. equilib. 9-26997
 NH₃, inversion barrier, pot. energy surface by MS X α method 9-13656
 Na₂, conversion rate determ. using laser induced molecular fluorescence 9-43568

isomorphism

- compound spaces of tolerance of chemical elements, mutual relationship of compounds 9-19177
 molecular crystal, polymorphism and isomorphism, cryst. forces and mol. conform. relation 9-46592
 Ti-Se-TiInSe₂, struct. and growth peculiarities, epitaxial heterojunctions (*Russian*) 9-11038

isothermal transformations

- binary alloy, effect of phase boundaries (*Russian*) 9-1857
 steel, C, structural strength, increase by high temp. mech. treatment with austenite isothermal decomp. 9-24555
 steel, Cr, and Cr-Mo-Ni, austenite decomposition, deform. effects, ferrite reaction 9-1842
 steel, Cr-Ni, bainitic habit plane determ. 9-1927
 steel, Ni-B, B effect on temperability and microstructure 9-15710
 steel, stainless, δ -ferrite, isothermal decomposition and transform. of heating at 550 to 950°C (*Chinese*) 9-43239
 Au-Pt (60 at.%), solid soln. neutron small-angle scatt. study of phase decomp. 9-15646
 Fe, cast, Mg, high strength bainitic transform. in C-shape diagram (*Russian*) 9-1860
 Fe, cast, Mg, isothermal dissociation of supercooled austenite, exam. of kinetics (*Russian*) 9-29013
 Fe-C-Si-Mn, cast, high C, K₁ phase formation due to peritectoid transitions (*Russian*) 9-11548
 Pt-Cu (49.37 at.%), coexistent phases in homogeneous ordering 9-29052

isotope detection

- see also mass spectra*
 mass spectroscopy, δ values calc. method 9-10234

isotope detection continued

- nuclear power plant vent-air monitoring by nuclide-specific detection system 9-3249
 CO₂ lasers, transition strength of 00² 9.4 μ m sequence band, appl. to IR isotope anal. 9-18395
¹⁴C, detect. via small van de Graaff accelerator 9-11844
⁴⁰K, isotope relative abundance, radioactivity expt. for schools 9-21511
 Li isotope composition determ., α prod. by d bombardment 9-7029
²³⁵U/²³⁸U isotopic ratio determination, by γ -ray spectroscopy 9-5240
- isotope effects**
see also isotope shifts
 alkane glass, γ -irradiated, charge trapping, isotope and mol. struct. effects 9-5164
 2-aminopyrimidine(-d₁), amino inversion vibr., planarity, far IR obs. 9-31515
 anthracene-aliphatic amine, photochemically induced H isotope exchange 9-11771
 anthracene-tetracyanobenzene, charge transfer complex, phase transitions, deuteration effect, mag. reson., spectral and thermal meas. 9-4412
 azulene(-d₈), ultrafast S₂→S₀ internal conversion 9-3474
 benzophenone, and d₁₀, ODMR and phosphorescence spectra in organic matrix 9-36671
 bilayer membranes, permeation of water mols. meas. using fluoresc. quantum yield solvent-isotope effect 9-34710
 t-butanol and -d₁, deuteration effect on self-assoc., dielectric polariz. meas. 9-28672
 chloroform-d₁, and isotopic forms, liq., neutron diff. obs. 9-32878
 copper porphyrin, IR spectra and vibr. anal., and deuterio-derivatives 9-22705
 cyanomethane-d₀, -d₃, vacuum UV photodissociation spectroscopy 9-834
 cyanotrifluoromethane, vacuum UV photodissociation spectroscopy 9-834
 cyclododecane, force field, PMR of deuterated isotopomers 9-45695
 1,1-cyclopropane(-d₂), isomerisation in He bath, vibr. transfer, temp. depend. 9-24723
 diatomic gas, vibr. excited, large V-T relax. and isotope effect 9-3548
 p-dichlorobenzene(-d₄), mixed cryst. phases, mol. reorientations and intermol. interactions, Raman obs. 9-28751
 dichlorodifluoromethane, IR photolysis, isotopic selectivity factors 9-47946
 dimethylether, and d₆, microwave spectra of torsionally excited states 9-26974
 DMBCA, nematogen, incoherent neutron quasielastic scatt. 9-32887
 dodecylamine (-NH₂)/H₂O₂ and deuterated cpd., liquid crystal, phase relationships, isotope effects 9-19358
 ethane-d₀, -d₆, normal coord. and IR intensity anal. 9-36604
 ethylene-d₀, -d₄, electron impact, vibr. excitation cross-sections, 1 MeV 9-22850
 formaldehyde-d₀, -d₂, ¹($\pi\pi^*$) radiationless transition, ab initio CI calc. 9-767
 formaldehyde-d₀, -d₂, ¹($\pi\pi^*$) transition, vibr. struct., ab initio CI calc. 9-766
 formaldehyde-d₀, -d₂, fluoresc. quantum yields, rot. depend., single rovibronic level values 9-22748
 formaldehyde-d₂, inert gas and N₂ matrix fluoresc. spectra, radiationless transitions and lifetimes 9-3469
 guest/host mixed crystal systems, thermally activated intermolecular effect of deuteration on guest phosphoresc. 9-43010
 halogen hydride lasers, vibr. energy transfer, from metastable diatomic molecules 9-31882
 p-hydroxyazobenzene, acidic soln., reson. Raman spectra, ring deuterated derivatives 9-26987
 ice, Ih, polycryst., vibr. spectrum anal., OH stretching region 9-11412
 ice Ih, polycryst., Raman spectra, OH stretching region 9-11410
 iodomethane-d₁, in nematic soln., D NQR coupling const., isotope effect 9-27009
 ketene-d₀, -d₂, Coriolis coupling, centrifugal distortion and force consts., mean vibr. amplitudes calcs. 9-36607
 light nuclei, investigation using NMR frequency-ratio spectrometer 9-21793
 methane-d₄, isotope effect on rot. and vibr. consts. 9-22688
 methanol, and deuterates, dissociation mechanisms, photoionisation mass spectra, ionic struct., interstellar formation 9-3503
 methyl isocyanide, vacuum UV photodissociation spectroscopy 9-834
 N-methyl thiopropionamides, normal coord. calcs. 9-36598
 molecular spectral line shape, vibr. overtone lineshape 9-27040
 molecular structure, isotopic relations for rot. and Coriolis consts. 9-3377
 multiple reactions, CI isotope effects, mass spectrometric monitoring 9-39135
 naphthalene charge transfer complexes, cryst., vibr., factor group splittings 9-7658
 naphthalene-tetracyanobenzene, charge transfer complex, phase transitions, deuteration effect, mag. reson., spectral and thermal meas. 9-4412
 nuclear, review of Soviet research 9-36168
 palladium porphyrin, IR spectra and vibr. anal., and deuterio-derivatives 9-22705
 paraelectric tunnelling systems, broadening mech. 9-28701
 4-n-pentyl-4'-cyanobiphenyl, nematogen, incoherent neutron quasielastic scatt. 9-32887
 polyethylene, protonated and deuterated, neutron scatt. at intermediate Q-values 9-10807
 porphyrin (-d₂, d₄, d₆, d₈, d₁₀, d₁₂, d₁₄), nonradiative transition probabilities, deuteration effects 9-3485
 pyrene-tetracyanobenzene, charge transfer complex, phase transitions, deuteration effect, mag. reson., spectral and thermal meas. 9-4412
 racemization, relative and absolute rate consts., kinetic isotope effects 9-43558
 Raman spectra, isotropic, of liq. (isotope) mixture, intermol. vibr. mode coupling 9-31535
 tetracyanoethylene charge transfer complex, nonradiative decay of excited states, D isotope effect 9-31580
 TGFB, deuterated, single cryst. growth and props. 9-24422
 water, low-density amorphous solid, IR spectrum, OH stretching region 9-11411
 water, low-density amorphous solid, OH stretching spectrum 9-11413
 XY₂ nonlinear symmetrical molecules, isotopic invariants 9-36599
 XY₃ planar symmetrical molecules, isotopic invariants 9-36599
 XY₄ molecules, isotope effect on rot. and vibr. consts. 9-22688
 Ar+H(D), differential collision cross sections, diffraction oscills., data anal. 9-22783

isotope effects continued

- Br+HI→HBr+I, thermal rate const., 220-400K, H/D isotope effect 9-47906
 Br₂, condensed phases, spontaneous and stimulated Raman scatt., weak and strong radiation fields 9-3450
 Br(⁴²P_{1/2})+¹²CO₂(¹³CO₂), electronic-vibr. energy transfer, temp. depend. meas. 9-10136
 CO₂+deuteromethane, time resolved fluoresc. for vibr. relax 9-31659
 CaD, absorption spectra, extension of F-X system 9-18205
 CaH, absorption spectra, extension of F-X system 9-18205
 Cd(³P₁)+H₂(HD)(D₂) reacts., CdH(CdD) yields, quenching cross sections 9-1948
 Cl+DI→DCl+I, thermal rate const., 220-400K, H/D isotope effect 9-47906
 Cl₂, Ar ion laser excited, normal and reson. Raman spectra 9-26993
 DBr+DBr, vibr. energy transfer, dissimilar isotopic species 9-27067
 DCl+DCl, vibr. energy transfer, dissimilar isotopic species 9-27067
 D₂O+Ar, energy transfer isotope effect, rate consts. 9-8422
 Fe-Ti(H,D), isotope effects of diatomic TiH and TiD complexes 9-47259
 Fe(BF₄)₂.6H₂O(6D₂O), phase transition, mag. susceptibility and anisotropy and permittivity meas. 9-23718
 H bond length and vibr. freq., deuteration effect 9-26911
 H bonded systems, IR spectra, theoretical interpretation 9-31519
 H₂, liq., vibr. energy transfer, isotopic impurities, relax. 9-6993
 H₂+He(2³S₁), isotope effects, 77 to 300K 9-36752
 HBS, force consts., Coriolis const., vibr. amplitude, shrinkage and isotope effect 9-22863
 HBr+HBr, vibr. energy transfer, dissimilar isotopic species 9-27067
 HCl+HCl, vibr. energy transfer, dissimilar isotopic species 9-27067
 H₂(D₂) Stark broadening in Ar arc plasma 9-36582
 H₂O, and D₂O, Feshbach-reson. and dissoc. electron attachment 9-41246
 H₂O, D₂O, electron impact dissoc. excitation, Balmer-α emission obs., Doppler profile meas. 9-31706
 H₂¹⁶O, HD¹⁶O, H₂¹⁸O, mol. diffusivities in N₂, isotope effects 9-1282
 He(2³S)+H(D), Penning and assoc. ionis. cross sections, vel. depend. 9-22815
 He(2³S and 2¹S)+H₂(D₂), Penning, rearrangement and total ionis. cross sections, vel. depend. 9-22816
 I*+H₂O(D₂O)(HDO), ⁵²P_{1/2} electronic to vibr. energy transfer, quenching and time resolved IR fluoresc. 9-3537
 KH₂PO₄(KD₂PO₄), photoelectric phenomena, nonlinear optical rectification (Russian) 9-19628
 La₂(SO₄)₃.9H₂O, and isotopic forms, water librations, Raman obs. (French) 9-28754
 LiH, X¹Σ⁺ ground state, spectroscopic and pot. functions, method for combining spectroscopic data 9-45782
⁶⁷LiNO₃, cryst. vibr., Raman and IR spectra 9-15445
 (Mn₂Re_{1-x})₂(CO)₁₀, Raman spectra, intramol. vibr. coupling, ¹³C substitution 9-47431
 (ND₄)₂D(SeO₄)₂, phase transitions, isotope effect, dielectric and dilatometric meas. 9-38500
 NH₃(ND₃), chemisorbed on W, decomposition mechanism, isotope effect 9-29409
 N₂O+deuteromethane, time resolved fluoresc. for vibr. relax 9-31659
 NaClO₃.NaBrO₃, Raman spectra, mode coupling and ⁷⁹Br-⁸¹Br isotope effects 9-19873
 Na₂O.TeO₂.Ho³⁺(Er³⁺)(Yb³⁺), luminesc. quenching by OH and OD (Russian) 9-28839
 PdH_x, PdD_x, ordering, resistivity, annealing and neutron diff. obs. 9-34030
 SH, X²Π_{1/2}-state, far IR LMR spectra 9-6954
 SiO, nearly degenerate G-II-I-II energy spectra, predissoc., extended virial theorem 9-22771
 U isotope separation using ion exchange chromatography, U(IV)-U(VI) exchange isotope effects 9-36376
 Zn-porphin(-d₄d₈d₁₂), nonradiative transition probabilities, deuteration effects 9-3485

isotope exchanges

- cyanooacetylene, and isotopic forms, ¹³C/¹²C effects on partition function 9-29352
 polypeptide chain, helix-coil transition and isotope exchange reaction 9-3602
 CO, dissociative chemisorption of Ru, isotope exchange 9-34354
¹²C¹⁶O+¹³C¹⁶O, vibr. distrib., electron impact excitation, isotopic composition, interaction depend. 9-29332
 D₂+H₂O, isotope exchange on Pt over hydrophobic support 9-11823
 D₂+H₂O, isotope exchange on Pt, CO poisoning effects 9-11824
¹²⁵I⁵⁴Iu fixation in solid/liquid systems 9-13530
⁵⁹Fe fixation in solid/liquid systems 9-13530
¹³¹I fixation in solid/liquid systems 9-13530
¹⁴N¹⁴N+¹⁴N¹⁵N, vibr. distrib., electron impact excitation, isotopic composition, interaction depend. 9-29332
 Ni, reaction with CO₂ interfacial kinetics, ¹⁴CO₂-CO exchange reaction, S effect 9-47978
¹⁸OH+CO₂(CO), evidence for at. exchange 9-47910
¹⁸O in quartz silt, resistance to isotopic exchange when buried and weathered 9-39709
²³⁸Pu fuel form facility at Savannah River Plant 9-9846

isotope relative abundance

- see also element relative abundance
¹⁴³Nd/¹⁴⁴Nd initial ratio in Moon, lunar crust and mantle differential evolution 9-35156
 S.African kimberlites, ⁴⁰Ar/³⁹Ar anal. of phlogopite nodules and phlogopite-bearing peridotites 9-34769
 Allende meteorite, Mg isotopic anomalies rel. to ²⁶Al stellar nucleosynthesis 9-5809
 Allende meteorite FUN inclusion Cl, search for ²⁶Al effects 9-16896
 Antarctic meteorite Yamato 74123, new ureilite 9-35206
 Archaean migmatites in Lofoten-Vesteralen, Norway, Nd, Sr and Pb isotope data interpretation 9-34773
 big bang nucleosynthesis, cosmology and neutrino physics constraints 9-30154
 bromotrifluoromethane, multiphoton decomp., ¹³C enrichment 9-830
 cave waters, stable isotope geochemistry rel. to climatic change, 230000 to 100000 BP 9-2234
 Central American andesites, Sr isotope evidence for mantle petrogenesis 9-20833
 CO isotope mapping of L 134 N 9-30108
 cosmic ray Be isotopes meas., 200-1500 MeV/nucleon 9-12366

isotope relative abundance continued

- cosmogenic radioisotopes, in Dhajala chondrite, rel. to interplanetary cosmic ray vars. 9-35207
 El Tatio geothermal field waters, N.Chile, isotopic comp. rel. to sources 9-16525
 fission Xe isotope dating technique 9-21043
 galactic abundances of stable isotopes of common elements 9-44615
 GC/MS system for isotope ratio monitoring 9-22855
 gypsum hydration water, isotopic comp. 9-20829
 inert gases in Murchison meteorite, possible relics of s-process nucleosynthesis 9-21243
 interstellar formamide, ¹³C isotope detect. and column densities 9-25680
 interstellar molecules (DCO⁺, N₂D⁺, DCN, DNC), obs. and interstellar chemistry implications 9-5891
 IRC+10216, isotope abundance anomalies in C star 9-5814
 Kirin meteorite shower, ¹⁸⁰ abundance (Chinese) 9-16900
 Lewisian gneisses, ¹⁴³Nd/¹⁴⁴Nd and Sm/Nd ratios rel. to granulites origin 9-20777
 marine plankton, C isotope ratio rel. to surface water masses 9-29783
 mass spectroscopy, δ values calc. method 9-10234
 metagabbro at bottom of Michigan Basin deep drill hole, Rb-Sr geochronologic anal. 9-39680
 meteorite, role of supernovae in solar system formation 9-44380
 minerals spatial isotope distributions, recovery from stepwise degassing data 9-34967
 quantitative ion-microprobe analysis, geochem. appls. 9-34976
 r-process nuclei, isotopic anomalies 9-5740
 radioactive particulates in gaseous effluents at nuclear fuel reprocessing facility 9-9848
 slates, ⁴⁰Ar/³⁹Ar ratios and ages by stepwise outgassing model 9-29721
 solar system, early isotopic anomalies 9-22161
 solar system, early isotopic anomalies 9-25522
 speleothems, stable isotope geochemistry rel. to climatic change, 230000 to 100000 BP 9-2234
 stellar collapsed core, neutrino prod. of bypassed isotopes, neutrinos role in nucleosynthesis 9-40182
 sulphide minerals, K-bearing, age meas. by ⁴⁰Ar/³⁹Ar technique 9-29720
 thermal fluids of Abano region, N.Italy, O isotopes rel. to sources and circulation paths 9-20883
 waters from high altitude region north of Jolma Longma mountain, geochem. characts. of isotopic distrib. (Chinese) 9-2304
²⁶Al in Fe meteorites and past cosmic ray intensity 9-44422
²⁶Al/²⁷Al, prod. ratio from stellar evolutionary sequence 9-5809
 Ar in Venus lower atmosphere, isotopic abundance results from Pioneer Venus 9-48720
⁴⁰Ar concentrations in silicic crust and atmosphere, rel. to form. from upper mantle 9-44153
⁴⁰Ar/³⁶Ar trapped in Cretaceous deep-sea basalts 9-16423
⁴⁰Ar/³⁹Ar radioactive dating, appl. to K-bearing sulphide minerals age determ. 9-29720
⁴⁰Ar-³⁹Ar systematics, temp. and pressure effects 9-44178
¹⁰Be in 1000 and 5000 yr old Antarctic ice, meas. 9-2305
 C, isotopically light, in diamonds from Lesotho kimberlite pipes 9-48487
 C, mass transfer and isotope evolution in natural water systems 9-20882
 C, organic, dissolves and particulate, in marine environment, stable isotope comp. 9-20862
 C stars, C and N isotope ratios from spectral analysis 9-30057
 CNO rare isotopes, prod. in novae by explosive hot CNO-Ne cycle H burning 9-44489
¹³C(p,γ), A=12, 13, isotopic anal., estimation of ¹³C/¹²C conc. ratio 9-48014
¹²C/¹³C in NQ Vulpeculae (Nova 1976) upper limit from CO emission obs. 9-25609
¹²C/¹³C ratio correl. with Fe/H ratio in K-type giant stars atms. 9-48798
¹²C/¹³C ratio in C stars 9-35257
¹²C/¹³C ratio in G-K giant stars, explanation constraints 9-5817
¹²C/¹³C ratios in red giant stars, effect of meridional circulation 9-48786
¹²C/¹³C ratios in Sagittarius B2 and Orion A 9-21374
¹³C and ¹⁸O fractionation in calcite-depositing spring, chemical vars. and calcite precipitation 9-44202
¹³C, enrichment in multiphoton dissoc. products of trifluoromethyl halides 9-18302
¹³C/¹²C ratio of atm. CO₂, recent trends rel. to tree ring studies 9-25311
¹³C/¹²C ratio variations in Pinus longaeva (bristlecone pine) cellulose during the last millennium 9-44217
¹⁴C, abundance rel. to cosmic rays and solar activity cyclic vars. 9-16776
¹⁴C, concs. in Florida annual coral rings 9-16513
¹⁴C/¹³C/¹²C vars., Bermuda coral 200 yr. record. 9-16570
 Ca and Mg isotopic anomalies and lack of ²⁶Al in Allende meteorite unusual inclusion 9-40142
 Ca, isotope fractionation on Earth and other solar system materials 9-20835
 Ca isotopic comps. of magnetic spherules in marine sediments 9-44423
⁴¹Ca/⁴⁰Ca, ratio rel. to ⁴¹Ca radioactive dating 9-21063
³⁶Cl in environmental water samples, anal. using electrostatic accelerator 9-20895
 D, form and abundances in inhomogeneous cosmologies 9-21471
 D, galactic distrib., radial gradient, from DCN/H¹³CN and DCO⁺/HC¹⁸O⁺ ratios 9-40232
 D, Indian radioactive thermal spring water D content, mass spectrometric anal. 9-39765
 D/H ratio and cosmic ray ionization in interstellar clouds 9-17063
 D/H ratio in speleothem fluid inclusions rel. to meteoric precipitation 9-44201
 D/H ratios of natural serpentines, rel. D/H fractionation factors between serpentine and water at 100-500°C 9-34803
⁵⁵Fe and stable Fe forms and availability in oceanic aerosols 9-12241
 H, isotope ratio, determ. in microwave induced plasma 9-41868
¹³C/¹²C/¹⁸O mol. isotopic abundance ratio, interstellar determ. from 6.8 cm obs. 9-35347
 He, isotope ratios in Yellowstone and Lassen Park volcanic gases 9-16425
³He/⁴He, high ratios in Hawaii lavas olivine phenocrysts and xenolithic dunites 9-34814
¹²³I product radionuclidic purity using ¹²⁴Te(p,2n), reply 9-29622
¹²³I product radionuclidic purity and quality, comments from ¹²⁴Te(p,2n) 9-29621
 K isotopic comps. of magnetic spherules in marine sediments 9-44423
⁴⁰K, isotope relative abundance, radioactivity expt. for schools 9-21511

Isotope relative abundance continued

- ⁴⁰K anomaly in Allende meteorite inclusions, evidence from pre-4550 Myr
⁴⁰Ar-³⁹Ar ages 9-35212
 Kr, s-process contributions 9-5739
 Li, Be, B, isotopic ratios rel. to cosmic-ray nucleosynthesis and extragalactic matter infall 9-17084
 Li isotopic composition determ., α prod. by d bombardment 9-7029
 Li isotopic comp. determ., using coincident meas. of complementary particles in ⁶Li(p, α) and ⁷Li(p, α) 9-5201
 Mg isotopes in Ba star HR 774, Reticon spectra 9-25594
²⁶Mg negative anomalies and ²⁶Al, effects of proton irradiation on gas phase with condensation 9-13289
¹⁴NH₃, ¹⁵NH₃, CW and pulsed Pb_{1-x}Sn_xSe diode laser spectroscopy 9-26980
¹⁴N(p, γ)¹⁵O, isotopic anal., estimation of ¹⁵N/¹⁴N conc. ratio 9-48014
¹⁵N/¹⁴N ratio from ¹⁵NH₃ interstellar detection at 23 GHz 9-44590
¹⁵N/¹⁴N ratio in Jupiter atmosphere, results from 10 to 13 μ spectrum 9-8876
¹⁵N(p, α)¹²C, isotopic anal., estimation of ¹⁵N/¹²C conc. ratio 9-48014
¹⁴³Nd/¹⁴⁴Nd in calc-alkaline andesites and plateau lavas from S.America 9-29726
²⁰Ne in Venus lower atmosphere, abundance from Pioneer Venus 9-48720
 O isotope comp. and origin of high ⁸⁷Sr/⁸⁶Sr andesites 9-34817
 O analysis, parallel changes in species diversity and palaeotemp., Lower Miocene 9-39866
 O in formaldehyde, interstellar 4389 MHz absorption line 9-44591
 O in quartz silt, resistance to isotopic exchange when buried and weathered 9-39709
¹⁸O/¹⁶O ratio in precipitation over KFA Jülich, (1974-1978) (German) 9-12227
¹⁸O/¹⁶O stratigraphy of deep sea sediments rel. to Eemian interglacial 9-29770
 Pb and Sr isotopic compositions of elemental concs. and Pb and Sr isotopes 9-34775
 Pb isotope studies of ore deposits of circum-Kisseynew volcanic belt, Canada, ages 9-3479
 Pd, isotopic comp. and at. wt., using solid source mass spectrometry 9-864
¹⁰⁷Pd existence in early solar system, evidence from meteorites 9-40096
 Pu, isotopic conc. in soln., on-line gamma spectrometric meas. 9-11872
 Rb-Sr isotopic study of Precambrian metavolcanics in Orange River region, S.Africa 9-44147
⁸⁷Rb, ⁸⁷Sr chronology of H chondrites, parent body evolution 9-44421
²²²Rn, excess bottom distrib. in deep ocean passages 9-16514
 S isotopic composition in precipitation within Great Lakes Basin 9-16625
 SO₂, S isotope composition, vibronic spectroscopic determ. (Russian) 9-10124
²⁸Si/²⁹Si/³⁰Si isotopic abundance ratio determ. from SiO isotopic lines in sunspots 9-30044
 Sm in solar system rel. to Allende inclusion EK1-04 isotopic anomalies 9-35208
 Sr isotopes rel. to petrogenesis of N.Chilean ignimbrites 9-44146
 Sr, Pb, O isotopic analyses of rocks from Skaergard intrusion, E Greenland 9-29763
⁸⁷Sr/⁸⁶Sr in calc-alkaline andesites and plateau lavas from S.America 9-29726
⁸⁷Sr/⁸⁶Sr ratio reduction during hydrothermal alteration of basalts 9-16446
⁸⁷Sr/⁸⁶Sr ratios of interstitial waters from DSPD sites rel. to sediment geochem. 9-34794
 T, 9-5766
 T, concentrations in Caspian Sea 9-34858
 T distribution in Weddell Sea water masses 9-39728
 Te, Xe and Kr isotopes in Allende meteorite, record of nucleosynthesis 9-40147
¹³²Te in lower troposphere, airborne levels and lifetime 9-12242
 U exchange during low-temp. alteration of oceanic basalt, isotopic evidence 9-29744
 U-Th-Pb isotopic study of Precambrian metavolcanics in Orange River region, S.Africa 9-44147
²³⁴U/²³⁸U ratio disequilibrium in natural samples, mechanisms involving recoiling alpha-emitting nuclei 9-16466
 Xe, isotopic composition anomaly in Murchison meteorite 9-44424
 Xe, isotopic composition anomaly in Murchison meteorite, reply 9-44425
 Xe, s-process contributions 9-5739
¹²⁹Xe, excesses in Hawaii lavas olivine phenocrysts and xenolithic dunites 9-34814
 Zr, isotopic composition, at. wt., rock standards, chondrite composition 9-3591

isotope separation

- see also *isotope exchanges; laser isotope separation; radiochemistry*
 asymmetric separation processes, two types of ideal cascade 9-36377
 calutron, EM isotope separator, instability limit 9-22477
 centrifuge method, rotating plasmas analysis, ⁶Li enrichment (Japanese) 9-41248
 crossed-field plasma centrifuge, effect of ion wind on separation 9-31722
 cyclone separator, 3D flows and turbulence intensity (Chinese) 9-36418
 denatured Th fuel cycle safeguards against proliferation 9-13422
 displacement chromatography, isotope separation appl., mathematical model 9-10219
 Freon, photochemical ¹³C and ³⁷Cl isotope enrichment using CO₂ laser pulses 9-36787
 gas centrifuges, pressure recovery in diffuser at high Mach number rotation 9-22480
 gas membrane separation cascades, efficiency comparisons 9-13529
 gas separation performance of tapered cascade with membrane 9-22478
 ideal cascade with variable separation factors, separative power 9-22479
 mass diffusion cascade, effectiveness increase using asymmetric schemes for combining stages 9-45392
 mass-diffusion element, anal. of separative power 9-41039
 multicomponent isotope separating cascade composed of elements with large separation factors 9-26753
 neutral atoms, spatial mass separation, in rot. weakly ionised plasma (Russian) 9-3590
 plasma centrifuge, enhanced isotope separation in crossed E×B fields 9-18305
 radioactive rare gas separation performance of a two-unit series-type separation cell 9-41008

isotope separation continued

- reactor fuel gaseous mixtures separation by supersonic acceleration 9-22482
 separation cell with two kinds of membrane, characteristics (Japanese) 9-36419
 ultracentrifuge, flow, isotope conc. field, numerical model 9-1199
¹³C, enrichment in multiphoton dissociation products of trifluoromethyl halides 9-18302
 D, isotope enrichment by CW CO₂ laser-induced vibr. photochem. 9-36790
 H₂-D₂ separation by Taylor diffusion 9-18303
¹²⁹I and organic compound determ. in LWR irradiated fuel solns. (French) 9-3230
⁸⁵Kr monitoring system with permselective membranes 9-3260
⁴Ne, A=20, ²², isotope separation by mass-diffusion cascade 9-31218
 Ru, neutron deficient isotopes, gas thermochromatographic separation from AgCl 9-865
 SF₆, laser excitation in low temp. matrices, possible isotope selectivity 9-36788
²³⁴Th, isotope separation by extraction column chromatography using TnOA and filter paper 9-43659
²³⁴Th, separation from natural U by extraction column chromatography using TnOA and filter paper 9-43659
 U, countercurrent vortex tube method, energy consumption (German) 9-27099
 U enrichment, jet membrane process 9-26683
 U enrichment, layout of gas centrifuge cascades 9-26587
 U enrichment, random-walk model of holdup time of gas mols. in separation process 9-22481
 U, enrichment, separation nozzle process 9-31124
 U, enrichment processes in France (French) 9-31127
 U, gas centrifuge 9-3227
 U, isotope separation, new processes 9-31128
 U isotope separation using ion exchange chromatography, U(IV)-U(VI) exchange isotope effects 9-36376
 U, isotope separation with rot. plasma 9-13842
 U, separation in Fe³⁺(III) water-glycerine solution-U(IV) cationic resin 9-41025
 U, throughput limit in mass spectrographs 9-21850
 UF₆ centrifuge cascade, power supply loss accidents anal. 9-13502
²³⁵U enrichment, separation nozzle process 9-31106
²³⁵U enrichment by pulse gas diffusion 9-36380
 Xe, centrifuge in RF discharge, rot. mag. field 9-10737
 Xe, isotope separation in RF discharge light inert gas admixture effects 9-41250

isotope shifts

see also *atomic spectra*

- ¹⁷⁶Lu, hyperfine struct. and isotope shift of 605.5 nm line by laser spectroscopy 9-41137
 alkali bisulphites, and disulphites, and isotopic forms, solid and soln., Raman spectra assignments 9-42968
 alkali hydrogen selenites, and deuterated analog, vibr. spectra 9-24311
 anthracene-TCNB, charge transfer cryst., Raman spectra, assignment of modes on basis of isotope shifts 9-19885
 benzene, and deuterated forms local mode oscill. strengths 9-27039
 bromomethane, microwave spectra, isotope substitution, Br quadrupole coupling, J=0-1 transitions 9-45709
 bromomethane-(d₁,d₂,d₃), F and G sum rules as vibr. intensity data error indicators 9-3494
 t-butyl alcohol, and deuterates, gaseous and matrix IR spectra, liq. Raman spectra, vibr. assignment 9-10113
 butylsilane-d₀-(d_n), vibr. spectra, normal vibrs. and rot. isomerism 9-31523
 diatomic molecule, Born-Oppenheimer approximation, breakdown 9-3497
 diethylsilane-d₀-(d_n), vibr. spectra, normal vibrs. and rot. isomerism 9-31524
 dimethyl sulphoxide-d₆, intensities in inelastic electron tunnelling, IR, and Raman spectroscopy (French) 9-822
 dimethylether-HCl(1)(Br) mixture in N₂ matrix, IR induced proton transfer isotope effects, bond strengths 9-29335
 ethylene-(d₁,d₂), high-resolution UPS, mol. ion vibr. assignments, symmetry 9-27032
 ethylmethylether-(d₃), low freq. vibr. spectra, methyl torsional pot. functions, internal rot. 9-26978
 ethylmethylsilane-d₀-(d_n), vibr. spectra, normal vibrs. and rot. isomerism 9-31524
 fluoroacetylene-d₀-d₁, microwave spectrum, laser enhancement effects 9-41161
 fluorobenzene, 2644 Å band system, rovibronic anal., isotope effects 9-6949
 fluorobenzene radical cations, in gas phase, laser-induced fluoresc. 9-27022
 formic acid and isotopic species, microwave spectra, Coriolis reson. between vibr. excited states 9-13700
 guanine, ¹⁵N and D substituted, in acid and base solutions, vibr. anal. 9-26994
 methane-d₄, Stark effect, rot. transitions in vibr. ground state, isotope shift 9-27029
 methyl selenocyanate, and isotopic forms, microwave spectrum 9-13705
 N-methylacetamide, and isotopic forms, low-freq. Raman spectra, internal torsional mode 9-26992
 N-methylacetamide, vibr. spectra and normal coord. calcs. 9-36632
 methylborodichloride-d₀-(d₃), vibr. spectra and force constants (German) 9-26982
 methylpropylsilane, vibr. spectra, normal vibrs. and rot. isomerism 9-31524
 molecular isotope spectra, from unseparated natural mixture, spectrosc. technique 9-31736
 molecular vibration analysis, isotopic frequency ratios, using high- and low-freq. separation method 9-26971
 N-methylhydroxylamine, microwave spectra, struct., moments, internal rot., HFS and rot. consts. 9-45708
 nitrobenzene-d₀-(d₅), vibr. spectra 9-26966
 phenols, ¹³C and D substituted, microwave spectra, substitution struct. and absolute dipole moment 9-31511
 propylsilane-d₀-(d_n), vibr. spectra, normal vibrs. and rot. isomerism 9-31523
 rubidium tetramethylborate, vibr. spectra and force constants (German) 9-26981

isotope shifts continued

- superconductors, effects of local and quasi-local impurity modes on crit. characts. (*Russian*) 9-19692
- 1, 2, 4, 5-tetracyanobenzene and -d₂, IR and Raman spectra, vibr. anal. 9-36629
- sym-tetrazine, mol., isotope spectra, from unseparated natural mixture, spectrosc. technique 9-31736
- thiocarbonyl bromide, IR spectra, gas, liq. and matrix isolated, mol. force consts. (*German*) 9-36640
- thioformaldehyde, and -d₂, $\tilde{A}'A_2-X'A_1$ visible electronic absorpt. spectra, vibr. anal. 9-45733
- thiophosgene, IR spectra, gas, liq. and matrix isolated, mol. force consts. (*German*) 9-36640
- triatom molecules, microwave spectra, mol. parameters 9-31513
- trimethylborane, vibr. spectra and force constants (*German*) 9-26981
- tryptophan, Raman line characterisation 9-26996
- vinylfluoride, gas phase electron diff. and microwave spectra, rot. consts., struct., isotope shifts 9-31686
- water, solvated electrons, photon-induced electron transfer transitions 9-8154
- Ba isotopes, isotope shifts and hyperfine struct. from laser spectroscopy 9-9460
- BaCl₂·2H₂O(D₂O), lattice vibr., IR and Raman spectra 9-15443
- BrCN, ICN, and isotopic forms, force field calc., freqs., rot. consts. 9-22693
- CS, isotopic variants, IR absorpt. spectra, $\nu=2-1$ hot band 9-45721
- CS, isotopic variants, IR absorpt. spectra, vibr.-rot. transitions 9-45720
- CS₂, isotopic variants, $2\nu_1+\nu_3$ band IR spectra, rot. and rovibr. consts. 9-41166
- Ca stable isotopes, nucl. charge distrib. from isotope shift in Ca I resonance line 9-9461
- ⁴¹Ca, isotope shift and hyperfine struct. by laser spectroscopy 9-41139
- ClCN, and isotopic species, force field calc., freqs., rot. consts. 9-22692
- ⁴³CS, A=133, 135, 137, isotope shifts and hyperfine struct. of 5s-7p transitions 9-13677
- ⁴³CS, A=133, 137-139, hyperfine struct., isotope shifts, nuclear moments and radii, laser spectroscopy 9-10071
- ⁴³CS, A=138 to 142, nucl. moments and charge radii changes from hyperfine struct. and isotope shifts 9-17804
- FCN, and isotopic forms, force field calc., freqs., rot. consts. 9-22691
- GaBr, rot. spectrum hyperfine struct. 9-13838
- GeH₄, Stark effect, rot. transitions in vibr. ground state, isotope shift 9-27029
- HCN, and isotopic forms, l-type doublet transitions 9-13704
- H₂(D₂), dissolved in vitreous SiO₂, Raman spectra, Q-band freq. shift 9-33707
- HNCSe, struct., microwave spectrum 9-18178
- H₂O, H₂¹⁸O, D₂O, low freq. Raman spectra, isotope shifts, ice-like struct. 9-28732
- H₂¹⁸O, H₂¹⁸O, determ. of line intensities from Fourier absorpt. spectra (*French*) 9-18186
- H₂SeO₃, and deuterated analog, vibr. spectra 9-24311
- He, 1s2s ¹S₀ isotope shift meas. using tunable vacuum UV anti-Stokes light source 9-18149
- La₂(SO₄)₃·9H₂O, and isotopic forms, water librations, Raman obs. (*French*) 9-28754
- Li, hyperfine splitting and isotope shift, Doppler-free two-photon spectroscopy 9-36592
- ⁷Li₂CO₃, and ⁶Li₂CO₃, polycryst., low freq. IR and Raman bands assignments 9-42970
- ⁷Li₂CO₃, and ⁶Li₂CO₃, polycryst., Li-O Raman bands 9-42969
- MoO₃, ¹⁶O/¹⁸O substitution, isotope shift, vibr. amplitudes and consts., normal coord. anal. 9-36610
- NO dimer, asymmetric, characterisation, Raman, IR spectroscopy 9-41176
- NO, Rydberg absorpt. bands 800-850 Å, isotope shift 9-13734
- ¹⁴N₂, A=21-31, hyperfine struct., mag. moments and isotope shifts, laser spectroscopy 9-10072
- ²²Na, spectrometer for meas. of isotopic, isomeric shifts and hyperfine structure 9-6191
- Ne, ground level isotope shift between ²⁰Ne and ²²Ne, obs. 9-31451
- ²²Ne, ²²Ne, 1.15 μm line isotope shift, phase-polarisation nonlinear high-resolution spectroscopy in longit. mag. field 9-41423
- Ni complexes, Ni(glycinate)₂(pyrazine) and Ni(glycinate)₂(pyridine)₂, and isotopic forms, IR band assignments 9-22710
- OAICl and OAIF, IR matrix spectra, vibr. freqs. (*German*) 9-11785
- OCBr₂, IR spectra in Ar matrix, force consts. (*German*) 9-36641
- OGaF, matrix IR spectrum, vibr. and force consts. 9-11787
- ONCN, IR spectra isotope shifts and ab initio calc. for harmonic force field 9-13715
- O₂(c²Σ_u⁻, C³Δ_u, A³Σ_u⁺) generation from at. recomb. in O₂-He afterglow, fluoresce. obs. 9-31576
- PiH₃, UV absorpt. spectra, valence and Rydberg states, rot., vibr., anal., predissoc. 9-41184
- ⁸⁵Rb, A=90-93, nucl. moment and charge radius using fast-beam laser spectroscopy 9-40839
- ⁸⁷Rb, nucl. moment and charge radius using fast-beam laser spectroscopy 9-40839
- S_{8-x}(NH)_x, (x=1,2,3,4), and deuterates, IR and Raman spectra, isotope shifts, mol. vibr. assignment 9-10110
- ⁵⁵Sb, A=121, 123, elec. and mag. hfs. 9-10224
- SiH₄, Stark effect, rot. transitions in vibr. ground state, isotope shift 9-27029
- Si₂H₁₂, and Si₂D₁₂, Raman and IR spectra, vibr. force consts., config. (*German*) 9-22715
- Sm, excited states hyperfine struct., isotope shifts, laser-RF double reson. obs. 9-41140
- Sm, optical isotope shifts, optical heterodyne method 9-22630
- U I, visible spectrum, ²³⁸U/²³⁵U isotope shift 9-788
- U, isotope shift and configuration interaction 9-31468
- UO₂F₂, ¹⁸O isotope effects on electronic spectrum, temperature effect 9-31541
- ²³⁶U, isotope shifts and inherent quadrupole moments (*French*) 9-7032

isotopes

- see also radioisotopes
- pivalic acid(-d, -d₂), liq. and soln., Raman assignments, CH₃ rot. barrier, dimerisation 9-26991

isotopic generators see radioactive sources

isotopic spin (elementary particles)

- extended conformal symmetry origin, Yukawa interaction 9-40684

isotopic spin (elementary particles) continued

- finite isospin groups for hadron classification, expt. consequences 9-360
- hierarchy in asymptotic reconstruction of spontaneously broken isotopic symmetry (*Russian*) 9-2968
- hyperon nonleptonic decays, $\Delta I=1/2$ rule violation 9-45087
- isotopic symmetry group in strong interactions, possible geom. origin 9-17628
- quark mass effects as isospin and SU(3) violations in radiative decays of vector mesons 9-22091
- SU(2)⊗U(1) gauge models, neutral current couplings 9-40715
- weak neutral currents, light-cone algebra anal. 9-6311
- b quark weak isospin and possible non-existence of t-quark 9-36010
- D⁺-D⁰ mass difference, form factors, SU(4) coupling, vector meson dominance model 9-391
- ed, polarized scatt., parity violation Weinberg-Salam model without parton model 9-40787
- K⁺p→π⁺Σ⁺, cross-sections, 1470-1550 MeV 9-13154
- NN T=1 phase shifts, imaginary components, effect on spin depend. cross sections 9-36092
- π→eνγ, vector form factor, quark masses and isospin breaking 9-13111
- ρ-meson production and charged-neutral correlations in high energy pp interactions 9-17760

iteration methods see iterative methods

iterative methods

see also predictor-corrector methods

- AGA two-sweep iterative methods, appl. to critical reactor calc. 9-36298
- algorithm for continuous stress and displacement solns. 9-1109
- block iterative finite element preprocessed scheme, large nonlinear problem simulation 9-53
- Boltzmann eqns., soln. for electron-LO phonon scatt. 9-19586
- bubble and dew points calc. 9-19359
- CG method generalisation, linear and nonlinear problem appl. 9-30243
- contact stress problems, counterformal, improved numerical method and program 9-41632
- convergence rate, comparative study, appl. to hypersonic flow problem 9-40374
- corona discharge computing, electrons and ions distribution determ. 9-4204
- cross-section data adjustment iteration procedure 9-9696
- detector distorted data analysis, appl. to beta ray spectroscopy 9-13583
- diffusion equation, sols. by Picard's method 9-7273
- diffusion flames, appl. of quasi-linearisation techniques 9-20368
- Dirichlet problem for semilinear eqn. $\Delta^k u=f$ on a disc, approx. techniques 9-40377
- Dirichlet problem for semilinear eqn. $\Delta^k u=f$ on a disc, series soln. 9-40376
- disc calc. by iterative method (*Polish*) 9-14252
- dislocation surface source, calc. of critical shapes and stresses 9-46659
- elastic contact problems with friction, nodal parameter soln. (*French*) 9-10475
- elastic unitarity integral, angle-dependent lower bound on soln. and new uniqueness condition 9-40414
- electron density, bulk and surface atoms, from ab initio model calcs. 9-4590
- electron microscope autoradiographs, iterative anal., sample sizes and confidence limits 9-35896
- electron microscope autoradiographs, iterative anal. method 9-35895
- electronic structure, Hartree problem, iterative diagonalisation soln. 9-6829
- EM induction pumps, fluids, laminar flow, characts. anal. 9-32699
- ferromagnetic bodies calc., rectangular, magnetic surface charge distribution (*Slovak*) 9-4656
- finite-difference method, for crossed (doubly-periodic) gratings 9-1002
- finite-element magnetic field calc. allowing for saturation and hysteresis 9-41278
- Fourier anal. of light curves of eclipsing variable stars 9-25632
- gas mixture, binary, condensation in boundary layer flow, numerical method 9-1236
- generalized rebalance, common framework for transport acceleration methods 9-22356
- geodesy, Molodensky's problem in gravity space, existence and uniqueness of soln. by Newton's method 9-12061
- gravity anomalies interpretation, computer modelling 9-34971
- Hall effect coeffs., linearised Boltzmann eqn. solved 9-1595
- hysteresis modelling and digital simulation, using cubic spline functions, real dipole element appl. (*German*) 9-4706
- interplanetary trajectories determ. procedure (*Italian*) 9-44341
- inverse iteration method convergence, for nonlinear elliptic eigenvalue problems 9-40353
- inverse scatt. problem for scalar wave eqn., nonlinear approach 9-44778
- inverse vibr. problem, Lowdin orthogonalisation, Kashiwagi-Sasaki generalisation 9-6928
- ion beam source, optical props., convergent iterative numerical procedure 9-3620
- large algebraic eqn. systems, direct and iterative solns. 9-41274
- linear elastic arbitrary deformable bodies (*Polish*) 9-10476
- linear systems, 3-part splittings 9-9088
- linear systems, multicoordinate problem (*Russian*) 9-9102
- magnetic anomalies interpretation, computer modelling 9-34971
- matrix games, monotonic iterative algorithm 9-12563
- micropolar fluids, stability of laminar flows between parallel walls 9-1160
- Navier equations of elasticity, iterative solns., depend. on Poisson's ratio 9-1107
- Navier-Stokes solutions using Stetter's method 9-32551
- neutron transport, 2-D, diffusion synthetic acceleration method 9-22357
- Newton-Raphson, appl. to nonlinear heat transfer 9-23189
- Newton-Raphson, for structural optimisation in aeroelastic conditions (*Italian*) 9-41600
- Newton-Raphson and incremental methods in finite element anal. of thin structures 9-27514
- Newton-Raphson method cf. method of Scoring 9-17201
- NMR bandshape, complex exchange-broadened, iterative computer anal. 9-35805
- nonlinear evolution equations, exact solns. 9-25873
- nonlinear field eqns., time discretisation and mixed finite element methods 9-40384
- nonstationary radiation diffusion system, iterative soln. method 9-31796
- one-dimensional oscillator, matrix elements of position coord., upper and lower bounds 9-35578

iterative methods continued

- optimal iteration strategies, geometric interpretation 9-22358
- p-i-n structure, forward biased, with band to band Auger recombination, numerical simulation 9-7879
- partially eclipsing binary stars, soln. of light curve by Kopal's iterative process 9-35310
- perturbed energies, 2nd order, coupled HF iterative procedure, geometric approx. 9-9991
- phonon scattering at multilevel impurities, dispersion, damping, Green's function calc. 9-14892
- photoelastic characteristic parameters, fast iterative determ. procedure 9-27530
- potential scattering, inverse problem, radial Schrodinger eqn. solns., analytic investigation (*Russian*) 9-87
- projection-iterative methods, appl. to first kind equations (*Russian*) 9-9087
- PWR manoeuvring strategy optimisation 9-629
- radionuclide tomographic section synthesis and enhancement 9-25103
- radiowaves, multiple scattering, iterative treatment method 9-8709
- random heat eqn. soln. 9-9195
- Rayleigh-Schrodinger perturbation theory, formal treatment 9-18103
- reload core design optimisation 9-604
- remote sensing of stratified media, pulse-spectrum technique, permittivity determ. 9-8722
- Reynolds eqn., one-dimensional, with slip boundary conds., perturbation soln. 9-14372
- Ritz approach to lattice columns with stochastic imperfections, buckling 9-18757
- seismic inversion for boundary shape between two layer stacks 9-16684
- shell calc., parabolic, shallow, thin, elastic behaviour calc. 9-57
- shunt heated by current pulse, iterative method for overcoming errors 9-21766
- single-mode obs. distributions, invalid data rejection algorithm (*Russian*) 9-21690
- stationary magnetic field calc. in nonlinear ferromag. medium (*Russian*) 9-13861
- structural optimisation problems, iterative methods 9-18690
- terrestrial electricity, DC resist. meas. interpretation 9-5449
- Thomas-Fermi eqn. solns. 9-9185
- tissue pulse-echo US absorption estimation model 9-48304
- transonic aerodynamics, finite element method, book contrib. 9-32556
- two-phase flow through porous media, simulation by finite elements 9-41752
- valvular regurgitant fraction meas. by radionuclide angiocardiology, iterative estimation 9-34668
- variation-interaction soln. of Hartree Fock eqns., Green's integral operator, SCF formalism 9-6842
- vibrating beams, calc. of higher freqs. by simultaneous iteration technique 9-23258
- Wilkinson method, anal. of hydromagnetic thermal instability of rotating fluid layer, Hall current effects 9-27699
- wings, low aspect ratio, computation of nonlinear characts. 9-41690
- ZrH₆₆, thermal neutron inelastic scatt., phonon spectra determ. (*Chinese*) 9-10906

itinerant model of magnetism *see band model of magnetism***IV-VI semiconductors**

- crystal binding, transverse effective charges 9-37651
- crystal binding energy 9-37650
- crystal structure and symmetry of electron spectra, doping effects (*Russian*) 9-7696
- metal-GeS-metal system, current-voltage characts., band struct. effects in field emission region 9-42667
- monochalcogenides, interaction of outer s states 9-10825
- monochalcogenides interaction of internal s states 9-10826
- orthorhombic, atomic pseudopots. 9-42453
- n-PbTe, dynamical cond. in freq. range of LO-phonon-plasmon excitations 9-19592
- GaTe, transport anisotropy 9-23975
- Ge-S, Ge-S-Ag, amorphous prop. and origin of paramagnetic defects 9-10801
- GeS, conc. depend. of rate of formation on Ge surface 9-43152
- GeS, growth parameter meas. during cryst. growth from vapour in closed ampules 9-19168
- GeS, orthorhombic single cryst., fine struct. in reflectivity 9-19903
- GeS, phonon dispersion relations, neutron scatt. study 9-42182
- GeTe, crystal binding energy 9-37650
- GeTe, degenerate semiconductor, EPR experiments on Mn²⁺ 9-11339
- GeTe film 9-43055
- HgTe, temp. depend. of energy gap, oscillatory magnetotransmission meas. 9-15441
- Pb chalcogenides, elec. cond. anisotropy in strong electric fields (*Russian*) 9-38082
- Pb chalcogenides, interband absorpt., optical absorpt. coeff., two- and six-band models 9-33728
- Pb-Sn-Te system, investigation of liquidus surface by simplex lattice method 9-46784
- Pb_{1-x}Ge_xTe epitaxial layers, phase transition obs. by far IR reflectivity spectroscopy 9-33691
- Pb_{1-x}Ge_xTe, p-n junctions, elec. characts., effect of ferroelec. phase transition 9-33338
- PbS, conduction band nonparabolicity and carrier scattering mechanism 9-11065
- PbS, energy gap anomaly, relativistic band struct. calc. 9-4510
- PbS, epitaxial layer, structural nonuniformities and dislocation struct. 9-23852
- PbS epitaxial layers, ion bombardment effects on struct., and annealing 9-10882
- PbS heterojunctions nonideal, photoelec. props. and elec. characts. 9-15215
- PbS photocells, multicolour detectors in combination with Si photodiodes (*Czech*) 9-26126
- PbS, plastic deform. on compression along (100) direction 9-28036
- PbS, relativistic electronic mol. struct., calcs. 9-761
- PbS-(PbSO₄)_x(PbO.PbSO₄)_y heterosystem, cathodoluminescence spectra 9-24370
- PbS-PbSe(Te), thermoconductivity and thermoresistance 9-23992
- PbS_{1-x}Se_x, diffused homojunction diode lasers, 140K operation 9-18415
- PbS_{1-x}Se_x, chalcogen interdiffusion, electron microprobe obs. 9-28145
- PbS(Se)(Te), angle resolved UPS and electronic band struct. 9-37981
- PbS(Se)(Te), crystal binding energy 9-37650

IV-VI semiconductors continued

- PbSe, energy gap anomaly, relativistic band struct. calc. 9-4510
- PbSe film, 50 μ , prep. in double quasiclosed volume 9-38745
- PbSe, film, photoconductivity, temp. depend. 9-38200
- PbSe, pressure tunable CW injection laser, emission spectra 9-18419
- PbSe, relativistic electronic mol. struct., calcs. 9-761
- PbSe vacuum deposited thin films, struct. and growth 9-19482
- PbSe, valence band struct., Hall and transverse Nernst-Ettingshausen effects, optical absorption 9-11064
- PbSe(Te), NMR, chemical shift and linewidth determ. 9-19792
- PbSnTe IR detectors, spectral response depend. on surface carrier concentration (*Japanese*) 9-44929
- PbSnTe-like semicond., Auger recomb., nonparabolic approx. 9-15161
- Pb_{0.78}Sn_{0.22}TeIn, transport phenomena, below 20K (*Russian*) 9-38074
- Pb_{0.8}Sn_{0.2}Te film, growth in quasi-closed space, single and polycryst. 9-33930
- n-Pb_{0.8}Sn_{0.2}Te film, magnetophonon reson., 55-90K 9-7913
- Pb_{0.8}Sn_{0.2}Te surfaces, oxidation in air and thermal desorption, XPS and LEED meas. 9-47830
- Pb_{0.82}Sn_{0.18}Te epitaxial films, surface transport of carriers at 77K 9-28419
- Pb_{0.82}Sn_{0.18}Te films, piezoresist. effect 9-38197
- Pb_{0.82}Sn_{0.18}Te films, VPE, hot wall technique, struct., elec. props. 9-37926
- Pb_{1-x}Sn_xTe film, epitaxial, patterns of diffuse bands on electron diffraction 9-11021
- Pb_{1-x}Sn_xTe, displacive phase transition, effect of interband hybridisation 9-32233
- Pb_{1-x}Sn_xTe, energy band parameter determ. from photoluminescence spectra in mag. field 9-11066
- Pb_{1-x}Sn_xTe, epitaxial layers, carrier lifetime meas. 9-42559
- Pb_{1-x}Sn_xTe films, pure and Bi doped, polycryst., struct., elec., optical props. 9-42542
- Pb_{1-x}Sn_xTe, heteroepitaxial film, fundamental absorpt. edge and Shubnikov-de Haas effect 9-24381
- Pb_{1-x}Sn_xTe heterostructure laser, fabrication and props. 9-10306
- Pb_{1-x}Sn_xTe layers, LPE, phase diagram rel. to lattice const., distrib. coeffs. 9-37925
- Pb_{1-x}Sn_xTe, MBE, state-of-the-art 9-24450
- Pb_{1-x}Sn_xTe, narrow gap solid solns., mag. susceptibility and energy band spectrum 9-28276
- p-Pb_{1-x}Sn_xTe piezoresistance, temp. and conc. depend. (*Russian*) 9-1601
- Pb_{1-x}Sn_xTe, restrahlen band, reflection spectra 9-8162
- Pb_{1-x}Sn_xTe, segregation during solidification by Bridgman technique 9-38735
- Pb_{1-x}Sn_xTe, single cryst. grown from vapour, photocond. meas. 9-24016
- Pb_{1-x}Sn_xTe, small-gap, recomb. mech. 9-38099
- Pb_{1-x}Sn_xTe:In, nonequilibrium metallic state (*Russian*) 9-33300
- (Pb_{1-x}Sn_x)_{1+y}Te_{1-y} system, VPE parameters influence on epitaxial film props. 9-28229
- Pb_{0.7}Sn_{0.3}Te, phonon dispersion, mode softening 9-42175
- p-PbTe based composite material thermoelec. props. degraded by strengthening additive 9-47114
- PbTe, electron scattering interaction with coupled plasmon-polar-phonon modes 9-42536
- PbTe, energy gap anomaly, relativistic band struct. calc. 9-4510
- PbTe epitaxial films, carrier recomb. and deep levels, photocond., Hall effect, and luminesc. meas. 9-38024
- PbTe, epitaxial layers, carrier lifetime meas. 9-42559
- PbTe film, 50 μ , prep. in double quasiclosed volume 9-38745
- PbTe film, elec. transport props. 9-42679
- PbTe, ion implanted, magneto-optical expts. (*German*) 9-28848
- PbTe surfaces, oxidation in air and thermal desorption, XPS and LEED meas. 9-47830
- PbTe vacuum deposited thin films, struct. and growth 9-19482
- PbTe/Ga, location, behaviour of Ga, electrophysical props. meas. 9-38016
- PbTe:Ti, effect of impurities on transport props. 9-11158
- PbTe-based solid solns., 9-23990
- PbTe-based structures, zero anomaly of tunnel cond. 9-24107
- PbTe-MnTe solid solns., elec. and thermal props. 9-1599
- Sn₂Ge_{1-x}Se_x, ¹¹⁹Sn Mossbauer and elec. conductivity study 9-19595
- Sn₂Ge_{1-x}Te_x, ferroelec. semicond. structural phase transition, X-ray study 9-37836
- SnSe, single crystals., growth by Bridgman technique, electron diffraction, lattice const., carrier conc. 9-47616
- SnTe, crystal binding energy 9-37650
- SnTe, elec. resist. anomaly in vicinity of struct. phase transform. 9-19597
- SnTe film, 50 μ , prep. in double quasiclosed volume 9-38745
- SnTe film, electroreflectance effects 9-43055
- SnTe, film, heat treatment in air, effect on struct., props. 9-11037
- SnTe, NMR of ¹¹⁹Sn and ¹²³Te, low hole conc., 64-440K (*Russian*) 9-15365
- SnTe surfaces, oxidation in air and thermal desorption, XPS and LEED meas. 9-47830

J particles *see psi mesons***Jahn-Teller effect**

- alkali halide:In, high press. studies of luminesc. phenomena 9-43017
- allene, non-degenerate vibr. mode induced Jahn-Teller effect, photoelectron spectra calc. 9-817
- benzene, and derivatives, Jahn-Teller instability 9-47062
- configurational co-ordinate model, predictive use 9-19918
- cooperative phase transition, helical ordering 9-46778
- copper porphyrin, Zeeman expt. on phosphoresc. triplet and quartet states 9-33786
- crystal t(A_g + E_g + T_{2g}) system, dynamic Jahn-Teller effect 9-28327
- crystals with Jahn-Teller centres, sound absorpt. 9-37765
- displacive phase transition, second-order, discontinuous freezing-out of local order 9-42204
- electron-phonon interactions, structural phase transitions (*Japanese*) 9-4384
- ferrohaemoglobin excited state wave functions (*Japanese*) 9-8475
- fluorobenzene cations, emission spectra, Jahn-Teller effects and vibronic coupling 9-10120
- fluorobenzene radical cations, in gas phase, laser-induced fluoresc. 9-27022
- ground state calculation for T-T Jahn-Teller system by exponential transform. approach 9-4540
- II-VI compounds, Jahn-Teller effect, average phonon energy 9-15122

Jahn-Teller effect continued

- induced electron tracks and structural phase changes in MCr_2O_4 type cryst. (*Dutch*) 9-1585
- metal porphyrins, Jahn-Teller instability 9-47062
- microclusters, morphology, Hund and Jahn-Teller tendencies 9-46996
- molecular system, quasiclassical dynamics 9-6880
- molecules, ang. overlap model for different symmetries 9-10043
- orbitally degenerated electronic level instability (*French*) 9-31421
- orthovanadates, centrosymmetric exhibiting cooperative Jahn-Teller effect, dielec. props. 9-28694
- oxocarbon ions, reson. Raman scatt., Jahn-Teller effect 9-18190
- palladium porphyrin, triplet state, optically detected EPR and Zeeman meas. 9-19809
- palladium porphyrin, Zeeman expt. on phosphoresc. triplet and quartet states 9-33786
- pentatetraene, non-degenerate vibr. mode induced Jahn-Teller effect, photoelectron spectra calc. 9-817
- photoferroelectric phenomena, physical models derivation for pseudo- and Jahn-Teller optical centres 9-15407
- polarization dichroism effects in many-phonon optical bands of multiplet-multiplet transitions 9-15125
- rare earth orthovanadates, phase transitions and Jahn-Teller distortions 9-28548
- reduction factors for dynamic Jahn-Teller systems in strong coupling 9-42498
- resonant Raman scatt. in $(\text{E} \times \text{e})$ system 9-28736
- transition metal compounds, Jahn-Teller effect in solid state chem. 9-47061
- transition metal hexafluorides, quadratic Jahn-Teller vibronic coupling calcs. 9-6881
- 1,3,5-trifluorobenzene radical cation, laser induced fluoresc. spectra, vibronic anal., Jahn-Teller distortion 9-3470
- vibronic theory of ferroelectricity 9-19854
- vibronically coupled systems, cluster model 9-19540
- CaO , F^+ centre, dynamic Jahn-Teller effect 9-28327
- CaO , F^+ centre in octahedral Jahn-Teller system 9-42499
- CdBr_2 : Ag^{2+} , strong Jahn-Teller coupling, EPR 9-28605
- CdCl_2 : Ag^{2+} , strong Jahn-Teller coupling, EPR 9-28605
- CoV_2O_6 :Fe, spinel, prep. and Mossbauer spectra 9-28660
- Cs-halide, optical response function from Jahn-Teller systems, F-band absorpt. band shape 9-43005
- CsCuCl_3 , Jahn-Teller effect induced phase transitions 9-47439
- $\text{Cs}_2\text{LiFe(CN)}_6$, struct., phase transformations, temp. depend. Raman spectra 9-11416
- $\text{Cs}_2\text{PbCu(NO}_2)_6$, α -modification, Jahn-Teller induced α to β transition, neutron diff. obs. 9-1498
- DyVO_4 , antiferromag.-ferromag. structural phase transition induced by elec. field (*Russian*) 9-46802
- FeCr_2S_8 , normal ferrimag. spinel, NMR studies 2-77K, Jahn-Teller symm. distortions (*Russian*) 9-19785
- GaAs:Co^{2+} , piezoelectric meas. tunnel splitting and Jahn Teller effect in $^4\text{T}_1(\text{P})$ state 9-15494
- GaAs:Cr^{2+} , US attenuation meas. of Jahn-Teller distorted Cr^{2+} centres 9-28048
- H_2 , electronically excited state obs., vibr. level struct. determ., predissoc. 9-41204
- IrF_6 , $\Gamma_{8g}(^2T_{1g})$ state, electronic Raman scatt. and absorption spectra at 1.6 μ , resolution of Jahn-Teller problem 9-36648
- IrF_6 , neat and mixed cryst., Raman scatt., Jahn-Teller interaction in ground state 9-38540
- KCl:Pb , photolum. in A band region, spectral and time decay anal. 9-38283
- KMgF_3 : Fe^{2+} , US relax. absorpt., acoustic wave-impurity coupling, spin-orbit splitting 9-4375
- KMnF_3 , exciton and exciton-magnon emission 9-33779
- $\text{K}_2\text{PbCu(NO}_2)_6$, US vel. near cooperative Jahn-Teller phase transitions 9-23680
- MgO , transition metal ion doped, phonon spectroscopy using freq. crossing techniques 9-42193
- MgO:Mn^{2+} , ground state exam., thermal conductivity meas. 9-42497
- $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}:(\text{Cu}[\text{H}_2\text{O}]_6)^{2+}$, EPR and optical spectra anal. 9-38377
- $\text{Mn}_2\text{Cr}_2\text{O}_7$, cubic and tetragonal structs., neutron diff. obs. 9-19369
- Na_2VS_4 , Na_2VSe_2 , charge density waves, electron localisation 9-47038
- NiCr_2O_4 single crystal, appl. of particle channelling to the study of a cooperative Jahn-Teller phase transition 9-4413
- RbAg_4I_5 , US attenuation near 208K phase transition 9-33085
- RbI:Pb^{2+} , optical and elec. props. 9-15493
- RbMnF_3 , exciton and exciton-magnon emission 9-33779
- SrTiO_3 : Cr^{3+} Jahn-Teller system, EPR, electric field effects 9-28599
- TiH_2 , electronic density of states and tetragonal distortion, APW calc. 9-37986
- VBr_4 , mol. struct., vibronic interactions, dynamic Jahn Teller effect, gas phase electron diff. 9-31711
- $\text{V}(\text{CO})_6$, cryst. and mol. struct., Jahn-Teller distortion, mol. vib. and librational correction 9-32949
- ZnS:Cr , anomalous temp. depend. of near IR absorption 9-28794

jellies see gels

jellium

- chemisorption of H_2 , contraction of mol. band 9-28202
- deformable-jellium model, self-consistent long-range order in terms of non-plane-wave HF states 9-19533
- diamond Schottky barrier, electronic struct., pseudopotential method, jellium model 9-38162
- metal superconductivity with an account for ion core repulsion (*Russian*) 9-11260
- metal surface densities, electronic density, variational calc. 9-15205
- metal surface interaction with external mol. complex 9-47140
- metal surface props. in square barrier and linear one electron potential model 9-19645
- one-dimensional, wall effects 9-46468
- surface, adsorbed H_2 , charge density oscills. and adatom-adatom interaction 9-42389
- surface photoelec. effect, surface photoemission spectroscopy on jellium, appl. to Al 9-4900
- Ag film, chemisorption effects on optical reflectance and elec. resistance, jellium model surface 9-33361
- Al, chemisorption of H_2 , calc. of bond lengths vibr. freq. and activation energy 9-46953
- Ge Schottky barrier, electronic struct., pseudopotential method, jellium model 9-38162

jet stream see atmospheric movements

jets

- see also plasma jets; sprays
- acoustic noise, two-point correlations, comments and reply 9-32492
- acoustically active turbulent structs. in cold subsonic jet, conditional sampling anal. (*French*) 9-18881
- adiabatic, spatial form 9-46284
- aerosol coagulation and diffusion in turbulent jet 9-23355
- air jet, heated, turbulent, discharged downward, temp. profiles 9-27677
- annular jet, outer mixing region coherent structs. 9-32613
- axisymmetric, vel. distrib. and swirl effects, low speed results 9-46351
- benzene, $^1\text{B}_{2u}(\pi\pi^*)$ - $\text{A}_{1g}(\text{e}_g)$ band, in supersonic jet, rot. anal. 9-31578
- Bickley's jet, nonparallel effects on stability 9-46356
- bluff buoyant jets, lateral temp. distrib. profile 9-1224
- buoyant jet entrainment from single and multiple sources, rel. to draft cooling tower 9-32617
- circular semi-infinite liquid jet, harmonically forced at nozzle, instability and wave propagation 9-32618
- coherent structures in collowing jets and wakes, strobing laser beam visualisation 9-32610
- cold subsonic coaxial jets, emitted noise (*French*) 9-37308
- colliding gas-slurry jets, dispersed material motion, numerical anal. (*Russian*) 9-32653
- confined, flow pattern and turbulence quantities prediction (*Japanese*) 9-18923
- cross stream injection boundary layer, flow and temp. field 9-1225
- curvature in bounded crossflow with stagnant zone 9-46355
- diffusion of jets in cross flow 9-27674
- edgetone oscillation analysis (*Japanese*) 9-10599
- entrainment mechanism 9-41721
- erosion with plain jets and jets with cavitation inducers 9-15805
- excited jets, aerodynamic characterisation of broadband noise amplification 9-32491
- expansion into uniform counterflow, conf., Haifa, Israel, (July 1977) 9-15683
- expansion into uniform counterflow boundary layer approx. 9-14445
- flame jet, premixed, impinging on plane surface, turbulent heat transfer 9-4054
- free, aeroacoustic characterisation (*French*) 9-41727
- free jet, into rarefied chamber (*French*) 9-7395
- free jet flow after slit orifice determ. by quasi-stationary rheoelectric field analogy 9-27675
- free jet silencing, operational engineering principle (*French*) 9-32494
- gas bubble dynamics in turbulent jet 9-41741
- gas diffusion in supersonic jet 9-32604
- gas jet expan. into vacuum, rot. relax. 9-32625
- gas jet source, emission spectrographic analysis appl. (*French*) 9-34390
- gas stream distrib. near plane jet in granular layer 9-14471
- gas-jet generators, operation at elevated pressures 9-32616
- hydrodynamic sound generation mechanism 9-32172
- hypersonic, high temp., noise rel. to gas parameters (*Russian*) 9-32132
- impinging, eddy struct. effect on heat transfer 9-1227
- impinging jets, heat transfer, appl. to compact heat exchangers 9-1071
- impinging slot jet on surface, mass transfer coeff. 9-32606
- interaction of liq. jet with confined wet entraining vap.-liq. flow 9-32635
- isothermal annular jets, vel. characts. 9-34309
- isothermal incompressible gas jets, mass transfer eqns., nonlinear thermodynamic anal. (*Russian*) 9-18925
- jet-flap flows, near wake region, mean and fluctuating vels. 9-4051
- laminar jet at wall, heat transfer 9-41725
- laminar plane jet in gas medium 9-32622
- laminar swirling impinging jet, heat transfer, numerical calc. 9-1228
- liquid, breakup, 3rd perturbation Cosserat soln. 9-32615
- liquid flow through closely woven screens 9-14446
- liquid He jet pump, for circulating refrigeration systems 9-205
- liquid jet hydrodynamic development, surface active materials effect 9-46883
- liquid-liquid ternary mass transfer in ejectors with cocurrent flow 9-46368
- metal, liquid, jet disintegration by electric pulse, powder and granule prod. 9-33968
- methane jet, turbulent conc. field meas. by Raman spectrum, data interpretation 9-32609
- mixing in transverse subsonic crossflow, vortex strength 9-14447
- mixing layer of round jet, large-scale turbulence and vorticity 9-32611
- mixing nozzle reattachment of two-dimensional turbulent jet 9-23347
- mixing process induced by the vorticity associated with the penetration of a jet into a cross flow 9-7396
- multiple, in crossflow, characts. obs. 9-14444
- neutral waves in a barotropic zonal jet 9-46333
- noise, current research 9-32602
- noise, hot and cold mixing, scaling laws based on geometric acoustics model 9-37306
- noise radiated from convecting quadrupoles, flight effects 9-32601
- noise source characterisation, conditional sampling 9-41722
- ocean, stable jet modes, eddy and mean flow interaction 9-16490
- oxalyl fluoride, $^1\text{A}_g(\pi\pi^*)$ - A_g fluoresc. excitation spectrum in pulsed supersonic jet 9-31577
- penetration in deflecting stream, estimation method 9-37373
- phase turbulent impinging jet, struct., vortex stretching 9-32476
- plane laminar gas jet in infinite space, thermal characts. (*Russian*) 9-18926
- polymer-thickened oil, flow in convergent jet-thrust nozzles at 84°C 9-23348
- power-law fluid laminar jet flow 9-32619
- pressure-head thermal jet devices, cycle plotting, basic thermodynamic and gasdynamic conditions 9-18924
- rarefied gas, free expan. and interference 9-46353
- reciprocal blow of two jets, stagnation region formation (*Russian*) 9-32620
- rotating disc heat transfer with liq. jet impingement 9-4055
- round buoyant jets in stratified flows, integral eqns. 9-27680
- round heated jet, heat and momentum transport, intermittency, entrainment 9-32608
- self excited oscillations, impact of liquid jet against plane barrier 9-32545
- solid particle concentration profiles in turbulent jet, laser Doppler anemometer meas. and theoret. calcs. 9-27686
- solid-gas jet issuing into transverse stream 9-32649

jets continued

- sound and aircraft noise spectral broadening by turbulent shear layer 9-37076
- sound scatt. by aircraft fuselage, coordinate stretching 9-23123
- sound transmission through turbulent shear layer 9-37075
- source flow expan., distrib. function model 9-27667
- splitter plate acoustics, zones of silence in sound wave-jet flow interaction 9-3819
- straight elliptical jet motion, influence of twist using nonlinear differential equations 9-46354
- subsonic hot free, coherent structures in mixing zone, acoustic effects 9-4052
- subsonic jet, acoustic far field, azimuthal struct. (*French*) 9-14150
- supersonic, imperfectly expanded, model describing sound generation 9-4053
- surface buoyant jet entrainment, meas. of velocity and concentration fluctuations (*Japanese*) 9-14450
- symmetric gas jet, flow computation (*Russian*) 9-37374
- thermal plume modelling, review 9-4056
- thin jet in infinite viscous fluid, flow of centrally-located drop 9-32614
- transverse, turbulent mixing with high Mach number stream 9-32603
- turbulent, convective heat transfer to flat plate 9-1226
- turbulent, heated, joint probability densities and quadrant contribs. 9-32597
- turbulent, mixing layers, exptl. investig. of large scale structs. (*French*) 9-41728
- turbulent, radial, flow at and after attaching point 9-37369
- turbulent, sound transmission expts. 9-32600
- turbulent, temperature fluctuations, local isotropy 9-1191
- turbulent, trailing edge noise mechanism 9-41720
- turbulent buoyant jet, in uniform environment, near field 9-32607
- turbulent free-jet, experimental investigation of acoustic radiation 9-46102
- turbulent incompressible gas jets, thermodynamic transfer theory (*Russian*) 9-32621
- turbulent large-scale struct., noise prod. 9-7394
- turbulent mixing layer, conditional meas. 9-32598
- turbulent mixing layer, wave dispersion on vortex pairing 9-32612
- turbulent near-wake behind step with supersonic jet 9-14448
- turbulent plane jet, development and struct. 9-37371
- turbulent power law, rel. to marginal instability principle 9-32458
- turbulent round jet, incompressible flow, numerical prediction 9-1171
- turbulent source coherence effect on noise 9-32599
- two parallel flow, noise reduction, exptl. investig. 9-41723
- two-dimensional supersonic flows of mixture, vapour and drops in nozzle and submerged jet, determ. 9-23357
- two-phase turbulent jets 9-32636
- underexpanded jets, nonstationary processes 9-41724
- underexpanded plane free jets (*French*) 9-37372
- variational methods, book contrib. 9-32456
- viscoelastic capillary jets, stability 9-46352
- viscous capillary jet, oscills., investigation of axisymmetric perturbation 9-37370
- wall jet, 3-dimens., two-point statistical props. 9-1223
- wall jet negotiating a trailing edge 9-41726
- wall reattachment device, loading effects on switching (*Japanese*) 9-10548
- water, sub-surface, interaction with artificially-created wind (*Russian*) 9-4025
- water-jet ejector, performance improvement measures (*Japanese*) 9-14449
- zonal ocean, narrow jets model 9-2264
- Ar jet, supersonic, electron beam-excited, continuous VUV emission spectrum origins 9-6964
- Ar-He rarefied mixture in supersonic nozzle and jet, longit. translational nonequib. 9-27678
- CO₂ free expan. of jet, nonequib. effect 9-27676
- He-benzene, van der Waals, complexes, ¹B_{2u}($\pi\pi^*$)-¹A_{1g}($\sigma\sigma^*$) band, in supersonic jet, rot. anal. 9-31578
- N₂ interaction with liq. Pb and Sn streams in metal powder prod. 9-43170
- N₂ jet, mixing zone in continuous to free mol. transition 9-32605
- SO₂ collection from low-vel. jets, efficiency 9-16683
- U enrichment, jet membrane process 9-26683

j.f.e.t. see *junction gate field effect transistors*

Johnsen-Rahbek effect see *adhesion; electrostatics*

Johnson noise see *thermal noise*

joining processes

- see also *brazing; cable jointing; soldering; welding*
- bonded joints, adhesive, nonlinearities, optimal length, performance 9-1103
- Mirror Fusion Test Facility supercond. coil development 9-31202
- screw-fastened joints for thermal contact at low temperatures 9-35760

jointing, cable see *cable jointing*

jointing (electric connectors) see *electric connectors*

Jordan-Thiry field see *cosmology; general relativity*

Josephson effect

- Clarke solder-blob junctions, hysteresis studies 9-28478
- coherent microbridges coupled by external shunts, props. 9-28460
- coherent transient effects 9-33406
- critical current and order parameter in Josephson arrays 9-33410
- current tunnelling fluctuation, exchange mechanism 9-24106
- current-carrying junction in strong mag. field (*Russian*) 9-33411
- DC Josephson current meas., automatic recorder 9-17444
- differential heterodyne freq. conversion at 0.4 mm wavelength, Josephson-effect receiver 9-26125
- digital Josephson technology—present and future 9-28472
- exotic spinors in supercond., charge depend. of quantised flux and Josephson current 9-33400
- far IR Josephson junction voltage-tunable differential heterodyne spectroscopy 9-30578
- impurity mode effects on crit. charact. of superconductors, Josephson current amplitude (*Russian*) 9-19692
- inelastic electron tunnelling spectroscopy, advantages of supercond. electrodes 9-4625
- interaction between two Josephson junctions separated by small superconducting granule 9-33399
- interferometer logic circuits, nonlinear current injection switching 9-11269

Josephson effect continued

- Josephson oscillators, synchronisation props., single point junctions and chains 9-19703
- junction, externally pumped, singly and doubly degenerate microwave parametric amplifiers 9-26122
- junction, frequency-agile, biasing for precise freq., analogue computer study 9-28455
- junction dynamics, sine Gordon eqn. solns. 9-28481
- junctions, collective excitations in superconductors below T_c, tunnel current fluctuations 9-33403
- junctions, mixing in the FIR 9-26121
- junctions, types, props., and limitations 9-28456
- layers, mixed state struct. rel. to Josephson effects 9-4628
- light-sensitive Josephson junctions, post developments, future appl. 9-28462
- long Josephson tunnel junction, current steps induced by vortex motion 9-47199
- macroscopic quantum phenomena in superfluid He and supercond., appl. (*Chinese*) 9-38263
- microbridge Josephson junction, fabrication using electron beam lithography 9-28457
- microbridge SUPRAMPs, phase instability noise in Josephson junctions 9-26124
- microbridges, Josephson submicron, fabrication using optical projection lithography and liftoff techniques 9-28458
- microbridges, short, dynamic props. 9-47202
- microbridges and arrays, I-V charact. temp. depend., Josephson radiation 9-28459
- microwave source, short term emission fluctuations 9-15263
- mixers, mm wave, using Nb point contacts 9-26123
- mixers for heterodyne reception at submillimetre wavelengths present expt. status, future developments 9-26120
- mm wave superconducting devices, Josephson-effect mixers and parametric amplifiers, present status 9-26119
- multiple junctions, higher voltage standard 9-26069
- multipolar superconductive tunnelling device, theory and technical feasibility (*Chinese*) 9-38253
- nematic liquid crystals, AC Josephson effect, phase slippage 9-46565
- nonequilibrium superconductivity, theory in coherent longitudinal phonon field 9-47205
- physical principles, appls. to electrical and magnetic meas. (*Croatian*) 9-11271
- point contact junctions, HF props. 9-28461
- quantum mechanics of nonconservative systems appl. to thermal decay of AC Josephson current near T_c 9-81
- ratio/detection system, flexible, for comparing DC voltage developed by AC Josephson effect 9-21774
- resistively shunted Josephson junctions, AC, DC components of source current (*Chinese*) 9-11270
- retarded Josephson eqn., critical limit cycles 9-1644
- retarded Josephson equation 9-19697
- SNS junction with impurities, Josephson current theory 9-42705
- SQUID signal strength versus frequency 9-28453
- SQUIDS, multiple mag. flux entry, cos ϕ conductance exam. 9-4623
- superconducting film, memory device storage of Abrikosov vortices 9-28487
- superconducting Josephson point contacts with low capacitance (*Russian*) 9-4624
- superconducting magnetometers for very weak fields 9-30510
- superconducting microbridges and point contacts, nonstationary Josephson effect 9-38256
- superconducting order parameter, rel. to microwave function, near T_c 9-47191
- superconductive film, microwave irradiation stimulated superconductivity 9-47201
- superconductor-semicond. device research, future prospects 9-28467
- transmission line, appl. of perturbation anal. of fluxon dynamics 9-11280
- tunnel current, Bogolyubov, quasi-particle calc. 9-1647
- tunnel junction, two gap state induced by singular IV charact. 9-1645
- tunnel junction, vortex motion induced by phonon injection 9-4622
- tunnel junctions containing vortices, excess DC current, mag. field depend. 9-38259
- tunnelling junctions, self resonant modes with zero external magnetic field, theory 9-24105
- two- and three-dimensional superconducting constrictions, static props. 9-28479
- ultrasonic effects 9-42706
- voltage, standard cell group enclosure monitored by AC Josephson effect 9-26076
- voltage standard based on Josephson junction, commercial prototype 9-26068
- voltage standards, BIPM- and NLP-standard comparison 9-21778
- voltage standards, future of superconducting instruments in metrology 9-26020
- Werthamer equation, soln. at finite temp. 9-42703
- zero field steps in Josephson junctions 9-47206
- Ge-Sn barriers, Josephson tunnelling 9-28468
- In-CdS-In, tunnel junction light-induced DC Josephson current 9-47204
- In-In₂O₃-Pb tunnel-junction barriers, evidence for chemical annealing effects 9-42701
- Nb Josephson junctions, excess current anal. 9-28465
- Nb Josephson junctions, submicron, fabrication by evaporation 9-28920
- Nb Josephson point-contact far IR detector props. 9-30543
- Nb on thin Si membranes, super-Schottky and Josephson-effect devices 9-28469
- Nb point contact, far IR freq. depend., of AC Josephson effect 9-33407
- Nb point contacts, Josephson effects in far IR, high freq. behaviour 9-1643
- Nb thin film microbridges, fabrication and charact. 9-19705
- Nb, variable thickness bridges on GaAs substrates, props. 9-28464
- Nb, variable thickness bridges, mm wave response 9-28463
- Nb-Al film, Josephson junction, tunnelling exam. 9-38257
- Nb-NbO_x-Pb, miniature tunnel junction, gap voltage determ. 9-7939
- Nb-NbO_x-Pb junction, static charact. of tunnelling cryotrons 9-28480
- Nb-NbO_x-PbIn Josephson junctions, penetration depth of supercond. films 9-42691
- Nb-NbO_x-Sn long Josephson junctions, flux-flow voltage, dynamic vortex motion 9-4620
- Nb-Nb(Nb₂Sn) supercond. point contacts, crit. currents, effect of laser radiation (*Russian*) 9-28484
- Nb₃Ga Josephson junctions, excess current anal. 9-28465

Josephson effect continued
Nb₃Sn thin film bridges, AC Josephson effect 9-42702
Nb₃Sn-Nb₃Sn supercond. point contacts, crit. currents, effect of laser radiation (*Russian*) 9-28484
Nb₃Sn-Pb tunnel junction, Josephson props. 9-7937
Pb-In film, RF sputter anodisation, Josephson junction form., ellipsometry anal. 9-29258
Pb-In-Au alloy, Josephson junction electrode materials, strain relax. 9-38255
Pb-Pb₃O₄-Pb thin film Josephson junctions, prep. (*Slovak*) 9-42699
Pb-PbO₂-Pb, long Josephson tunnel junction, current steps induced by vortex motion 9-47199
Pd-CdS-In, tunnel junction, light induced DC Josephson current 9-47204
Sn thin-film superconducting bridge microwave impedance anomalies 9-7942
Sn, variable thickness bridges on GaAs substrates, props. 9-28464
Pb-SnO₂-Sn long Josephson junctions, flux-flow voltage, dynamic vortex motion 9-4620
Sn-SnO-Sn tunnel junction, temp. depend. of cos ϕ conductance, plasma reson. expt. 9-33405

Joshi effect *see glow discharges*

Joule-Thomson effect
No entries

junction gate field effect transistors
sensors for high direct voltages meas. 9-44916
Si-sapphire, interface radiation induced charge trapping, rapid anneal phenomena 9-19666

junction lasers *see semiconductor junction lasers*

Jupiter
astrometry, positions determ. with Odessa meridian circle, (1974 to 1975) (*Russian*) 9-44394
atmosphere, cloud microphysics anal. 9-16853
atmosphere, density model and total reflection of light (*Italian*) 9-21221
atmosphere, dynamical activity in 1975, photographic and photoelec. obs. 9-21224
atmosphere, probe heat shield C vaporisation 9-1264
atmospheric absorption in blue and UV 9-40125
atmospheric banding, hydrodynamic mechanism 9-44386
atmospheric probe vehicles, SiO boundary layer surface opacity 9-45641
atmospheric structure and 5 μ limb-darkening 9-25539
brightness distrib., 1.3 cm wavelength, interferometric obs. 9-12424
circulations in atmosphere rel. to terrestrial turbulence and baroclinic instability 9-40132
close encounters with minor bodies 9-35184
decametric emissions, obs. by spaced receiver network 9-48730
decametric radio emission, correl. with solar activity 9-21222
decametric radio emission, dynamic spectra (*Japanese*) 9-8877
electron propag. out of solar equatorial plane, Pioneer 11 obs. 9-40123
Europa, UV emissions and possibility of O and H clouds 9-5775
first order theory, perturbed by Saturn, critical term elimination 9-35183
Galilean satellites, astrometric obs. in (1977) 9-48728
Galilean satellites, dynamo mag. fields possible strengths 9-16873
Galilean satellites, mutual phenomena in 1979 (*French*) 9-12427
Galilean satellites, near IR spectra rel. to surface composition 9-35180
Galilean satellites, positioned within dipole-like Jovian mag. field, rel. to form. 9-2516
Galilean satellites, review 9-5777
Galilean satellites, spectral reflectivities in 0.32-0.86 μ range 9-35181
Galilean satellites as CO source in upper atmosphere 9-40128
Great Red Spot, ionospheric plasma MHD effect (*Russian*) 9-37466
Io, absorpt. bands in near IR spectrum 9-5776
Io, active volcanic eruptions and hot spots, Voyager 1 discoveries 9-40131
Io, Na cloud, comparison of models and two-dimens. images 9-12426
Io, pictures of Na cloud 9-12425
Io, visible spectrum, search for new features 9-35185
Io Na cloud, monochromatic imaging using filters, slitless (multislit) spectrograph, and interferometers 9-8840
Io-related radio emission, Jovian longitudinal control 9-30004
ionosphere, Pioneer 10 and 11 obs. of magnetic field orientation 9-25540
ionospheric Na, deposition and sputtering on Io 9-44405
IR and visible spectrum, C/H ratio 9-48729
IR multiple freq. sounding of anomalous clouds 9-2515
Leda (Jupiter XIII), orbit and ephemeris for 1974-2000 period 9-8875
magnetic field, spacecraft meas. 9-2503
magnetosphere, centrifugal distortion by equatorially confined current sheet 9-40134
magnetosphere, compression by solar wind 9-12429
magnetosphere, energetic particle flux modulation rel. to current disc penetrations 9-44404
magnetosphere, high β plasma in dynamic current sheet 9-16872
magnetosphere, particle accel. 9-12428
magnetosphere, thermal electron density 9-40133
magnetosphere, time dependent model of current sheet 9-16875
magnetosphere, Voyagers to test magnetic anomaly model 9-44403
mm wavelength spectral lines detectability 9-5769
mutual phenomena of Jupiter's satellites (1973 Sept.-1974 Jan.) 9-40129
orbit second-order perturbations, semi-major axis secular vars. (*French*) 9-2474
origin, implications for transneptunian planets and nature of long-period comets 9-8856
radiation belts and atmosphere, Pioneer 10 ratio obs. 9-35179
reflectivities during 1976 opposition 9-40124
resonance in the restricted problem of three bodies with short period perturbations in elliptic case 9-25455
ring, Voyager 1 detection 9-40131
spectrum between 10 and 13 μ , Jovian ¹⁵N/¹⁴N ratio estimate 9-8876
stratosphere, NH₃ mixing ratio 9-16874
thermal profiles and NH₃ distrib. from IR spectral meas. 9-40126
wind, correl. with Earth surface winds questioned 9-25290
Io, Na I, Ca I, Fe I, and Mg I emission lines in spectrum 9-21223
NH₃ abundance determ. from 2 μ spectrum 9-35182
P in upper atmosphere 9-40130

K-capture *see nuclear electron capture*

K mesons *see kaons*

K-N interactions *see kaon-nucleon interactions*

Kalman filters

adaptive model for flood warning system, on-line, desk-top computer appl. 9-34977

Kalman filters continued

gamma-ray flaw detect. appl. 9-5121
heat flux meas. by battery heat flowmeter using Kalman filter 9-37143
holographic image reconstruction, unconditionally stable algorithms (*Russian*) 9-22909
Kalman-Bucy filters, extended, for passive microwave sounding of atmospheric temp. 9-21053
meteorology inverse problems, estimation theory appls. 9-35018
respirometer process appl. (*French*) 9-5408
sounding rocket attitude estimation using star sensor data 9-25435
thermokinetics of coupled radiative and conductive transfer, Kalman filtering identification (*French*) 9-41558

kaon-baryon interactions

see also kaon-baryon scattering; kaon-hyperon interactions; kaon-nucleon interactions
No entries

kaon-baryon scattering

see also kaon-baryon interactions; kaon-hyperon scattering; kaon-nucleon scattering
No entries

kaon decay

see also kaon hadronic decay; kaon leptonic decay
30 T pulsed solenoid construction and life tests 9-31297
Cabbibo fit, generalised, appl. to quark mixing angls. in sequential Weinberg-Salam model 9-17655
experimental problems, review, book contrib. 9-21890
pseudoscalar mesons, muonic double β -decay, tree and box diagram approx., K⁻ and F⁻ 9-17717
K⁰ decay, T-violation without assumed CPT 9-26249
K⁰ $\rightarrow\pi^+\pi^0$, calc. of number N_n neutrino types 9-26321
K[±] $\rightarrow\pi^+\pi^0\nu(\bar{\nu})$, decay form factors in relativistic symmetry SO(4,2)⊗SU(3)⊗SU(3) 9-36068
K_L $\rightarrow\gamma\nu\bar{\nu}$, calc. of number N_n neutrino types 9-26321
K_S⁰ decays and Lorentz invariance 9-26250

kaon hadronic decay

nonleptonic interactions, enhancement and suppression factors for left handed current, K decay 9-385
without dynamics enhancement (*Russian*) 9-30733
K⁻ $\rightarrow\pi^+\pi^0$, contrib. of 2nd. class currents to nonleptonic decay 9-13117
K⁻ $\rightarrow\pi\pi$, $\pi\pi\pi$, struct. of weak interaction symmetry (*Russian*) 9-22016
K⁻ $\rightarrow\pi\pi\pi$, S₃ permutation group approach 9-17723
K⁰ $\rightarrow\pi\pi\pi$, CP test, book contrib. 9-21890
K_s regeneration in K_Lc scatt. 30 to 100 GeV, K⁰ charge radius meas. 9-400
K⁰ \rightarrow K⁰ γ , quark anomalous mag. moments 9-17693

kaon-hyperon interactions

see also kaon-hyperon scattering
No entries

kaon-hyperon scattering

see also kaon-hyperon interactions
No entries

kaon interactions *see kaon-baryon interactions; kaon-nucleus reactions; lepton-hadron interactions; meson-meson interactions; photon-hadron interactions*

kaon leptonic decay

K_L $\rightarrow\mu\mu$, strangeness changing neutral currents, avoidance in gauge theories of weak and EM interactions 9-22005
K[±] $\rightarrow e^+\nu_e$, experimental investigation, branching ratio and γ -helicity 9-36066

kaon-nucleon interactions

see also kaon-nucleon scattering; kaon-proton interactions
K⁻d $\rightarrow\Delta\pi^+\pi^-\pi^-$, 1.45, 1.65 GeV/c, Δ p mass enhancement 9-416
K⁻d $\rightarrow\pi^-\Delta$ p, anal. of Δ p enhancement at 2.129 GeV in cross section meas. 9-22141
K⁻d scatt., effect of hyperon channels, <120 MeV/c 9-9406
K[±]d, total cross section determ., 200 to 370 GeV/c 9-26352
K_N-K[±]N energy depend. partial wave anal. 1830 to 2170 MeV 9-3046
K_N-K[±]N energy depend. partial wave anal. 1830 to 2170 MeV 9-22138
K_N- π +hyperon, hypercharge exchange reactions in quasideonkal model (*Russian*) 9-3041
K⁻n reactions, quasi two-body final states at 8.25 GeV/c 9-22139
K[±]n \rightarrow K⁰p charge exchange at 6 and 12 GeV/c, polarisation meas. 9-22140
n \rightarrow p $\pi^+\pi^-$, diffractive dissociation induced by 12 GeV K⁻ 9-40805
⁴He+K⁻ $\rightarrow\Delta^+\pi^++p+d$, 180 MeV, final state study, double impulse model 9-30855

kaon-nucleon scattering

see also kaon-nucleon interactions; kaon-proton scattering
compilation of coupling constants and low-energy parameters 9-22159
pseudoresonance Argand loops (*Russian*) 9-9354
K⁻d scatt., effect of hyperon channels, <120 MeV/c 9-9406

kaon-nucleus reactions

for inelastic kaon-nucleus scattering, see "kaon-nucleus scattering"
see also kaon-nucleon interactions
fast particle production on nuclei in quark model (*Russian*) 9-6612
nuclear emulsions, Δ^0 B, decay mode obs. 9-36186
photoemulsion, kaon[±] capture, doubly charged particle yield 9-40959
K[±] absorption cross section on nuclei, 60-280 GeV/c 9-22293
Al+K_L, 30 to 150 GeV, total cross sections, inelastic screening evidence 9-17936
Al+K_S, 20 to 140 GeV, precise coherent K_S regeneration amplitudes 9-17937
C+K_L, 30 to 150 GeV, total cross sections, inelastic screening evidence 9-17936
C+K_S, 20 to 140 GeV, precise coherent K_S regeneration amplitudes 9-17937
Cu+K_L, 30 to 150 GeV, total cross sections, inelastic screening evidence 9-17936
Cu+K_S, 20 to 140 GeV, precise coherent K_S regeneration amplitudes 9-17937
Cu(K⁺, ϕ X), (*Russian*) 9-9637
⁴He+K⁻ $\rightarrow\Delta^+\pi^++p+d$, 180 MeV, final state study, double impulse model 9-30855
⁸He obs., in hammer tracks from K⁻+emulsion, 1.8 GeV/c 9-6711
¹⁶O+K[±], total cross section calc., complex momentum theory anal. with $\alpha^0>1$ (*Russian*) 9-9638
¹⁶O(K⁻, π^-), spin orbit interactions of Λ hyperons 9-9628
Pb+K_L, 30 to 150 GeV, total cross sections, inelastic screening evidence 9-17936

kaon-nucleus reactions continued

- Pb+K_s, 20 to 140 GeV, precise coherent K_s regeneration amplitudes 9-17937
 Sn+K_s, 30 to 150 GeV, total cross sections, inelastic screening evidence 9-17936
 Sn+K_s, 20 to 140 GeV, precise coherent K_s regeneration amplitudes 9-17937

kaon-nucleon scattering

see also kaon-nucleon scattering

- C, K⁰ regeneration, Regge behaviour and nuclear effects, ω-pomeron cut 9-13347
 C(K⁺, K[±]) intermediate energy, forward scatt. amplitudes, Glauber model calcs. 9-30856
¹⁶O(K, K⁺), low lying collective state selective excitation, ang. distrib. and cross sections 9-6368
¹⁶O(K⁺, K⁺), plane and distorted wave impulse approx. anal., plane waves 9-9630

kaon production

- hadronic large p_T reactions, K⁺ and K⁻ prod. as model test, hard quark scatt. 9-40735
 inclusive prod. in pp interactions in 9.1 GeV/c 9-6355
 quark jet fragmentation, large momentum transfer reactions, implication of large vector meson prod. 9-345
 Veneziano model anal., KKπ Dalitz-plot density calc. 9-26331
 e⁺e⁻ annihilation, 3.6-5.2 GeV, charged π, K, N inclusive prod. 9-30743
 γd→K⁺Δn, differential cross section, influence of Δn interaction (Russian) 9-394
 γp→K⁺K⁻p, 7 GeV, S-P wave interference near K⁺K⁻ threshold, S→K⁺K⁻ cross section 9-6343
 γp→K⁺K⁻π⁺π⁻, photoprod. at CERN SPS and search for charmed mesons 9-26336
 K_s regeneration in K_Le scatt. 30 to 100 GeV, K⁰ charge radius meas. 9-400
 K_s⁰ neutral strange-particle prod. by 300 GeV protons in Be, Cu, Pb 9-17905
 K*(890) and K*(1420) prod. in 405 GeV/c pp interactions 9-30757
 K⁺p→pK⁰X, 32 GeV/c, total cross section and structure functions 9-40809
 K_L⁰p→K_S⁰p, 4 to 14 GeV, in range 0.1≤|t|≤2 GeV² 9-3045
 Δ_c⁺p→pK⁺π⁺, kaonic decay observation, prod. rates 9-26332
 ν and $\bar{\nu}$ inclusive processes for neutral currents, sea quark effects, meson prod. 9-22088
 (p)νN→e⁻e⁺μ⁺K⁰+7γ, exptl. obs. 9-9361
 pd→π[±](K[±])pX, 11.75 GeV/c, meas. of left-right asymmetry far inclusive π[±], K[±], p prod., polarised p-beam 9-22155
 pn→nKΔ, field current relations (Chinese) 9-22126
 pp, 22.4 GeV/c, inclusive γ, K_s⁰, ΔΔ production, KNO scaling test (Russian) 9-30759
 pp, total inclusive cross sections for δ⁰, g⁰, K⁰ and \bar{K}^0 at 53 GeV 9-17771
 pp→K_s⁰π[±], K*(890), EM mass difference determ. 9-390
 pp→K_s⁰X(ΔX) (ΔX), 3.6 GeV/c, cross section anal. and Δ polarisation 9-45095
 pp→K_s⁰+X, 4.6, 9.1 GeV/c, inclusive total, topological and invariant differential cross sections 9-408
 pp→KK, 12 and 24 GeV/c, strangeness transfer distrib. 9-22142
 pp→π[±](K[±])pX, 11.75 GeV/c, meas. of left-right asymmetry far inclusive π[±], K[±], p prod., polarised p-beam 9-22155
 πd quasielastic and inelastic rescattering as cumulative particle prod. source (Russian) 9-22340
 π⁻p→K⁻K_s⁰p, 9.8 and 18.8 GeV, decay ang. distrib. and differential cross sections 9-17754
 π⁻p→K⁻K⁺π⁰n, D, E, and δ mesons, obs. at 12 and 15 GeV/c 9-9410
 π⁻p→K⁻K⁺π⁰n, D, E, and δ mesons obs. at 12 and 15 GeV/c 9-3052
 π⁻p→K⁰Δ⁰, up to 1334 MeV/c, differential cross sections and polarisation, phase shift anal. 9-412
 π⁻p→K⁰Σ⁰, threshold to 1334 MeV/c, differential cross section and polarisation data 9-17755
 π⁺p→K⁺K_s⁰p, forward A₂⁺ prod. at 12.7 GeV/c 9-22149
 ππ→KK amplitude in the unphysical region, hyperbolic dispersion curves 9-9407

kaon-proton interactions

see also kaon-proton scattering

- inclusive, estimate of ω, φ and baryonium mixing at t≈0 9-40814
 Regge exchange building by strange quarks, K⁺p data anal. 9-2995
 K⁺n→K⁰p, 10 to 1000 GeV/c², dσ/dt calc. from ρ-A₂ exchange degeneracy breaking in π⁺p 9-13162
 Kp→Op, diffractive production, unitary analytic coupled channel model 9-36051
 K⁺p, 4.2 GeV/c, Ω⁻ prod., lifetime, mass, decay asymm. parameter 9-3044
 K⁺p, 4.2 GeV/c², enhancement in ΣK mass spectrum at threshold (1680) MeV 9-17756
 K⁺p, 8.25 GeV/c, study of inclusive Δ, Σ⁰ and Σ(1385) prod. 9-30749
 K⁺p→ηΔ, 4.2 GeV/c, total and differential cross sections, forward production peaks 9-40801
 K⁺p→ηΔ, 4.2 GeV/c, total and differential cross sections, forward production peaks 9-40801
 K⁺p→K⁺π⁰, amplitude calc. for soft pion emission, using PCAC 9-13153
 K⁺p→K⁺π⁰p, c.m. energy 1775 to 1957 MeV 9-22138
 K⁺p→K⁺π⁺p, c.m. energy 1775 to 1957 MeV 9-3046
 K⁺p→K⁺π⁺n, c.m. energy 1775 to 1957 MeV 9-22138
 K⁺p→K⁺π⁺n, c.m. energy 1775 to 1957 MeV 9-3046
 K⁺p→K⁺π⁺π⁺p, 10, 14.3, 16 GeV/c, partial wave anal. of (Kππ)⁺ system in the L-region 9-17764
 K⁺p→K⁰n, 10 to 1000 GeV/c², dσ/dt calc. from ρ-A₂ exchange degeneracy breaking in π⁺p 9-13162
 K⁺p→K⁰p, c.m. energy 1775 to 1957 MeV 9-22138
 K⁺p→K⁰p, c.m. energy 1775 to 1957 MeV 9-3046
 K⁺p→K⁰p, determ. of (K_s⁰→π⁺π⁻/K_s⁰→A11) branching ratio 9-3046
 K⁺p→K⁰π⁻, determ. of (K_s⁰→π⁺π⁻/K_s⁰→all) branching ratio 9-22138
 K⁺p→K⁺(890)p, determ. of mass and width of K⁺(890) 9-3046
 K⁺p→K⁺(890)p, determ. of mass and width of K⁺(890) 9-22138
 K⁺p→Δ⁰π⁺, strong reaction asymmetry and mass quantisation, particle struct. (French) 9-3043
 K⁺p→Δ⁺pions, 4.2 GeV/c, multiplicities, hadronic temps. and ang. distrib. in KK, pp annihilations 9-45101

kaon-proton interactions continued

- K⁺p→π⁰Δ, 4.2 GeV/c, total and differential cross sections, forward production peaks 9-40801
 K⁺p→π⁺Σ[±], cross-sections, 1470-1550 MeV 9-13154
 K⁺p→π⁺Σ[±](1385), 1775-2170 MeV, partial wave anal. 9-6348
 K⁺p, 32 GeV/c, inclusive and semi-inclusive, Bose-Einstein interference effect 9-22152
 K⁺p, 32 GeV/c, vector meson inclusive spectra 9-30703
 K⁺p→pK⁰X, 32 GeV/c, total cross section and structure functions 9-40809
 K⁺p→pX, 32 GeV/c, total cross section and structure functions 9-40809
 K⁺p→Σ⁺π⁺, strong reaction asymmetry and mass quantisation, particle struct. (French) 9-3043
 K⁺p→ΣΔ⁺⁺, absorption corrections to three Reggeon formulas (Russian) 9-9423
 K[±]p, total cross section determ., 200 to 370 GeV/c 9-26352
 K[±]p→K⁰π[±]p, double Regge exchange phenomenology 9-3008
 K[±]p→K[±](Δ[±]π[±]), 8.25 GeV/c, proton diffraction region 9-9405
 K[±]p→Λ(Δ)X, 32 GeV/c, Λ and Δ polarisation 9-45122
 K_Lp→K_Sp 30 to 130 GeV/c, coherent K_s regeneration amplitude, ω exchange 9-30754
 K_L⁰p→K_S⁰p, 4 to 14 GeV, in range 0.1≤|t|≤2 GeV² 9-3045
 K_L⁰p→K_S⁰p(π⁺π⁰Δ)(π⁺Σ⁰Δ), differential and polarisation cross sections near 550 MeV/c 9-17757

kaon-proton scattering

see also kaon-proton interactions

- string model, string geometrical shape and overlapping functions 9-13073
 total cross-sections, new tabulation suitable for dispersion relations 9-417
 K⁻p, cross-sections, 1470-1550 MeV 9-13154
 K⁻p, slope of forward diffraction peaks 9-36103
 K⁺p scatt. anal. to 2 GeV/c, coupled-channel K-matrix parametrization, resonance poles 9-17758

kaon resonances see meson resonances

kaon scattering see kaon-baryon scattering; kaon-nucleon scattering; lepton hadron scattering; meson-meson scattering; photon-hadron scattering

kaons

- Cabibbo angle universality and association with K, π and D meson mass 9-12974
 form factor and charge radii, isovector part using dispersion relations 9-22096
 structure functions, prediction in quark cascade model 9-36033
 SU(4)×SU(4) chiral symmetry breaking, axial vector current divergences, kaon PCAC 9-45032
 valance quark distrib. in π, K, D, Regge trajectories, SU(3), SU(4) breaking 9-30703
 K*, EM mass splitting determ. 9-3046
 K*, EM mass splitting determ. 9-22138
 K⁰, Klein paradox and the mass spectra of the neutral vector mesons 9-26299
 K*π→K*π, analytic quasi-unitary isobar model anal. 9-36099
 K_s⁰K_s⁰ pair rapidity correlations, quark level strangeness compensation in multiparticle production 9-36024

Kapitza-Dirac effect

see also Schwarz-Hora effect

No entries

Kapitza resistance

- axiomatic acoustic mismatch theory, with loss 9-33132
 Kapitza conductance, dislocation depend. near acoustic mismatch 9-33172
 Al, heat transport through subcooled He II 9-23794
 Au-dilute ³He-⁴He mixture interface, Kapitza resist., dynamic meas. 9-28188
 Cu superfluid ⁴He interface, Kapitza conductance, depend. on dislocation density near interface 9-33170
 Cu-superfluid ⁴He interface, static and transient anomalous Kapitza conductance 9-19444
³He, spin relaxation to paramagnetic centres, in surfaces at very low temps. 9-33552
 NaF-liquid He interface, phonon transmission in both directions 9-28164

KDP see potassium compounds

Kelvin-Helmholtz instability see flow instability

Kennelly-Heaviside layer see E-region; ionosphere

keratin see proteins**Kerr electro-optical effect**

- chloromethanes, vapour phase, Kerr effect temp. depend., polarisability and hyperpolarisability 9-31568
 cyanobiphenyl nematic homologous series, Kerr consts., relax. times, refr. index, dielectric const. 9-19863
 cyanobiphenyls, isotropic phase, pretransitional behaviour, optical and elec. Kerr effects 9-10928
 cyanobiphenyls, physical props., appl. to Kerr cells 9-19142
 di-(4-n-alkyloxy) benzoic esters, of hydroquinone series, effect of polar substituents on electro optical props. 9-46569
 HV pulse controller and temp. monitor microcomputer-based, Kerr effect study appl. 9-6103
 octyl-cyanobiphenyl nematic cryst., optical and DC Kerr effects 9-7183
 4-n-pentyl-4'-cyanobiphenyl, isotropic, optical and electrical Kerr effect 9-32886
 time-dependent birefringence, linear dichroism, and optical rotation resulting from rigid-body rotational diffusion 9-47411
 water and conducting liquids, Kerr effect meas. apparatus 9-12832
 water-dioxane(acetone) systems, Kerr constant meas. at 632.8 nm 9-4788
 CS₂, liq., electronic optical Kerr effect, subpicosec. optical gating 9-46548
 KD₂PO₄, noncentrosymmetric monocrystals, quadratic electro-optic coeffs. 9-28718
 KH₂PO₄, noncentrosymmetric monocrystals, quadratic electro-optic coeffs. 9-28718

Kerr magneto-optical effect

- Dy-Fe, amorphous film, Kerr readout characs. 9-15439
 Fe₈₀B₂₀ amorphous alloys, domain struct. exam., magneto-optic Kerr effect 9-28550
 Gd-Fe, amorphous film, Kerr readout characs. 9-15439
 Gd-Fe amorphous films with CeO₂ coatings, Kerr magneto-optical effect enhancement 9-19866
 Li_{0.2}Fe₂O₄, polar Kerr rotation spectra, 2-5.7 eV, comparative study with YIG 9-47413
 SmCo₅Cu, nonuniform comp., domain struct. and mag. reversals process (Russian) 9-1681

Kerr magneto-optical effect continued

Tb-Fe, amorphous film, Kerr readout characts. 9-15439
Te, Faraday-type microwave Kerr effect 9-23998
YIG, polar Kerr rotation spectra, 2-5.7 eV, comparative study with $\text{Li}_2\text{Fe}_2\text{O}_4$ 9-47413

kicksorters see counting circuits

Kikuchi lines see electron diffraction crystallography

kinematic viscosity see viscosity

kinematics

see also acceleration; ballistics
artificial heart valve closing element, kinematics photoelectric recorder 9-48370
autonomous system instability, sufficient criteria, Lyapunov instability (Russian) 9-17210
co-ordination of the kinematical vectors 9-35543
gravitational fields whose brachistochrones and isochrones are identical curves, for teaching 9-25807
He 2-111, planetary nebulae, giant halo with very high vels. discovery 9-25691
jaw, growth anal. in human using kinematic fundamentals 9-16243
joint instantaneous centre of rotation, least square analysis 9-29555
kinematic equivalence of system of forces (Polish) 9-12590
multilink spatial mechanism structure and analysis (German) 9-21544
ocean surface gravity waves during Tropical Storm Delia, directional spectra and kinematics 9-48506
photon, stochastic phase space kinematics 9-2649
plane mechanism, dynamic balancing (Russian) 9-35538
plates undergoing oscillatory bending, particle trajectories (Russian) 9-37209
rotating and turning platforms 9-30220
rotation kinetics anal. with air cushion apparatus (Hungarian) 9-25811
southern high-velocity stars, kinematical and orbital props. 9-25600
uterine deformation during labour, thin shell model and kinematic analysis 9-2090
H I clouds in solar vicinity, kinematics from Nancy 21 cm absorpt. survey 9-8971

kinematography see cinematography

kinerecording see telerecording

kinescope see television picture tubes

kinetic theory

see also Boltzmann equation; collision processes; intermolecular mechanics; kinetic theory of gases
binary liquid mixture, diffusivity from simple kinetic model 9-23752
Brownian motion, kinetic fluctuations 9-25984
Brownian motion in Bogolyubov's method of abbreviated description 9-21669
Cauchy problem, global soln. in discrete kinetic theory (French) 9-12710
classical liquids, kinetic model, dynamic struct. factor 9-10768
Crookes radiometer, physics anal., for teaching 9-35504
dissipative dynamical systems of macroscopic phys., common formal struct. of kinetic theory, fluid mechs., nonequilibrium thermodynamics 9-140
equation derivation in nonequilib. statistical mechanics, approx. results 9-2712
explosive fracture, time criteria, kinetic theory appl. 9-14347
fluidised beds, soln. to kinetic eqns. (Russian) 9-10610
fluids, classical, linear irreversible thermodynamics, derivation 9-2740
generalised kinetic theory with memory 9-35625
hard sphere model of chemical reaction in condensed media 9-29349
hard-sphere fluid, kinetic theory of self-diffusion 9-4225
high-energy low-mass particles interaction with crystal (Russian) 9-23660
linearised hydrodynamics, derivation from kinetic theory 9-21679
liquid-vapour interface, kinetic eqn. at mean field level 9-37905
Lorentz gas, calc. of velocity correlation function in ring approx. 9-44849
many-body distrib. function, dilute system generalised Boltzmann equation 9-30351
nonequilibrium states, by Kubo and Callen-Welton formulae (Russian) 9-17351
pair configuration space diffusion eqn., thermal fluctuations, kinetic theory 9-17362
polymer, glass transition kinetic nature, sp. ht. 9-10929
quantum mechanical eqn. of Kadanoff and Baym, time reversal noninvariance 9-17332
Rayleigh model, one-dimens., initial conditions and time reversal 9-9176
relativistic, continuity of summational invariants for massless particles 9-25968
relativistic kinetic theory, continuity of summational invariants for non-zero rest mass 9-25967
relativistic kinetic theory of v_e and v_μ systems, transport coeffs. 9-21680
simulator, for student lab. expt. 9-35461
single-particle motion in a fluid, kinetic theory 9-41922
systems in random fields 9-21652
time-evolution of the scattering kernels for half-space gas-solid systems 9-25849
transient relativistic thermodynamics and kinetic theory 9-17330
transport collision frequencies, integration of empirical data 9-25969
transport collision frequencies, temp. depend. by approx. method 9-25970
turbulence, kinetic model (French) 9-14382
two-level system, kinetics at diffusion modulated local interactions (Russian) 9-2716
vaporisation and condensation, physical-mathematical problems (Italian) 9-40505
 ^3He -He II solns., magnetokinetic effects 9-19419
kinetic theory of gases
see also Brownian motion; collision processes; equations of state; intermolecular mechanics; Joule-Thomson effect
binary gas mixtures epochal relax. 9-41783
binary gas phase collisions, rates, translational energy depend., statistical mech. theory 9-44844
binary inert gas systems, determ. of (m,6,8) pot. parameters 9-46414
binary mixtures, use of diffusion and second virial coeffs. to predict viscosities 9-14506
Boltzmann equation, initial value problem 9-44885
Chapman-Enskog method for a multivelocity, multitemperature mixture of reacting gases (Russian) 9-15995
dense gases, viscosity and thermal cond. 9-46415
dissociation equilibrium, phase space allocation 9-27746

kinetic theory of gases continued

education, irreversible processes, linear coeff. calc., kinetic and Onsager reciprocity theorems, gas flow appl. 9-9053
evaporation and condensation in nonlinear half-space 9-27500
general physics and heat, book 9-25814
ion transport, three temperature theory 9-46412
Landau equation for weakly coupled gases soln. for homogeneous plasma relaxation 9-41798
light scattering, nonequilibrium gas 9-46421
linearised Boltzmann eqn., constructive soln., scalar BGK model eqn. 9-161
Lorentz Fokker-Planck equation eigenvalues 9-46413
mixture, binary, Wassiljewa coeffs., thermal conds., 50 and 100°C apps. 9-37437
molecular gas, diffusion coeff. and mean free path, higher order approx. calcs. 9-27734
neutral radiant gas, kinetic eqns. with allowance for radiation polarisation 9-23399
non-ideal gas, internal degrees of freedom, kinetic equation (Russian) 9-23390
nonequilibrium states, by Kubo and Callen-Welton formulae (Russian) 9-17351
orientational correlation functions, for mol. reorientation 9-36798
plate infinite, oscill. in strong rarefied gas under constant force 9-10623
polyatomic chemically reacting gases, hydrodynamic eqns. 9-32711
pressure, 'stress' calculation and virial theorem 9-37433
self-structure factor, kinetic modelling 9-41791
student experiment, computer modelling of mol. vel. distrib. 9-30169
time-dependent boundary-value problem soln., half-range, orthogonality relations 9-14508
transport coeff. for real gases (Russian) 9-10624
transport collision frequencies, integration of empirical data 9-25969
transport collision frequencies, temp. depend. by approx. method 9-25970
Tsuge kinetic theory, applic. to turbulent gas flow reaction rates 9-7418
viscosity, coeff. for mol. gas 9-41784
viscosity, in transition regime, density depend., appl. to He 9-1280
 CO_2 , kinetic cooling by laser radiation 9-31621
 O_2 , thermal conductivity, calcs. 9-37434

kinetic theory of liquids see kinetic theory; liquid theory

kinetics of chemical reactions see reaction kinetics

kink bands

polyethylene, ultradrawn linear, kink bands by compression, interfibrillar motion 9-24581

kinofoms see computer-generated holography

Kirkendall effect see diffusion in solids

kitchen appliances see domestic appliances

KKR calculations

deformation potentials calc. by Green's function method 9-1568
Ag, deformation potentials for isotropic strains 9-42506
Cu, deformation potentials for isotropic strains 9-42506
 $\text{Cu}_x\text{Ni}_{1-x}$, paramag., electronic struct., atomic sphere approx. to KKR-CPA 9-19502
Mg, bandstruct. using potentials with exchange and correlation 9-11060
Nb, deformation potentials calc. by Green's function method 9-1568
Nb, Fermi surface, Fermi velocity, electron-phonon interaction parameter 9-7778

klystrons

see also reflex klystrons

No entries

Knight shift

see also nuclear magnetic resonance

alkali metals, positive muon spin rotation frequency, Knight shift meas. 9-38421
alkaline earths, positive muon spin rotation frequency, Knight shift meas. 9-38421
linear conductor, dynamical aspects of fluctuations 9-33715
positive muon spin rotation frequency, Knight shift meas. 9-38421
Fe, nuclear orientation and NMR/ON on implanted $^{114\text{m}}\text{In}$ 9-47345
 $\text{Gd}_2\text{Co}_6\text{Al}_{11}$, ^{27}Al Knight shift, mag. susceptibility 9-15367
 $\text{Gd}_2\text{Cu}_6\text{Al}_{11}$, ^{27}Al Knight shift, mag. susceptibility 9-15367
In-Hg, liq., Knight shift of ^{115}In , in temp. and conc. depend. 9-47343
 $\text{K}_2\text{Pt}(\text{CN})_4\text{Br}_{0.3}\cdot 3.2\text{H}_2\text{O}$, linear conductor, dynamical aspects of fluctuations 9-33715
Li-In, liquid alloy, elec. resist., Knight shift of ^{115}In and ^7Li nuclei 9-11352
 $\text{LiCd}_{1-x}\text{Ti}_x$, intermetallic, X-ray and Knight shift meas. of ^{205}Tl and ^{113}Cd 9-42851
Ni-P alloy, amorphous, NMR expts. and interpretation 9-8060
NiPB amorphous alloys, ^{31}P and ^{11}B NMR near paramag.-ferromag. transition 9-33558
 V_3Si , exam. of superconductivity and props. 9-1649
W, Knight shifts obs. with 6.2 keV ^{181}Ta Mossbauer resonance 9-11369
Zn, liq., NMR and relax. 9-8061

Knudsen flow

drop growth in atmosphere by condensation, cloud physics appl. 9-44216
glass, porous, free molecule flow and interdiffusion 9-32658
molecular flow, in long tubes, effect of cross-sectional shape 9-14437
novel Monte Carlo binning technique 9-160
powders, surface area measurement using Knudsen diffusional flow of gas 9-40536
 ^4He , superfluid, phonon heat transport and Knudsen's minimum below 0.6K 9-33136
Rbl, vaporisation thermodynamics, mass-loss Knudsen effusion, mass spectrometry 9-28093

Knudsen number see Knudsen flow

Kohn effect see lattice dynamics

Kondo effect

alloy, highly concentrated, Kondo effect in terms of quasi-spins 9-24134
Anderson model, perturbation expansion in infinite conduction bandwidth limit, Kondo temp. 9-28506
degenerate Anderson model, Fermi liq. theory 9-19715
dilute magnetic alloy, configuration fluctuations 9-33449
magnetic impurities and Kondo effect, theoretical model 9-33455
scaling and multiplicative renormalising in solid state physics, review (Hungarian) 9-11289
spin 1/2 Kondo impurity, minimal effort scaling approach 9-1657
spin glass Kondo transition resist. max. 9-19584
superconducting order parameter, spatial variations in presence of impurity near transition temp., Anderson model calcs. 9-38245

Kondo effect continued

- transition metal magnetic alloys, dilute, props., review of theory 9-15282
two or three electrons, interacting with localised mag. moment, wave function determ. (*French*) 9-12636
Au-Fe, spin glass, spin relaxation rates, neutron scatt. study 9-47235
Au-Fe, spin-glass, characteristic temps. 9-38348
Au-Pd(Pt), elect. resistivity, temp. depend. between 1.6 and 4.2K (*German*) 9-28337
Ce compounds, Anderson model, exchange parameter, Kondo temp., mag. susceptibility 9-1656
CeAl₂, Anderson lattice system, volume collapsed strongly mixed valent state 9-38033
CeAl₃, specific heat between 0.02 and 1K 9-1680
Co-Al system, nucl. spin relaxation exam. 9-19798
Cr-Fe (0.6 at.%), antiferromag., anomalous press. effect on resist. minimum 9-15138
Cu-Fe, dil. alloy, spin relaxation rates, neutron scatt. study 9-47235
Cu-Fe (1.2 at.%), Fe moment and lattice distortion, neutron scatt. meas. 9-24133
Cu-Mn, dil., spin density magnetisation near magnetic atoms 9-33545
InMn, ion implanted, influence of O and lattice disorder on Kondo resist. 9-38061
(La,Gd)Al₂, very dil., resist. 9-23958
La-Ce, Kondo system, intermediate temp. supercond. under hydrostatic press. 9-24097
La-Ce alloy, press. induced spin glass to Kondo phase transition, resist. meas. 9-24174
La_{1-x}Ce_xAl₂, Kondo system, low temp. thermal expansion behaviour 9-19382
(La_{1-x}Ce_x)Al₂, Kondo system, antiferromag., specific heat 9-24179
LaSn₃, dilute alloy containing light rare earth impurities, press. depend. of supercond. transition temp. 9-47184
Mg-Fe alloy film, quench-condensed, resistance meas. 9-15235
NbL₁, metallic state, resistivity anomaly 9-15136
Pd-Pt, elect. resistivity, temp. depend. between 1.6 and 4.2K (*German*) 9-28337
Pd_{0.98}Pr_{0.02}, dil. alloy, mag. susceptibility 9-19583

Korringa-Kohn-Rostoker calculations see KKR calculations**Koster effect see dislocation damping****k.p. calculations**

- Lifshitz's criterion for symmetry changes in second-order phase transitions 9-4392

Kramers-Kronig relations

- n-order nonlinear phenomena, dispersion rels. 9-41410
organic charge transfer complexes, refl. spectra, excitons 9-47477
TCNQ salt, K⁺TCNQ⁻ particles, light scatt., absorpt. spectra 9-24332
Ti₂GeO₂₀, reflectivity spectrum and band struct. 9-47474
CC GaAs, n- and p-types, optical consts., 2.5-3.5 eV, normal incidence reflectance meas. 9-15428
CuGaTe₂, mode energies from Kramers-Kronig anal. of IR lattice vibr. spectra 9-28765
CuInSe₂, mode energies from Kramers-Kronig anal. of IR lattice vibr. spectra 9-28765
GaAs, reflection spectra, optical consts. (*Russian*) 9-38571
LaOF, features of formation of band structure 9-33232
LiNbO₃, Raman spectra and dielec. props. near Curie point 9-38530
LiAlO₃ high-temp. ferroelec. transition, soft mode IR reflectivity spectroscopy 9-33692
LiTaO₃, Raman spectra and dielec. props. near Curie point 9-38530
MnSe₂, IR lattice vibr., dielectric dispersion 9-28735
(PbO)₂(SiO₂), glass, vibrational spectroscopic exam. 9-11417
Pb_{1-x}Sn_xTe, reststrahlen band, reflection spectra Kramers-Kronig anal. 9-8162
Si, optical properties of monocrystal by electron energy loss meas. (*German*) 9-24283
Ti_{1-x}Se_x, superlattice form. and phase transition, IR reflectivity meas. 9-24322
TiS₂, amorphous semiconductor, optical consts. 9-11400
YAlO₃, reflection spectra, Kramers-Kronig anal. of optical characts. 9-8161
ZnS(Se)(Te), thermoreflectance spectra, at energies from absorption edges to 9 eV (*Japanese*) 9-11436
ZnTe, wavelength modulated reflectivity spectra (*Japanese*) 9-11435

Kramers systems see determinants**Kromayer lamps see mercury vapour lamps****Kronig-Penney model**

- liquid-like random Kronig-Penney model, electronic density of states, CPA calc. 9-1567
nonseparable band problems, in higher dimensions 9-46995
one-dimensional lattice, impurity levels, transfer matrix approach 9-42489
simple solution for teachers 9-22

krypton**see also nuclei with**

- adsorbed mono- and bilayers on graphite, two-dimens. struct., neutron diff. study 9-42393
adsorption on graphite, finite size effect and temp. depend., multicritical phase diagrams 9-42372
atom, Koopmans' ionis. pot., relax. correction 9-18308
atom, props., calculation from optimised potential model 9-6895
atom, radioactive, spectrometer for meas. of isotopic, isomeric shifts and hyperfine structure 9-6191
atom, reson. levels relax. consts. determ. by alignment method in discharge 9-26936
atom, rotation of plane of polarisation close to reson. 9-41129
atom, self-broadening of first reson. line 9-26933
atomic electron scattering, 20-300 eV, total cross sections 9-36778
atomic structure, Hartree-Fock electron density, kinetic energy functional 9-26879
carbonaceous chondrites, fission Kr and Xe origin 9-35199
entrapment in pulse biased sputter deposited metals 9-28255
equation of state, perturbed-hard-sphere, applicable to sub- and supercritical temps. 9-19350
field ion appearance potential spectroscopy, temp. effects 9-19978
gas, laser-induced breakdown wavelength depend. meas. of threshold 9-41895
gaseous adsorption in fission reactor fuel reprocessing 9-31094
gaseous fission product, continuous determ. of content in reactor loop 9-30905

krypton continued

- isotopic abundances, s-process contributions 9-5739
liquid, high-field electronic conduction obs. 9-4587
liquid ionisation chamber media, review of physical props. 9-41071
monolayer, density profile, adsorption isotherm, in superposition approx. 9-33182
plasma, of positive column, at. alignment, radiative lifetimes, collision cross sections 9-4203
plasma, thermodynamic functions, composition, and elec. cond., calc. method 9-32738
plasma trap for magnetic flux, loop probe meas. 9-14621
resonance lamp in vac. UV, new developments 9-32017
solid, anharmonic contributions of O(λ^4) to mean-square atom displacement 9-42155
solid, electronic struct. of self-trapped excitons 9-19525
solid, H₂ and D₂ CoM freq. matrix shifts calc. 9-6969
solid, phonon freqs., lattice heat capacities, and Debye charact. temp. 9-10905
superheated liquid, nucleation rates 9-23741
Ba+Kr, collision induced dipole transition, elec. quadrupole transition, oscillator strengths 9-41128
H+inert gas atom, interaction pot. from electron gas model 9-31637
HCl+Kr(Ar), pot. energy surface determ. from rot. line broadening data 9-13784
He-Kr HV hollow cathode laser, gain meas. of Kr II 4694 Å, 4318 Å CW transitions 9-45928
He-Kr high voltage hollow cathode discharge, new Kr II CW laser lines 9-13947
He-Kr hollow-cathode discharge, CW and pulsed lasing at Kr ion lines 9-3679
He-Kr hollow-cathode discharge, CW laser oscills. on Kr II 4694 Å, 4318 Å lines 9-3680
³He-Kr, direct nuclear pumped lasers using ³He(n,p)³H reaction 9-31863
He*+Ar(Kr)(Xe), elastic scatt., repulsive rainbows and optical pots. 9-840
Kr III, CW laser, short wavelength multiline performance 9-926
Kr⁺, beam metastable fraction determ., by W surface impact, secondary electron obs. 9-28873
Kr⁺, beam-tilted C foil interactions, charge-state distrib., photon emission, 100-400 keV 9-22814
Kr⁺ ion laser, mode-locked near UV output, chem. and appls. 9-45966
Kr²⁺, beam metastable fraction determ., by W surface impact, secondary electron obs. 9-28873
Kr²⁺, mobility in parent gas 9-7439
Kr-Ar, solubility in Ar, and related functions, three-body forces 9-10776
Kr-K, afterglow of laser plasma, fluoresc. spectra 9-19085
Kr+⁷⁵As, slowing down of atoms/ions with KE≤5 eV by inert gases 9-31650
Kr+⁷⁵Asⁿ⁺, slowing down of atoms/ions with KE≤5 eV by inert gases 9-31650
Kr+CO, intermol. pot. energy surfaces from electron gas model, ang., distance, and vibr. depend. 9-3520
Kr+carbon tetrachloride, differential elastic scatt. cross-section 9-45784
Kr+Cl₂, KrCl⁺ form., mass spectrosc. obs. 9-29346
Kr+Cl⁻(Br⁻), total electron detachment cross sections, near threshold energies 9-3555
Kr+He, ²S and ²S⁺ assoc. and Penning ionisation cross sections vel. depend. 9-3551
Kr+K, differential cross-section meas. by multi-crossed-beam method 9-45797
Kr+Kr, isotropic intermolecular forces evaluation using semi-empirical approach 9-36726
Kr+Kr(Xe), X-ray prod. cross sections for Kr L-shell vacancies 9-10190
Kr+Ne slow collisions, four-state treatment of K-L vacancy sharing 9-45793
Kr+Neⁿ⁺, (n=1, 2, 3, 4), energy spectra of electrons produced 9-45822
Kr+U, momentum transfer cross-section, 0.1 eV 9-45783
Kr⁺+F⁻ and Kr²⁺+F⁻, ionic recomb. rates in buffer rare gases 9-8425
Kr⁺+Kr, diabatic correl. diagrams for quasi-mol. description 9-3525
Kr⁺+Kr, diatom, quasimolecule form., shielded-orbital model 9-10165
Kr²⁺+Kr, radiative charge transfer coeffs. 9-7010
Kr⁺, dimer ions, electronic struct., chem. binding 9-31376
Kr₂⁺, electronic struct., pot. energy curves, spectroscopic consts. 9-18114
Kr₂⁺, mobility and clustering reaction in Kr 9-10628
Kr(He) arc, wall-stabilised, atm. press. 9-46503
Kr(³P₂)+H₂O, decomposition, OH(A²Σ⁺) internal energy distrib. 9-10183
Kr(³P₂), quenching mechanisms and rate consts. 9-13801
Kr⁺, new type generator using cellulose chromatography paper, for hospital use 9-8541
Kr absorption in liquid CO₂ (KALC process), mass transfer efficiencies of packed columns 9-36354
Kr aerosol discharge devices, fabrication and use 9-1969
Kr immobilization, evaluation of methods 9-26578
Kr, nuclear reactor radioactive gaseous effluents, abatement techniques 9-3221
Kr, radioactive pollution in atmos., Warsaw 1975 to 1977, meas. methods 9-34458
Kr removal from HTGR reprocessing plant off-gas streams 9-30972
Kr, continuous ^{99m}Tc intravenous infusion, pulmonary regional perfusion assess., compared to ^{99m}Tc macroaggregates 9-39477
Kr dosimetry, internal conversion electrons, error in previous work 9-12005
Kr, lung, regional distrib. of (dV/dt)/A/(dQ/dt) in man, at rest and with exercise 9-16232
Kr*, VUV time resolved spectra, formation and decay kinetics 9-31544
NH₃-N₂(H₂)(Ne)(Ar)(Kr)(Xe), as R(1,1) vibr-rot. line parameters, ν_2 band, using CO₂ laser light 9-3444
Ne:Kr, luminesc. in vacuum UV 9-15519
Ne-Kr, partially miscible mixture, high press. mol. dynamics using Lennard-Jones pot. 9-41929
Rb⁺, ionic mobility in Ar, Kr and Xe, interaction pot. determ. 9-18991
Si:Kr, ion implantation damage, annealing, comparison with Si:Ne and Si:Ar 9-10867
Si:Kr, ion implanted, amorphous, epitaxial regrowth 9-10869
Xe+Ar(He)(Ne)(Kr), thermal cond., 800 to 2000K from Wassiljewa's expression 9-27736

krypton compounds

- KrBr, B(1/2)-A(1/2) system, emission spectra 9-6934

Krypton compounds continued

- Kr₂Cl(F), ab initio diatomics in mols. pot. surface, spin-orbit coupling 9-3519
 KrF, discharge laser, operating characts. 9-22937
 KrF excimer laser, water dielec. Blumlein-driven fast elec. discharge pulser 9-10318
 KrF, excimer laser power and efficiency, review 9-937
 KrF high-power laser, efficiency and energy scaling 9-36887
 KrF laser, electron beam pumped, with Ne-Ar diluent 9-22936
 KrF, UV preionised transverse discharge laser, theoretical model 9-22938
 KrF X-ray-preionized high-pressure laser 9-18403
 KrF⁺, selected valence-electron split-shell MO calc., ground state props. 9-22585
 KrF+He(Ne)(Xe)(NF₃), quenching rate const. meas. 9-24718
 KrF₂, photoionisation mass spectrometric study 9-45772
 KrF*, elec. discharge excimer lasers, stimulated emission 9-31884
 KrF*, electron beam controlled laser, plasma processes 9-930
 KrF*, Kr₂F*, kinetics of proton-excited KrF₂ mixtures, time-resolved and time-integrated spectra 9-36883
 KrF* laser, electron beam pumped, dominant formation and quenching processes 9-938
 KrF*, pressure depend. of C to B state ratios 9-24731
 KrF*+Ar(Kr)+Ar(Kr), recomb. rate const., 300 to 800K, appl. to KrF* laser efficiency 9-45930
 KrO, in doped inert gas matrix, photoluminesc. 9-31579

Kuhn-Thomas sum rule *see molecular energy levels***Kurie plots** *see beta-decay theory***Kyropoulos method** *see crystal growth from melt***labelled atoms** *see radioactive tracers***labelled compounds** *see radioactive tracers***labelled molecules** *see radioactive tracers***laboratories***see also acoustical laboratories*

- Australian National Measurement Laboratory and cryogenics 9-35753
 BNL 9-45411
 environmental climatic, features of McKinley laboratory 9-16798
 high-pressure, for chem. engng. development 9-21507
 Nuclear Reactions Lab., Dubna, USSR, review of 30 years work 9-36204
 space environment simulation laboratory 9-48644
 Spacelab launch conditions for absorption spectroscopy (French) 9-8791
 University of Liege beam-foil facility 9-45866

laboratory apparatus and techniques*see also specific instruments and techniques, e.g. balances, plasma probes, vacuum techniques**see also instrumentation; instruments; measurement; student laboratory apparatus; test equipment; test facilities; testing*

- β source laboratory apparatus for radiation chemistry research 9-34340
 automatic speech recognition, equipment used for experimental purposes (German) 9-46129

- cold-bath, precision, low-cost, design and construction 9-26048
 complex material atomic structure study, laboratory extended X-ray absorpt. fine structure technique 9-17589

- computer system architecture for laboratory automation 9-12777
 cuvette for studying optical nonuniformities in aggressive liquids 9-2810
 gas chromatograph glass open ended tubular columns, electric heating device for straightening ends 9-6106

- glass capacity measures testing, measurement standards, appl. 9-6085
 holography table effective size increase 9-35694

- instrumentation system, computerised, real-time 9-12786
 jet impinger, SO₂ collection efficiency low velocity studies 9-16683
 laboratory test instruments 9-30444

- liquid level detection, audible alarm system, thermistor appl. 9-12764
 measurement accuracy, evaluation 9-17380

- microprocessor-based, programmable laboratory equipment controller and data acquisition system 9-6104

- multimeter with microprocessor, precision (French) 9-6139
 neutron detector, expt. control and data acquisition system 9-45589

- NMR of tritiated samples, use of plastic tube insert 9-40546
 photographic film-slitting in printing laboratory problems (German) 9-6199

- pipettes, automatic precision instruments 9-21734
 rotating sample holder without mechanical linkages 9-35697

- student computer aided laboratory instruction Karlsruhe Univ. 9-12556
 superconducting solenoid, control of field-changing tasks by microcomputer 9-216

- thermal neutron high press. sample container for diffr. and spectroscopy on fluids 9-46513

- timers, electronic programmable, Xanadu up-timer, industrial lab. appl. 9-9207

- tritiation system for tritium introduction for phase composition and struct. determ. 9-39068

- ultrathin metal film mounting method on cylinders 9-35696
 undergraduate course, in advanced physical instruments 9-21486

- vortex flowmeter for student laboratory use 9-7424
 wire spark erosion machine for hard metals, control ect. 9-35695

- Ar purifier, portable, 0.3 m³/h, design and appl. (Polish) 9-12781
¹²⁵I, procedures for safe working in labs. 9-35698

- N₂ purifier, 2.5 m³/h (Polish) 9-12782
 Pu laboratory stack monitoring, computerised system 9-3256

- ¹³³Xe storage and dispensing device for nuclear medicine (Czech) 9-43986

labrynth speakers *see loudspeakers***Lacertids** *see BL Lacertae-type objects***ladder filters** *see filters***lakes***see also rivers*

- Aral Sea, anthropogenic effects on level and salinity, 1951-75 period 9-44211

- artificial, time evolution of stress, rel. to induced seismicity 9-25272
 Baltic Ice Lake levels, dating rel. to S.Finland Salpausselka moraines 9-20872

- Barrett Reservoir, chronological strategies and metal fluxes in semi-arid lake sediments 9-34860

- Biwa, central Japan palaeoclimate from sediment compositions 9-12230
 Biwa (Japan), sedimentary sequence rel. to late glacial age chronology 9-34872

- boat wake effects on shoreline of Lake Manapouri 9-25278
 Bogoria, Kenya Rift Valley, radiocarbon date 9-44207

lakes continued

- Caspian Sea, spatial struct. of storm waves (Russian) 9-29790

- Caspian Sea, stationary hydrodynamic model 9-39774

- Caspian Sea, T content 9-34858

- Caspian Sea shallow areas, wind waves freq. spectra (Russian) 9-16477

- chemistry, geology and physics, book 9-44215

- circulation, seiches, tides and storm surges, finite element methods, book contrib. 9-34876

- coastal boundary layer with friction, wind stress forcing, time depend. model 9-34861

- cold-air advective conditions, lake moderating effects on surface temps. 9-25299

- Derwent Reservoir, N.England, Zn, Cd and Pb in water, sediments and submerged plants 9-25286

- drift, wind-induced, in contained water bodies 9-48512

- Duluth-Superior Harbour, ice growth meas. 9-2299

- ecosystem modelling, real-time estimation methods appl. 9-5541

- Eric, three-dimens. circulation, free-surface and rigid-lid models 9-20894

- estuaries, nontidal, hydrographic network changes under influence of natural factors and water management measures 9-29792

- flood and tidal flows, network hydraulic model 9-12162

- flood wave propagation in Lake Maggiore, recursive parameter estimation and outflow forecast 9-8650

- Great Lakes shoreline erosion, meas. of W. Lake Michigan 9-5542

- groundwater flow near lakes, numerical simulation 9-2322

- Hamilton Harbour on Lake Ontario, O₂ depletion 9-16554

- heavy metal concs. in small Norwegian lakes 9-16551

- ice-covered lakes (North Slope, Alaska), radar return differences 9-2298

- Iowa lakes, water transparency survey 9-2308

- Kainji, W.Africa, water columns movement, LANDSAT data 9-25284

- Lahontan Basin, Nevada, pluvial lake level fluctuations 9-2310

- Lake Toya, Japan, acid mine drainage, pH effect 9-34449

- Langmuir circulations, controlled laboratory expts. 9-23330

- N.Lithuania, karst lake replenishment (Russian) 9-8643

- Lithuania, lake vegetation influence on river runoff (Russian) 9-12154

- Lithuanian lake water temperature rise (spring 1974) (Russian) 9-8644

- Loch Lomond sediments, geomagnetic secular var. record 9-44088

- Michigan, diurnal wind var., lake breeze and general lake effects 9-39809

- Monona Lake, Wisconsin, Cu environmental chemistry 9-44214

- New Guinea Highlands lake sediments, evidence for recent palaeomag. secular var. 9-12069

- Ontario, downwelling fronts generation and propag. 9-20893

- Ontario; evaporation during IFYGL 9-2318

- Oroville, reservoir-induced pore pressure and seismic activity 9-2190

- palaeoclimatology and vegetation changes during 2000 years BP, from anal. of varved lake sediments 9-25279

- ponds, solar radiation absorption 9-16530

- reservoirs, thermal stratification during winter season 9-5532

- Rostherne Mere, Cheshire, ¹³⁷Cs dating confirmation by algal stratigraphy 9-12156

- Searles Lake, California, ¹⁴C and ²³⁰Th ages 9-2311

- sediments, E_p meas. reliability conditions 9-48528

- sediments, polymodal, of river-lake system, interpretation 9-25273

- shallow lake evaporation, simple model 9-39767

- stratified flow, finite element analysis, book contrib. 9-34875

- streamflow calc. from discharge vols. for winter periods 9-25285

- subglacial lake, Antarctica, radar sounding 9-29798

- Superior, organic C as nonspecific water quality indicator 9-25287

- surface films and foams, source and metal transport 9-16549

- surface reverberation, statistical props. 9-1020

- surface to bottom fronts, wind effects 9-2261

- suspended solids, anal. using Landsat multispectral data 9-16523

- Tahoe, California-Nevada, effects of coastal front on chlorophyll distrib. 9-2301

- Tanganyika, acoustic attenuation explanation 9-34851

- Val Tresa glacial lake, glaciolacustrine sediments dislocations due to Wurm glacier melting (Italian) 9-8647

- wilderness lake, Canada, hydrocarbons, detect. in water and sediment 9-12155

- wind effect eqns., finite difference schemes 9-12163

- Windermere, catchment area, dissolved Hg conc. meas. 9-24924

- ²¹⁰Pb determination in lake and marine sediments 9-48582

- ⁹⁰Sr concentration in freshwaters of USSR 9-39770

Lamb shift

- muonic atom energy levels, $\alpha^2(Z\alpha)^2$ -vacuum polarisation contrib. 9-22867

- superfluorescence quantum beats, chirping role, Lamb shift sign change 9-31474

- two-photon light shift and two-photon Lamb dips 9-36591

- $\pi\mu$ atom, energy levels, fine struct. and Lamb shift calc. (Russian) 9-31744

- A_T¹⁷⁺, Lamb shift, elec. field quenching time of flight method 9-13674

- ³⁵Cl XVI, n=2, Lamb shift, fine struct. 9-13675

- H, microwave determ. 9-45676

- H, subnatural linewidth resolution 2S_{1/2}, 2P_{1/2} level crossing, Lambshift, pulse technique 9-22669

- H, temperature-dependent Lamb shift 9-787

- H₂CO stabilised He-Xe laser, freq. stabilisation using inverted Lamb dip 9-22991

- Si¹²⁺, 1s2s³S-1s2p³P transitions 9-22632

lambda point

- see liquid helium-4; superfluidity*

laminar flow

- see also laminar to turbulent transitions*

- ablating Jovian probe heat shield, C vaporisation into nonequilib. stagnation point boundary layer 9-1264

- aerosol, in cylindrical tube, conc. distrib. of free and attached Rn and Tn decay products 9-29412

- aerosols, particle deposition from laminar flow 9-47988

- air flow over water surface instability 9-46290

- annular flow, heat transfer at entrance, finite-difference method 9-4013

- asymptotic laminar thermal convection, unified treatment (Italian) 9-18883

- boundary layer, 3-dimens., surface heat transfer and curvature effects, numerical soln. 9-1173

- boundary layer, fourth-order numerical method 9-1174

- boundary layer, local self-similarity method 9-32453

- boundary layer, optimal control, group theoretic approach 9-32452

- boundary layer, optimal control by wall suction or blowing 9-1242

laminar flow continued

boundary layer, separation in water, heating and suction, comments 9-14378
 boundary layer, solution of the Falkner-Skan equation by quasilinearization 9-1156
 boundary layer eqns. soln. by inverse series method 9-41662
 boundary layer extraction through a system of slots of finite width (*Russian*) 9-27692
 boundary layer flow with suction (blowing) and pressure gradient, finite element anal. 9-18866
 boundary layer heat transfer over rot. bodies 9-32517
 boundary layer on heated plate, numerical results 9-10545
 boundary layer on rot. sphere 9-27648
 boundary layer solns. on moving surfaces, series method 9-32455
 boundary layers, regular separation free from Goldstein singularity (*Italian*) 9-41657
 boundary-layer reattachment in supersonic flow 9-46342
 Burgers' turbulence model, uniqueness and stability 9-27693
 channel flow, heat transfer in entrance region 9-32518
 channel thermal inlet zone, heat transfer in laminar boundary layer 9-1178
 channel with mass transfer across porous walls 9-41759
 compressible boundary layer flow at stagnation pt., vectored mass transfer 9-27661
 compressible boundary layer flow at stagnation pt. 9-10583
 compressible flow through duct, numerical method 9-4030
 convection, following injection of a hot-fluid against plate 9-32502
 convection, forced, over rot. bodies with non-uniform surface temp. 9-23315
 convection, free flat plate problems, new formulation (*Italian*) 9-46302
 convection, in vertical cylinder, const. heat flux 9-46307
 convective flow over horizontal plate, laminar, wave instability 9-32499
 cylinder, circ., inclined, laminar 3-dimens. free convection, stability (*French*) 9-18884
 dibutylphthalate, supersaturated vapour, aerosol form. by mixing of flows 9-39212
 downstream development of velocity-profiles behind flat plates 9-18870
 drop in ternary mixture, laminar condensation heat and mass transfer at stagnation point 9-14227
 duct, vertical, laminar steady flow, combined forced-free convection, finite element anal. 9-27637
 duct flow, laminar, finite element methods compared to Doppler meas. 9-1253
 dusty fluid unsteady flow through long pipe with time depend. press. gradient 9-18863
 dusty viscous liquid, laminar flow through tube 9-37399
 elasticoviscous flow along plane wall with periodic suction 9-10594
 EM induction pumps, fluids, laminar flow, characts. anal. 9-32699
 film condensation inside tubes, conf., Haifa, Israel, (July 1977) 9-15683
 film condensation inside tubes, with noncondensable gas 9-14234
 flame jet, premixed, impinging on plane surface, turbulent heat transfer 9-4054
 flames, laminar diffusion flames, struct. and extinction by suppressive agents 9-32705
 flowmeter, 360 degree bend, discharge coeffs. 9-27717
 forced and free convective flow past a semi-infinite vertical plate 9-37286
 forced convection with rheological systems, review 9-1222
 free-114 boundary layer, stability, press. gradient and heating effects 9-18891
 gas flow, high-temp., heating of graphite body, numerical soln. 9-37318
 gas mixture, binary, condensation in boundary layer flow, numerical method 9-1236
 heated curved pipe laminar flow anal. 9-32674
 holonomic formulation of boundary layer eqns., use of tensors 9-1153
 hypersonic laminar heat transfer to cones at angle of attack 9-1211
 ice growth in laminar flow through a channel with two parallel flat walls 9-3908
 jet-wall boundary layer, heat transfer 9-41725
 journal bearing in rotating MHD flow, system characts. (*French*) 9-1263
 laminar compressible MHD boundary layer flow, effect on heat transfer 9-14489
 laminar liquid films, dependence of temp. variation of film substance viscosity 9-41686
 laminar steady free surface flow past a permeable bed, buoyancy effects (*German*) 9-41665
 latex suspension liquid film flow, local thickness meas. 9-4070
 linear pressure losses (*Rumanian*) 9-23298
 liquid film, falling, evaporation model 9-46305
 liquid film breakdown, numerical anal. 9-46285
 liquid film flow affected by streaming turbulent gas (*Russian*) 9-14386
 liquid metal vapour, laminar film condensation under effect of electromotive force 9-1258
 liquid metals with variable thermal cond. and capacity, forced convection 9-37310
 liquid-gas mixer, perforated disc stirring cascade type, power dissipation, mechanism and correlation 9-1238
 LMFBR wire wrap spaced rod bundles, laminar, transition, and turbulent parallel flow press. drop 9-26478
 longitudinal dispersion in saturated porous media 9-4080
 mass transfer in laminar flow between two plane parallel plates 9-37321
 mass transfer in semi-cylindrical hollows, electrochemical measurements 9-23365
 mass transfer with axial diffusion and chem. reaction 9-23376
 MHD flow with chem. reactions, solute dispersion 9-23378
 MHD pipe flow with heat transfer 9-14482
 MHD stability of laminar boundary layer flow along flat plate with transverse mag. field 9-27709
 MHD viscous laminar unsteady flow over infinite flat plate 9-37406
 micropolar fluid flow, circular cylinder asymptotic boundary layer 9-18916
 micropolar fluids, stability of laminar flows between parallel walls 9-1160
 natural convective flow through duct with restricted entry 9-14393
 Navier-Stokes eqns., spatial decay estimates, appl. to entry flow 9-14370
 non-Newtonian falling liquid films, dynamics 9-7393
 non-Newtonian fluid, laminar source flow between parallel disks 9-37363
 non-Newtonian fluid, unsteady laminar incompressible boundary layer eqns., flow, heat and mass transfer, similarity solns. 9-32590
 non-Newtonian fluid duct flow, heat transfer 9-1219

laminar flow continued

non-Newtonian laminar falling liq. films with smooth wave free gas-liq. interface, heat transfer 9-7389
 nonNewtonian duct flow, wall heat transfer in entrance region 9-4049
 nozzle, heat transfer of transonic air flow 9-1230
 numerical methods, conf., Swansea, Wales, July 1978 9-1155
 oscillatory hydromagnetic free convection flow past an infinite vertical flat plate with suction 9-32687
 parallel viscous compressible flows, linearised disturbances, asymptotic anal. 9-27618
 particle shape, in laminar flow, by optical mixing (*Russian*) 9-10619
 particles in laminar tube flow, thermophoretic deposition 9-46371
 passage, arbitrary cross-section, fully developed flow prediction method 9-1254
 periodic surge flow in circular tube, wall shear stress vel. distrib. (*German*) 9-10613
 pipe flow, laminar with nonlinear wall heat fluxes, axial cond. 9-27636
 plane jet in gas medium 9-32622
 plane laminar gas jet in infinite space, thermal characts. (*Russian*) 9-18926
 plate, vertical, heat transfer coeff., interpolating eqns. between two limiting cases 9-37309
 polyethylene oxide, dilute aq. soln., laminar viscous tube flow, scale-depend. effect 9-7367
 polyethylene soln., conc., laminar steady flow, expt. (*German*) 9-14443
 polyethylene solns., conc., viscosity, shear speed depend. (*German*) 9-27671
 polymer solution flow through porous media (*French*) 9-46376
 polymer solutions, rigid-chain, flow birefr., hydrodynamic and dynamic-optical props. 9-24286
 polymer solutions, viscoelastic, tubular entry flow, vortex characts. in stable flow 9-32428
 polymer solutions, wake, behind cylindrical body 9-37355
 porous surface, heat exchange optimal control 9-32661
 power-law fluid laminar jet flow 9-32619
 radial in fixed bed reactor, two-dimensional calc. by Runge-Kutta method 9-10546
 radiating laminar boundary flow over flat plate at large free stream Mach no. 9-1270
 recirculating flow, numerical prediction 9-1152
 rotating disc with axisymmetric surface heat source distrib., in laminar flow, heat transfer 9-46314
 shear layer on oscill. plate 9-32454
 small sphere in slow viscous flow, shear and rot. flow, forces calc. 9-37282
 sphere, transient flow, unsteady matched Stokes-Oseen soln. 9-32448
 spinning disc causing laminar and turbulent flow, mass transfer 9-41691
 stagnation point boundary layers, unsteady, three dimensional, compressible, numerical soln. 9-37335
 steady flow in tubes of slowly varying cross section 9-32680
 steady low Reynolds number flow, past circular cylinder, soln. and drag calc. 9-37287
 stellar atmospheres, free convection effects on unsteady laminar boundary-layer flow 9-35237
 straight tube, hyperbolic cross section, steady flow of incompressible viscous fluid 9-32457
 streaming, uniform, past fixed semicirc. infinite strip 9-23299
 suction effects on shock wave-boundary layer interaction, numerical Navier-Stokes soln. 9-1243
 suction or blowing flows through openings in the wall of a boundary layer (*French*) 9-18947
 supersonic corner flow, boundary region 9-32559
 supersonic corner flow, viscous-inviscid interaction 9-32563
 supersonic flow, viscous, past corner, energy eqn., asymptotic solns., heat transfer 9-32564
 surgery cell with laminar air flow (*German*) 9-16335
 swirling impinging jet, heat transfer, numerical calc. 9-1228
 three dimensional laminar flow in curved pipes, Navier-Stokes eqn. numerical soln. technique 9-10611
 tube flow, drag reducing additives and sudden enlargement of diam. 9-37397
 turbulence models for heat transfer, review 9-4017
 two dimensional recirculating flow, finite difference grid for non-rectangular flow fields 9-14374
 two-dimensional laminar flow between porous walls 9-14477
 two-phase boundary layer, successive approx. method 9-32647
 unsteady flow of an electrically conducting dusty viscous liquid through a channel 9-14484
 unsteady flow past flat plate finite difference method 9-18864
 unsteady heat transfer effect on boundary layer growth at forward stagnation point 9-10555
 unsteady laminar flow through porous media in presence of transverse mag. field 9-37394
 unsteady magnetohydrodynamic flow through a channel 9-37413
 unsteady three dims. laminar boundary layer separation, anal. 9-32451
 unsteady two-dimensional and axisymmetric compressible boundary layers 9-27616
 unsteady viscous flow near axisymmetric stagnation point on circular cylinder 9-23302
 vapour flow between parallel disks with asymmetric sublimation 9-18865
 viscous drag reduction by polymer injection at high Reynolds number (*Chinese*) 9-32582
 viscous flow, 3D, finite difference method 9-32447
 viscous flow in constricted or widened tube, analytic solns. 9-18959
 viscous fluid in channel, laminar steady forced convection flow 9-32505
 viscous fluid magnetic throughflow in slot, inertia effect 9-37418
 viscous incompressible heat generating flow past porous plate with free stream oscillations, laminar free convection 9-37312
 viscous incompressible heat generating flow past porous plate with free stream oscillations, laminar free convection 9-37311
 viscous-inviscid flow interaction method, using blowing and suction flows 9-1154
 water adjacent to vertical uniform flux surface, buoyancy driven flow, transition and transport 9-27631
 water boundary layers on heated cones, variable viscosity effect, heat transfer, shear stress 9-32520
 wire-wrapped 61-rod bundle edge subchannel flow distrib. 9-9676
 Ar ionised gas flow, quasi-steady laminar boundary layers 9-10544
 He, supercritical, laminar free convection heat transfer, analytical study 9-23311

laminar to turbulent transitions

- annulus, laminar-turbulent flow 9-32681
 axisymmetric flow stability 9-23300
 axisymmetric starting plume cap, transition from laminar flow 9-18872
 cylinder, circ., inclined, laminar 3-dimens. free convection, stability (French) 9-18884
 dissociating gas in pipe flow, heat transfer crisis, flow laminarisation 9-1265
 Hagen-Poiseuille flow, natural transition freq. 9-32459
 inclined surface, natural convection flow, transition, vortex system, meas. method 9-27632
 jet, axisymmetric, vel. distrib. and swirl effects, low speed results 9-46351
 jets, wakes, and shear layers, turbulent, power laws, rel. to marginal instability principle 9-32458
 laminar forced convection to turbulent free convection transition over heated plate 9-32516
 liquid-gas mixer, perforated disc stirring cascade type, power dissipation, mechanism and correlation 9-1238
 LMFBF wire wrap spaced rod bundles, laminar, transition, and turbulent parallel flow press. drop 9-26478
 nozzle, heat transfer of transonic air flow 9-1230
 shock wave, laminar to turbulent boundary layer transition, effect on current flow 9-41709
 slender body, axisymmetric wake, transition and instability 9-32524
 stratified gas-liq. film flow, eqns. of motion 9-37376
 velocity distribution in cylindrical pipes 9-37299
 water adjacent to vertical uniform flux surface, buoyancy driven flow, transition and transport 9-27631

laminates

- anisotropic reinforced resin laminate, cyclically reversing load, strain behaviour determ., approx. method (German) 9-5096
 bonded Al-CFRP single lap joint strength 9-29328
 composite beam, multilayered, anisotropic, exam. of shear stress distrib. under transverse loading 9-18731
 composite plates, stress/strain relation, finite element anal. 9-17219
 cylindrical ceramics-metal laminated components, X-radiography 9-5123
 cylindrical non-axisymmetric wave propagation in laminated medium, continuum theories 9-14293
 dynamic behaviour, simulation of effect of bonding materials 9-46216
 ethylene-vinyl alcohol laminated copolymer film, O₂ permeability (Japanese) 9-24824
 failure mechanics, damage development 9-43427
 fibre reinforced plastics, spread of strength rel. to stress conc. (Japanese) 9-24610
 filament wound material, lamination theory for failure envelope prediction under biaxial loading 9-38931
 glass fabric reinforced phenol resin effect of thermal loading on physico-mech. props. 9-24622
 glass fabric reinforced plastic laminate, fatigue strength rel. to test frequency 9-8362
 glass fibre reinforced epoxy, exam. of interlaminar shear stress distribution 9-43308
 glass fibre reinforced epoxy laminate, internal moisture condition effect on strength 9-15736
 glass fibre reinforced epoxy-aniline, laminate, work required to rupture along interfaces 9-43413
 glass fibre reinforced plastic laminate, mixture law of tensile and fracture strength and variation (Japanese) 9-43337
 graphite fibre reinforced epoxy laminate, containing interlaminar paper inclusions, AE monitoring 9-34229
 graphite reinforced epoxy, accelerated characterisation procedure 9-34263
 graphite reinforced epoxy angle ply laminates, statistical fatigue in shear 9-11690
 graphite reinforced epoxy laminate plates with cracks, strain and failure anal. 9-29170
 graphite reinforced epoxy laminates, cracked, deformation and failure in biaxial stress fields 9-47763
 graphite reinforced epoxy laminates, imminent fracture detection using acoustic emission 9-20302
 graphite-epoxy composites, Thorne 300/Fiberite 1034, effects of thermal spiking on moisture absorpt. characts., tensile strength and buckling modulus 9-43330
 graphite-epoxy laminates, AS/3501-5, compressive fracture strength 9-43396
 graphite/epoxy laminates, T300/5208, effect of curing stresses on first ply failure 9-43329
 heat conduction, laminated stack of metal 9-41556
 interlaminar stresses 9-10472
 microplastic strain development (Russian) 9-34102
 multilayer materials, vacuum rolling at high temp. (Russian) 9-15708
 sandwich composite beam, four point bending stress, multilayer built-up theory anal. (Japanese) 9-8322
 steel plates, plastic coated, RF welded, quality and strength (German) 9-34185
 steel pressure vessel, multilayer, without longitudinal seam, model investigation (German) 9-34276
 surface EM waves, wave phase velocity (Russian) 9-45889
 Textolite, shear strength behind the front of a plane shock wave 9-15752
 Thorne reinforced epoxy laminates, strength and biaxial stress-strain response, analytical expt. correlation 9-29131
 transverse elastic wave propag. theories, comparative study 9-14324
 viscoelasticity measurement using mech. drive viscoelastic tester (Japanese) 9-34232
 water/Al/adhesive/Al/water five layer struct., time domain anal. of US propag. 9-20319
 wave propagation in imperfectly periodic structures, random evolution approach 9-14339
 Al alloys, epoxy bonded sheet, fatigue crack initiation, propagation 9-15776
 Al/Al₂O₃ vacuum deposited laminates, struct. and mech. props. 9-28219
 Al/Cu laminates, vapour deposited, strength enhancement 9-24576
 Al-Ag, thin-layered laminates, yield strength rel. to dislocation generation and motion 9-20137
 Al-Cu, thin-layered laminates, yield strength rel. to dislocation generation and motion 9-20137
 Al-PMMA laminated composites, shock wave propag., flash radiographi obs. 9-4370

laminates continued

- B fibre reinforced Al alloy 6061, cross plied laminate, tension-compression fatigue 9-38940
 B fibre/Al laminates, use in neutron collimators 9-45506
 C fibre reinforced plastic, laminate, free-free plates, predicted and expt. natural modes 9-10520
 C fibre reinforced plastics, angle ply specimen, calc. of strength and elastic response 9-20108
 Fe-Si (3 wt.%), loss dependence on lamination, orientation and stacking (Slovak) 9-4696
 TiO₂-polycarbonate laminate, impulse surface flashover in vacuum, effect of normal elec. stress 9-4199

laminations

- transient skin effect in laminated cores with sectionally different material props. (German) 9-41280

lamp accessories

- see also lamps
 Na vapour lamp reflector design (Spanish) 9-23042

lamps

- see also discharge lamps; filament lamps; light sources
 spectral, plasma appl., using surface wave microwave excitation structures 9-19059

Landau levels

- charged particle scattering in homogeneous mag. field, transition amplitude 9-10218
 cyclotron reson. at model interface in transverse mag. field 9-4726
 electron-phonon system, two-dimensional cyclotron resonance lineshape, quantum theory 9-47336
 holes, in degenerate bands, variational principle for Landau levels, const. mag. field 9-33219
 semiconductor, diamagnetic excitons, odd states, oscillator strengths and optical absorption line positions 9-11072
 semiconductor, diamagnetic excitons in strong elec. field 9-38002
 semiconductor in quantizing mag. field, plasma surface states of electrons 9-11195
 semiconductors, weakly polar, intraband magnetoabsorption theory 9-42949
 two-dimensional, Hartree-Fock soln. of CDW in mag. field 9-28302
 n-GaAs tunable far IR Landau emission with subnanosecond rise time 9-32015
 He, liq., effect of short-wave surface excitations on damping in two-dimens. electron gas (Russian) 9-10995
 Hg_{1-x}Cd_xSe, (x=0 to 0.15), Shubnikov-de Haas oscillations, influence of level broadening 9-11155
 n-InSb, electron recombination between Landau-levels 9-38096
 n-InSb, helicon wave propag., quantum mechanical features 9-42571
 n-InSb, magnetophonon effect in non parabolic band 9-37962
 n-InSb tunable far IR Landau emission with subnanosecond rise time 9-32015
 p-ZnTe 9-43028

Landé g-factor see g-factor**Landé splitting factor** see g-factor**landing fields** see airports**Langmuir films**

- dye monolayer coating Ag film, anomalous dispersion of surface plasma oscils. 9-8203
 manganese stearate, literally two-dimensional magnet, mag. ordering, EPR 9-28597
 monomolecular layers, Langmuir-Blodgett, mol. orientation determ. by IR absorpt. 9-11423
 vinyl stearate multilayers, struct. determ. by electron diffraction 9-4469
 In, oxidised surface, bonding of Cd arachidate monolayers, XPS 9-15011
 Rh, oxidised surface, bonding of Cd arachidate monolayers, XPS 9-15011
 Si, oxidised surface, bonding of cadmium arachidate monolayers XPS 9-15011
 Sn, oxidised surface, bonding of cadmium arachidate monolayers, XPS 9-15011

Langmuir probes

- see also plasma diagnostics
 automatic recording system of probe meas. for plasma parameters (Japanese) 9-41870
 double modulation probe, current ratio optimisation 9-48576
 flow velocity measurement, in flame or collision dominated plasma 9-46475
 HF discharge, plasma density and electron temp. meas. using Langmuir probe (Russian) 9-37559
 inflection-point method of interpreting emissive probe characteristics 9-37550
 ionosphere, electron densities and temps. from Intercosmos-10 Langmuir probe expts. (German) 9-2469
 ionospheric electron temperature, cylindrical Langmuir probe technique 9-2379
 magnetic field affecting characteristics, for teachers 9-21502
 magnetosphere, lower, electron densities and temps. from Intercosmos-10 Langmuir probe expts. (German) 9-2469
 transitional characts., effect of ion distrib. and electron relaxation (Russian) 9-7486

lanthanides see rare earth metals**lanthanons** see rare earth metals**lanthanum**

- see also nuclei with
 abundance in HD 18474 giant star (Spanish) 9-25605
 adsorption on W, specific characts. (Russian) 9-1543
 atom, 4d subshell spectra, strong interaction regime 9-18165
 atom, intense 4d-f resons., cross-sections, spectra, calcs. 9-31426
 buffer action, in at. absorpt. spectrosc. of alkaline earths, mechanism (Russian) 9-29441
 determination, in Ta-Re-Y-La alloy, spectrochem. method 9-16076
 liquid, trivalent, electrical resist. 9-42514
 liquid, viscosity from 940 to 1220°C (German) 9-28123
 α-induced X-ray anal. of Y, La, Ce, Nd content of apatite minerals 9-16084
¹³⁹La, hyperfine struct. of excited odd-parity levels, laser at. beam fluorescence, obs. 9-13663

lanthanum alloys

- see also lanthanum compounds
 (Ce_{1-x}La_x)Be₁₃, mag. intermediate valence behaviour 9-24131

lanthanum alloys continued

- Cr-La-V-Nb-Ta, La, V, Nb Ta effect on hardness and strength (*Russian*) 9-34050
- Gd-La, magneto-optic reson. (*Russian*) 9-47426
- (La,Er)Al₂, cryst. field parameters, inelastic neutron scatt. study 9-23937
- (La,Gd)Al₂, very dil., resist. 9-23958
- La-Ce, Kondo system, intermediate temp. supercond. under hydrostatic press. 9-24097
- La-Ce alloy, press. induced spin glass to Kondo phase transition, resist. meas. 9-24174
- La-Gd-Au, amorphous spin glasses, mag.-cluster description 9-42776
- La-Gd(Tb,Dy,Ho,Er,Tm) alloys, FCC, supercond. transition temp. 9-4614
- La-Ni, D₂ absorption, 500-700°C 9-23736
- LaAg, press. depend. of martensitic and supercond. transition temp. 9-19681
- LaAl₂, magnetoresist. and de Haas-van Alphen effect, Fermi surface model 9-15069
- La_{100-x}Au_x, amorphous film, stability, supercond. temp. and residual resistivity 9-4636
- La₇₈Au₂₂, amorphous supercond., T_c and fluctuation cond. under high press. 9-7935
- La_{1-x}Ce_xAl₂, Kondo system, low temp. thermal expansion behaviour 9-19382
- (La_{1-x}Ce_x)Al₂, Kondo system, antiferromag., specific heat 9-24179
- La_{1-x}Ga_x foils, amorphous, splat cooled, calorimetric and resistive meas. 9-33417
- La₃In, supercond. T_c, alloying effects 9-38227
- LaNi₅, absorption of H₂, 77-300K 9-23737
- LaNi₅, aspects of electrochem. storage of H₂ 9-24917
- LaNi₅, surface segregation induced by O₂, LEED and AES exam. 9-11009
- LaNi₅+3H₂=LaNi₅H₆ reaction, absorpt. capacity and reaction kinetics 9-43626
- LaNi_{5-x}Fe_x(Cr_x), Fe and Cr electron hydride formation, X-ray and SEM obs. (*Japanese*) 9-43202
- LaNi₄In_{0.4}, H₂ absorption props., desorpt. pressure calc., and decomp. pressures 9-24827
- LaNi₄Sn_{0.4}, H₂ absorption props., desorpt. pressure calc., and decomp. pressures 9-24827
- LaPd₃, heat capacity at low temps. 9-28547
- LaRh₂Nd³⁺ cubic metallic host, spin-lattice relaxation, ESR obs. 9-1710
- LaRu₂, supercond. disappearance on H absorption 9-47185
- LaRu₂, type II supercond., ESR of Nd³⁺ meas. 9-28444
- LaSb, lattice dynamics 9-37783
- LaSn₃, dilute alloy containing light rare earth impurities, press. depend. of supercond. transition temp. 9-47184
- Ni-La ion implanted surface alloys, solid solubility and radiation-induced disorder, backscatt. obs. 9-46692
- Ta-Re-Y-La alloy, Y, La determ., spectrochem. method 9-16076

lanthanum compounds

- see also lanthanum alloys
- lanthanum bicarbamide acetate, cryst. struct. 9-19240
- phase form. and relations, phys. props. 9-43218
- PLZT, diffuse phase transitions 9-33628
- PLZT ceramics, ferroelec., special props. 9-42916
- silicides, valence band struct. (*Russian*) 9-15076
- BaZrO₃-LaAlO₃ systems, sintering conditions, elec. props. 9-43184
- CaLaBO₄, crystallographic and Pb²⁺ luminesc. data 9-32971
- Ca₂La₂(SiO₄)₂O₇, cation ordering, X-ray diff. meas. 9-23577
- Ca₂TiO₃-La₂AlO₃, synthesis of solid solution by coprecipitation 9-1836
- Ce-La_{2-x}Mg₂(NO₃)₁₂·24H₂O, magnetically diluted thermometer 9-17420
- Co₂La₂O₃, ceramic, thermal stability, sintering, deform., effect of La₂O₃ 9-11532
- HfO₂-La₂O₃ system, phase form. and relations, phys. props. 9-43218
- K₂CrO₄+La₂(NO₃)₃, X-ray phase analysis, IR absorption spectra, and thermogravimetric anal. 9-1944
- (K_{0.5}La_{0.5})Ba_{1-x}TiO₃, cryst. struct., dielec. and IR spectral meas. 9-46614
- La-Si-O-N system, new compound form. with fluorapatite struct. 9-4941
- LaAlO₃, perovskite electrolytes for high-temp. fuel cells 9-29467
- LaB₆, collector for low temp. thermionic converter 9-27842
- LaB₆, elec. cond. under hydrostatic press. 9-7832
- LaB₆ electrodeposition, cathodic behaviour 9-20378
- LaB₆ electron gun source, grid aperture contamination, emission instability 9-12907
- LaB₆ electronic structure calc. and obs., by APW method and X-ray photoelectron spectroscopy (*Japanese*) 9-15074
- LaB₆, porous, field emitter cathode sputtering and surface damage 9-11492
- LaB₆-SmB₆(YbB₆), exam. of secondary ion-ion emission, due to bombardment with 8 keV Ar ions 9-33882
- LaBO₃, flux growth 9-38732
- LaBi, thermal expansion, 20-800°C 9-14942
- LaBr₃U³⁺, luminesc., fluoresc. lifetimes 9-33768
- LaC₂, high-temperature carbide targets for fast on-line mass separation of alkali and noble gas elements 9-22515
- LaCl-Pr(Dy)(Sm), mech. for X-ray luminesc. and thermolum. 9-8170
- LaCl₃, Raman intensity anal. 9-33710
- LaCoO₃, ⁵⁹Co NMR, quadrupolar and hyperfine interactions 9-15366
- LaCrO₃, single cryst. X-ray diff. struct. determ. (*French*) 9-23581
- LaF₃, mol. force, compliance and Coriolis consts. 9-31726
- LaF₃Dy³⁺, laser excited fluoresc., lifetimes meas. 9-24353
- LaF₃Dy³⁺, magnetospectroscopy with optically pumped far IR laser 9-33737
- LaF₃Er³⁺, spin-lattice relax. meas. in excited ⁴S_{3/2} state by purely optical method 9-19923
- LaF₃Ho³⁺, single crystals, multiphonon relax., fluoresc. obs. 9-47495
- LaF₃Nd³⁺, radiative transition rates of Nd³⁺, Judd-Ofelt theory 9-33753
- LaF₃Pr³⁺, 2K, optically detected coherent transients in nuclear hyperfine levels 9-19806
- LaF₃Pr³⁺, anomalous luminesc. decay, phonon reson. trapping and bottlenecking 9-43023
- LaF₃Pr³⁺, optical free induction decay meas. of low temp. dephasing 9-46009
- LaF₃Pr³⁺, pseudo-Stark effect meas. using population hole burning and optical free-induction decay 9-24292

lanthanum compounds continued

- LaF₃-La(OH)₃, high pressure phases, X-ray diff. and IR spectroscopic anal. 9-47679
- LaFeO₃, doped, effect of doping on hyperfine fields, supertransfer model 9-47057
- LaFe₂O₉, high field Mossbauer effect on ⁵⁷Fe at room temp. and 4.2K 9-24238
- La_{1-x}Gd_xMo₆Se₈, supercond. transition temp., upper critical field, local spin fluctuations 9-38250
- 3La(IO₃)₃·HIO₃·7H₂O, pyroelec., cryst. struct. 9-1410
- 3La(IO₃)₃·HIO₃·7H₂O, pyroelec. p₃ and piezoelec. d₃₃ coeffs. 9-19840
- LaInS₆, cryst. struct., four-circle diffractometer data and Fourier synthesis determ. (*French*) 9-14739
- La₂Mg₃(NO₃)₁₂·24D₂O, use of neutron time-of-flight technique for cryst. structs. investigation 9-19126
- LaN-RN systems, (R=Ce,Nd,Gd), mutual solubilities (*German*) 9-19374
- LaNbO₄, ferroelastic, cryst. struct. and twinning struct. 9-27965
- LaNi₅D₆, cryst. struct., neutron diff. obs. 9-19221
- LaNi_{1-x}Fe_xO₃, mag. props., 7 to 300K 9-4648
- LaO, absorption spectra, in flame, optogalvanic spectrosc. obs. 9-18202
- LaO, spectral intensity of B^{2Σ}-X^{2Σ} bands, Rydberg-Klein-Rees pot. 9-31611
- La₂O₃, activator in Na₂O-B₂O₃-SiO₂ glass, exam. of distribution by absorption study 9-4832
- La₂O₃Mn²⁺, position and intensity of forbidden hyperfine lines, ESR spectra 9-19775
- La₂O₃-Al₂O₃ system, alumina rich phase, X-ray obs. 9-29030
- La₂O₃-SiO₂ glass synthesis by hot pressing of gels 9-15637
- LaOF, features of formation of band structure 9-33232
- La(OH)₃, mol., XPS, satellite phenomena 9-27035
- La₂O₃Sr²⁺, luminesc., excitation spectra, cooperative phonon sidebands 9-33771
- La₂O₃Sr²⁺Tb, cathodoluminesc., nonlinear depend. on activator concs. 9-8190
- La₂O₃Sr²⁺Yb³⁺, charge transfer type luminesc. 9-33797
- LaPO₄Yb³⁺, charge transfer type luminesc. 9-33797
- LaP₂O₁₄, ferroelastic phase transition, thermal expansion and elastic consts. tensors 9-42236
- La₂Re₂O₁₈, X-ray cryst. struct. determ. Patterson and Fourier methods (*French*) 9-14745
- LaRu₂B₄, X-ray cryst. struct. determ. 9-32959
- LaS, heat carrier scatt., thermal and elec. cond. from 5-400K 9-14974
- La₂(SO₄)₃·9H₂O, and isotopic forms, water librations, Raman obs. (*French*) 9-28754
- La₂Sm_{1-x}B₆ solid solns., mag. susceptibility meas. (*Russian*) 9-28501
- La_{0.9}Sr_{0.1}CoO₃, semicond. oxide O₂ electrode characts. 9-24073
- La_{1-x}Sr_xCoO₃ (0.5≤x≤1.0), mag. props. 9-24154
- La_{1-x}M_xO₃ (where M=Cr or Fe), solid solns., elec. and mag. props 9-23667
- LaVO₄, electron energy loss spectra, primary excitation processes in cathodolum. 9-11490
- La₂Y_{3-x}Ga_xFe_{3-y}O₁₂, solubility model in PbO/B₂O soln. 9-46807
- Li-La_{1-x}Nd_x phosphate glasses, stimulated emission spectroscopy of ⁴F_{3/2} to ⁴I_{11/2} and ⁴F_{3/2} to ⁴I_{13/2} transitions 9-38573
- (Li_{0.5}La_{0.5})Ba_{1-x}TiO₃, cryst. struct., dielec. and IR spectral meas. 9-46614
- Na₂La_{1-x}B₆, electrodeposition 9-47643
- NdLaP₂O₁₄, large crystal growth technique (*Chinese*) 9-24418
- NdLa_{1-x}P_xO₁₄, laser properties 9-22957
- PLZT ceramic, transverse electro-optical effect, matrix-addressable transparency 9-27431
- PLZT ceramic with memory, domain reorientation, alternating elec. field effect 9-47405
- PLZT ceramics, electro-optical props. (*Korean*) 9-11406
- PLZT ceramics, electro-optic; defect struct. and prop. 9-42910
- PLZT ceramics, photoferroelectric image storage in antiferroelectric phase 9-47404
- PLZT ceramics, photoferroelectric effects, image storage device appl. 9-42924
- PLZT ceramics, SHG, anomalous phase transition 9-45996
- PLZT ceramics, stress-induced ferroelec. transition, pseudoelasticity and shape memory, bending meas. 9-24274
- PLZT ceramics, transparent ferroelec., photorefraction and photocond. study 9-42581
- PLZT composition, effect on its switching characts. 9-42917
- PLZT, exam. of grain growth in hot pressing, and liquid phase sintering 9-33981
- PLZT ferroelec. ceramics, piezoelec. props. 9-42897
- PLZT ferroelectric display electro-optical props. (*Russian*) 9-9211
- PLZT, fine grained 90° electric domain wall movement, interpretation of dielectric losses (*German*) 9-33646
- PLZT, prep. by liquid phase sintering of oxides 9-38778
- PLZT real time 2 colour incoherent to coherent image converter 9-3805
- PLZT, reduced, exam. of ageing phenomena, using dielectric hysteresis (*German*) 9-33647
- PLZT, Sn substituted, antiferroelectric ceramics research and their applications (*Chinese*) 9-33617
- PLZT, thin film epitaxial growth and characteris. 9-28918
- PLZT, transparent, optical exam. of small signal behaviour, of 90° electric domain walls (*German*) 9-33645
- PLZT, transparent ferroelectric, ceramics obtained by hot pressing, optimum conditions (*German*) 9-43176
- PLZT type ceramics, calorimetric meas. of energy of electrical polarisation 9-2770
- (PLZT)(PLZN) system, ferroelec. transparent, prep. and study 9-42911
- Pb_{1-x}La_xTiO_{3+1.5-2x}, permittivity as function of temp. 9-33586
- SiO₂-CaO-Na₂O-La₂O₃ system, water, alkali, acid resist., chem. durability 9-34162
- SrLaBO₄, crystallographic and Pb²⁺ luminesc. data 9-32971
- SrLaCrO₄, mag. struct. determ. by neutron diff. (*French*) 9-28507

Laplace transforms

- aerosols, asymmetric deposition motion in circ. tube, anal. by Laplace transform methods (*Chinese*) 9-37379
- beam, homogeneous, initial boundary value problem of transverse vibr. 9-41601
- biological model mathematically exact soln. (*German*) 9-1991
- Cauchy problem, linear eqns. with const. coeffs., absolute instability, 3-dimens. 9-12622

Laplace transforms continued

- electric field between conical electrode with hyperboloid end and earthed plate, mathematical formulation (*Czech*) 9-27125
 EM quasistationary time-varying field, diffusion into spherical shell 9-13870
 ferroelectric ceramics, 1-D linear dynamic electromechanical responses 9-47397
 finite decomposition of $\text{tr } e^{-A}$ as function of diagonal of A determ. from Laplace transform (*French*) 9-25824
 fluidised glass ballotini-packed fixed bed, at low/intermediate Reynolds nos. 9-1244
 heat conduction, elliptic cylinder, interior value problem 9-37123
 Lie theory and wave eqn. in space-time, $\text{SO}(4, \mathbb{C})$ group 9-12968
 nonlinear oscillators, Brownian motion, projection operator method, double well potential oscillator appl. 9-2723
 porous elastic half space, Lamb's line load problem 9-30248
 radiative transfer, exact soln. of diffuse refl. and transmission problem in Rayleigh scatt. 9-35116
 radiative transfer eqn. exact soln. for semiinfinite plane-parallel isotropic scatt. atm. 9-12396
 radiative transfer H-function, expression using Laplace transform and Wiener-Hopf technique 9-35111
 radiative transfer in semi-infinite Rayleigh scattering atmosphere, exact soln. 9-35112
 Rayleigh scattering transport eqn. exact soln. by Laplace transform and Wiener-Hopf technique 9-8827
 real variable inversion, plasma physics application, for teachers 9-21496
 skin impedance, Laplace plane anal. 9-39458
 tensor spherical harmonics on S^2 and S^3 as eigenvalue problems 9-17324
 two-photon spectroscopy, Laplace transform method 9-10084
 viscoelastic liquid, pulsatile flow in elliptic cross-section channel 9-7392
 viscoelasticity problems, direct soln. method 9-17228
 weighted residual classification of approximate methods 9-10540

large scale integration

- digital Josephson technology—present and future 9-28472
 digital thermometer, using LSI ADC 9-44907
 failure analysis, wafer defect classification using modified scanning electron microscope 9-1876
 radiation damage in oxide layers due to ion processing techniques 9-24088

laser accessories

- α -crystal quartz as IR dichroic laser mirror 9-36908
 acousto-optic isolator for stabilisation of optically pumped submm. lasers 9-31918
 acousto-optic modulator, pumping laser modulation for CW dye laser mode-locking 9-18456
 acousto-optic modulator for CO_2 laser beams and detect. using W-Ni point contact diode 9-3730
 acousto-optic Q-switches for Nd:YAG lasers 9-7166
 acousto-optical modulator, for intracavity laser intensity modulation, 0.01 Hz to 12. GHz 9-41400
 adiabatic laser calorimeter design for window and mirror evaluation 9-13971
 alkali halides, behaviour as materials for optical components (*Rumanian*) 9-18462
 amplifier gain computing, program for programmable calculator 9-18442
 automated gain measurement system for high-energy chemical lasers 9-36914
 avalanche transistor switchout, high performance, for external pulse selection at 1.06 μm 9-7158
 axial mode selector for laser with active Q-switching 9-13996
 beam expanding telescope, on-axis reflective, for pulsed dye laser cavities 9-41398
 beam splitters, variable ratio, for high energy glass laser systems 9-45952
 brightening filter for solid laser, ultrashort light pulse optimum generation 9-36903
 calorimetric energy meters, KDM and BKDM, for pulsed laser radiation 9-17494
 calorimetric energy meters, KDS and BKD, for high-power laser pulses 9-17496
 capacitor modification for Schenck-Metcalf N_2 laser 9-18439
 chalcogenide glass Z 9-14063
 coated optical component, damage resist, for pulsed CO_2 laser 9-45989
 coating damage thresholds in CO_2 laser systems 9-14006
 cooling system, low temp. ruby laser with optical delay line inside resonator 9-36922
 cratings, $\text{SiO}_2\text{-TiO}_2$, for Shiva laser optics 9-7135
 damage in optical materials, conference, Boulder, USA (Oct. 1977) 9-14048
 damaged laser mirror reuse using simple mirror holder 9-36910
 deformable mirror high-reflectance dielectric coatings 9-14085
 dye cell, contacted mode-locking, for use with Nd^{3+} :glass laser 9-18454
 dynamic power supplies for TEA lasers 9-7136
 electro-optical Q-switch for pulse-periodic Nd^{3+} :YAG laser 9-45975
 electron accelerator, high-current pulsed, for compressed gas laser pumping 9-692
 electron beam sources for pulsed lasers 9-36913
 electron gun, glow discharge cold-cathode, for pulsed ionisation of high-pressure CO_2 laser 9-27269
 electrooptic shutter, passive switching to produce ruby laser picosecond pulse generation 9-36942
 Fabry Perot wide-band electrooptic type modulator, modulation sensitivity 9-3724
 far IR laser output detection by MOM point-contact diodes (*Japanese*) 9-21811
 Faraday effect for laser output power external stabilisation, control unit design (*German*) 9-18455
 Faraday filter, freq. locking of CW dye laser to Ne absorpt. lines 9-22989
 flash lamp, 1 kJ per pulse, for tunable organic-dye laser 9-36907
 flashlamp pumped thyratron switched reliable dye laser 9-31930
 flashlamp technology for pulsed lasers, design requirements 9-36912
 frequency-locking system for wide-band tunable laser 9-18432
 fusion research lasers, advanced components and systems for beam lines 9-18466
 grazing incidence grating efficiencies, rel. to dye laser tuning 9-36990
 high reflectivity surfaces for high energy laser appl., sputter deposition of Cu and Ag 9-47181
 HV pulser for discharge into CS_2 laser cavity, with triggered spark gap 9-13973

laser accessories continued

- intensity stabiliser, using variable transmission element 9-36905
 intermetallic coatings, possible use in power optics elements 9-14084
 IR coating for high energy laser reflector and window 9-45951
 IR laser window material extrinsic absorption 9-14049
 IR laser window material refractive props., temp. depend. 9-14052
 Kerr shutters, for Q-switching and radiation pulse shaping in Nd-glass lasers 9-3729
 large optical components for high-power lasers, refl. and transmission meas. 9-44927
 lens, high aperture, for laser plasma compression expt. 9-14076
 liquid Kerr cell, pulse compression inside actively AM mode-locked Nd:YAG laser 9-22990
 metal and alloy surfaces, highly reflecting, pulsed laser stress phenomena 9-14015
 metal mirrors for high power appls., multithreshold damage analysis 9-980
 metal optics, diamond turned, book contrib. 9-32104
 minicomputer-controlled diagnostic and display system for high-energy lasers 9-36915
 mirror, off-axis parabolic, for laser fusion expt., fabrication process 9-23103
 mirror and window absorption, reflection and transmission obs. at 10.6 μm 9-14014
 mirror for semiconductor laser output stabilisation 9-45954
 modulator using acoustic Fabry-Perot resonator, for gas laser mode locked operation 9-45976
 multichannel surface spark gaps 9-18436
 multichannel system, MIK-48, for laser pulse energy meas. 9-17497
 multichannel system, MIS-20, for laser pulse energy recording 9-17495
 multilayer dielectric enhanced mirrors for 2 to 6 μm 9-14086
 optical coating abrasion resistance characterisation test 9-14129
 optical coating adhesion characterisation pull-off tests 9-14128
 optical coatings, conf., Washington, USA (March 1978) 9-46028
 optical filters, nonlinear distortion of laser beams 9-7170
 optoacoustic power monitors for laser radiation 9-41404
 organic dye attachment for wavelength conversion of pulsed solid state and gas lasers 9-7147
 photographic semiconducting device, for high-speed CO_2 laser output meas. 9-14008
 piezoceramic transducer for laser freq. stabilisation, freq. response (*Russian*) 9-10315
 PIR-1 instrument for laser radiation divergence meas. 9-23001
 plasma isolator for retropulse in CO_2 laser amplifier chain 9-22959
 Pockels cell drive pulser in multiarm laser 9-14001
 polarisation beam splitters for F II-centre laser pumping 9-45960
 polarisation rotator, broad band, for high power appls. in IR 9-981
 polariser, thin film, design and fabrication 9-37010
 power supply circuit, N_2 laser discharge dynamic characts. 9-18446
 power supply for He-Ne laser 9-36906
 prism anamorphic system, for Gaussian beam expander 9-3716
 pulse energy digital indicator (*Russian*) 9-22995
 pulse generator for heterojunction laser (*Polish*) 9-3701
 pulse power requirements for laser isotope separation 9-13972
 pulsed laser energy measurement system and calibration facility 9-27301
 quadraaxial high repetition rate adapter for coaxial flashlamp pumping of laser dyes 9-45949
 sapphire, fabrication of optics 9-23099
 self-adjusting laser-target system for laser fusion 9-14024
 stabilisation of output power using acousto-optical method (*Polish*) 9-13994
 steel, stainless, mirror acted on by laser radiation, reflectivity meas. 9-10342
 stimulated Brillouin scattering mirror, wave-front inversion of laser output 9-14038
 surface irregularity statistics for laser component materials 9-14057
 temperature-compensating drive circuit using Si bipolar transistor, for injection lasers used in optical communications 9-45971
 three mirror HF laser modulator 9-3728
 thyratron pulser, high-power, HF, for photo-impulse ionised lasers 9-18444
 thyratrons for short pulse laser circuits 9-18437
 thyratron oscillator for injection laser pumping 9-13982
 two-mirror laser beam steerer-expander design 9-18460
 UV laser window material absorption obs. 9-14012
 vacuum UV coating technology 9-46030
 variable attenuator for Gaussian laser beams 9-22987
 vidicon, Si target, and minicomputer system, for laser intensity profiles meas. 9-27267
 wavelength meter, compact static, based on Fizeau interferometer, for pulsed and CW lasers 9-36947
 wavemeter for CW lasers 9-26112
 window and rod critical orientations for stress-induced depolarisation elimination 9-14054
 window degradation interactions and impurity clustering effects 9-14050
 window materials, pulsed HF-DF laser damage 9-14011
 AlAs-GaAs three-layer heterostruct. spectrum convertor, in Nd:YAG laser pumping system 9-27272
 BaF_2 purification for laser components, selective ion filter design and construction 9-14051
 CaF_2 laser window surface O_2 detection by X-ray photoelectron spectroscopy 9-14056
 CdHgTe detectors for CO_2 laser appls. 9-40615
¹³³Cs vapour external selective mirror for semiconductor laser 9-45961
 Cu film self-generation on Cu doped glass ceramics, for low-expansion IR laser mirrors 9-14127
 Cu mirror, single-point diamond-turned, evaluation for 8-beam CO_2 laser, Helios 9-23044
 n-GaP low absorption monitors for HF laser 9-31964
 Ge optical switch, picosecond pulse generation at 10.6 μm 9-7159
 I switch, active modulation of transmission based on Zeeman effect 9-22994
 KBr purification for laser components, selective ion filter design and construction 9-14051
 KCl, doped, saturable absorber for CO_2 laser 9-10363
 KCl:Eu IR laser window lattice equilibrium obs. 9-14055
 NH_3 incavity cell, technique for obtaining CW CO_2 sequence laser lines 9-18438
 Ni complex soln., BDN II, saturable absorber for 1.315 μm laser 9-27297
 SrF_2 purification for laser components, selective ion filter design and construction 9-14051

laser accessories continued

- TiO₂-SiO₂, multilayer dielec. mirrors, laser-induced damage resist. 9-10335
 Xe flashlamps with interf. coatings, laser pumping efficiency improvement 9-10316
 ZnSe, IR laser window coating absorption rel. to deposition conditions 9-14061
 ZnSe, RF bias-sputtered CVD films on CaF₂ 9-14060

laser beam applications

- see also *holography; integrated optics; laser beam machining; laser beam welding; laser isotope separation; matrix isolation spectroscopy; measurement by laser beam; modulation spectroscopy; optical communication; optical radar; patient treatment; plasma production and heating by laser beam; Raman spectra; Raman spectroscopy; remote sensing by laser beam; spectroscopy; surgery; two-photon spectroscopy*
 acoustic microscope, using scanning laser beam 9-7263
 atmospheric constituents, detection by laser beam, review (French) 9-34952
 atmospheric scatter channel for ELOS optical communications system 9-29862
 atom detection technique 9-26950
 atomic beam, focused with laser beam, Na beam and dipole forces 9-7066
 blood vessel photocoagulation 9-39467
 cellular microsurgery, microscope vertical illuminator adaptation by laser microbeam 9-20727
 chemical spectroscopy and dynamics, higher-order susceptibility effects 9-40625
 clinical surgery appls., advantages 9-34704
 colour image scanner, using one-colour laser and modified γ-Ruticon image buffer 9-27373
 communication system, using US light modulator, for teachers 9-40321
 communication systems, transmission of information in the optical waveband, book 9-3645
 computer output to microfilm, using laser imaging dry process development film (German) 9-2523
 conference, lasers and their appls., Dresden, East Germany (Mar.-Apr. 1977) 9-7137
 dermatological high-intensity laser therapy (German) 9-2117
 drop size time variation meas., in aerosol continuum and non-continuum evap. 9-43639
 dye laser induced photochemistry 9-39182
 endoscopic photocoagulation of bleeding lesions, using Ar laser (French) 9-34627
 engraving unit, direct dry preparation of offset printing plates 9-18434
 eye tissue coagulation, OK-2 laser ophthalmocoagulator 9-11991
 fibre optic laser gyro signal detection and processing technique 9-37037
 fibre optics in medicine, diagnostic and therapeutic appls. 9-39466
 film deposition, evaporation of chem. element films with Nd:glass laser 9-47633
 film deposition with periodically pulsed CO₂ laser, film characts. 9-28926
 flame, OH concentration measurement, local and instantaneous, by laser induced fluoresc. obs. (French) 9-15999
 fog hole boring with pulsed high-energy lasers 9-16662
 Freon, photochemical ¹³C and ³⁵Cl isotope enrichment using CO₂ laser pulses 9-36787
 fusion reactor ignition (French) 9-41037
 gas cooling method, laser pumping followed by reradiation at higher freq. transitions 9-827
 gas ionisation path formation by laser beam with retractable focus 9-18992
 Glissada laser landing system 9-31920
 gyroscope, accuracy limit (Russian) 9-10343
 gyroscope, operation principle 9-23007
 gyroscope, structure and basic characts. 9-23006
 gyroscope applications 9-23008
 head surgery, possible Ar laser appl. 9-8529
 high speed framing photography (Japanese) 9-2847
 interstellar rocket, laser powered, mass ratio and instantaneous efficiency 9-21134
 jet engine, air-breathing 9-7172
 laser chemistry, conf., Pasadena, USA, (March 1978) 9-39181
 laser location for cosmic space appl. (Polish) 9-27311
 laser Raman spectrometer, Chinese WFL model design (Chinese) 9-30573
 laser-induced optical activity, QED theory of multiphoton processes 9-31794
 laser-plasma source, for pulsed X-ray lithography 9-30636
 liquid mixtures, thin layer separation by laser heating 9-29404
 materials processing with CO₂ laser holographic scanner systems 9-18367
 materials testing, generation of stress waves for determination of elastic consts. 9-20309
 medicine and surgery, review (French) 9-34626
 microprobe analysis, crater formation, gas medium effects (Russian) 9-18428
 microprobe analysis, impulse synchronous discharge effects, water formation (Russian) 9-18429
 microprobe mass analyser, development for biological specimens 9-17554
 microscope, scanning, high resolution and depth of field 9-26118
 molecular gas orientation by reson. radiation, optical detect., laser spectroscopy appl. 9-27742
 nematic liquid crystal, viscoelastic properties, spectral noise intensity of scattered laser light obs. 9-23522
 nonlinear optics, 1978 state of art and appl. (Czech) 9-18468
 nuclear fusion using H-B reaction, research in Australia 9-3234
 nuclear reactors, laser-fission-fusion systems coupled nuclear-thermohydrodynamic anal. 9-13520
 oceanology, lidar techniques (Russian) 9-39975
 optical frequency standard, highly stable, utilising an atomic beam 9-35685
 optical frequency standards, use of lasers (Chinese) 9-173
 optical levitation of dielec. or metallic spheres, by TEM₀₁ mode laser beam 9-983
 optical transmission devices, including laser optical modulators and solid-state techniques (Spanish) 9-23079
 optical video disc, acoustooptic travelling wave transcription signal recording 9-36986
 phase-nulling fibre optical laser gyro 9-36949
 Philips video long play system, bi-aspherical objective lens 9-46026

laser beam applications continued

- photochemistry, and nuclear wastes processing appl. 9-31719
 photographic materials, automatic inspection by IR laser beam 9-30593
 piezoelectric surface excitation by far IR laser beam 9-46906
 polarised nuclear beam production by reson. at. ionis. 9-13576
 pollution detection, atmospheric, comparison with other optical methods (Czech) 9-21001
 pulsed US field display by laser (Chinese) 9-32158
 rocket engine, laser evaporated target, nozzle for impulse augmentation 9-23439
 Sagnac fibre-ring interferometer gyro with electronic phase sensing 9-17472
 saturation spectroscopy, beam profile effect, appl. to species conc. determ. in flame 9-29425
 scanning device, distortion correction using parabolic mirror 9-7171
 scanning optical microscope 9-9242
 semiconductor devices, resistivity and lifetime inhomogeneities, laser scanning method detect. 9-30489
 semiconductor-metal system, light sensitivity for high exposure densities (Russian) 9-6212
 spectroscopy, appls., conf., Graz, Austria, (Jun. 1978) 9-26137
 stratospheric imaging of profiles with laser light, surface tension measurement 9-2845
 structural material hardening by laser irradiation (Russian) 9-15851
 thin-film laser logic elements, characts. and limiting capability optimisation (Russian) 9-18431
 troposphere, O₃ distrib. meas. with airborne laser absorpt. spectrometer 9-2344
 Al-As₂Se₃-Al, photographic process based on electrochem. reactions (Russian) 9-6213
 H⁺ beam, control using laser radiation 9-27112
 Mo film, constrained, 20 MHz thermoelastic wave generation 9-47880
 Na, laser orientated vapour, rotary power determ. 9-32737
 Si:B, P, high temp. diffusion, effects of laser irradiation on diffused layer 9-14834
 SiO₂-Ta₂O₅ film channel optical waveguide, fabrication using CO₂ laser 9-27386
 Zn/ZnSO₄/Zn system, laser interferometric study of corrosion of coated and uncoated metals, technique standardisation 9-35815
- laser beam effects**
 see also *plasma-beam interactions; plasma production and heating by laser beam*
 adatom laser stimulated migration and multiphoton excitation, relax. and reaction enhancement 9-39200
 alkali halide, avalanche impact ionisation, in optical breakdown 9-42895
 alkali halides, behaviour as materials for optical components, for high power lasers (Rumanian) 9-18462
 alkali halides, cryst., optical emission following pulsed 10.6 μ irradiation 9-28847
 alkali halides, laser induced damage (Russian) 9-43070
 alkali metal halide optical breakdown, multiphoton carrier generation theory 9-19953
 atomic motion in resonant EM wave, two-level atom 9-18155
 biological tissue, temp. distrib. with laser irradiation, thermodynamic analysis 9-29562
 brightening of disperse media, role of laser fluctuations 9-41405
 carbon tetrachloride, supersaturated vapour, photonucleation 9-7682
 cell functional activity regulation, human 9-43957
 cloud medium evaporation by CO₂ laser radiation, self-focusing possibility 9-27306
 coal, laser pyrolysis in He or H₂, products exam. 9-20356
 coated optical component, damage resist. for pulsed CO₂ laser 9-45989
 coating damage thresholds in CO₂ laser systems 9-14006
 cooled laser mirror construction, possible use of open pore structures 9-31952
 corneal epithelium, predictive equation for IR laser damage 9-25031
 corneal temperatures, normal and laser injured rabbits 9-11919
 crystal electronic spectrum, EM wave influence 9-33218
 damage history of Argus 4 TW Nd laser system 9-18463
 damage in optical materials, conference, Boulder, USA (Oct. 1977) 9-14048
 damage threshold meas., statistical methods 9-18464
 desorption, laser induced, appl. to adsorbed CO and H₂ layers on Ni surface 9-1548
 dielectric, transparent, laser-induced damage, role of absorbing microinclusions, passive methods 9-31969
 dielectric coated mirrors, large-spot DF laser damage obs. 9-14022
 drop fragmentation 9-7169
 electron-atom resonance scattering in laser field 9-859
 eye, human, max. permissible exposure to 1.54 μm laser radiation 9-11966
 eye lens fibre damage, rat 9-39374
 eye maximum permissible exposure to 1.06 μm-picosecond laser pulses 9-25033
 film, laser-damage thresholds, meas. and identification 9-45988
 film deposition, evaporation of chem. element films with Nd:glass laser 9-47633
 flame, ruby laser-induced gas breakdown thresholds 9-1951
 flare image danger reduction in laser focusing objectives 9-22997
 floating optoacoustic antenna, statistical characteristics 9-27485
 glass cutting technology using CO₂ laser, damage effects 9-7173
 glass surface roughness effect on 1064 nm 150 ps laser pulse damage 9-14013
 graphite, laser pyrolysis in He or H₂, products exam. 9-20356
 graphite surface, laser-induced impulse 9-43071
 gratings, laser-induced, method for study of optically excited solids, forced light scatt. 9-41408
 health hazards calc., for various viewing conditions 9-39447
 heavy hydrocarbons, surface transient deformation by laser-induced thermocapillarity 9-33157
 heterogeneous medium, laser irradiation, prebreakdown stage evaporation (Russian) 9-24393
 highly absorbing media melting by laser radiation, liq.-phase surface shape 9-28082
 IR optics elements, breakdown dynamics near surface in gaseous media 9-45986
 liquid drop cloud medium dissipation by CO₂ laser radiation 9-39858
 liquid mixtures, decomposition into components by thermal action of continuous laser irradiation 9-19362

laser beam effects continued

macromolecular solutions, orient. in laser beam elec. field, anisotropic light scatt. 9-1768
 metal and alloy surfaces, highly reflecting, pulsed laser stress phenomena 9-14015
 metal mirrors for high power appls., multithreshold damage analysis 9-980
 metal vaporisation by laser irradi., effect of plasma 9-1800
 metals and alloys, laser erosion, influence of metallic target temp. (*Russian*) 9-39028
 microprobe analysis, crater formation, gas medium effects (*Russian*) 9-18428
 microprobe analysis, impulse synchronous discharge effects, water formation (*Russian*) 9-18429
 mirror surface, high power optical damage threshold elevation by hypervapotron cooling 9-23002
 multilayer 532/1064 nm laser reflector damage resistance improvement by non- $\lambda/4$ design 9-14019
 multilayer film, intrinsic and thermal stress modelling and interferometry 9-14059
 nonlinear crystals, water soluble, characts. of laser pulse damage 9-45987
 ocular hazard of short pulse Ar laser irradiation, primates 9-25030
 optical coatings, conf., Washington, USA (March 1978) 9-46028
 optical material radiation strength, dissipative characteristic 9-27344
 optical materials, laser induced breakdown, breakdown thresholds and multiphoton absorpt. coeffs. 9-3735
 photoabsorptive convection, steady states in field of continuous laser radiation 9-14212
 photographic emulsions used in optical correlators, laser damage 9-27303
 photographic films, Kalvar and Polaroid, damage threshold variation with spot size at 10.6 μ m 9-36945
 photosynthetic membranes, anal. of laser-induced fluorescence with Pauli master eqn. 9-39350
 polyethylene, laser irradi. chem. and struct. modifications (*Russian*) 9-27931
 polymethine dye solutions, brightening depend. on laser pulse length 9-41425
 polystyrene, laser irradi. chem. and struct. modifications (*Russian*) 9-27931
 polyvinyl alcohol, laser irradi. chem. and struct. modifications (*Russian*) 9-27931
 polyvinylidene fluoride films, 200 ps laser pulse heating, pyroelectricity meas. 9-4768
 pulsed laser damage to optical surfaces, multithreshold analysis 9-18465
 pulsed pressure on targets, measurement using optical pressure-sensing element based on interferometer 9-35771
 Pyroceram, enhanced failure by combined pulse and CW laser 9-29182
 retinal damage from suprathreshold Q-switch laser exposure 9-5274
 retinal photocoagulation by laser beam, temp. and bleaching dynamic meas. (*German*) 9-2098
 safety, basic classification concepts 9-39524
 safety eyewear, filter glasses 9-39525
 semiconductor, optical props. under intense laser field 9-43040
 semiconductor films, structure, influence of laser beam 9-7761
 semiconductor laser damage, role of carrier diffusion 9-19954
 shells, creation of finite perturbations by use of laser beam 9-18849
 shells, cylindrical, subjected to localised perturbations, equilib., states 9-18850
 solid targets in Ar atom., laser radiation effects, plasma cloud form. 9-11488
 solid transparent dielectric, surface damage caused by laser radiation 9-31968
 sound generation in liquid, effect of harmonic variation of modulation freq. 9-19321
 spark in focused laser beam, and continuous optical discharge, numerical study 9-14632
 steel, hardness, effect of laser irradi. in inert gas atm. (*Russian*) 9-38935
 steel, high speed tool, laser surface melting 9-24654
 steel, medium C, type 35 laser treatment effect on struct. and mech. props. 9-39041
 surface evaporation spectral-line absorption 9-19951
 thin film waveguides, optical damage thresholds 9-46033
 tissue, temp. distrib. during laser irradiation 9-39449
 tissue heating temp. profile and scatt. determ. (*German*) 9-2099
 transparent dielectric, enhanced localised intensities in surface scratches rel. to laser damage 9-22999
 transparent dielectric, laser-induced damage by thermal explosion of absorbing inhomogeneities 9-10340
 transparent dielectrics, with inclusions, laser-induced stresses 9-28012
 transparent solid, laser damage by electron avalanche ionisation 9-19952
 water droplets, small, weakly absorbing, motion in bounded laser beam 9-12269
 water surface subjected to laser radiation, repulsion of bodies, optically generated vapour cushion 9-10339
 weakly ionised gas, low threshold optical breakdown 9-27860
 window materials, pulsed HF-DF laser damage 9-14011
 Al mirror acted on by laser radiation, reflectivity meas. 9-10342
 Ar gas, supersonic radiation waves generated by CO₂ laser radiation 9-10593
 As₂S₃ coating defects and impurities affecting damage threshold and absorbance 9-14065
 As₂S₃(Se₂) containing coatings, 10.6 μ m laser damage obs. 9-14021
 As₂Se₃, amorphous, laser radiation induced struct. changes, electron microdiff. obs. 9-10874
 As₂Se₃ coating defects and impurities affecting damage threshold and absorbance 9-14065
 Bi surface, laser irradi., press. pulse 9-24392
 C phenolic surface, laser-induced impulse 9-43071
 n-Cd,Hg_{1-x}Te, conductivity inversion under laser radiation (*Russian*) 9-15198
 CdSb single crystals, surface layer melting and recrystallisation due to laser irradiation (*Ukrainian*) 9-46699
 CdSe, diffusion of Cu, effect of laser radiation on diffusion 9-10983
 Cr-SiO₂ thin film, laser beam-treated, emission mode of SEM 9-28226
 Cu, drilling with CO₂ laser pulses, influence of laser-supported detonation waves 9-28866
 Fe, Armo, discontinuous laser beam effect on mass transfer (*Russian*) 9-33109
 Fe-Ni, alloy 20N24, martensitic, exam. of structure after laser treatment, and recrystallisation (*Russian*) 9-11608

laser beam effects continued

Fe₅₀Co₅₀, disordering by laser irradiation, Mossbauer transmission spectroscopy and electron microscopy study (*French*) 9-23639
 GaAs, laser-induced recrystallisation and damage of ion-implanted amorphous samples 9-47557
 GaAs:Te-implanted by laser-annealing, ohmic contacts 9-19658
 n-GaP, CO₂ laser induced photon drag effect 9-42589
 Ge, amorphous, laser reordering of implanted amorphous layer 9-19270
 Ge film, electrical cond. during laser-induced crystallisation 9-47175
 Ge:Ga surface, antireflection coated, laser pulse damage resistance obs. 9-14020
 KH₂PO₄, real structure influence on optical strength 9-7187
 K₂O-B₂O₃ glass, laser decolorisation of colour centres 9-43008
 LiNbO₃, optical stability to laser pulse, 1.54 μ m 9-3734
 LiNbO₃:Ti, in-diffused waveguides, optical damage thresholds 9-46033
 MgF₂ film, 1064 nm 150 ps laser pulse damage rel. to OH⁻ content and refr. index 9-14016
 NaCl, CO₂ laser pulse transmission, breakdown dynamics near surface in gaseous media 9-45986
 NaCl particles, laser irradiated, white light flash obs. 9-15565
 NaF coating defects and impurities affecting damage threshold and absorbance 9-14065
 Na₂O-CaO, enhanced failure by combined pulse and CW laser 9-29182
 Nb-Nb(Nb₂Sn) supercond. point contacts, crit. currents, effect of laser radiation (*Russian*) 9-28484
 Nb₂Sn-Nb₂Sn supercond. point contacts, crit. currents, effect of laser radiation (*Russian*) 9-28484
 Nd:glass, laser bulk damage rel. to temp. and conc. 9-14023
 Ne, at. spectra, Doppler broadening compensated by light shifts 9-41136
 Pb, laser irradiated tunnel junction, nonequilibrium quasi-particle distrib. function, thermal regime (*Russian*) 9-42700
 PbF₂, laser damage resistant antiref. coatings for 16 μ m region 9-31963
 Pd₂Si, form. by laser irradi. of Pd film on Si substrate, Rutherford backscatt. obs. 9-42317
 SF₆, gas, heating effect on optical props., transmittance meas., CO₂ laser IR irradiation 9-27737
 SF₆, laser excitation in low temp. matrices, possible isotope selectivity 9-36788
 Si, epitaxial regrowth of thin amorphised layers by laser annealing, absorpt. coeff. influence 9-46968
 Si, ion implanted, difference between ruby and Nd:YAG laser annealing 9-37723
 Si, ion-implanted, laser annealing at 1.06 μ m, computer simulation 9-47556
 Si, laser irradi., anisotropic melting and epitaxial regrowth, surface struct. 9-33163
 Si, laser pulse train shaping for polycrystal recovery in self-ion implanted samples 9-47555
 Si, temp. rise induced by laser beam, nonlinear heat cond. 9-11487
 Si:As, laser annealing, channelling, optical obs., and resist. meas. 9-1444
 Si:As wafers, laser annealing, Rutherford backscatt., optical, and TEM obs. 9-1445
 Si:B, ion-implanted, annealing by incoherent light source 9-19267
 Si:B MOS structures, implanted laser beam irradi. effects on interface electrophys. props. 9-1627
 Si:B(P)(As)(Sb), ion implanted, redistrib. of dopants by pulsed laser annealing 9-7620
 Si:Cu, segregation effects after laser pulse melting 9-1843
 Si:P, implanted, two-stage laser annealing of lattice disorder 9-1452
 Si:P, ion implanted, selective annealing of amorphous layers by Nd³⁺:YAG laser irradi. 9-14823
 Si:Sb wafers, laser annealing, Rutherford backscatt., optical, and TEM obs. 9-1445
 Si:Zn, implanted atom diffusion during laser annealing 9-37725
 Si-Pt(Ni)(Pd), laser-induced reactions of metal films with Si, surface struct. obs. 9-19471
 SiO₂ film, 1064 nm 150 ps laser pulse damage rel. to OH⁻ content and refr. index 9-14016
 SiO₂, fused, surface roughness rel. to prep. and treatment history 9-14058
 SiO₂:TiO₂ antireflection coatings, 1064 nm 150 ps laser pulse damage rel. to barrier layering and smoothness 9-14018
 SiO₂:TiO₂ stack reflector and antireflection coating, 1064 nm 180 ps laser pulse damage 9-14017
 SmS, energy of metal-semicond. phase transition and threshold recording energy density 9-28386
 ThF₄ film, 1064 nm 150 ps laser pulse damage rel. to OH⁻ content and refr. index 9-14016
 TiO₂-SiO₂, multilayer dielec. mirrors, laser-induced damage resist. 9-10335
 TiCl₃-TiBr₃, KRS-5, KRS-6 crystals, optical strength pulsed CO₂ laser radiation 9-27307
 V₂O₅, laser induced damage (*Russian*) 9-43069
 W, desorption of D₂, meas. of fast desorption kinetics by laser heating technique 9-23837
 W, hot electron emission using ruby laser pulses 9-28883
 W, point target, temp. depend. of electron emission caused by laser illumination 9-43107
 ZnS, film, laser evaporation synthesis, surface struct. 9-28954
 ZrC, destruction delay time under laser impact 9-38976
 ZrC, fracture by laser beams, macrocrack propag. 9-15789
 ZrH_x, laser irradi. effect on interstitial phases, metallographic obs. 9-37734
 ZrO₂, film, 1064 nm 150 ps laser pulse damage rel. to OH⁻ content and refr. index 9-14016

laser beam machining

electrospark coating improvement by laser action (*Russian*) 9-15850
 glass cutting technology using CO₂ laser, damage effects 9-7173
 materials processing with CO₂ laser holographic scanner systems 9-18367
 metals and alloys, laser erosion, influence of metallic target temp. (*Russian*) 9-39028
 nonmetallic material cutting by CO₂ laser beam 9-45992
 Cu, drilling with CO₂ laser pulses, influence of laser-supported detonation waves 9-28866

laser beam welding

glass sphere targets, small, for laser fusion, technique for full surface exam. in SEM 9-21874
 steel, cold crack formation following laser welding (*Russian*) 9-38938
 CO₂ lasers appl., CW, 5 kW 9-15879

laser beams

- see also *holography; laser frequency stability; Schwarz-Hora effect*
- adaptive optics, atmospheric compensation, book contrib. 9-31972
- adaptive optics, book 9-31921
- adaptive optics in high energy laser systems, book contrib. 9-31971
- adaptive optics technology overview, book contrib. 9-32030
- alignment accuracy of CO₂ laser on target, Hartmann test, direct meas. 9-23004
- apodizing of intense laser beams with saturable dyes 9-31965
- atmospheric extinction at 10.6 μ m CO₂ laser wavelength, from meteorological records 9-39848
- atmospheric propagation, book 9-34955
- atmospheric propagation, Kolmogoroff's theory of turbulence and intermittency 9-7368
- atmospheric scattering coeff. as function of visibility and wavelength, empirical formula 9-34944
- atmospheric transmission, anomalous effects during August, 1976 at Farnborough, England 9-39862
- atmospheric water vapour, narrowing of collision shape of mol. absorpt. line in powerful laser field 9-29860
- atmospherically degraded, detection effects on statistics of intensity fluctuations 9-16672
- atmospherically degraded, higher-order propag. statistics, recording process effect 9-14004
- blue-green pulsed propagation through fog 9-39846
- bulk absorption homogeneity, Doppler interferometric meas. 9-14010
- calorimetric energy meters, KDM and BKDM, for pulsed laser radiation 9-17494
- calorimetric energy meters, KDS and BKD, for high-power laser pulses 9-17496
- chemical CW laser, optical diagnostics 9-36916
- contraction dynamics due to thermal transient self-focusing 9-10368
- coumarine dye laser, N₂ laser-pumped, pulse time behaviour 9-31894
- diameter measurement 9-7168
- directionality of light beams and spatial coherence 9-36834
- divergence measurement using PIR-1 instrument 9-23001
- divergence reduction using phase masks (*Russian*) 9-27308
- diverging beam conversion into plane wave by dynamic vol. hologram 9-18376
- double scattering contribution to lidar returns from clouds 9-5615
- dye laser, continuously pumped, pulse compression with slow saturable absorber 9-31959
- dye laser, CW, double mode locking, parametric study 9-45978
- dye laser, flashlamp pumped, freq. tunable ns duration pulses by pulsed Q-modulation 9-41403
- dye laser, flashlamp-pumped, linear, thermal effects on spatial mode struct. 9-36943
- dye laser, passively mode-locked, parameters affecting subps pulse duration 9-45979
- dye laser pulse output, accurate numerical simulation 9-41380
- dynamic-focusing mirror system, umbrella-type 9-36971
- energy photometry, meas. of parameters of pulsed and steady-state radiation 9-14007
- fast beam-laser interactions, review 9-30607
- field properties of multiple coherently combined lasers 9-36944
- fusion research lasers, advanced components and systems for beam lines 9-18466
- gas laser, intensity fluctuations, spatial distrib. 9-18458
- Gaussian, nonlinear self-focusing in plasma, variational approach 9-27786
- Gaussian beam propagation, Fresnel-Kirchhoff integral anal. 9-45984
- Gaussian laser beam focus, intensity distrib. determ. 9-14002
- Gaussian laser beams, spatial modulation 9-7162
- generalized Collett-Wolf sources 9-31793
- heptafluoriodopropane light amplifier, wave-front distortion due to photolysis-gas dynamic effects 9-18412
- high power, optimal focusing conditions for freq. doubling 9-14036
- high power laser radiation, transmission through silica fibre, role of stimulated Raman scatt. 9-37011
- image quality of diffuse objects, laser coherence influence 9-31820
- intensity fluctuations, influence of transmitting aperture diff. size and turbulence 9-45906
- intensity profiles meas., using Si vidicon and minicomputer system 9-27267
- IR Gaussian laser beam truncated by annular aperture, diffraction study 9-18344
- IR laser window material extrinsic absorption 9-14049
- IR pulsed laser spectral characts. determ., interferogram display on luminesc. screen 9-10341
- IR wavelength meas. by radiation conversion method, error anal. 9-7175
- large time-bandwidth acousto-optic signal processors 9-46118
- lateral displacement meas. using position-sensitive photodetector, selection of parameters 9-17490
- lensless method of measuring gaussian beam divergence 9-18459
- light fluid transformation by stochastic coherent optical filters (*Russian*) 9-982
- linewidth effect on mol. collisions in laser field 9-6980
- mirror and window absorption, reflection and transmission obs. at 10.6 μ m 9-14014
- modulated wave propag. in turbulent atm., correlation functions and freq. spectrum 9-34954
- multichannel system, MIK-48, for laser pulse energy meas. 9-17497
- multichannel system, MIS-20, for laser pulse energy recording 9-17495
- multimode laser field, effect of intensity time variation on mol. collision processes 9-31620
- nonlinear distortion of laser beam transverse struct. by light filters 9-7170
- nonlinear propagation in corundum particle aerosol 9-23033
- on-axis reflective beam expanding telescope, for pulsed dye laser cavities 9-41398
- optical distortions in large-aperture disc amplifier, holographic interferometry meas. 9-10338
- optical systems with spherical and nonspherical dioptrics, in three-dimens. space, calc. method (*Rumanian*) 9-13898
- optoacoustic power monitors for laser radiation 9-41404
- optoacoustic radiation detector, IR, spatial resolution 9-17493
- optoacoustic modulated based on gain saturation in laser amplifier 9-22988
- partially coherent source, highly directional, superposition of independ. laser beams 9-14070
- phase adaptation by nonlinear techniques, optical propag. distortion compensation, book contrib. 9-31973

laser beams continued

- phase distrib. measurement using interference from two openings 9-18461
- photocounting distribution obs., dead-time-modified, for modulated laser radiation 9-12846
- picosecond and subpicosecond pulse display, by real-time intensity autocorrelation interferometer 9-17468
- picosecond pulse generation at 10.6 μ m, using Ge optical switch 9-7159
- picosecond pulses generation and meas. 9-41401
- polarisation rotator, broad band, for high power appls. in IR 9-981
- power, measurement using miniature calorimetric converter 9-22998
- prism beam expander in N₂ laser pumped dye laser, prism material dispersion 9-27285
- pulsed laser energy measurement system and calibration facility 9-27301
- radiation asymmetry, in laser with inhomogeneous active layer (*Russian*) 9-23003
- radiation kinetics, photoelectric transducer conversion factor measurement 9-2820
- retroreflecting mirror for dynamic compensation of optical inhomogeneities 9-31970
- rhodamine 6G dye laser, degree of polaris., solvent effect 9-41375
- rhodamine 6G dye laser, N₂ laser-pumped, pulse time behaviour 9-31894
- rhodamine B dye laser, N₂ laser-pumped, pulse time behaviour 9-31894
- rotating, generation by ruby laser with nonorthogonal resonator (*Russian*) 9-10330
- ruby laser beam spatial coherence interferometry 9-14003
- SAW propagation study based on coherent light diffraction (*Russian*) 9-14172
- scattering of ultrashort laser pulse by large spherical particle 9-906
- self-adjusting laser-target system for laser fusion 9-14024
- single pulse spectral distrib. meas., using Fabry-Perot interferometer and CCTV system 9-3732
- solid laser, passively mode-locked, statistical props. of ultra-short pulses 9-36941
- solid state laser, refraction effects and gain meas. 9-31905
- spatial and temporal fluctuations of nanosecond radiation pulses in CO₂ amplifiers 9-14009
- spatial characteristics meas. by modulation method 9-31967
- spatial coherence degree correlation with wave vector variance 9-45985
- strong intensity fluctuations in turbulent atm., similarity relations and expt. verification, book contrib. 9-34958
- subpicosecond spectroscopy, high intensity, broad wavelength tunability 9-44950
- TEM₁₀ laser mode for IR holography at 10.6 μ m 9-27199
- thermal blooming in atmosphere, book contrib. 9-34961
- thermal self-action over path in medium moving at variable vel., expt. and numerical simulation 9-32003
- thermally induced self-focusing, laser beam with spatial and temporal inhomogeneity 9-32002
- transformation of Gaussian beam by laser anemometer elements 9-45991
- transparent materials, laser light refl. and transmission, high power densities 9-27305
- turbulent atmosphere propagation, spectral expansion soln. method 9-18350
- turning of beam through const. ang. by prism, for teaching 9-25805
- TV analyser of laser radiation 9-3702
- two-beam mirror interferometer, accuracy, emission beam divergence effects 9-26115
- two-mirror laser beam steerer-expander design 9-18460
- UV laser window material absorption obs. 9-14012
- variable attenuator for Gaussian laser beams 9-22987
- variable ratio beam splitters, for high energy glass laser systems 9-45952
- vertical propagation through troposphere 9-39851
- vibrating laser speckle in diff. field, dynamic statistical props. 9-22895
- wandering in turbulent atm., error probability in binary signal reception 9-10337
- wandering in turbulent atm., fluctuation power probability density distrib. 9-10336
- wavelength meter, compact static, based on Fizeau interferometer, for pulsed and CW lasers 9-36947
- wavemeter for CW lasers 9-26112
- CO₂ CW electric discharge laser, output beam props. 9-36877
- CO₂ gas transport laser with cylindrical geometry 9-7108
- CO₂ highly multimode pulsed electron beam laser, beam divergence 9-3731
- CO₂ laser, with anisotropic resonator, radiation polarisation (*Russian*) 9-27309
- CO₂ laser pulse temporal shaping by controlled plasma switching 9-3725
- CO₂ laser radiation reson. absorpt., atm. NH₃ conc. determ. on long path 9-29904
- CO₂ pulsed laser output, spatial distrib. meas. by photographic device 9-14008
- CO₂ single-pulse laser, emission spectrum photographic recording by parametric conversion 9-10357
- CO₂ waveguide laser, parameters meas. 9-31859
- CO₂ laser short pulse diagnostics, using upconversion linearity in Ag₃AsS₃ 9-27304
- Cu vapour laser, coherent props., dynamic holography in VO₂ films 9-13929
- D₂O far IR laser pulses, real-time spectral anal. using SAW dispersive delay line 9-45983
- GaAs single-frequency injection laser, coherence of emitted radiation 9-31904
- GaInAsP-InP DH lasers with low threshold, narrow-beam divergence 9-36892
- He-Ne beams, detection by surface barrier position sensitive detectors 9-36485
- I photodissociation laser, diff. limited output beam 9-27286
- LiNbO₃ laser beam/SAW mode conversion 9-46056
- Nd:glass laser with continuously tunable ps output, polaris. filter 9-22985
- Nd:YAG Q-switched laser beam and waist, knife-edge profiling 9-45982

laser cavity resonators

- adaptive optics technology overview, book contrib. 9-32030
- adiabatic invariant of oscillatory systems, laser mode sweeping interpretation 9-31950
- beam expandin telescope, on-axis reflective, for pulsed dye laser cavities 9-41398
- chemical CW laser, unstable resonators effect on performance 9-41397

laser cavity resonators continued

chemical laser resonator modelling, LAMP and BLAZER code calcs. comparison with CL XV meas. 9-36890

cholesteric liquid crystal resonator for distrib. feedback dye laser, theory 9-31956

cooled laser mirror construction, possible use of open pore structures 9-31952

dye CW laser, freq. locking to Ne absorpt. lines by Faraday filter 9-22989

dye laser, cavity dumped flashlamp pumped 9-13987

dye laser, continuously pumped, pulse compression with slow saturable absorber 9-31959

dye laser, CW, synchronous pumping and passive mode-locking, for picosecond pulse generation 9-3727

dye laser, intracavity absorpt. of I_2 vapour 9-22992

dye laser, longit. pumped, simultaneous two-wavelength operation using intracavity prism (*French*) 9-970

dye laser, narrow linewidth short pulse operation, using dual prism beam expander and grating 9-971

dye laser, passively mode-locked, parameters affecting subps pulse duration 9-45979

dye laser, self-injected laser-pumped, nanosecond pulse generation by cavity flipping 9-18457

dye laser, tuning and active mode-locking, interferometry technique 9-22982

dye laser, unstable resonator, injection locking 9-979

dye laser amplifier system, electro-optical injection 9-22975

dye laser design, short-cavity picosecond 9-41390

dye laser tuning by dielectric interference filter-coated prism 9-10322

dye oscillator-amplifier system, high power, pumped by Nd-YAG laser 9-18443

dye short-cavity laser, nearly transform-limited pulses 9-45965

dye synchronously pumped mode-locked CW system, pulse characts., cavity detuning effect 9-3726

F II centre laser, cavity design incorporating polarisation beam splitters 9-45960

Fabry-Perot resonator of gasdynamic laser, collisional relax. effect on fundamental mode 9-31948

Fabry-Perot resonators, second-order perturbation theory 9-18451

fibre optical CW Raman oscillator, using two-mirror resonator config. 9-7152

fine structure of laser lasing spectrum in transparency microwindows 9-3722

fluoromethane laser emission from unstable resonator 9-22983

free electron laser, small-signal gain, space charge effect 9-920

gas laser, mode-locking operation using modulator with acoustic Fabry-Perot resonator 9-45976

gas lasers, single-mode in transverse mag. fields, polarisation props. 9-7167

gas ring laser, opposite wave freq. difference, mag. field 9-7156

gasdynamic high speed lasers, optical cavity anal. using geometrical optics methods (*Chinese*) 9-31854

gasdynamic lasers, plane flows in presence of weak supply of energy (*Russian*) 9-32498

injection laser with external selective resonator, mode deformation due to self-focusing 9-13966

injection lasers, with external dispersive cavity, mode competition 9-31901

intracavity absorption spectroscopy, using semicond. injection laser 9-7157

intracavity method for optical densities meas., dynamic range extension 9-9231

intracavity Raman laser theory 9-27296

ionised-gas lasers, refr. during pump pulse due to gasdynamic motion 9-3723

kinetics, self-coordinated problem (*Russian*) 9-27238

linear three-mirror resonator, lasing, theory 9-3720

micro-resonators, high flux, for X and γ -ray lasers 9-7151

mode locking, transverse resonator, slow saturable absorber 9-22993

mode-locked binary laser oscillator, bistability induced by optical nutation 9-13958

negative branch unstable resonator, with self imaging aperture 9-977

open cavity with selector, field transverse struct. at mirrors 9-27295

open resonator with aperture in reflector, theoretical anal. 9-31955

oscillations in open cavities, transient processes, stabilisation time 9-3721

oscillator-based powerful laser, GOS-1001 with film resonator Q-switch 9-3705

oxazine-1-perchlorate mode-locked CW dye lasers, tunable near IR ps and subps pulse generation 9-45972

partially open cavity, freq. shift and decay time of radiation 9-13990

planospherical resonator with internal lens, stability of caustic 9-31954

prism anamorphic system, for Gaussian beam expander 9-3716

radiation asymmetry, in laser with inhomogeneous active layer (*Russian*) 9-23003

Raman amplification of optical radiation (*Russian*) 9-27333

rhodamine laser, induced losses in active medium during incoherent excitation (*Bulgarian*) 9-10297

ring laser, freq. shift and splitting for opposite waves, spatially inhomogeneous media 9-7155

ruby, unstable Q-switched resonator in negative branch confocal config. 9-13980

ruby laser with nonorthogonal resonator, rotating laser beam generation (*Russian*) 9-10330

ruby oscillator-amplifier compact system for satellite ranging 9-966

saturable optical resonator with distributed Bragg reflectors, transient behaviour 9-23029

semiconductor laser, single mode criteria at high speed pulse modulation 9-10305

semiconductor laser, single-wavelength oscillation at high speed pulse modulation 9-7129

semiconductor laser with ^{133}Cs vapour external selective mirror, pulsed stimulated emission 9-45961

solid state laser, refraction effects and gain meas. 9-31905

solid-state ring laser, mode locking theory 9-41399

spatial field configuration with nonresonant feedback 9-18453

spatial field structure in resonator filled by periodically inhomogeneous active medium (*Russian*) 9-976

spectroscopy technique, high-sensitivity, gas cell absorpt. meas. in laser resonator cavity 9-40626

submillimetre laser, vibr. mirror for phase modulated pumping, amplitude stability improved 9-22967

laser cavity resonators continued

submillimetre laser output and efficiency, rel. to pump frequency displacement 9-31866

symmetric laser cavity with asymmetric modes 9-13989

thermal radiation, fluctuation-dissipation theorem, one-dimens. optical cavity with output coupling 9-978

thermoelastically disturbed resonator, mode calcs. 9-13992

two-mode laser, mutual quenching of axial modes 9-13991

two-mode optical resonator mode mutual quenching in stimulated Raman emission 9-36960

two-photon amplifier, laser pulse propag. 9-7154

two-photon laser oscill. in optical cavity, semi-classical theory 9-22928

unstable confocal resonator operating point choice 9-36938

unstable resonator, for low-gain media 9-22984

unstable resonator with circular mirrors, asymptotic analysis 9-3718

AlGaAs-GaAs, DH semiconductor laser, influence of struct. parameters on lasing characteristics 9-45942

Ar high-power CW laser, resonator configs. for mode selection 9-10327

CO_2 simple high energy TEA laser 9-3714

CO_2 vibr. relax. at glass surface, glow discharge meas. 9-18409

$\text{CO-Xe-N}_2\text{-He}$ gas laser power rel. to mixture composition (*Russian*) 9-7114

CO_2 , atm. press. laser pulse duration reduction by stimulated emission quenching 9-18400

CO_2 CW sequence laser lines generated using incavity NH_3 cell 9-18438

CO_2 compact sealed TEA laser, single mode operation 9-968

CO_2 electroionisation laser plasma mirror, soft X-ray emission for biological radiography 9-43983

CO_2 gas transport laser with cylindrical geometry 9-7108

CO_2 high-power multimode CW laser, parallel packed tubes in common resonator 9-13984

CO_2 hybrid laser, operating regimes 9-22932

CO_2 laser, with anisotropic resonator, radiation polarisation (*Russian*) 9-27309

CO_2 , pulsed TE laser, tunable single-mode operation by means of selective absorbers 9-36940

CO_2 , TEA laser, mode characts. using unstable resonators 9-3719

CO_2 TEA laser, pulse shaping by independent excitation of coaxial discharge systems 9-7150

CO_2 waveguide laser with plane parallel mirror resonator 9-3715

CO_2 waveguide lasers, engineering aspects 9-31941

$\text{CO}_2\text{-N}_2$ CW mixing gasdynamic laser, saturation parameter and small signal gain 9-45923

CS, laser cavity pulser with triggered spark gap 9-13973

CdS, laser, petal shaped cryst., high-temp. spectral characts. (*Russian*) 9-13968

DCN, 250 mW continuous discharge laser at $195\ \mu\text{m}$ 9-31949

HF CW chemical laser, design of multipass telescopic amplifiers 9-27289

He-Ne laser with anisotropic cavity, fluctuations of field polaris. 9-27242

He-Ne laser with external optical resonator, SHG 9-27326

InSb pulsed spin-flip Raman laser, external cavity, low field operation at $10.6\ \mu\text{m}$ 9-41394

$\text{KNdP}_2\text{O}_{12}$ epitaxially grown waveguide, laser operation at $1.051\ \mu\text{m}$ 9-18423

LiNbO_3 , nonstationary intracavity stimulated Raman scatt. by polaritons 9-18473

N_2 liquid IR Raman laser with unstable resonator 9-31957

N_2 superradiant UV laser, method for brightness increase 9-36917

NH_3 high power laser, improved optical pumping geometry in Littrow cavity config. 9-22973

$\text{N}_2\text{O-N}_2$ CW mixing gasdynamic laser, saturation parameter and small signal gain 9-45923

Nd laser, continuously tunable, pulsed, operation and output, characts. 9-18448

Nd:glass, oscillator, short laser pulses (*Rumanian*) 9-7165

Nd:glass, with metallic grating in cavity, Fourier spectrum and periodic mode fields distrib. (*Russian*) 9-31915

Nd:glass laser operation, self-focusing influence 9-13997

Nd:glass laser resonator deform. due to polarisability change of excited Nd ions 9-10313

Nd:glass laser with continuously tunable ps output, polaris. filter 9-22985

Nd:glass Q-switched laser emitting polarised radiation 9-45974

Nd:YAG, unstable resonator, Q-switched laser, operating characts. 9-36928

Nd:YAG mode-locked unstable laser, p-branch unstable resonator config. 9-31928

Nd:YAG passively mode-locked unstable oscillator 9-45953

Nd:YAG unstable resonator design 9-13988

Nd^{3+} :YAG, CW laser with planospherical resonator, freq. degeneracy of modes 9-31953

Nd^{3+} :YAG, Raman laser with optical-fibre resonator, expt. investigation 9-31913

Nd^{3+} :YAG electro-optically Q-switched pulse-periodic laser 9-45975

Nd^{3+} :YAG stabilised single-freq. travelling wave laser 9-18449

ZnSe-ZnS semiconductor waveguide laser, electron beam excited, blue emission 9-18447

laser frequency stability

CW dye lasers, improved freq. stability using the He-Ne lasers (*French*) 9-31935

1,1-difluoroethylene, optically pumped, far IR laser line assignment 9-31865

FIR laser pump lasers, variable-frequency stabilisation 9-14005

gas laser with automatic freq. control, long-term instability and irreproducibility of freq. 9-45962

gas lasers, frequency stabilised by saturated absorpt., synthesis and measurement of optical frequencies, review (*French*) 9-31966

gasdynamic high speed lasers, freq. stability mode struct., and output power characts. (*Chinese*) 9-31854

injection laser longitudinal mode stabilisation by temp. compensation 9-45964

interference discriminator, Fabry-Perot, for laser freq. stabilisation, optimisation 9-31962

piezoceramic transducer for laser freq. stabilisation, freq. response (*Russian*) 9-10315

radiation frequency capture, near at. absorpt. lines in elec. discharge (*Russian*) 9-27299

ring cavity, dispersive optical bistability 9-18386

ring laser, far IR 9-7153

ring laser with methane cell, backscatt., influence on operation 9-10329

laser frequency stability continued

- semiconductor laser, single mode criteria at high speed pulse modulation 9-10305
- semiconductor laser, single-wavelength oscillation at high speed pulse modulation 9-7129
- short-duration frequency instability, interferometric meas. 9-3733
- submillimetre laser, optically pumped, stabilisation by acousto-optic isolator 9-31918
- tetrafluoromethane optically pumped laser, tuning and stabilisation 9-13985
- thermostabilisation by liquid flow past laser active element (*Russian*) 9-27268
- wide-band tunable lasers, frequency-locking system 9-18432
- Ar⁺ lasers, freq. stabilisation by saturated absorption in external ¹²⁷I₂ cells 9-22965
- He-Ne, freq. stabilised, use as freq. and length standards (*French*) 9-31935
- He-Ne gas laser, behaviour in nonsynchronous frequency modulation regime (*Russian*) 9-1161
- He-Ne laser, ¹²⁷I₂ saturated absorption stabilised, wavelength meas. (*Russian*) 9-22996
- He-Ne laser, competitive oscillation mode frequency stabilisation (*Russian*) 9-22962
- He-Ne laser two-beam interferometer phase errors (*Russian*) 9-6166
- He-Ne lasers, I₂ stabilised, with improved performance 9-22964
- He-Ne ring laser, freq. shift of 3.39 μ m methane transition 9-27298
- He-Ne waveguide lasers, HF discharge stability 9-18401
- He-Xe, H₂CO-stabilised laser, freq. stability in axial mag. field 9-22991
- Nd³⁺ glass laser, stabilised, single-mode, Q-switched, continuous frequency scanning 9-31922

laser isotope separation

- atomic beam deflection, by reson. standing EM wave 9-26959
- atomic collisions, influence on resonant excitation selectivity 9-27098
- carbon tetrachloride, isotopically selective dissociation by NH₃ laser radiation 9-41206
- gas phase chemical reactions, laser obs. (*German*) 9-29365
- high-energy particles, laser mass separation 9-10221
- IR laser applications in vibrational photochemistry (*Russian*) 9-5169
- nonequilibrium condensation method, with selective laser photoexcitation, mathematical model 9-31720
- plasma science, conference, Monterey, CA, USA (May 1978) 9-37442
- pulse power requirements 9-13972
- recombination, in steady supersonic flow, in devices for laser isotope separation 9-31717
- resonance light pressure, anal. of forces and applications, reviews 9-18156
- review, basic ideas, methods and key expts. 9-36789
- review, conf., USSR Acad. of Science, (June 1977) 9-18062
- review 9-18304
- techniques and efficiency 9-31721
- sym-tetrazine, gas phase separation of ¹³C and ¹⁵N isomers, CW dye laser 9-27097
- trifluoriodomethane, isotope separation by multiple photon IR excitation and subsequent UV dissoc. 9-18301
- C isotope separation, by multiphoton dissociation of CF₃I 9-3592
- CO₂ periodically pulsed laser, appl. isotope separation 9-27287
- ¹⁴C, enrichment method for radiocarbon dating 9-10220
- D enrichment by CW CO₂ laser induced reaction of methane 9-18300
- Eu+H⁺, two-step laser isotope enrichment using charge transfer ionisation 9-867
- ¹²⁷I, ¹²⁹I isotope separation possibility using photodissociation I laser 9-7030
- ⁷Li selective excitation, by intracavity nonlinear absorpt. in CW dye laser 9-866
- N, isomerisation of ethyl and methyl isocyanide 9-27096
- O, in methanolic UO₂F₂ soln., photochem. enrichment 9-36786
- SF₆, electron capture, laser radiation influence, possible laser isotope separation appl. 9-22856
- SeF₆, IR photolysis, NH₃+CO₂ laser isotope separation and dissoc. enhancement 9-29377
- U, laser isotope separation by O₂ chemi-ionisation (*Japanese*) 9-13830
- ²³⁵U isotope separation enhancement with RF hyperfine transitions 9-41249
- ²³⁵U, laser photochemistry appl., LASL developments 9-31719

laser magnetic resonance

- CH, far IR laser mag. reson. spectrum 9-3466
- He, laser mag. reson., ⁷S-⁹P energy separation, motional Stark effect, Zeeman tuning parameters 9-6911
- NH₂ radical, laser mag. reson. spectra in 9 μ m region, ν_2 band 9-45724
- SD, X²I_{3/2}-state, far IR LMR spectra 9-6954

laser modes

- adiabatic invariant of oscillatory systems, laser mode sweeping interpretation 9-31950
- axial mode selector for laser with active Q-switching 9-13996
- binary laser oscillator mode-locked, bistability induced by optical nutation 9-31958
- coumarin dye laser, mode-locked flashlamp pumped, tunable blue ps pulses 9-13974
- CW flowing gas lasers, mode medium interaction 9-36876
- DH stripe lasers, field model, mode gain, mode spacing 9-7128
- DH symmetric laser, beamwidth approx. for fundamental mode 9-22952
- dye CW laser, freq. locking to Ne absorpt. lines by Faraday filter 9-22989
- dye CW laser, mode locking using externally modulated pumping laser 9-18456
- dye CW lasers, mode-locked, prod. of picosecond and subpicosecond pulses (*French*) 9-31961
- dye CW mode-locked lasers for ultra-fast spectroscopic studies 9-31960
- dye laser, CW, double mode locking, parametric study 9-45978
- dye laser, CW, synchronous pumping and passive mode-locking, for picosecond pulse generation 9-3727
- dye laser, flashlamp-pumped, linear, thermal effects on spatial mode struct. 9-36943
- dye laser, intracavity intensity modulated, 0.01 Hz to 1.2 GHz 9-41400
- dye laser, passively mode-locked, parameters affecting subps pulse duration 9-45979
- dye laser, subpicosecond, directly pumped by mode-locked Ar laser, pulse train autocorrelation traces 9-22969
- dye laser, tuning and active mode-locking, interferometry technique 9-22982

laser modes continued

- dye laser, unstable resonator, injection locking 9-979
- dye laser amplifier system, electro-optical injection 9-22975
- dye laser with saturable absorber, stationary pulse parameters, approximate theory 9-3690
- dye lasers synchronously mode-locked, used for material polaris. relax. meas. 9-44952
- dye mode-locked dye laser and single pulse amplification 9-27255
- dye ring laser, second harmonic CW, single mode operation 9-41392
- dye synchronously pumped mode-locked CW system, pulse characts., cavity detuning effect 9-3726
- Fabry-Perot resonator of gasdynamic laser, collisional relax. effect on fundamental mode 9-31948
- field properties of multiple coherently combined lasers 9-36944
- fluoromethane laser emission from unstable resonator 9-22983
- gas laser, mode-locking operation using modulator with acoustic Fabry-Perot resonator 9-45976
- gas laser, synchronous mode-locked pumping, mode-locked far IR pulse generation 9-27271
- gas laser beam, intensity fluctuations, spatial distrib. 9-18458
- gas lasers, single-mode in transverse mag. fields, polarisation props. 9-7167
- gas ring laser, opposite wave freq. difference, mag. field 9-7156
- gasdynamic high speed lasers, freq. stability mode struct., and output power characts. (*Chinese*) 9-31854
- gasdynamic lasers, improved perform. by selective thermal pumping 9-31858
- Gaussian laser beams, spatial modulation 9-7162
- injection laser, mode deformation due to self-focusing, rel. to output characts. nonlinearity 9-13966
- injection laser longitudinal mode stabilisation by temp. compensation 9-45964
- injection lasers, homojunction and single-heterojunction, mode competition 9-31901
- ion laser, intracavity intensity modulated, 0.01 Hz to 1.2 GHz 9-41400
- N-methylphthalimides, laser, lamp-pumped, solvent and temp. depend. 9-3692
- multimode laser, semiclassical theory of stability, generalised entropy 9-3699
- multimode laser field, effect of intensity time variation on mol. collision processes 9-31620
- open resonator with aperture in reflector, theoretical anal. 9-31955
- optical cavity, one-dimens., with output coupling, thermal radiation, fluctuation-dissipation theorem 9-978
- oxazine-1-perchlorate mode-locked CW dye lasers, tunable near IR ps and subps pulse generation 9-45972
- partially open cavity, freq. shift and decay time of radiation 9-13990
- phosphate glass oscillator, passively mode-locked, stabilised with acousto-optic modulator (*Japanese*) 9-13999
- planospheric resonator with internal lens, stability of caustic 9-31954
- rhodamine 6G, laser, lamp-pumped, solvent and temp. depend. 9-3692
- rhodamine 6G pulsed dye laser, locking by anomalous dispersion in vapour cell 9-7163
- rhodamine B, laser, lamp-pumped, solvent and temp. depend. 9-3692
- ring laser, freq. shift and splitting for opposite waves, spatially inhomogeneous media 9-7155
- ring resonators, two coupled system, mode freqs. and amplitudes 9-10328
- ruby laser, passively mode-locked, output characts. 9-18424
- ruby laser, peak generation for active mode phasing (*Russian*) 9-14000
- ruby laser, spiked regime, dynamic theory 9-27260
- ruby NMR laser, spontaneous nucl. spin system self organisation 9-916
- semiconductor laser, single mode criteria at high speed pulse modulation 9-10305
- semiconductor laser, single-wavelength oscillation at high speed pulse modulation 9-7129
- semiconductor laser, spontaneous-emission coupling on number of excited longitudinal modes 9-18417
- single-mode laser, cooperative effects 9-13944
- solid laser, passively mode-locked, statistical props. of ultra-short pulses 9-36941
- solid-state laser, mode locking, importance of active medium nonlinearity 9-13967
- solid-state ring laser, mode locking theory 9-41399
- soliton line constructed from an equivalent cct. of undamped spiking lasers 9-3673
- stabilisation by optically induced optical activity 9-18490
- subpicosecond spectroscopy, high intensity, broad wavelength tunability 9-44950
- supermode locking, noise effects 9-22986
- symmetric laser cavity with asymmetric modes 9-13989
- thermoelastically disturbed resonator, mode calcs. 9-13992
- transverse, phase compensated far field distrib. (*Chinese*) 9-10324
- transverse resonator, mode locking, slow saturable absorber 9-22993
- two-mode laser, mutual quenching of axial modes 9-13991
- two-mode optical resonator mode mutual quenching in stimulated Raman emission 9-36960
- two-mode oscill. gas laser, saturation-induced polaris. preferences 9-22929
- ultra-short light pulse generation, review (*Japanese*) 9-45973
- (Al,Ga)As DH diode laser, double-dovetail constricted, single mode CW operation 9-22949
- AlGaAs laser mode, fractional spontaneous emission coupling, power fraction, expt. evaluation 9-959
- AlGaAs-GaAs, DH semiconductor laser, influence of struct. parameters on lasing characteristics 9-45942
- Al_{0.4}Ga_{0.6}As, mode-stabilised injection laser, longitudinal-mode behaviour 9-962
- Ar high-power CW laser, resonator configs. for mode selection 9-10327
- Ar ion laser, mode-locked pulses, second-order intensity correls., two-quantum photoeffect 9-10332
- CO₂ CW electric discharge lasers, mode medium interaction 9-36876
- CO₂ CW electric discharge laser, output beam props. 9-36877
- CO₂ compact sealed TEA laser, single mode operation 9-968
- CO₂ highly multimode pulsed electron beam laser, beam divergence 9-3731
- CO₂ laser, tri-n-propylamine in working gas 9-22935
- CO₂, pulsed TE laser, tunable single-mode operation by means of selective absorbers 9-36940
- CO₂, TE multiatmos. laser, 10 μ m pulse generation and amplification 9-45981
- CO₂ TEA far IR laser, optimum spectral matching 9-31857

laser modes continued

- CO₂, TEA laser, mode characts. using unstable resonators 9-3719
 CO₂, thermally pumped gas-dynamic laser based on deformation and symmetric modes 9-36874
 CdS, laser, petal shaped cryst., high-temp. spectral characts. (*Russian*) 9-13968
 D₂O far IR laser pulses, real-time spectral anal. using SAW dispersive delay line 9-45983
 Ga_{1-x}Al_xAs buried heterostruct. laser, rel. to stable operation during accelerated ageing at 70°C 9-7125
 GaAs, broadening mechanism, limitations to single mode power emission 9-961
 GaAs laser convex micromirror mode control 9-36920
 GaAs laser diodes, junction temp. meas. method 9-36895
 GaAs single-channel injection laser, radiative characts., single longit. mode 9-10309
 GaInAsP DH laser diode CW modelocking 9-7126
 He-Cd laser, 442 nm, high order mode crossing signals from Cd II 4d⁹5s² 2D_{3/2} state 9-796
 He-Cd⁺, laser, cathaporetic, power noise meas. 9-36885
 He-Ne, short pulses, self mode-locking (*Rumanian*) 9-13995
 He-Ne laser, 6328 Å, output power, using intracavity rot. reflector 9-7113
 He-Ne laser, competitive oscillation mode frequency stabilisation (*Russian*) 9-22962
 InP-In_{1-x}Ga_xP_{1-y}As_z quantum-well LPE heterostructure lasers, band filling and gain, mode groups 9-22955
 Kr⁺ ion laser, mode-locked near UV output, chem. and appls. 9-45966
 N₂ laser, time shape of laser pulse 9-7120
 NH₃ high power laser, improved optical pumping geometry, mode locked operation 9-22973
 Nd:glass, with metallic grating in cavity, Fourier spectrum and periodic mode fields distrib. (*Russian*) 9-31915
 Nd:glass laser, mode-locked, ultrashort pulse duration meas., two-photon fluoresc. 9-27302
 Nd:glass ring laser, actively mode-locked and Q-controlled, props. 9-18445
 Nd:YAG, actively AM mode-locked Q-switched laser, pulse compression by liq. Kerr cell 9-22990
 Nd:YAG, frequency-doubled operation, effects of absorpt. loss in Ba₂NaNb₃O₁₂ 9-36957
 Nd:YAG acousto-optically mode-locked CW laser, optical spectra obs. by interferometer 9-7134
 Nd:YAG laser, actively modelocked and Q-switched, fusion reactor appl. 9-45980
 Nd:YAG laser oscillator, mode-locked, pulse splitting 9-7160
 Nd:YAG mode-locked unstable laser, p-branch unstable resonator config. 9-31928
 Nd:YAG passively mode-locked unstable oscillator 9-45953
 Nd³⁺:glass laser, stabilised, single-mode, Q-switched, continuous frequency scanning 9-31922
 Nd³⁺:glass laser, with contacted mode-locking-dye cell 9-18454
 Nd³⁺:YAG, CW laser with planospherical resonator, freq. degeneracy of modes 9-31953
 Nd³⁺:YAG stabilised single-freq. travelling wave laser 9-18449
 PbSe, pressure tunable CW injection laser, emission spectra 9-18419
 Xe laser, high gain, ang. multiplexing for short pulse amplification 9-36924
 Zn_{1-x}Cd_xS, platelet single cryst. one-photon optical excitation, spatial distrib. and mode struct. of laser emission 9-31912

laser radar *see optical radar***laser theory**

- see also laser transitions; population inversion; stimulated emission*
 asymmetrical inhomogeneously broadened line, lasing stability 9-923
 bistability, in lasers containing saturable absorbers, semiclassical and quantum theory 9-3674
 bistable absorber system, in ring cavity, photon statistics 9-31847
 Cherenkov radiation at resonance frequency of amplifying medium 9-22926
 classical multimode theory of the free electron laser 9-27228
 CO₂, TEA, field uniformity requirements 9-3675
 complex molecules, triplet state, photoinstability and quenching effects on lasing kinetics (*Russian*) 9-13778
 coupled laser-amplifier system, computation technique 9-3720
 crystal lasers, theoretical problems, current status (*Chinese*) 9-45948
 dye laser, optically pumped, threshold singularities 9-3703
 dye laser operation, second and first order phase transition analogy 9-953
 dye laser rate equations, nonstationary solns. 9-27250
 dye laser with saturable absorber, stationary pulse parameters, approximate theory 9-3690
 dye lasers, anisotropic theory, oscill. model of complex mols. (*Russian*) 9-22948
 extreme UV and X-ray lasers, basic physical concepts, review 9-31850
 field autocorrelation function, in threshold region, fine struct. 9-3683
 field fluctuations of two-photon coherent states 9-13937
 first order phase transition in laser with saturable absorber 9-18394
 fluctuations, semiclassical stochastic master eqn. theory, and Scully-Lamb theory 9-27236
 free electron devices, nonlinear theory, book contrib. 9-27148
 free electron laser, collective and single electron interactions, book contrib. 9-27234
 free electron laser, one-body analysis, book contrib. 9-27233
 free electron laser as travelling wave amplifier, book contrib. 9-27232
 free electron lasers, Cherenkov, Smith-Purcell, and TW amplifiers, operation regimes 9-919
 gas lasers, computer modelling, book 9-41364
 gas lasers, single-mode, autodyne effect (*Russian*) 9-925
 heterostructure lasers, fundamental principles, book 9-36899
 inhomogeneous active medium gain 9-22930
 instabilities in the laser with injected signal and laser-phase transition analogy 9-18393
 intracavity Raman laser theory 9-27296
 kinetics, self-coordinated problem (*Russian*) 9-27238
 metastable states in laser phase transitions, first passage time analysis 9-922
 molecular lasers, laser pumped, theory 9-36868
 moving active medium, light production (*Russian*) 9-27237
 multifrequency emission, atomic states interference effect on polaris, characts. 9-27235

laser theory continued

- multimode high-intensity laser dynamics theory 9-41363
 multimode laser, semiclassical theory of stability, generalised entropy 9-3699
 nonequilibrium quantum statistics of lasers and nonlinear optics 9-31848
 nonlinear laser pulse amplification in medium with single photon stimulated emission 9-45922
 organic compound lasing ability (*French*) 9-31893
 photon reflection at the boundary of an inverted medium 9-36869
 pulsed optically-pumped submillimetre-wave amplifier theory 9-31868
 relativistic channelled particle beam, induced radn., tunable laser prod. 9-18391
 ring cavity, dispersive optical bistability 9-18386
 ruby laser, spiked regime, dynamic theory 9-27260
 simultaneous oscillations of different transitions in lasers 9-22927
 single-mode laser, cooperative effects 9-13944
 solid laser, passively mode-locked, statistical props. of ultra-short pulses 9-36941
 solid laser with brightening filter, ultrashort light pulse optimum generation 9-36903
 solid-state ring laser, mode locking theory 9-41399
 soliton line constructed from an equivalent cct. of undamped spiking lasers 9-3673
 spatial coherence degree correlation with wave vector variance 9-45985
 spectroscopic techniques based on Lamb's laser theory 9-35847
 spontaneous coherent pulsations in laser oscillators 9-921
 superluminescent laser theory for dye soln. (*Russian*) 9-951
 supermode locking, noise effects 9-22986
 two-mode oscill. gas laser, saturation-induced polaris. preferences 9-22929
 two-photon laser oscill., semi-classical theory 9-22928
 CO laser, simple model for power and spectra 9-7119
 CO₂ laser, thermodynamic approach (*Rumanian*) 9-7109
 GaAs, broadening mechanism, limitations to single mode power emission 9-961
 H, recombining plasma, population inversion using collisional-radiative model 9-46423
 HF, rotational nonequilibrium, efficient model 9-22945
 I, laser, short pulse amplification, multilevel paraxial Maxwell-Bloch eqn. 9-36889

laser transitions*see also laser theory*

- anthracene derivatives in soln., fluoresc. and laser parameters 9-27251
 asymmetrical inhomogeneously broadened line, lasing stability 9-923
 carbon tetrafluoride, lasing action, spectroscopy of features near 9 μm lines 9-22944
 carbon tetrafluoride optically pumped laser, pulse-periodic operation, 16 μm emission 9-27247
 3-cyano-4-methylumbelliferone in ethanol containing water, acid or alkali, laser emission 9-955
 dichloromethane, CD₂Cl₂, CW optically pumped, submm. laser action, 100 to 900 μm 9-929
 dideuteroacetylene, optically pumped laser action, 17.4 to 20.5 μm 9-935
 1,1-difluoroethylene, optically pumped, far IR laser line assignment 9-31865
 1,1-difluoroethylene, submillimetre laser molecules, Stark and ODR spectroscopy 9-31864
 difluoromethane, optically pumped, efficient CW far IR laser action obs. 9-928
 diphenylstilbene dye, sulphonated, CW laser emission, tunable down to 390.4 nm 9-41379
 dye laser efficient emission characts., pumping at 248 nm with KrF* discharge laser 9-954
 first order phase transition in laser with saturable absorber 9-18394
 fluoromethane, 496 μm transition, laser pumped mol. laser theory 9-36868
 fluoromethane, ¹²CH₃F, far IR CW laser emission by optical pumping 9-3687
 fluoromethane, angular correlation between far IR emission and CO₂ pump radiation, Dicke superradiance theory 9-41370
 fluoromethane laser diagnostics using two CO₂ laser pump pulses 9-31869
 formic acid, CW submm. laser assignment 9-27244
 halogen-metal vapour lasers, average lasing power 9-936
 inert gas halide lasers, pumped by transverse elec. discharge devices 9-41373
 inert gas halide VUV lasers, pumped by travelling-wave discharges, 170 to 250 nm range 9-41372
 instabilities in the laser with injected signal and laser-phase transition analogy 9-18393
 metastable states in laser phase transitions, first passage time analysis 9-922
 methanol, CD₂HOH, CH₂DOH, CW optically pumped, submm. laser action, 100 to 900 μm 9-929
 methanol, far IR laser line obs. and assignment 9-31867
 methanol, optically pumped, far IR laser lines meas. and assignments 9-22939
 methanol, submillimetre laser molecules, Stark and ODR spectroscopy 9-31864
 methyl alcohol, assignment of submillimetre transitions 9-22943
 methyl alcohol IR absorption, diode laser obs. 9-31518
 methyl fluoride, optically pumped mirrorless laser at 496 μm 9-31871
 methyl halides, candidate transition identification for optically pumped far IR lasers 9-931
 polymethine dyes, mol. struct., lasing props. 9-3693
 POPOP, polarisation of spontaneous and stimulated radiation 9-31583
 p-quaterphenyl, polarisation of spontaneous and stimulated radiation 9-31583
 p-quaterphenyl vapour laser, optically excited, laser action obs. at 350 nm 9-7123
 rare earths in vapour and solid phases as high intensity lasers, laser line prediction 9-3700
 TOPOT, polarisation of spontaneous and stimulated radiation 9-31583
 UV molecular lasers with transverse electronic pumping, review (*French*) 9-31880
 Ar III, CW laser, short wavelength multiline performance 9-926
 ArF excimer, electronic structure, pot. energy curves, radiative transition probabilities, quantum mech. calcs. 9-10284
 Au vapour laser, 627.8 nm UV emission, average output power and efficiency 9-45933

laser transitions continued

- Ba vapour laser, energy characts. at 1.5 μm 9-13953
 Bi₂, optically pumped continuous laser oscill. 9-933
 Br electronic transition chemical laser, stimulated emission at 3685 cm^{-1} 9-27249
 Br₂, UV laser transitions, electronic designation 9-944
 CO cooled electron-beam-controlled laser, two-quantum transitions 9-45935
 CO₂ CW sequence laser lines generated using incavity NH₃ cell 9-18438
 CO₂ electric discharge laser, free oscill. stimulated emission, nanosecond pulse duration 9-31860
 CO₂ high temp. absorpt. meas. in 10.4 μm laser band 9-36870
 CO₂ laser with partial population inversion, 16 μm steady state action 9-36873
 CO₂ oscillating laser transition, band width meas. 9-3677
 CO₂ transition strength of 00⁰2 9.4 μm sequence band, appl. to IR isotope anal. 9-18395
 CO₂-N₂-He laser mixtures, electron swarm parameters, Boltzmann eqn. anal. 9-18396
 Ca laser, pumped via collision-induced absorpt. in Ca-inert gas mixture 9-7117
 CaF₂:Na, γ -irrad. cryst., spontaneous and induced colour centre emission 9-7131
 CaO, tunable optical gain at 3600 Å using F⁺ centres 9-45947
 CdS, submillimetre laser emission due to transitions between free exciton level 9-27261
 Cl₂ laser oscillation on 2580 Å band system, axial electron beam excitation of He-Cl₂ 9-31879
 Cu vapour, comparison of copper acetate, acetylacetonate and CuCl lasants 9-31875
 Cu⁺ transitions in He-Cu halide gas discharges, CW laser oscill. 9-7116
 DCN, 250 mW continuous discharge laser at 195 μm 9-31949
 D₂O, 385 μm transition, laser pumped mol. laser theory 9-36868
 D₂O, angular correlation between far IR emission and CO₂ pump radiation, Dicke superradiance theory 9-41370
 D₂O, candidate transition identification for optically pumped far IR lasers 9-931
 D₂O, far IR CW laser emission by optical pumping 9-3687
 D₂O optically pumped mirrorless laser at 385 μm 9-31871
 Er³⁺ implanted crystals, laser active media, nonradiative losses due to ⁴I_{13/2}-⁴I_{15/2} transition 9-31911
 Er³⁺:CaF₂ crystal laser, hologram form. at 2.76 μm , laser emission line-width meas. 9-10270
 F₂ discharge pumped laser, 1578 Å emission 9-31877
 Fe vapour laser, 4529 Å emission 9-10282
 GaAlAs DH laser, stripe geometry, spatially resolved emission 9-27257
 GaIn_{1-x}AsSb_x laser, efficient room temp. stimulated emission, 1.8 to 2.4 μm spectral range 9-10307
 HCN far IR laser, chem. pumping, 337 μm and 311 μm stimulated emission obs. 9-13958
 HCl, 3.8 μm , 10.6 μm CW laser emission based upon Cl atom chem. generation 9-947
 He-Ar high voltage hollow cathode discharge, new Kr II CW laser lines new Ar II CW laser lines 9-13947
 He-As CW laser, excitation mechanism 9-3685
 He-Au, UV ion laser, dominant transition at 280 nm 9-942
 He-Cd II hollow-cathode laser, 4416 Å pulse oscillation 9-7122
 He-Cu hollow cathode discharge, Cu II CW laser oscill. at 8096 Å 9-31878
 He-Kr HV hollow cathode laser, gain meas. of Kr II 4694 Å, 4318 Å CW transitions 9-45928
 He-Kr high voltage hollow cathode discharge, new Kr II CW laser lines 9-13947
 He-Kr hollow-cathode discharge, CW laser oscils. on Kr II 4694 Å, 4318 Å lines 9-3680
 He-Kr hollow-cathode discharge, CW and pulsed lasing at Kr ion lines 9-3679
 He-Ne, Ne transitions, 1.52 μm and 633 nm, mode crossing resonance shape 9-18163
 Hg-N₂, optically pumped pulsed 546.1 nm laser emission 9-13952
 HgBr, 502 nm stimulated emission, prolonged optical pumping of HgBr₂ 9-18414
 HgBr, visible laser transitions at 5018 Å and 4984 Å 9-939
 HgCl, visible laser transition at 5576 Å 9-939
 Ho³⁺:LiYbF₄ laser converter for 2.06 μm radiation, ND primary laser 9-18427
 I, ²P_{1/2}(F=3)-²P_{3/2}(F'=4) transition, stimulated emission cross section determ. 9-13961
 I, Q-switched, emission at two frequencies 9-18413
 I₂, CW optically pumped, laser oscill. 0.57 to 1.35 μm 9-943
 I₂, UV laser transitions, electronic designation 9-944
 InGaAsSb based injection heterolaser, 1.9 μm stimulated emission 9-18420
 In_{1-x}Ga_xP_{1-y}As_y, visible spectrum laser diode, continuous operation, 6280 Å, 77K 9-960
 InKr, low-lying electronic states, PE curves, transition moments, emission coeffs. 9-6894
 KNdPO₄ epitaxially grown waveguide, laser operation at 1.051 μm 9-18423
 Kr III, CW laser, short wavelength multiline performance 9-926
 Li-Li_{1-x}Nd_x phosphate glasses, stimulated emission spectroscopy of ⁴F_{3/2} to ⁴I_{11/2} and ⁴F_{3/2} to ⁴I_{13/2} transitions 9-38573
 LiF, coherent freq. tunable radiation generation in F-centres, 0.6 to 1.26 μm range 9-36902
 LiNdPO₄, simultaneous oscillations of different transitions in lasers 9-22927
 N₂, 337.1 nm emission, high specific power, high pulse repetition freq. 9-45932
 N₂ laser transitions, Ar(²P₂) + N₂(C³Π_u) excitation transfer cross section, radiative lifetime 9-27246
 N₂, photostabilised UV laser, gain, fluoresc., and energy extraction characts. 9-7118
 N₂, transverse excited C³Π_u-B³Π_g(0-0) UV laser band, spectroscopic rot. anal. 9-7115
 N₂-F₂ mixture, fast Blumlein discharge excited, intense 3371 Å laser emission 9-41365
 NH₃, IR and far IR laser emissions, using TE CO₂ laser pump 9-934
¹⁴NH₃, far IR CW laser emission by optical pumping 9-3687
 Na:CaF₂, tunable room temp. laser action of M-centres, luminesc. and absorpt. spectra 9-31907

laser transitions continued

- Na:SrF₂, tunable room temp. laser action of M-centres, luminesc. and absorpt. spectra 9-31907
 Na₂NdP₆(PO₄)₆Cl₂, self-activated mini-laser material, quantum yield determ. 9-33773
 Nd:glass Q-switched laser controlled by external signal, stimulated emission characts. 9-10312
 Nd³⁺:glass, laser props., uncorrelated inhomogeneous broadening of 1.06 μm band induced luminesc. quenching 9-31914
 Nd³⁺:LiNdO₃La_{0.7} phosphate glass, stimulated emission characts. 9-18426
 NdAl₃(BO₃)₄, cw laser action at 1.3 μm 9-27258
 NdAl₃B₂O₁₂, self-activated mini-laser material, quantum yield determ. 9-33773
 NdAl₃(BO₃)₄, miniaturised crystals with directly applied mirrors, laser emission 9-22958
 NdP₃O₁₄, cw laser action at 1.3 μm 9-27258
 NdP₃O₁₄, self-activated mini-laser material, quantum yield determ. 9-33773
 Nd_{1-x}Y_xP₂O₁₄, laser emission at 1.32 μm , Ar laser pump source 9-31909
 Ne like multiply charged ion transitions, stimulated emission possibility in far UV 9-10292
 Ne-Ag, UV ion laser, dominant transition at 318 nm 9-942
 Ne-Cu, UV ion laser, dominant transition at 260 nm 9-942
 Ni:MgF₂, efficient CW optically pumped laser, 1.63 to 1.75 μm operation 9-18425
 O₂, possible high energy laser at 1.27 μm 9-13950
 Se, laser action at 489 nm or 777 nm, OCS₂ photolysis 9-31889
 Sr vapour pulsed laser, power characts. of laser transitions in Sr I, II 9-10290
 Sr⁺ cyclic ion laser oscillating at 1033 and 1092 nm, single and double pulse expts. 9-22940
 Te₂, optically pumped continuous laser oscill., 550 to 660 nm 9-933
 Tl atomic laser pumped by TII photodissociation, hyperfine struct. of laser transitions 9-18411
 Tl-Hg excimer, emission pressure and temp. depend., blue band gain, RF excited discharge 9-22941
 Xe-Ne-He hollow cathode discharge, laser oscill. at 5314 Å Xe II line 9-3679
 XeF, C-A blue-green band, gain meas. at 488 and 475.9 nm 9-45929
 XeF waveguide laser operation on 351, 353 nm transitions 9-22942
 XeO, photochem. laser performance, 0.54 μm stimulated emission 9-45938
 ZnCd_{1-x}S, platelet single cryst. one-photon optical excitation, spatial distrib. and mode struct. of laser emission 9-31912
- laser tuning**
 coumarin dye laser, mode-locked flashlamp pumped, tunable blue ps pulses 9-13974
 coumarins (C-30, C-102, C-7), synchronous pumping and mode locking 9-45966
 diphenyl-stilbene dye, sulphonated, CW laser emission, tunable down to 390.4 nm 9-41379
 dye CW laser, tunable by holographic grating 9-27288
 dye laser, flashlamp pumped, freq. tunable ns duration pulses by pulsed Q-modulation 9-41403
 dye laser, N₂ laser pumped, tunable ultrashort light pulse generation (German) 9-27275
 dye laser, production of tunable picosecond pulses 9-22976
 dye laser, tunable, flashlamp excited, triplet quenching effect 9-31892
 dye laser, tunable emission by pumping with Nd:YAG laser 9-950
 dye laser, tuning and active mode-locking, interferometry technique 9-22982
 dye laser excited by pulsed N₂ gas laser (Korean) 9-13963
 dye laser SHG, automatically tunable 9-985
 dye laser tunable coherent radiation source, 185 to 880 nm, stimulated Raman scatt. in H₂ 9-31980
 dye laser tuning by dielectric interference filter-coated prism 9-10322
 dye laser tuning range extension using electrochem. reaction products 9-31895
 dye lasers, tunable narrow bandwidth 2 MW, pumped by KrF* discharge laser 9-41378
 dye ring laser, second harmonic CW, 292 to 302 nm tuning range 9-41392
 dye synchronously pumped mode-locked CW system, pulse characts., cavity detuning effect 9-3726
 dye UV laser, tunable picosecond, pumped by Nd:YAG laser third harmonic 9-31927
 fibre Raman ring laser, tuned by interferometer or pump pulse rate variation 9-22981
 fluoromethane far IR CW laser, Stark effect, large freq. tuning and resolved structures 9-45931
 fluoromethane laser emission from unstable resonator 9-22983
 free-electron laser amplifier, exact classical electron dynamics 9-41362
 gas ring laser, opposite wave freq. difference, mag. field 9-7156
 grazing incidence grating efficiencies, rel. to dye laser tuning 9-36990
 methanol far IR CW laser, Stark effect, large freq. tuning and resolved structures 9-45931
 nonlinear device descriptions, characts. and potential 9-990
 oxazine-1-perchlorate mode-locked CW dye lasers, tunable near IR ps and subps pulse generation 9-45972
 ring laser, freq. shift and splitting for opposite waves, spatially inhomogeneous media 9-7155
 stimulated Raman scatt., creation of laser source, near IR to submillimetre waves (French) 9-31993
 submillimetre laser output and efficiency, rel. to pump frequency displacement 9-31866
 subpicosecond spectroscopy, high intensity, broad wavelength tunability 9-44950
 tetrafluoromethane optically pumped laser, tuning and stabilisation 9-13985
 tunable lasers, review (Japanese) 9-27270
 unstable resonator, for low-gain media 9-22984
 wide-band tunable lasers, frequency-locking system 9-18432
 CO₂ CW sequence laser lines generated using incavity NH₃ cell 9-18438
 CO₂ high-power pulsed laser continuously tunable over wide freq. range 9-45925
 CO₂, pulsed TE laser, tunable single-mode operation by means of selective absorbers 9-36940
 CO₂ TEA far IR laser, optimum spectral matching 9-31857

laser tuning continued

- CO₂ TEA UV preionized laser, non-dispersive tuning 9-31856
- CaO, tunable optical gain at 3600 Å using F⁺ centres 9-45947
- DCN, 250 mW continuous discharge laser at 195 µm 9-31949
- D₂O far IR laser pulses, real-time spectral anal. using SAW dispersive delay line 9-45983
- H₂ laser, tunable IR waveguide Raman type pumped by dye laser, 0.7-7 µm range 9-45959
- He-Xe laser, Zeeman tuned (*Korean*) 9-7145
- LiF, coherent freq. tunable radiation generation in F-centres, 0.6 to 1.26 µm range 9-36902
- LiNbO₃, tunable parametric Raman laser utilizing polaritons 9-41418
- Nd laser, continuously tunable, pulsed, operation and output, characts. 9-18448
- Nd:glass laser with continuously tunable ps output, polaris. filter 9-22985
- PbSe, pressure tunable CW injection laser, emission spectra 9-18419

laser velocimeters

- anemometer interferometer, for simultaneous velocity and density meas. 9-18976
- anemometer elements, Gaussian beam transform. 9-45991
- anemometry, Reynolds stress exp. analysis appl., turbulent flow in rectangular channel (*Italian*) 9-4094
- Benard convection, transient, laser speckle photography obs. 9-32508
- commercial LDA instruments (*Czech*) 9-46409
- differential-type laser speckle velocimeter 9-31975
- Doppler, Czech instruments (*Czech*) 9-23388
- Doppler, instantaneous, using fast wavelength tracking Michelson interferometer 9-7430
- Doppler, using radiation from C₃F₄I laser 9-23005
- Doppler anemometer and digital correlator system for direct measurement of velocity correlation functions 9-27728
- Doppler anemometer system, influence of Gaussian beam props. 9-41406
- Doppler anemometry, GaAlAs laser diode sources 9-14499
- Doppler anemometry for meas. in oscillatory boundary layer beneath water waves 9-27719
- Doppler anemometry of high-temp. industrial gas flow (*German*) 9-10618
- Doppler linear velocity meas. by YAG laser 9-26039
- Doppler velocimeter signal analysis for pulsatile arterial flow meas. (*Japanese*) 9-2156
- Doppler-difference laser anemometry, appl. to wind tunnel meas. 9-7421
- dynamic flow characteristic determ. of electro-hydraulic servo-valve using laser velocimeter 9-32719
- flow meas., laser Doppler anemometry, practical considerations 9-27725
- measurement principles (*Polish*) 9-4096
- polyethylene oxide, dilute aq. soln., laminar viscous tube flow, scale-depend. effect 9-7367
- SAW velocity meas. by phase-sensitive laser probe 9-46911
- supersonic flowmeter using laser beam and Fabry-Perot interferometer 9-7420
- three dimensional Doppler, using cross-bispectral analysis 9-30426
- transonic axial compressor rotor flow field anal. 9-4009
- turbulent flow, meas. in vicinity of cation-selective membrane using scatt. laser radiation Doppler shift 9-46301
- two-component LDV, appl. to flame induced flow meas. 9-23380
- velocity and signal quality relationship in laser Doppler anemometry 9-14501
- vortices, merging, in wind tunnel, surveys 9-32718

lasers

- see also chemical lasers; distributed Bragg reflector lasers; distributed feedback lasers; dye lasers; excimer lasers; free electron lasers; gas lasers; laser beams; laser frequency stability; laser tuning; liquid lasers; nuclear pumped lasers; Raman lasers; ring lasers; solid lasers; X-ray lasers*
- amplifier output enhancement by self-focusing suppression 9-13986
- conference, lasers and their appls., Dresden, East Germany (Mar.-Apr. 1977) 9-7137
- development, recollection by Townes 9-21517
- energy meas. by optical calorimetry, hollow graphite cone appl., absorption characts. determ. (*Slovak*) 9-40572
- picocond phenomena, conf., Hilton Head, USA (May 1978) 9-44940
- practical IR optics, conference, Los Angeles, USA (Jan. 1978) 9-23085
- radiation energy, spectral and time range meas., instruments 9-35687
- review of work at Ukrainian SSR Acad. of Sci. (*Russian*) 9-45950

latent heat

- see also heat of fusion; heat of sublimation; heat of vaporisation*
- heat storage, periodic, heat-carrying fluid and storage material transport kinetics 9-3901
- solar energy thermal storage by latent heat of fusion of mineral salts (*French*) 9-24915
- thermal energy storage by latent heat of fusion (*French*) 9-3893

latent heat of adsorption *see heat of adsorption*

latent heat of combustion *see heat of combustion*

latent heat of crystallisation *see heat of crystallisation*

latent heat of dissociation *see heat of dissociation*

latent heat of formation *see heat of formation*

latent heat of fusion *see heat of fusion*

latent heat of mixing *see heat of mixing*

latent heat of reaction *see heat of reaction*

latent heat of solution *see heat of solution*

latent heat of sublimation *see heat of sublimation*

latent heat of transformation *see heat of transformation*

latent heat of vaporisation *see heat of vaporisation*

latent image *see photographic process*

lattice constants

- see also crystal atomic structure*
- adenine hemisulphate hydrate, single cryst. growth from soln., props., cryst. parameters, X-ray anal. 9-32929
- adenine sulphate, single cryst. growth from soln., props., cryst. parameters, X-ray anal. 9-32929
- di-o-thymotide, cryst. chem. study and morphology (*French*) 9-46576
- FCC cryst., theory of response to [110] uniaxial loading 9-19310
- III-V compounds, lattice constant determ. of epitaxial layers and effect of misfit dislocations 9-19479
- III-V quaternary alloy, A_xB_{3-x}C₂D or AB₂C₂D₂, energy bandgap and lattice constant 9-4296
- ionic solids, lattice and defect props., modified electron gas approx. 9-42054

lattice constants continued

- LJD model, fine-grained lattices and continuum, Monte Carlo studies 9-12734
- methylammonium chromium selenate, lattice const. and ferroelec. props. 9-33641
- methylammonium gallium selenate, lattice const. and ferroelec. props. 9-33641
- polycaprolactam film, subjected to 9 kV elec. discharge, X-ray obs. (*Russian*) 9-23536
- polycrystalline materials, lattice parameter meas., systematic errors 9-10749
- polyethylene, branched, annealing effect on lattice const. 9-14698
- quartz powders, CaO soln. chemisorpt. rel. to lattice parameters, work function 9-37918
- rare earth mixed molybdates, R₂(MoO₄)₃, R_{2(1-x)}R'_{2x}(MoO₄)₃, cryst. growth and crystallographic data 9-43132
- RbBr, structural phase transition, Born-model and effects of hydrostatic and non-hydrostatic stresses 9-23721
- sphalerite materials, complex, spray pyrolysis 9-43574
- transition metals, interatomic forces, phonon spectra, from band structure charge densities 9-7662
- [(NH₄)_{1-x}K_x]₂SnCl₆, mixed cryst., spectroscopic study 9-33712
- Ag, vacancy formation energy, thermal expansion meas. 9-14798
- Al, Gruneisen parameters, low temp. 9-23694
- Al, vacancy formation energy, thermal expansion meas. 9-14798
- Al₂O₃, polycrystalline, conditions for formation of anion vacancies 9-10844
- BaTiO₃, transform. of cryst. struct., at cubic-to-tetragonal phase transitions 9-37827
- CaF₂, anion-void superlattices (*Danish*) 9-14796
- Cd₂(NH₄)₂(SO₄)₃, X-ray and optical studies of ferroelec. phase transition 9-38495
- (Ce,La)_{1-x}Be_{1+x}, mag. intermediate valence behaviour, lattice parameters meas. 9-24131
- CeN, interconfiguration fluctuation, temp. and press. depend. 9-38031
- CeO₂-PrO_x system, mixed cryst. phase characterisation 9-14936
- CeRu₂, change of valence of Ce ions, induced by H absorption, supercond. disappearance 9-47185
- Cs₂NdLa(III)Br₆, prep., cryst. genesis, and charact. by X-ray powder diff. (*French*) 9-43135
- Cu, lattice and force const., pairwise atomic repulsions in cluster model 9-32939
- Cu-Ni-Fe, spinodal alloy, heat treatments for improved mech. props. 9-5024
- CuAl₂, constitutional defect struct., from X-ray and density meas. proposed substitutional-vacancy model 9-37696
- CuGaS₂, tetragonal distortion, crystal field splitting, temp. depend. 9-47060
- CuInS₂ crystals, growth, struct., and elec. props. 9-38729
- EuAs₃, new synthesis, trigonal anti-Th₃P₄-type compound, X-ray characterisation 9-37687
- EuO, nonstoichiometric film with excess EU, effect on resist. and Curie temp. 9-8204
- α-Fe, lattice and force const., pairwise atomic repulsions in cluster model 9-32939
- Fe-B, rapidly solidified, metastable phases (*German*) 9-29045
- α-Fe-Be(Mo)₂(Ti)(W), lattice const. at 293K (*Japanese*) 9-42256
- α-Fe-Be(W)-Co, solid soln., lattice constant at 273K (*Japanese*) 9-42257
- Fe-Ni-Cr-Ti-Al Elinvar alloys, dispersion-hardened, structural transform. (*Russian*) 9-1872
- Fe₃AlSi_{1-x}, DO₃ structured, ferromag., lattice parameters 9-42010
- Fe₃AlSi_{27-x}, DO₃ structured, ferromag., lattice parameters 9-42010
- Fe_{1-x}P_x, dilute alloys, electronic struct., mag., elec. and struct. props. 9-37971
- Ga_{1-x}Al_xAs, epitaxial layers, on GaAs substrates, X-ray double-cryst. diffractometry, state of strain 9-19480
- GaAs, fast neutron irradi., effect on cryst. lattice period, X-ray diff. meas. 9-37743
- Ga_{1-x}In_xSe, energy spectrum and struct., X-ray diff. and light absorption 9-11437
- Ga₂Se_{1-x}, grown by iodine vapour transport, X-ray struct. studies 9-4411
- GdIG, empirical formula for lattice const. calc. 9-27968
- In, muon quadrupolar interaction expansion of crystal lattice (*Russian*) 9-15388
- In_{1-x}Ga_xAs₂P_{1-y}, lattice matched to InP, band gap vs. comp., and Vegard's law demonstration 9-7782
- InO₃/Sn film, prep. by spray hydrolysis, struct., elec. and optical props. (*Japanese*) 9-42678
- In₂O₃, lattice defects, optimum prep. conditions w.r.t. stoichiometry 9-27974
- K, lattice parameter determ. by neutron scatt. 9-7576
- KCl, thermal expansion, compressibility and melting calcs. 9-33069
- KH₃(SeO₃)₂, ferroelastic, lattice const. and thermal expansion tensors, X-ray diff. meas. 9-37856
- LaRu₂, supercond. disappearance on H absorption 9-47185
- Li, electronic structure and lattice const. determ. using orthogonalised modulated plane wave method (*Ukrainian*) 9-42436
- LiNbO₃:Fe, local photodeformation 9-42932
- (Lu_{1-x}Sc_x)₂V₂O₇, prep., cryst. chem. and chem. anal., lattice const. determ. 9-41986
- Lu₂V₂O₇, prep., cryst. chem. and chem. anal., lattice const. determ. 9-41986
- (Lu_{1-x}Y_x)₂V₂O₇, prep., cryst. chem. and chem. anal., lattice const. determ. 9-41986
- MnAs_{1-x}P_x, mag. and crystallographic anal. 9-47257
- MnAs_{1-x}Sb_x, mag. and crystallographic anal. 9-47257
- MnZn ferrites, neutron diff. exam. of influence of technology on mag. and cryst. parameters 9-42741
- NH₄MnCl₃, X-ray single crystal analysis, phase transitions, Mossbauer effect 9-19366
- NaCl, thermal expansion, compressibility and melting calcs. 9-33069
- Nb₂Ge, DC sputtered films, annealing and mech. deform. effects on struct. and supercond. props. 9-38217
- Nb₂Si, hypothetical, electronic struct., lattice parameters and possible supercond. transition temp. 9-23891
- Ni, Gruneisen parameters, low temp. 9-23694
- Ni, lattice and force const., pairwise atomic repulsions in cluster model 9-32939
- Ni-Cr, ordering in the vicinity of Ni₂Cr 9-38819
- Ni-Cr, solubility limit determ., X-ray method 9-43199

lattice constants continued

- NiFe₂O₄, effect of sintering in air in range 1373-1773K on lattice parameter 9-19208
 Ni₂Mo, order-disorder phase transform., X-ray diff. (*Russian*) 9-1855
 Ni_{1-x}Rh_xS, nonvolume effect of Rh substitution on paramag. antiferromag. nonmetal transition 9-28277
 (Pb_{1-x}Bi_x)_{1-x}La_{1-x}Nb_{2-x}O₆, ferroelec., phase transitions 9-38487
 Pb_{1-x}Sn_xTe layers, LPE, phase diagram rel. to lattice const., distrib. coeffs. 9-37925
 PbTiO₃, single crystals., lattice parameters and birefringence as function of temp. 9-38517
 Pd-Fe, dil., anomalous lattice parameters and H₂ solubilities 9-33091
 RbCaF₃, cubic to tetragonal phase transition, neutron diff. obs. 9-23730
 RbCl, structural phase transition, Born-model and effects of hydrostatic and non-hydrostatic stresses 9-23721
 RbCrI₃, radiocrystallographic study, lattice parameters (*French*) 9-46632
 RbH₂(SeO₃)₂, ferroelec. phase transition, X-ray study 9-38479
 SeM, (M = Ru, Rh, Pd, Ag, Mo), self-consistent local density functional calcs., LMTO method 9-11059
 Si, lattice constants anomalous temp. depend. 9-46821
 Si, lattice parameters and perfection (*Japanese*) 9-4300
 Si, preliminary X-ray interferometry results 9-7522
 SnSe, single crystals., growth by Bridgman technique, electron diff. anal., lattice const., carrier conc. 9-47616
 Ta, muon quadrupolar interaction expansion of crystal lattice (*Russian*) 9-45388
 ThSiO₃, single crystals., prep. by vapour phase reaction, lattice parameters 9-28905
 Ti-Mo-V (8 wt.%, 8 wt.%), FCC phase, decay of β -solid soln., electron microdiff. 9-15670
 TiO₂, thermal expansion of cubic phase at low temp. X-ray diff. anal. 9-1514
 TiO₂H₂, thermal expansion of cubic phase at low temp. X-ray diff. anal. 9-1514
 TmSe, nonstoichiometry, high temp. chem. and valence instability (*German*) 9-23743
 Tm₂V₂O₇, prep., cryst. chem. and chem. anal., lattice const. determ. 9-41986
 UN, lattice parameters determ. by X-ray diff. 9-19212
 US-UC-UC₂ system, potential nuclear fuels, phase solid soln. studies, prep. and props. exam. 9-40996
 V₃In, hypothetical, electronic struct., lattice parameters and possible supercond. transition temp. 9-23891
 V₂Se₃ (x = 1.04, 1.13, 1.15), crystallographic parameters correlation to heats of formation and reduced length 9-27963
 V₂Si, powdered, Debye-Waller factors and lattice const., 25-1000K, X-ray diff. obs. (*German*) 9-33060
 Xe adsorbed monolayers, thermodynamic props. and lattice const., quasi-harmonic theory 9-42380
 Y, thermal and elastic props. 9-33027
 YIG, empirical formula for lattice const. calc. 9-27968
 Yb₂V₂O₇, prep., cryst. chem. and chem. anal., lattice const. determ. 9-41986
 Zn island films, effect of surface press. on lattice spacings 9-11045
 Zn, vacancy concentration meas., lattice parameter and length changes, form. parameters 9-37697
 ZrC deposit on C steel surface, exam. of composition (*Russian*) 9-34201

lattice defects see crystal defects

lattice diffusion see diffusion in solids

lattice dynamics

- see also crystal surface and interface vibrations; displacive transformations; Gruneisen coefficient; lattice dynamics of covalent crystals; lattice dynamics of ferroelectric crystals; lattice dynamics of ionic crystals; lattice dynamics of metallic crystals; lattice dynamics of molecular crystals; lattice localised modes; lattice phonons; soft modes; vibrational states in disordered systems
 alkaline earth chalcogenides, crystal parameters calcs. using repulsive interaction pot. 9-37795
 anharmonic crystal O(λ^4), phonon self energy, monatomic linear chain model calcs. 9-42161
 anharmonic oscillator, highly excited, damping, asymptotically exact solution 9-33041
 band tailing due to zero-point vibrs. in perfect cryst. 9-28267
 centre with close electronic levels, temp. effects 9-37804
 crystals and dislocations, spontaneous breakdown of spatial translation invariance (*German*) 9-7653
 cubic crystals, overlap shell model, bond charge model 9-42156
 dimers, singlet-triplet energy gap, temp. depend. 9-7809
 dimethylammonium manganese chloride, perovskite type layer struct., lattice dynamics 9-33053
 domain wall Brownian motion and diffusion constants 9-37775
 Ewald dynamical theory of diff., lattice dynamics problem (*Czech*) 9-46757
 FCC, cryst. fine particles, freq. distrib. function 9-4376
 flexible structures, physical props. 9-19331
 fluoride, Mn⁴⁺ activated, configurational co-ordinate model, predictive use 9-19918
 free energy of crystal, uncorrelated-pairs approx. 9-42200
 Frenkel-Kontorova model, equil. config., numerical study 9-40474
 graphite, atomic thermal motion comparisons at 300K based on X-ray neutron and phonon spectrum data 9-7657
 ice, hexagonal, Raman spectrum of translational lattice vibrs., press. effects 9-24304
 incommensurate lattices, optical absorption and neutron scatt., lattice dynamics 9-33039
 incommensurate lattices, statics and dynamics 9-23913
 inner elastic constants, symm., depend. on symm. of interlattice tensors 9-28028
 inner elastic constants, tensor notation and relation to lattice dynamics 9-28027
 light diffraction, Ewald extinction theorem and Green function method for semi-infinite dipole cryst. 9-23683
 mag. dipole transitions ³D₂-¹F₄, interpretation 9-42505
 mica tetrahedra, cation-apical O vibrs., IR spectra 9-47420
 neutron scattering conference, Gatlinburg, TN, USA (June 1976) 9-41910
 normal modes vibrations, use of group of neutral elements of crystalline sites 9-37774
 one-dimensional diatomic chain, order-disorder transition, simple model 9-4394

lattice dynamics continued

- one-particle pot. formalism, site symmetrized Fourier invariant treatment of anharmonic temperature factors 9-33040
 phenomenological models (*Polish*) 9-37769
 quantum field theory of crystals and extended objects, review 9-42164
 rate processes in condensed media, anharmonicity effects 9-19349
 relaxation structs., physical props. 9-28050
 second sound, molecular dynamics study 9-42207
 semiconductor, deep centres, nonradiative de-excitation 9-38644
 semitransparent solids, approx. band model for radiative transfer 9-37130
 sine-Gordon kinks, nonequilib. props. using mol. dynamics techniques 9-12737
 specific heat, const. press., press. variation of vacancy contrib. 9-1510
 ternary alloys, vibrs. freq. distrib. spectra, small cluster statistical theory 9-24317
 undamped lattice vibrations in systems with two incommensurate periodicities 9-10904
 vibrational dephasing in liquids and solids 9-38552
 wave scattering, fluctuating inhomogeneous media, model for teachers 9-21492
 [(NH₄)₂-K]₂ CuCl₄·2H₂O, Raman scatt. spectra 9-15459
 AgI₂O, dynamics of IO₄⁻ vibr. in lattice 9-42157
 AgNa(NO₃)₂, ferroelectric phase transition, theory 9-24272
 β -Al₂O₃-X₂O, (X = Na, K, Rb, Ag, Tl), infrared and Raman spectra 9-1761
 As₂S₃, network dynamics, vibrs. band splittings 9-42199
 CdI₂-CdBr₂ mixed layer cpds., rigid layer modes and van der Waals interactions, Raman spectra obs. 9-33700
 CdS, chemically precipitated film, optical spectra, annealing effects (*Russian*) 9-11424
 Co(NH₃)₆(IO₄)₃·2H₂O, dynamics of IO₄⁻ vibr. in lattice 9-42157
 CsIO₄, dynamics of IO₄⁻ vibr. in lattice 9-42157
 FeCl₃, vibrational excitations, polarised Raman spectra 9-19888
 FeCl₃ intercalated with graphite, vibrational excitations, polarised Raman spectra 9-19888
 GaAs, piezoelectric constant due to bond bending, electron redistribution effect 9-38457
 GaAs:Cu, electron-phonon interaction in optical transitions between deep impurity level and allowed bands 9-42591
 GaS, factor-group analysis of high-symmetry layer dynamics 9-42160
 GaSe, factor-group analysis of high-symmetry layer dynamics 9-42160
 GeBr₄, isotopic splitting in totally symm. stretching vibrations 9-42967
⁴He, FCC high-density cryst., lattice dynamics by inelastic neutron scatt. 9-1539
 α -HgI₂, red, normal modes vibrations, use of group of neutral elements of crystalline sites 9-37774
 InAs, lattice dynamics 9-14895
 InP, lattice dynamics 9-14895
 InS, Raman scatt. spectra and interpacket interaction 9-8146
 InSb, lattice dynamics 9-14895
 KIO₄, dynamics of IO₄⁻ vibr. in lattice 9-42157
 K₂NaAlF₆:C³⁺, ²E_g-⁴A_{2g} phosphores. spectrum, vibrs. struct. 9-47494
 K₂SO₄, D_{2d}¹⁶ and C_{2v}⁹ phases, internal and external vibrs., Raman spectra obs. 9-47446
 Kr, anharmonic contributions of O(λ^4) to mean-square atom displacement 9-42155
 LiC₆, Raman spectrum, rigid band model anal. 9-4800
 LiIO₄ and LiIO₄·2/3H₂O, dynamics of IO₄⁻ vibr. in lattice 9-42157
 Li₃N, superionic conductor, cryst. growth and struct., phys. props., book contrib. 9-42308
 LiScO₂:Bi³⁺, luminesc., vibrs. struct. 9-33790
 Mg-Cd, thermodynamic props., order-disorder transitions based on Helmholtz free energy 9-37853
 MnCl₂·2H₂O, Raman spectra and lattice dynamics 9-28742
 (Mn_{1-x}Re_x)₂(CO)₁₀, Raman spectra, intramol. vibr. coupling, ¹³C substitution 9-47431
 MoS₂, factor-group analysis of high-symmetry layer dynamics 9-42160
 (NH₄)₂CuCl₄·2H₂O, Raman spectra, dynamics, struct., phase transition 9-47434
 NH₄IO₄, dynamics of IO₄⁻ vibr. in lattice 9-42157
 NaClO₃-NaBrO₃, Raman spectra, mode coupling and ⁷⁹Br-⁸¹Br isotope effects 9-19873
 NaCrS₂, antiferromag. semicond., Raman and far-IR spectra 9-47454
 NaIO₄, dynamics of IO₄⁻ vibr. in lattice 9-42157
 NaIO₄, normal coord. anal., internal and external modes 9-23684
 NaLnO₂:Bi³⁺, (Ln = La, Gd, Sc), luminesc., vibrs. struct. 9-33790
 Na₃M₂Li₃F₁₂, M = Sc, Ti, V, Cr, Mn, Fe, Ce, Ni, IR spectra 9-38544
 NaNO₃, pure cryst., NO₃⁻ singlet-triplet absorption, Stark effect obs. 9-8153
 Ne, lattice vibrs., heat capacities 9-42169
 PbCO₃·PbX₂ (X = Cl, Br), vibrs. props. 9-24319
 PbI₂, factor-group analysis of high-symmetry layer dynamics 9-42160
 Pb₃(PO₄)₂, IR dispersion at room temp. 9-15460
 PbTe-based solid solns., 9-23990
 Pt₃Mn, cryst. dynamics at 80K 9-23688
 Rb-K, lattice vibrs. in CPA, comparison to neutron scatt. meas. 9-42165
 RbIO₄, dynamics of IO₄⁻ vibr. in lattice 9-42157
 RbMnF₃, triplet states, piezospectroscopy 9-38562
 ReCl₆²⁻ doped in various host lattices, luminesc. spectra and vibrs. struct. 9-43024
 SiBr₄, isotopic splitting in totally symm. stretching vibrations, Raman spectra 9-42967
 SnBr₄, isotopic splitting in totally symm. stretching vibrations 9-42967
 α -VD₀₇, interstitial vibrs., coherent neutron scatt. study 9-42196
 K₂Fe, forbidden Bragg refls., rel. to supercond. transition temp. 9-15251
 Xe, lattice vibrs., heat capacities 9-42169
 YAl₃B₂O₁₂:Bi³⁺, luminesc., vibrs. struct., energy transfer 9-38584
 ZnSe 9-38457

lattice dynamics of covalent crystals

- chalcopyrites, sphaleritelike vibration mode, group theoretical anal. 9-7661
 diamond, coherent nonlinear two-phonon Raman spectra 9-19878
 semiconductors, covalent, phonon spectra calc. using dielectric matrix approach 9-4381
 Ge, impurity modes due to point defects, comparison with IR and Raman meas. 9-4386
 Ge, phonon density of states from thermodynamic functions (*Russian*) 9-35631
 Si (111), dynamic effective charge and surface reconstruction, soft-mode theory 9-4460

lattice dynamics of ferroelectric crystals

- see also *displacive transformations; soft modes*
 displacive type, Ginzburg-Lavanyuk parameter 9-8106
 displacive type ferroelectrics with impurities, lattice dynamics 9-28061
 guanidinium aluminium sulphate hexahydrate, pyroelectric coeff., 1.8-300K, dynamic method, low freq. polar optic modes (*French*) 9-19844
 incipient ferroelectrics, mode-mode coupling 9-38464
 orthophosphates, dynamics of ferroactive cryst. 9-37801
 phase transitions, ferroelectric and structural refractive indices and electro-optics 9-19850
 polaron state of electron near structural instability in ferroelectrics and antiferroelectrics, polaron state of electron near structural instability 9-33245
 pseudo-ionic model for ionic crystals, appl. to BaTiO₃ 9-33049
 Rochelle salt, phase transition mechanisms by optical spectroscopy 9-15411
 saccharose, single cryst. low-temp. pyroelectricity 9-42906
 self-consistent phonon theory 9-37802
 tetragonal tungsten bronze structure ferroelec. mech. for ferroelec. transition 9-38481
 TGS, pyroelectric coeff., 1.8-300K, dynamic method, low freq. polar optic modes (*French*) 9-19844
 TGSE, pyroelectric coeff., 1.8-300K, dynamic method, low freq. polar optic modes (*French*) 9-19844
 thiourea, lattice vibrs. in incommensurate phase 9-28056
 thiourea, pyroelectric coeff., 1.8-300K, dynamic method, low freq. polar optic modes (*French*) 9-19844
 uniaxial ferroelectrics, microscopic theory, crit. behaviour and anomalous elastic consts. 9-38463
 vibronic theory of ferroelectricity, developments 9-33620
 vibronic theory of ferroelectricity 9-19854
 zero-gap semiconductor, ferroelec. phase transitions, effect of Coulomb interaction on RPA calc. 9-28691
 [(NH₄)₂K_{1-x}Li_xSO₄·NH₄]⁺ dynamics, neutron scatt. study 9-42167
 BaMgF₄, low temp. phonon effects on polarisation 9-42905
 BaMnF₄, low temp. phonon, and exciton effects on polarisation 9-42905
 BaMnF₄, spectroscopy, ferroelectric/ferromagnetic coupling, soft optic mode frequencies 200-1000K 9-19845
 BaTiO₃, ferroelec., appl. of pseudo-ionic model for ionic cryst. 9-33049
 BaZnF₄, low temp. phonon effects on polarisation 9-42905
 Gd₂(MoO₄)₃, ferroelec., anomalous damping of phonons, Raman spectra, stress and temp. effects 9-38503
 KH₂PO₄, and isomorphs, ferroelectric transition and Curie temp., soft mode effect, Green's function anal. 9-24269
 KH₂PO₄, neutron critical scatt. in struct. transition due to homogeneous crystal deform. 9-42922
 KH₂PO₄, pyroelectric coeff., 1.8-300K, dynamic method, low freq. polar optic modes (*French*) 9-19844
 KH₂PO₄ type crystals, evidence of non-linear behaviour of soft modes, Raman spectra 9-33639
 α-KNO₃, lattice dynamics, inelastic neutron scatt. 9-4383
 LiTaO₃ high-temp. ferroelec. transition, soft mode IR reflectivity spectroscopy 9-33692
 (NH₄)₂SO₄, NH₄⁺ dynamics, neutron scatt. study 9-42167
 (NH₄)₂SO₄, phase transition mechanisms by optical spectroscopy 9-15411
 NaNO₂, ferroelec., X-ray diffr. topographic study of polarisation reversal 9-38441
 NaNO₂, lattice dynamics, two-phonon Raman scatt. and IR absorpt. 9-33684
 NdP₂O₁₄, ferroelastic, spectroscopy, ferroelastic/ferroelectric coupling, soft optic mode frequencies 9-19845
 Ni₃B₂O₁₃, dynamics of ferroelec. phase transition, Raman spectra obs. 9-33630
 PbHPO₄, ferroelec. phase transition, Brillouin and Raman spectra obs. 9-33683
 SrTiO₃, thermal motion at room temp., anharmonic or disordered 9-37805

lattice dynamics of ionic crystals

- alkali halide:CN⁻, internal modes reson. hybridization 9-42194
 alkali halide crystals, Szegedi effective charge parameter, strain derivative 9-7571
 plate, line widths in spectrum of surface vibr. 9-33174
 β-Agl, phonon-induced X-ray scatt. from lattice dynamical model 9-37790
 CdBr₂, lattice vibr., IR absorpt. meas. 9-4380
 CsAlCl₄, solid state Raman spectra, 298-80K, vibr., struct. 9-28745
 KBr, mode Gruneisen parameters, acoustic phonon dispersion relations 9-42201
 KCl:Pb, vibr. struct. of absorption band 9-33735
 NaCl, calc. of third- and fourth-order elastic constants 9-10891
 NaCl, lattice thermal and optical phonon contrib. 9-14971
 NaCl, phonon freqs. in off-symm. directions, neutron inelastic scatt. 9-46767
 PbI₂, ionic layer cpd., lattice dynamics, influence of static dipole moments 9-28057
 RbAlCl₄, solid state Raman spectra, 298-80K, vibr., struct. 9-28745

lattice dynamics of metallic crystals

- alkali metal, phonon frequencies, depend. on atomic mass 9-14901
 alkali metals, lattice anharmonicity 9-19341
 BCC structures, electron-ion interactions 9-4377
 CFC metals, frequency spectra, and correlated spectral density between bulk atoms 9-19330
 cubic metal, three-body forces and condition of equil. in models of Krebs and Cheveau 9-19333
 cubic metal, three-body forces and condition of equil. in models of Krebs and Cheveau 9-23687
 d-band metals, force fields 9-33051
 electron gas model 9-14894
 FCC, X-ray Debye-Waller factors, CGW vs. DAF models 9-37794
 FCC metals, (100)-split interstitials, internal modes reson. hybridization 9-42194
 FCC structures, electron-ion interactions 9-4377
 FCC transition metal, improved Fieiek model 9-19335
 HCP metals, phonon dispersion relations, effect of different dielec. functions on model pseudopot. calc. 9-33055
 ionic interaction in axially symmetric and Bhatia models 9-37767
 itinerant ferromagnet, tight-binding metal, Einstein temp. 9-24126
 metal, cryst. equil. and Cauchy deficiency 9-19328
 noble metals, angular force contribution 9-37768

lattice dynamics of metallic crystals continued

- transition metals, BCC crystals, seven parameter model calc. 9-19329
 transition metals, interatomic forces, phonon spectra, from band structure charge densities 9-7662
 transition metals, microscopic theory 9-7664
 transition metals, lattice dynamics calculations, superconductivity parameters 9-7655
 Ag, Gruneisen parameters, dynamical study using modified Bhatia model 9-37797
 Ag, lattice vibrations and ideal elec. resistivity 9-46770
 Ag, model pseudopotential method for phonon dispersion 9-23685
 Al, Gruneisen parameters, dynamical study using modified Bhatia model 9-37797
 Al, phonon dispersion curves, lattice dynamics unpaired forces 9-42170
 Au, Gruneisen parameters, dynamical study using modified Bhatia model 9-37797
 Au, lattice vibrations and ideal elec. resistivity 9-46770
 Au, model pseudopotential method for phonon dispersion 9-23685
 Be, HCP, electron-phonon interaction, thermal effects 9-33057
 Be, HCP metal, lattice dynamical props., unpaired forces, phonon dispersion relations 9-19336
 Be, phonon dispersion relations and Debye temp. 9-42171
 Cd, anisotropic thermal expansion 9-23750
 Cd, field gradients, temp. depend., electronic and lattice contribs., ab initio study 9-42501
 Cd, HCP, phonon dispersion relations, effect of different dielec. functions in model pseudopot. calc. 9-33055
 Co, FCC, electron response and modified Bhatia model 9-37771
 Cr, lattice dynamics, and sp. ht., extended de Launay model 9-46762
 Cu, Gruneisen parameters, dynamical study using modified Bhatia model 9-37797
 Cu, lattice and force consts., pairwise atomic repulsions in cluster model 9-32939
 Cu, lattice vibrations and ideal elec. resistivity 9-46770
 Cu, model pseudopotential method for phonon dispersion 9-23685
 α-Fe, lattice and force consts., pairwise atomic repulsions in cluster model 9-32939
 In-Tl, BCC alloys, stability and elastic consts., US vel. 9-42133
 K, phonon frequencies, normal mode Gruneisen parameters, pseudopot. calcs. 9-42184
 Li, anharmonic props., temp. depend. 9-19340
 Mg, anisotropic thermal expansion 9-23750
 Mg, HCP metal, lattice dynamical props., unpaired forces, phonon dispersion relations 9-19336
 Mg, phonon dispersion relations and Debye temp. 9-42171
 Nb₂Sn, martensitic transition, lattice anharmonicity 9-8300
 Ni, dispersion curves from deLaunay angular force model 9-33054
 Ni, lattice and force consts., pairwise atomic repulsions in cluster model 9-32939
 Ni:He, defect props., quantum-chemical and lattice-defect hybrid approach 9-4528
 Pb, phonon dispersion curves, lattice dynamics unpaired forces 9-42170
 Pb, transverse acoustic phonons, freq. and damping, supercond. transition temp. effects 9-42687
 Pt, phonon density of states from thermodynamic functions (*Russian*) 9-35631
 Pt, phonon spectrum, Kohn anomaly 9-46766
 Rb, lattice dynamical props., conduction-core exchange, Lindgren approx. 9-1481
 Sc, phonon dispersion, phenomenological model 9-7660
 Tb, phonon spectrum, obs. of one phonon transitions by nucl. reson. fluorescence 9-38416
 Th, lattice dynamics in reson. model pseudopot. theory 9-19334
 Tm, lattice dynamics, thermal expansion, sp. ht., mag. contrib. 9-37778
 V, Debye-Waller exponent, 4.2 to 296K, incoherent elastic neutron scatt. 9-4382
 Zn, anisotropic thermal expansion 9-23750
 Zn, field gradients, temp. depend., electronic and lattice contribs., ab initio study 9-42501
 Zn single crystals, antisymmetric atomic vibrs. from elastic neutron scattering data 9-33046
 Zr, BCC, lattice dynamics, 1400K, phase transform. 9-19337
 Zr, HCP, normal vibr. modes, temp. depend. 9-19339

lattice dynamics of molecular crystals

- anthracene, temp. depend. of mol. motion in lattice 9-33045
 benzene, cryst., vibronic spectra using 2-photon fluoresc. excitation 9-47493
 cyclohexane, rotational reorientation anisotropy near phase transition (*Russian*) 9-4261
 1,12-dicarbaoclosedodecaborane, plastic solid, phase transitions, 10-320K, Raman and IR obs. 9-28744
 ethylene, ab initio interaction pot. 9-33043
 formic acid, lattice vibr., pot.-function calcs., comp. to neutron scatt. data 9-42168
 methane, solid, far IR spectra, and lattice vibr., 4.2K, 0.4-4.5 kbar 9-19868
 N-methylacetamide, and isotopic forms, low-freq. Raman spectra, internal torsional mode 9-26992
 molecular crystal with impurities, nonequilibrium phonon excitation by laser pumping (*Russian*) 9-38664
 molecular mixed crystals, electronic transition props., Redfield theory 9-46008
 naphthalene, temp. depend. of mol. motion in lattice 9-33045
 naphthalene-d, press. depend. of lattice freqs. at 100K 9-46768
 naphthalene-tetracyanobenzene, doped cryst., EPR of triplet state for mol. reorientation 9-38368
 neutron spectroscopy determination, review 9-42166
 nonpolar molecular crystal phonon sidebands, Green's function mol. model 9-37779
 oxanilide, IR and Raman spectra, cryst. struct. and vibr. 9-42954
 pyrazole, orthorhombic and triclinic lattices, eqns. of state 9-28069
 rigid molecules, invariance and stability conditions, in lattice dynamical model calcs. 9-28051
 rigid molecules, with large librations, dynamic density and struct. factors 9-7515
 spin-lattice relax. of mol. crystals 9-15337
 TCNE, cryst. forms, '6-exp' pot. function 9-28055
 TCNQ, lattice vibrs., temp. depend., NQR obs. 9-38402
 tetrabromomethane, isotopic splitting in totally symm. stretching vibrations, Raman spectra 9-42967

lattice dynamics of molecular crystals continued

- As₂S₃, vibrational spectra, effect of temp. and press. on phonons 9-37776
 D₂O₂, lattice dynamics, neutron scatt. study 9-42176
 (KCN)_x(KBr)_{1-x}, Brillouin scatt. of elastic anomaly 9-28779
 N₂, solid, gamma-phase, anharmonic lattice vibr. 9-33705
 ND₃, atom-atom and multipole-multipole pot. lattice dynamics calc. 9-1479
 NH₃, atom-atom and multipole-multipole pot. lattice dynamics calc. 9-1479
 S₂N₄, vibrational spectra, effect of temp. and press. on phonons 9-37776

lattice energy

see also binding energy

- acetylene cryst., lattice energy, spheroidal multipolar expsn. for intermol. energy 9-14726
 alloy, nonlocality and energy of form. 9-20459
 amino acid, cryst., mol. dielec. function 9-7043
 benzidine, cryst. struct. and lattice energy 9-37694
 carboxylic acids, crystals, empirical interatomic potential functions 9-7567
 depolarization correction for Coulomb lattice sums 9-10829
 1,5-dichloro anthracene, cryst. struct. calc., use of at.-at. pots. 9-46646
 electronic potential energy and X-ray scatt., relationship 9-28311
 formic acid, lattice energy, non-empirical MO SCF calc. 9-37656
 hard-sphere solid, disordered, lattice energy 9-23542
 ionic crystals, electrostatic lattice energy, optimisation of convergence of Ewald series 9-7569
 Madelung energy of one-dimens. charge array, infinite series evaluation, for teaching 9-25803
 metals, electric properties calc., book 9-28274
 mica, layer deformation and cryst. energy, struct. models for 1M and 2M₁ polytypes 9-19184
 minimisation procedures for calc., comparison and appl. 9-32944
 molecular crystal, spheroidal multipolar expsn. for intermol. energy 9-10824
 permanent multipole, induced dipole interaction energies and vectors, computer algorithm 9-7573
 pyrene, cryst. struct. calc., use of at.-at. pots. 9-46646
 quantum solids, Boltzmann, energy, Kirkwood-Monroe approx. 9-33155
 RbBr, structural phase transition, Born-model and effects of hydrostatic and non-hydrostatic stresses 9-23721
 spinel structs., thermodynamic anal. of energy of cation octahedral sites 9-10827
 TCNQ salt, HMTTF-TCNQ, Madelung energy, intermol. charge transfer, 1-dimens. disorder 9-7572
 TCNQ salts, Wigner crystal model 9-42008
 tetra-alkylammonium halide interionic potential models and far IR spectra 9-33689
 tetrahedrally coordinated solids, charge distrib., localised mol. orbitals 9-23560
 thianthrene, heat of sublimation, cryst. lattice and polarisation energy 9-32941
 TTF, heat of sublimation, cryst. lattice and polarisation energy 9-32941
 TTF-TCNQ, 1:1 complex, atom-atom approx. and lattice energies 9-7568
 TiZr₂, charge transfer salt, Coulomb effects 9-46599
 Zachariasen's rules, Madelung constant, and network topology 9-27926
 AgCl(Br)(I), van der Waal dipole-dipole and dipole-quadrupole energies, Born and Slater-Kirkwood models 9-27947
 CoO-MgO, cryst. oxide demixing in O pot. gradient 9-37849
 CuCl(Br)(I), van der Waal dipole-dipole and dipole-quadrupole energies, Born and Slater-Kirkwood models 9-27947
 H, atomic crystalline phase, ground state energy calc. (Russian) 9-19426
 KCl, calc. of third- and fourth-order elastic constants 9-10891
 KCl:Li⁺, shape of pot. energy well of impurity 9-23692
 KCl:Li⁺(Na⁺)(K⁺), shape of pot. energy well of impurity 9-23692
 Li, electronic structure and lattice const. determ. using orthogonalised modulated plane wave method (Ukrainian) 9-42436
 MgBr₂-ABr (A=Cs, Rb, K, Na, Tl), thermochemical and struct. investigation (German) 9-1423
 Mn film, heat treated, lattice distortion energy, resist. meas. 9-19492
 Mn-MgF₂ cermet, heat treated, lattice distortion, resist. meas. 9-19492
 MnAs, soft mode, energy and entropy, competition with energy and entropy of spin system 9-10908
 NaBrO₃, comparative computations using explicit minimisation procedures 9-32944
 NaClO₃, comparative computations using explicit minimisation procedures 9-32944
 Ni_{1-x}Te_x, mixing energies of Ni atoms and vacancies 9-27975
 RbCl, structural phase transition, Born-model and effects of hydrostatic and non-hydrostatic stresses 9-23721
 Se, molecular cryst., Se-Se nonbonded pot. parameters derivation from heat of sublimation 9-27945
 β-Si₃N₄, Madelung energy calcs. 9-46605
 TiCl(Br)(I), van der Waal dipole-dipole and dipole-quadrupole energies, Born and Slater-Kirkwood models 9-27947
 UO₂, ionisation potential, cohesive, electronic and redox props. 9-47916

lattice gas see lattice theory and statistics**lattice localised modes**

see also phonon-defect interactions; phonon-impurity interactions

- alkali halide solid solutions, Stokes losses for crystalline vibrs. in impurity O₂ anions luminesc. spectra (Ukrainian) 9-43012
 atomic chain, anharmonic, change in nature of vibr. produced by deformation 9-7666
 crystal, subjected to high-energy, particle flux, excitation near point defects 9-7708
 cubic crystals containing substitutional impurities, slow neutron coherent scatt., phonon mass operator 9-28065
 dislocation, thermal vibrs., mean-square displacement, double-time Green function technique 9-19345
 dispersive phase transition, second-order, discontinuous freezing-out of local order 9-42204
 FCC metals, (100)-split interstitials, internal modes reson. hybridization 9-42194
 HCP lattice with substitutional impurity, defect Green's function and T matrix 9-42191
 impure crystals, vibrs. in average local information transfer approx. 9-46774
 impurity cluster pairs, lattice localised modes 9-33058
 impurity molecules in Debye solids, vibr. relax., stochastic classical trajectory calcs. 9-1482

lattice localised modes continued

- inert gas:Eu(Sm), absorpt. and emission spectra, phonon sidebands 9-43021
 intermediately coupled localised electron-phonon system, transient reson. Raman scatt. Franck-Condon-like excitation 9-8141
 linear mixed valence compounds, lattice modes obs. 9-46763
 molecular mixed crystals, electronic transition props., Redfield theory 9-46008
 naphthalene, solid, high-energy vibr. overtone spectra, local modes, intramol. relax. 9-28052
 naphthalene in durene matrix, spin-lattice relax. of phosphoresc. triplet state, PMDR study 9-27012
 nonmetals, Raman scatt. from impurities, phonon effects 9-24299
 nonmetals, Raman scatt. of impurities, anharmonic effects 9-24300
 one-dimensional crystal subjected to deform., static and dynamic equilib. 9-28037
 semiconductor, recombination enhanced defect reactions 9-38094
 semiconductors, multiphonon capture rate 9-38022
 solitons, lattice, scattering theory from mass impurity in cubic nonlinear lattice 9-4385
 superconductors, effects of local and quasi-local impurity modes on crit. characts. (Russian) 9-19692
 vibration entropy and mean square atomic displacements due to defects in crystals. (French) 9-28064
 vibrational relaxation, local phonon and roton receiving modes 9-46759
 vibronically coupled systems, cluster model 9-19540
 AgBr:Li⁺, time-depend. infrared absorpt. due to Li-localised mode 9-8133
 β-AgI, phonon-induced X-ray scatt. from lattice dynamical model 9-37790
 Al₂O₃, transition metal ion doped, phonon spectroscopy using freq. crossing techniques 9-42193
 β-Al₂O₃-Na₂O-K₂O, cation interstitial pair modes in vibr. spectra 9-37788
 β-Al₂O₃-Na₂O-Rb₂O, cation interstitial pair modes in vibr. spectra 9-37788
 BaF₂:Sm²⁺(Tm²⁺), vibronic spectra and dynamics of impurity-containing lattice 9-1787
 CaF₂:Sm²⁺, luminesc. spectra, vibronic wing, 2K 9-8182
 CaF₂:Tm²⁺, vibronic spectra and dynamics of impurity-containing lattice 9-1787
 CaS:Ce, Na, photon sidebands in emission and excitation spectra, pseudolocalised vibrs. 9-28800
 Cd⁶⁷Ge, elec. quadrupole interaction temp. depend., PAC meas. 9-42877
 Cd⁶⁷Zn, elec. quadrupole interaction temp. depend., PAC meas. 9-42877
 Cs:Mn²⁺, temp. depend. of rate of spin-lattice relax. 9-42832
 CsI:H⁺, U-centres, force consts. using Green's functions 9-46775
 Cu-Al alloy, dil., lattice expansion and localised vibr. mode 9-37789
 Cu-Al alloy, vibrs., average local information transfer approx. 9-46774
 CuGaS₂, lattice vibr. modes, Fourier transform spectroscopy 9-33701
 D₂, solid, sp. ht. effect of Ne impurities 9-33099
 Ga_{1-x}Al_xAs, solid solution, synthesized by ion implantation, Raman scattering 9-42972
 GaAs_{1-x}P_x, solid solution, synthesized by ion implantation, Raman scattering 9-42972
 Ge, impurity modes due to point defects, comparison with IR and Raman meas. 9-4386
 In⁶⁷Ge, elec. quadrupole interaction temp. depend., PAC meas. 9-42877
 KCl:Li⁺, shape of pot. energy well of impurity 9-23692
 KF:Li⁺(Na⁺)(K⁺), shape of pot. energy well of impurity 9-23692
 KI:H⁺, U-centres, force consts. using Green's functions 9-46775
 KM₂F₃:Fe²⁺, US relax. absorpt., acoustic wave-impurity coupling, spin-orbit splitting 9-4375
 LiGaO₂, light scatt. (German) 9-28730
 Mg, lattice distortion around vacancy 9-42192
 MgO, transition metal ion doped, phonon spectroscopy using freq. crossing techniques 9-42193
 NH₄Cl, cryst., impurity overtone states, interference two-photon spectrum (Russian) 9-24344
 NaI:H⁺, U-centres, force consts. using Green's functions 9-46775
 NaNO₃, isotopically mixed, vibr. spectra, IR and Raman spectra 9-28770
 Ne, solid, lattice relax. model of n=1 exciton emission 9-47492
 Ni:He, defect props., quantum-chemical and lattice-defect hybrid approach 9-4528
 Ni_{1-x}Pt_x, disordered system, phonon dispersion relations using pseudo unit cell model 9-28066
 α-PdH₃, H-motions, conc., temp., momentum transfer, annealing depend., neutron scatt., study 9-42197
 RbI:H⁺, U-centres, force consts. using Green's functions 9-46775
 Si, proton irradiated, IR absorption 9-33742
 Sn⁶⁷Ge, elec. quadrupole interaction temp. depend., PAC meas. 9-42877
 SrF₂:Pr³⁺, Nd³⁺, Tb³⁺, Dy³⁺, Ho³⁺, Er³⁺, Tm³⁺ far IR spectra 9-33736
 SrF₂:Sm²⁺, interconfig. luminesc. spectra, vibronic wing 9-24358
 SrF₂:Sm²⁺(Tm²⁺), vibronic spectra and dynamics of impurity-containing lattice 9-1787
 Th₄H₁₅, H vibr. modes, neutron scatt. study, phonon density of states 9-42195
 TiH_{1.92}, thermal neutron inelastic scatt. phonon spectra determ. (Chinese) 9-10906
 α-VD₂, interstitial vibr., coherent neutron scatt. study 9-42196
 Zn⁶⁷Ge, elec. quadrupole interaction temp. depend., PAC meas. 9-42877
 ZnO:Cu, H(D), IR absorpt. line spectra, OH and OD vibr., optical excitation 9-15498
 ZnS with substitutional impurity, dipole and weak-dipole vibr. 9-14904
 ZnS:Al, IR studies of Al complexes 9-33741

lattice mechanics see lattice dynamics**lattice phonons**

see also electron-phonon interactions; lattice dynamics of covalent crystals; lattice dynamics of ferroelectric crystals; lattice dynamics of ionic crystals; lattice dynamics of metallic crystals; lattice dynamics of molecular crystals; lattice localised modes; phonon-defect interactions; phonon dispersion relations; phonon drag; phonon-exciton interactions; phonon-impurity interactions; phonon-magnon interactions; phonon-phonon interactions; phonon-plasmon interactions; polaritons; soft modes; spin-phonon interactions; tunnelling spectra; tunnelling spectroscopy
 activated crystals, influence of temp. on energy transfer 9-28323
 alkali metal, thermal expansion, elastic constants, phonon freq. anisotropy (Russian) 9-1516

Lattice phonons continued

anharmonic crystal $O(\lambda^4)$, phonon self energy, monatomic linear chain model calcs. 9-42161
antiferromagnet, magnon and phonon damping, effect of intermediate state lifetime 9-24151
band modification caused by impurities and magnetophonon effect 9-42562
brass, nonradial diffuse streaks and complex diffuse scatt. patterns of electrons 9-7527
chalcopyrites, spherulitelike vibration mode, group theoretical anal. 9-7661
crystals and dislocations, spontaneous breakdown of spatial translation invariance (*German*) 9-7653
diamond, coherent nonlinear two-phonon Raman spectra 9-19878
1,4-dihalonaphthalene: octafluoronaphthalene, Raman spectra, phonon band mass coeff. tuning 9-8131
dirty superconductor limit, microjunction phonon spectroscopy (*Russian*) 9-11272
electron channelling patterns, contrast mechanisms, lattice-defect images, in SEM 9-27884
emission into diffusive medium 9-14896
EPR, saturation of inhomogeneous broadened line under bottleneck phonon condition (*Russian*) 9-8040
ethylene, lattice dynamics of cryst., ab initio interaction pot. 9-33043
exciton luminescence spectra, surface polaritons and Brewster waves (*Russian*) 9-43033
ferroelectric phase boundary, effect of temp. gradient 9-8107
ferroelectric with orientational transition, coupled elastic, EM and polarisation oscill. spectrum 9-8103
focusing and cond. in orthorhombic and tetragonal crystals, boundary scatt. regime 9-42162
frozen solution spectra, inhomogeneous broadening and phonon effects 9-33725
highly excited harmonic oscillator in crystal, damping 9-40408
hysteresis in nonequilibrium superconducting proximity-effect bridges 9-15258
II-VI semiconductor: Co^{2+} , IR luminesc., local density of phonon states 9-33778
impure crystals, vibrs. in average local information transfer approx. 9-46774
impurities, interaction and diffusion, near structural phase transition of matrix 9-42083
inert gas:Eu(Sm), absorpt. and emission spectra, phonon sidebands 9-43021
insulators, nonlocal hydrodynamics of phonon gas (*Russian*) 9-10900
light pulse resonant interaction with matter, lattice vibr. enhancement, relax. role 9-23009
linear conductor, dynamical aspects of fluctuations 9-33715
lithium thallium tartrate, single cryst., thermal cond. at low temps. 9-33125
metal, positron-phonon scatt. for non-equilibrium phonon subsystem 9-15551
methane, solid, probing phase transition with Mossbauer effect in ^{57}Fe impurities 9-4751
naphthalene, Raman active phonon freqs., linewidths and line shapes, temp. depend. 9-47432
naphthalenes, phonon satellite narrowing in local exciton luminesc. (*Russian*) 9-47507
nonequilibrium superconductivity, theory in coherent longitudinal phonon field 9-47205
opaque crystal, Brillouin scatt., photoelastic and surface corrugation contrs. 9-42980
opaque media, Brillouin scatt. theory 9-19895
organic conductors, Fano anti-resonance and IR props. 9-15465
paraelectric tunnelling systems, broadening mech. 9-28701
pentacene, in naphthalene (p-terphenyl), picosec. coherent transients obs. 9-46013
polar phonons in crystals, Raman scatt. theory 9-47447
quantum crystals, approx. second quantisation method 9-23804
quantum field theory of crystals and extended objects, review 9-42164
quartz, resonant powder, stimulated phonon echo, ang. and powder depend. 9-8093
rare earth orthoferrite, phonon slowing down of domain wall (*Russian*) 9-33503
rare earth systems, mag. field depend. of polaritons 9-33246
saccharose crystal, low temp. pyroelectricity 9-42909
semiconductor, narrow gap, optical phonon spectrum 9-7794
semiconductor, phonon spectrum in mag. field, renormalisation 9-28060
semiconductors, lattice thermal conductivity, high temp., role of optical phonons 9-33129
silicate minerals, relationship between phonon cond. and seismic parameter Φ 9-39707
small metallic particle, theory of far-IR absorpt. 9-19881
solid-state theory, introduction, book 9-33215
structural transitions, method of self consistent phonon field 9-33065
superconducting film, illuminated, heating model and spectral characts. of phonon emission 9-28442
superconductive tunnelling, appl. in inelastic electron tunnelling spectroscopy 9-4625
superconductor, theory of tunnel injection (*Russian*) 9-47198
supernonradiative phase transition, appl. to paramag. impurities in strong mag. field 9-14898
thermal optical rotation, temp. depend. 9-8111
transition metal compounds, electronically driven lattice instabilities, role of p-d hybridisation 9-7669
transition metal tunnelling, tunnel junctions, phonon struct., junction quality 9-11274
tunnelling, relaxation, competing models, paramagnetic defects 9-37787
uniaxial ferroelectrics, microscopic theory, crit. behaviour and anomalous elastic consts. 9-38463
US wave amplification and phonon echoes in microwave elec. field 9-19635
zincblende structure compounds, lattice dynamics, calc. program 9-33048
AgBr:Li, isoelectronic trap 9-43016
AgBr:Li⁺, time-depend. infrared absorpt., Li-localised mode decay into two phonons 9-8133
Al, phonon scatt. surfaces obs., by neutron film methods 9-46761
 $\beta-Al_2O_3-Na_2O-K_2O$, cation interstitial pair modes in vibr. spectra 9-37788
 $\beta-Al_2O_3-Na_2O-Rb_2O$, cation interstitial pair modes in vibr. spectra 9-37788

Lattice phonons continued

$\gamma-AlOOH$, boehmite, lattice vibrs., evidence for $C_{2v}^{1/2}$ space group 9-28756
AlPO₄, α - β cristobalite phase transition, Raman meas. 9-4799
Au films, thermal phonon radiation into α -quartz substrates 9-42363
BaMnF₄, incommensurate phase, Brillouin spectra 9-42981
BaTiO₃, phonon scatt. surfaces obs., by neutron film methods 9-46761
BaWO₄:Er³⁺, spin-lattice and spin-spin relax. times, electron spin echo obs. 9-28609
Bi, stationary I-U curve, falling portion under phonon generation conditions 9-15195
Bi, thermal conductivity at ultralow temp. 9-1532
Bi₂GeO₂₀, optical phonon freq. in vicinity of Brillouin zone, linear wave-vector depend. 9-19892
Bi_{1-x}Sb_x, crystalline, vibrational, spectra, second order Raman scattering 9-47455
Bi₂Sb_{1-x}Te_x film, effect of struct. on thermal cond. 9-28257
Bi₂SiO₁₀, film and single cryst., optical absorpt. edge and optical transitions 9-33730
Bi₂Te₃ film, effect of struct. on thermal cond. 9-28257
CO, in Ar matrix, vibr. line shape, vibr.-phonon interaction 9-3493
Ca₂, in solid Kr, discrete reson. Raman scatt. and vibr. relax. 9-18188
CaF₂:Gd, triply ionised, lowest energy 4f-5d transition 9-24345
Ca₃(PO₄)₂:F: Cr³⁺, spin-lattice relax. time and Debye temp., EPR obs. 9-28601
CaS:Ce, Na, photon sidebands in emission and excitation spectra, pseudolocalised vibrs. 9-28800
Cd, resistivity, existence of Einstein type phonon mode 9-42519
CdCr₂S₄(Se₄), ferromagnetic semiconductors, spinel-type, resonance Raman scattering and electronic structure (*Japanese*) 9-47421
CdGeAs₂, optical and elec. props. 9-19590
CdI₂:Ni²⁺, absorption and mag. circular dichroism, spectra, phonon density of states of CdI₂ deduced 9-19913
CdS, reson. Brillouin scatt. by longitudinal acoustic phonons 9-38555
CdS:Mn²⁺, temp. depend. of rate of spin-lattice relax. 9-42832
CdTe:Li, excitation spectrum of Li acceptor and valence band parameters 9-28795
CeCl₃, mag. field depend. of polaritons 9-33246
CoCl₂·2H₂O, phonons and electronic transitions, Raman spectra 9-28761
CrBr₃(Cl₃), two-dimensional mag. insulator, cryst. field splitting, spectroscopic g-factors 9-47059
Cu films, thermal phonon radiation into α -quartz substrates 9-42363
Cu₂Au, elec. resistivity, temp. depend. 9-47078
CuGaTe₂, IR lattice vibr. spectra 9-28765
CuInSe₂, IR lattice vibr. spectra 9-28765
EuS(Se)(Te)(O), Raman scatt. near mag. phase transitions 9-47458
Fe, microcrystal, temp. dependent lowering of Debye-Waller factor 9-1736
FeCO₃, Mossbauer quadrupole splitting of ^{57}Fe , vibronic effects 9-19813
FeCl₂·2H₂O(2D₂O), phonons and electronic transitions, Raman spectra 9-28761
FeS₂, optical absorpt. 9-43002
GaAs epilayers and p-n junctions, anisotropic phonon generation 9-37784
n-GaAs, hot electron distrib. function with LO phonon kink, photoluminesc. 9-19925
n-GaAs, longitudinal magnetophonon reson. and Fourier anal. 9-4569
n-GaAs, non-Maxwellian electron distribution function, from electric field-depend. photolum. spectrum 9-11450
GaAs-anodic oxide interfaces, struct. and chem. props., Raman scatt. obs. 9-47168
GaAs-Pb junctions, electron tunnelling under high press., transition temp., energy gap, phonon energies 9-15257
GaP:Ni, absorpt. and luminesc. spectra 9-42996
GaSe, layer cryst., elastic props. rel. to zone-centre phonon freqs. 9-46736
Gd₂O₃:Eu³⁺, luminesc., excitation spectra, cooperative phonon sidebands 9-33771
Ge, reson. Raman scatt. under uniaxial stress near E₁ gaps 9-42960
Ge:P, peripheral phonons and phonon cond. 9-14973
H₂, solid, orientational level structure of o-H₂ pairs, phonon renormalisation 9-47554
H₂, solid collective excitations observed by incoherent neutron scatt. 9-23690
⁴He, FCC cryst., self-consistent phonon theory 9-4453
nHg_{1-x}Cd_xTe, single-phonon and plasmon recomb. lifetime effect, with magnetically tuned bandgap 9-38098
HgCdTe(Se) MIS junction, phonon-assisted tunnelling 9-47170
In-Cd, soft mode, latent heats and entropies of fusion 9-46786
In-Tl, soft mode, latent heats and entropies of fusion 9-46786
n-InAs phonon propagation, heat pulse obs. 9-46852
In_{1-x}Ga_xP, non-isodisplacement of P atoms in long-wavelength optical phonons 9-47444
In_{1-x}Ga_xP, quantitative characterisation of chemical disorder from wavelength-modulated non-phonon absorpt. 9-15482
n-InSb, magnetophonon effect in parabolic band 9-37962
InSb, reson. Raman scatt. under uniaxial stress near E₁ gaps 9-42960
InSe, second order Raman spectrum and phase transition 9-38545
IrFe₆, neat and mixed cryst., Raman scatt., anomalous phonon behaviour 9-38540
K, helicon-phonon interaction 9-4379
K, helicon-phonon interaction, numerical study 9-46758
KBr:MnO₄⁻, vibronic spectra interpretation 9-37770
KBr:TL, impurity-induced first-order Raman scatt., critical-point and critical-line anal. 9-19884
KCN, librational and phonon sidebands of IR CN⁻ stretching mode 9-15457
KCl:TL, impurity-induced first-order Raman scatt., critical-point and critical-line anal. 9-19884
KH₂PO₄, E-symmetry Raman spectra 9-38535
KH₂PO₄, paraelec., Raman scatt. spectra of B₂-polariton and B₂(LO) modes 9-28762
KH₂PO₄, paraelectric phase, forward and backward Raman scatt. 9-33681
KI, zero phonon and LO phonon assisted luminesc. of free excitons 9-28799
KMgF₃:Er³⁺, Orbach-Aminov paramag. relax. processes, phonon bottleneck 9-28610
KNbO₃, acoustic modes near orthorhombic-tetragonal phase transition, temp. depend. 9-28058
K₂Pt(CN)₄Br_{0.3}·2H₂O, linear conductor, dynamical aspects of fluctuations 9-33715

lattice phonons continued

- K₂Pt(CN)₆Br₃·3H₂O, CDW pinning, phonon gap and pinning freq. at low temp. 9-7591
- K[Ag(CN)₂]₂, Raman scatt., press.-induced phase transitions and phonons 9-33698
- LaF₃:Pr³⁺, anomalous luminesc. decay, phonon reson. trapping and bottlenecking 9-43023
- LaF₃:Pr³⁺, optical free induction decay meas. of low temp. dephasing 9-46009
- La₂O₃:Eu²⁺, luminesc., excitation spectra, cooperative phonon sidebands 9-33771
- LiAl₂O₄:Cr³⁺, fluoresc. and excitation spectra, zero phonon lines 9-33785
- LiGaO₂, Raman scatt., optical modes determ. 9-15463
- LiGaO₃:Cr³⁺, fluoresc. and excitation spectra, zero phonon lines 9-33785
- LiNbO₃:Ti, in-diffused waveguide, acousto-optical meas. of optical field profiles 9-23054
- Lu₂O₃:S²⁺, luminesc., excitation spectra, cooperative phonon sidebands 9-33771
- Mg₂Ge, L, electron-phonon interaction and phonon cond. at low temp. L n-type semicond. 9-14903
- MgO microcrystals, IR absorpt. 9-42963
- Mg₂Sn, L, electron-phonon interaction and phonon cond. at low temp. L n-type semicond. 9-14903
- MnCl₂·2H₂O, phonons and electronic transitions, Raman spectra 9-28761
- MnSe₂, IR lattice vibrs., dielectric dispersion 9-28735
- Mo₂Se₃, Chevrel phase supercond., phonon spectra, neutron scatt. meas. 9-42174
- N₂, in solid N₂, phonon-assisted v-v transfer rates 9-10901
- β -ND₄Br, ND₄⁺ orientational fluctuations, neutron scatt. obs. 9-7557
- NaCN, librational and phonon sidebands of IR CN⁻ stretching mode 9-15457
- NaCl, lattice thermal and optical phonon contrib. 9-14971
- NaNO₃, ferroelec., lattice dynamics, two-phonon Raman scatt. and IR absorpt. 9-33684
- β and β -Na₂O₃-Na₂O, selection rules for spinel-block modes 9-19332
- NbH₄, thermopower, role of phonon dynamics 9-33284
- Nb₃Sn, electronic props. calc. 9-7780
- Pb, effect of supercond. transition on phonon energies and lifetimes 9-28432
- Pb, supercond., quasiparticle and phonon propagation 9-42689
- Pb superconducting film, nonequilib. gap instability and phase transition under intense tunnel injection 9-28476
- PbF₂, acoustic phonon modes up to high temps., neutron scatt. meas., time averaged defect struct. 9-33052
- Pb₃Ge₃O₁₁, Raman scatt., soft modes and damping near structural phase transition 9-28739
- Pb_{1-x}Ge_xTe epitaxial layers, phase transition obs. by far IR reflectivity spectroscopy 9-33691
- PbMo₆S₈, Chevrel phase supercond., phonon spectra, neutron scatt. meas. 9-42174
- Pb_{1-x}Mo_xSe₈, Chevrel phase supercond., phonon spectra, neutron scatt. meas. 9-42174
- Pb_{1-x}Sn_xTe, lattice instability and phonon-width, comprehensive model 9-14906
- Pb_{1-x}Sn_xTe, longit. optical phonon, freq. and damping coeff. 9-8162
- n-PbTe film, magnetophonon reson., 55-90K 9-7913
- Pd, phonon mediated interaction for triplet pouring 9-23911
- PdD₃, optical phonon spectra, supercond. tunnelling meas. 9-19701
- PdH₈, optical phonon spectra, inelastic neutron scatt. study 9-42016
- RbAg₄I₅, solid electrolyte, Rayleigh-Brillouin and low-frequency Raman spectra 9-33720
- RbH₂PO₄ powder, phase transition in paraelectric (upper) phase by measuring damping const. and amplitude of phonon echoes 9-19855
- RbI, zero phonon and LO phonon assisted luminesc. of free excitons 9-28799
- ReO₃, coeff. of linear thermal expansion, 100-500K 9-10972
- Sb₂O₇, polytype 2MA, ferroelectric, ferroelastic, Raman scattering and symmetry anal. 9-38550
- p-Si, galvanomagnetic effects 9-33297
- Si, piezo-spectroscopic study of ratio of electron-TO phonon to hole-TO phonon interaction 9-24289
- SnMo₆S₈, Chevrel phase supercond., phonon spectra, neutron scatt. meas. 9-42174
- SnS_{2-x}Se_x, Raman spectra 9-28763
- SRWO₄:Er³⁺, spin-lattice and spin-spin relax. times, electron spin echo obs. 9-28609
- Ta phonon frequencies calc. 9-19329
- ThBr₄:U⁴⁺, IR luminesc., zero phonon lines 9-33769
- TiH_{1.92}, thermal neutron inelastic scatt. phonon spectra determ. (Chinese) 9-10906
- TiO-MeO (Me=Ni, Co, Mn), solid soln., lattice thermal cond. 9-23791
- TiO₂, anatase, natural and synthetic crystals, Raman spectra and assignments 9-28752
- TiSe₂, semimetal, IR props. 9-24318
- TiGaS₂Se_{2(1-x)}, layer solid soln., mixed one- and two-mode behaviour of optical phonons 9-47445
- TiInS₃, optical phonons, IR and Raman spectra (Russian) 9-10903
- TiInS₃Se_{2(1-x)}, layer solid soln., mixed one- and two-mode behaviour of optical phonons 9-47445
- U₃O_{8-x}, depend. of therm. cond. on porosity, phonon mean free path calcs., Debye temps. 9-37886
- V film, superconducting tunnelling, meas. of annealing characteristics 9-7944
- V, photon frequencies calc. 9-19329
- V_{0.97}O_{0.03}, lattice dynamics exam., neutron scatt. 9-23689
- V₃Si, A 15 compound, Raman scatt. and phonon density of states 9-28768
- V₃Si, E_g optical phonon, Raman scatt. meas. 9-24316
- WO₃, condensed phonon modes in successive phases 9-46765
- YAC:Nd³⁺ crystal, zero-phonon linewidths, in ⁴I_{9/2}→⁴F_{3/2} luminesc. band calcs. 9-28834
- Y₂O₃:Eu²⁺, luminesc., excitation spectra, cooperative phonon sidebands 9-33771
- ZnAs₂, thermodynamic functions 9-10961
- ZnO, electron-hole recombination emission, temp. depend. and phonon repetitions (Russian) 9-15521
- ZnO, luminescent, phonon detection by shallow electronic trap states 9-14902

lattice phonons continued

- ZnO:Cu, excited state, zero phonon lines in emission and Zeeman spectra 9-38026
- ZnTe, relax. times of secondary radiations, circular polarisation correlation 9-28816
- lattice structure, crystals** see crystal atomic structure
- lattice theory and statistics**
see also Ising lattices; renormalisation; X-Y model
- 1/n expansion to order 1/n², crit. exponent β for d=3 9-35636
- 1/n expansion to order 1/n², crit. exponents γ , ν for d=3 9-35637
- ϕ^3 field theory with internal Potts symmetry, exactly soluble limit 9-45004
- Anderson localisation, statistical fluctuations in numerical approx. methods 9-6056
- anharmonic chain with nearest neighbour interaction, periodic permanent waves 9-150
- antiferromagnetic lattice, ground state energy, renormalisation procedure 9-40486
- Ashkin-Teller model, dual and star-triangle transforms. 9-30380
- Ashkin-Teller-Potts model, renormalisation group anal. 9-154
- asymmetric random walk with exponential transition probabilities, exact analytic results 9-44875
- Bell-Lavis 2-D bonded lattice model, critical behaviour 9-17356
- Bethe lattice, bootstrap percolation 9-30376
- Bethe lattice, spatial dims. 9-30381
- block spins in the edge of an Ising ferromagnetic half-plane 9-47220
- bond and site percolation, renormalisation group results 9-149
- boson gas, rigorous second-order cumulant expansion 9-44853
- chain dynamics simulation, lattice model (Russian) 9-22876
- chain of coupled nonlinear oscillators, large amplitude motion, numerical study 9-25993
- classical equilibrium statistical mechanics, mathematical struct., book 9-26017
- classical lattice field theory, inequalities and symmetry breaking 9-9131
- classical lattice gas, surface of separation between phases 9-44868
- classical lattice spin systems, Ornstein-Zernike and analyticity props. 9-12724
- classical n-vector model, spin-dimensionality dependence of critical parameters 9-40479
- classical n-vector models, d-2 and d-4 expansions 9-30387
- cluster motion on surface, stochastic evolution 9-40496
- coherent states and lattice sums 9-2650
- condensation, lattice gas, one-dimens., for teachers 9-18
- conductance network, random, simple, triangular, site percolation, effective medium theory 9-12746
- connected diagram expansion for lattice Hamiltonian models 9-21916
- continuous spin systems, position-space renormalisation group study 9-38350
- continuous symmetry breakdown, absence in more than 2-dimens. 9-6293
- coupled second-order differential equations, Weyl's theory appls. 9-30375
- cumulative distributions, symmetry- and composition-dependent of normalized structure amplitude for use in intensity statistics 9-32847
- Curie-Weiss model, random magnetisation, statistics, asymptotic behaviour 9-4639
- diagonalisation of the quadratic fermion Hamiltonian with a linear part 9-40445
- diffuse wave scatt. by short range order, improved mean spherical approx. 9-9127
- dimer and Ising models on the Lobachevskii plane 9-21677
- disordered spin systems, nonrandom free energy in macroscopic limit 9-40477
- displacive transitions, kinks in one-dimens. model, statistical mechanical treatment 9-42203
- Dyson's hierarchical model, critical props. 9-40481
- eight-vertex model, solvable, on arbitrary planar lattice 9-2733
- empirical relationships for random self-avoiding walks on lattices 9-9190
- equivalent neighbour model, high-temp. series expansions 9-44877
- escape probability of random walker on lattice doped with impurities 9-17353
- ferromagnet, total spin distrib. in spherical model with long-range pot. 9-30383
- Frenkel-Kontorova model, equilib. config., numerical study 9-40474
- Gibbs fields, absence of continuous symmetry breaking in two-dimensional models of statistical physics 9-21650
- graphite, Cs-intercalated, melting and staging, X-ray scatt. obs. 9-19180
- Hamiltonian formulation of site percolation in a lattice gas 9-12729
- hard-sphere solid, correl. function model 9-23541
- hard-sphere solid, disordered, lattice energy 9-23542
- Heisenberg spin systems, phase transitions from strong coupling expansions 9-6058
- high density limit for lattice spin models 9-40490
- higher order modified pot. for effective phase integral approx. 9-44779
- Hilhorst model, generalised, statistics of trees and branched polymers 9-3604
- infinite lattice systems, perturbation velocity 9-44874
- inverse scattering problem for semi-infinite crystals 9-12651
- Kadanoff lowerbound renormalization transformation for the q-state Potts model 9-44876
- kagome lattice, bond percolation threshold bounds (French) 9-44865
- lattice models with a solvable symmetry group 9-17616
- lattices of mixed single particles, exact occupation statistics 9-40473
- linear fermion systems, molecular field models, and the KMS condition (German) 9-9178
- LJD model, fine-grained lattices and continuum, Monte Carlo studies 9-12734
- low-temperature series expansions, algebraic techniques 9-17352
- magnet symmetry, and quasiparticle spectra at low momenta 9-42726
- Markov chain sampling grown lattice walks, variance reduction 9-27121
- Markov processes in quantum lattice systems 9-40476
- metric tensors, in Hilbert space, geometrical approach to solving crystal. 9-32846
- multicritical phase transitions, review 9-30385
- nematic-isotropic transition, chain flexibility, flexible chain in rigid rod solvent 9-4400
- nematic-isotropic transition, lattice model, semiflexible chain solutes 9-10927
- non-purely ferromagnetic systems, correlation inequalities 9-47219
- nonlinear dynamics of first order phase transitions 9-11322
- nonlinear lattice, steady motions 9-44866
- one-dimens. lattice, phase transitions 9-40489

Lattice theory and statistics continued

one-dimensional alloy, end effects 9-35634
 Patterson superposition technique, modified, using multiple vectors 9-32856
 percolation cluster sizes and perimeters, scaling form 9-2728
 percolation clusters, spanning lengths, Monte Carlo calcs. 9-2730
 percolation clusters and lattice animals, similarity laws for density profile, Monte Carlo data anal. 9-44881
 percolation problem, equivalence between Reynold's one-parameter renormalisation group transform. and Kirkpatrick's transform. 9-12731
 percolation theory, eqn. for cluster distrib., spheres problem (*Russian*) 9-30382
 percolation theory at the critical dimension 9-152
 percolation threshold, random void influence 9-44872
 percolation with restricted valence 9-12728
 periodic lattices, random walkers, multiple trapping 9-2732
 phase transformations in intermediate spherical model 9-30403
 phase transition in 2-D sine-Gordon system 9-12736
 phase transitions, percolation clusters and lattice animals 9-6057
 phase transitions for lattice gas of big interacting mols. (*Russian*) 9-157
 planar model, F-model and related systems, Monte Carlo test 9-9192
 planar rotator model, correl. functions 9-40495
 plane rotor model, static and dynamic crit. behaviour, Monte Carlo simulation 9-38334
 polarisable fluid, effective field of dipole 9-7540
 polymer chain, long, in dilute soln., 2nd order phase transform. 9-13851
 position-space renormalization approach 9-30404
 Potts model, crit. behaviour, renormalisation group calcs. (*Russian*) 9-6059
 Potts model, discrete, three spin thermodynamic behaviour, Kikuchi cluster variational method anal. 9-35640
 Potts model, Kadanoff renormalisation 9-40483
 Potts model, quantum field theory 9-6055
 Potts model, three-state, with three-site interactions 9-12723
 Potts s-state model, exact critical surface on triangular and honeycomb lattices 9-148
 probabilistic bond percolation in random arrays 9-2729
 pure component liquid-vapour transition, two component decorated lattice gas model 9-35650
 quantum field theory of crystals and extended objects, review 9-42164
 quantum lattice spin theory, Jastrow wave functions 9-25999
 random chain, low-energy density of states and long-time behaviour, scaling approach 9-25994
 random ordered phase, effective field approx. 9-1676
 random walk on lattice, correl. of successive steps, absorbing walls 9-44863
 rare earth pnictides, phase diagram for cubic model in Kikuchi cluster variational method 9-35639
 real-space renormalisation group transformation based on cumulant expansion 9-12730
 restricted valence site animals on the triangular lattice 9-44867
 self-avoiding walks, mean-square lengths, asymptotic behaviour 9-21673
 self-avoiding walks on the hyper face-centred cubic lattice in four dimensions 9-17355
 sine-Gordon kinks, nonequilib. props. using mol. dynamics techniques 9-12737
 site percolation problem, numerical simulation (*French*) 9-44864
 site-diluted resistor networks, renormalisation group approach 9-15128
 six-vertex model, partition function 9-40494
 solid solutions, substitutional, with immobile cryst. lattice, chain of models (*Russian*) 9-46588
 solution, different-sized mols., orientation effects, surface region, lattice model 9-1540
 sparsely periodic and random lattices, random walk props., lattice bond enumeration 9-21675
 spectrum of one electron Hamiltonians with impurities 9-1578
 spherical ferromagnetic models, Yang-Lee edge singularity density in thermodynamic limit 9-30378
 spherical model, phase separation 9-44869
 square lattice, appl. of real-space renormalisation group to site percolation 9-30377
 square lattice, no. of configs. for nonoverlapping rods 9-21674
 square lattice, percolation and cluster distrib. variable range interactions, exciton cluster model, layers 9-30379
 square lattice Ising type models statistical mechanics, variational approx. 9-44873
 superionic conductors, cooperative phenomena within generalized lattice gas models 9-46827
 systems with quenched random impurities, dynamics as a substitute for replicas 9-35638
 Temperley-Nagle identity for graph embeddings 9-147
 time evolution in equilibrium states without time automorphism 9-12722
 Toda lattice, scatt. of solitons from mass impurity 9-12739
 topological cell model in two dims., correl. functions 9-41924
 triangular Ising model coupled to honeycomb model via four spin interactions 9-30386
 triangular lattice, self-avoiding walks 9-40478
 triangular lattice, size distrib. as function of perimeter or energy 9-44882
 triangular lattice bond problem, series expansion study of percolation probability 9-2727
 two-dimensional cluster configurations, nonlinear average size-perimeter relation 9-12738
 two-phase semivariants, of first rank, probabilistic theory via method of representations 9-32848
 uniform cluster estimates for lattice models 9-25992
 uniqueness theorem for anticommutation relations and commutation relations of quantum spin systems 9-12713
 von Neumann lattice, discrete coherent states 9-40475
 wave scattering, fluctuating inhomogeneous media, model for teachers 9-21492
 Yang-Lee edge singularity in the hierarchical model 9-35933
 Z(N) topological excitations in Yang-Mills theories: duality and confinement 9-12938

lattice vibrations see *lattice dynamics*

Laves phases see *alloys*

lawrencium

No entries

lawrencium compounds

No entries

laying, cable see *cable laying*

LCAO calculations

anisotropy of long-range interaction 9-36734
 atomic d orbitals in basis sets, symmetry criterion 9-45622
 band structure calcs., optimised LCAO version, appl. to Wannier states results for Cu 9-33220
 carboranes, ab initio 6-3G and 3G/MODPOT LCAO-MO-SCF calcs. 9-10026
 cubic crystal, perfect, non-Bloch electron states, incompletely symmetric 9-23877
 diatomic molecule nucl. mag. shielding using LCAO MO functions and gaussian expansion 9-36548
 diatomic molecules, LCAO Hartree-Fock-Slater method calcs. 9-31374
 double groups, relativistic symmetry, orbitals for LCAO calculations 9-10018
 FCC lattice, density of dynamical observables, incompletely symm. non-Bloch states 9-23879
 FCC lattice, electronic density of states, incompletely symm. non-Bloch states 9-23878
 ferrihaemoglobin hydroxide, nucl. hyperfine interaction, HF LCAO calc. 9-2002
 formaldehyde+formaldehyde, medium distance interaction, SCF LCAO MO, supermol., perturbation and MCF calc. 9-837
 formamide+formamide, medium distance interaction, SCF LCAO MO, supermol., perturbation and MCF calc. 9-837
 formyl-triglycyl amide-H₂O, analytical pot., ab initio calc. 9-48206
 generalized alternative systems, valence and forbidden band widths, LCAO calcs. (*Russian*) 9-18111
 halogen compounds, chem. bond, MO LCAO SCF calcs. 9-41104
 HEED, Bloch waves, corresponding atomic and mol. orbitals 9-27880
 heteronuclear molecules, alternant mol. orbitals energies, generalised formula 9-6867
 hyperpolarizability, freq. depend., time depend. HF eqn., second order LCAO SCF perturbation theory 9-31388
 III-V semiconductors, calc. using MOLCAO approx. 9-42732
 inert gas compounds, chem. bond, MO LCAO SCF calcs. 9-41104
 infinite polymers, long-range Coulombic interactions, LCAO-CO calcs. 9-7042
 LCAO Hartree-Fock-Slater method, evaluation 9-31374
 magnetic dipole-dipole hyperfine integrals for Slater-type orbitals 9-11095
 methane, freq. depend. polarizability, LCAO SCF perturbation theory 9-31387
 MO LCAO method, chem. bond order, ZDO approx. 9-41102
 MO LCAO method, improvement by directed variation of exponential parameters 9-41101
 molecular electrical props., chem. substitution effect, LCAO calc. 9-41103
 molecules in molecule (MIM) model, appl. to π -electron systems (*German*) 9-36506
 naphthalene, LCAO SCF MO CI calcs., integral approx. scheme using semiorthogonalised orbitals 9-6873
 one-dimensional homonuclear molecular systems, nature of energy gap 9-11063
 open shell SCF MO LCAO method in unrestricted Hartree Fock formalism 9-31389
 ordered adlayers, electronic struct. 9-38142
 organic molecules, core ionisation and electronic redrganisations, LCAO MO SCF calcs. 9-18115
 organic molecules, Raman spectra intensities, electronic polarisabilities, quantum mech. calc. 9-27041
 organic molecules, relax. phenomena, following core ionis., LCAO MO SCF calc. 9-10030
 overlap matrix, Slater-Koster interpolation 9-7766
 oxalic acid, theoretical deformation density, ab initio Hartree-Fock calcs. 9-32982
 perovskites, d-band, surface electronic props., π -bands exam. 9-38145
 cis-polyacetylene, electronic struct. 9-47012
 polyatomic molecule, Eckart frame orientation by symmetric orthonormalisation 9-6818
 polyglycine, band struct., ab initio SCF LCAO calcs. 9-22874
 polymers, long-range Coulombic interaction, Fourier transform technique calcs. 9-31748
 porphyrin, spin-spin coupling const., MO LCAO CNDO/2 calc. 9-41108
 quantum chemistry, simple approximation method (*Hungarian*) 9-3341
 separated electronic pair functions, direct minimisation of energy functional, LCAO-MO SCF, density matrix formalism 9-31392
 tetrahedrally coordinated semiconductors, electronic struct. and Fourier transformed Compton profiles 9-38689
 transition metal, chemisorption of ordered overlayers with C(2 \times 2) and (2 \times 1) structs. 9-46925
 transition metal complexes, LCAO Hartree-Fock-Slater method calcs. 9-31374
 transition metal dichalcogenides, layered, electronic band struct. and bonding by atomic orbitals methods 9-15077
 transition metal nitrides, liquid interactions, ab initio LCAO MO SCF calcs. 9-18256
 zincblende (110), surface relaxation 9-38143
 [Co(CN)₆]³⁻, electronic struct., ab initio LCAO SCF MO calcs. 9-18112
 Ag halide bonding LCAO-MO treatment 9-23561
 AgBr surface, vibr. freq. of adsorbed Ag atom, LCAO-MO calc. (*Russian*) 9-2866
 Ar₂H(H⁺), excited and ground state struct. energies and binding energy, vibr. modes, LCAO-SCF-MO calc. 9-3608
 Au, Bloch waves, corresponding atomic and mol. orbitals, in HEED 9-27880
 B(I) hydrides, ab initio calcs., proton and hydride affinities 9-10029
 Co-porphine, ab initio LCAO SCF MO calcs. 9-6860
 CsPbBr₃, CsPbCl₃, ionic semiconductors, electronic and optical props. 9-38594
 Cu (001) monolayer, electronic struct., self-consistent LCAO calc. 9-4606
 Cu, band structure calcs., optimised LCAO version, appl. to Wannier states 9-33220
 GaAs, piezoelectric constant due to bond bending, electron redistribution effect 9-38457
 H-bonded systems, cyclic and bifurcated, ab initio MO calcs. 9-41100
 HF+HF, medium distance interaction, SCF LCAO MO, supermol., perturbation and MCF calc. 9-837

LCAO calculations continued

- H₂O+H₂O, medium distance interaction, SCF LCAO MO, supermol., perturbation and MCF calc. 9-837
 He, freq. depend. polarizability, LCAO SCF perturbation theory 9-31387
 HeH²⁺, LCAO MO calcs. using reduced Bessel functions 9-31361
 InAs-GaSb superlattice energy struct. and semiconductor-semimetal transition 9-23893
 KCl, Compton profile anisotropies, charge and momentum distrib., LCAO-SCF-MO calc. 9-3500
 LiCl, Compton profile anisotropies, charge and momentum distrib., LCAO-SCF-MO calc. 9-3500
 LiH, cryst., Compton profile, position space anal. 9-47536
 MgO, chemisorption on (100) surface, surface electronic struct. 9-11016
 Mo, Bloch waves, corresponding atomic and mol. orbitals, in HEED 9-27880
 NSF, geometry and stability, LCAO-MO SCF calcs. 9-31391
 Na⁺+ether(thioether)(amide) interaction, pair pots., ab initio SCF LCAO MO calc. 9-36721
 NaCl, Compton profile anisotropies, charge and momentum distrib., LCAO-SCF-MO calc. 9-3500
 Ni, FCC, H-Ni_n self-consistent electronic screening charge density 9-33255
 Ni film, ferromagnetic (100) and (110), energy bands 9-1630
 Ni, film (111), ferromag., energy bands and planar densities of states, LCAO calc. 9-4509
 NiCO, liquid interactions, ab initio LCAO MO SCF calcs. 9-18256
 O₂, Zeeman effect, relativistic corrects. to g_s using LCAO wavefns. 9-3492
 PH₂(PH₂⁺)(PH₂⁻), electronic structure, ab initio LCAO MO SCF calcs. 9-10027
 SNF, geometry and stability, LCAO-MO SCF calcs. 9-31391
 SO, Zeeman effect, relativistic corrects. to g_s using LCAO wavefns. 9-3492
 Si₆, high resolution X-ray emission, valence electron struct. and chemical bonding, LCAO comparison 9-31545
 Si (111), adsorption of Cl, electronic energy states, cluster-type calcs. 9-47149
 Si, amorphous, electronic struct. and optical dielec. function, LCAO calc. 9-42478
 Si, Bloch waves, corresponding atomic and mol. orbitals, in HEED 9-27880
 Si(111), chemisorption of H, formation of monohydride and trihydride phases 9-15004
 Ti complex, bis cyclopentadienyl TiN₂, liquid interactions, ab initio LCAO MO SCF calcs. 9-18256
 ZnSe 9-38457
- lead continued**
 isotope studies of ore deposits of circum-Kisseynew volcanic belt, Canada, ages 9-5479
 J₁J₂ transition from LS, revised assignments for d⁹s²p², d⁸s²p³ 9-45630
 liquid, electron component of entropy (*Russian*) 9-23747
 liquid, short-wavelength density fluctuations 9-46550
 M shell prod cross section of Au, Pb and U for 75 to 150 keV p and e excitation 9-47552
 marine pollution conc. in coastal waters of North and South Lebanon 9-12146
 marine pollution determ. in Gulf of Fos, NW Mediterranean 9-12141
 metallic coated, produced by electrospray alloying, corrosion behaviour in Cl saturated NaCl soins. (*Russian*) 9-39026
 motor exhausts on motorways 9-12248
 P-V meas., 5 to 45 kb (*Chinese*) 9-23676
 particulate Pb levels for Perth, W.Australia, 1971-6 var. 9-34455
 parts, albedo thickness meas., neutron technique 9-29309
 phase smearing and mag. interaction, de Haas van Alphen effect 9-37961
 phonon dispersion curves, lattice dynamics unpaired forces 9-42170
 photoelectric cross sections, from total absorption cross sections, 5 to 130 keV 9-26947
 plastically bent, effect of dislocations on electron relax. time, cyclotron reson. 9-24217
 pollution conc. determ. in estuarine waters, Raritan and Lower New York Bays 9-12139
 pollution near roads in Egypt 9-12255
 positron annihilation, Doppler broadening, 4.2 to 600K 9-47540
 powder production, interaction between N₂ jet and liq. Pb stream 9-43170
 Raman conversion of XeCl-laser radiation in metal vapours, up to 40% efficient 9-23025
 range of ²⁴¹Am³⁺ ions, meas. by (p,γ) reson. broadening 9-46729
 solvent extraction with versatic acid 10 (*Japanese*) 9-4928
 spectra of diffuse reflection and photoluminesc. (*Russian*) 9-11447
 SQUID, granular supercond. characterisation 9-28489
 steel, austenitic stainless, stress corrosion cracking, exam. of inhibiting action of Pb²⁺ 9-20249
 structure sensitive props., temp. hysteresis after melting and crystallisation (*Russian*) 9-29036
 superconducting, internal mag. field meas. by μ⁺ method (*Russian*) 9-33391
 superconducting, laser irradiated tunnel junction, nonequilibrium quasiparticle distrib. function, thermal regime (*Russian*) 9-42700
 superconducting, quasiparticle and phonon propagation 9-42689
 superconducting contact to p-InAs, characts. 9-38254
 superconducting film, current-induced flux motion, studied at 100 ns time resolution 9-47208
 superconducting film, intermediate state, shadow electron microscopy 9-11276
 superconducting film, nonequilibrium gap instability and phase transition under intense tunnel injection 9-28476
 superconducting surface sheath, Brownian motion 9-19708
 surface, oxidation, XPS and SIMS study 9-15873
 Teheran atmosphere, Pb conc. 9-21011
 thermoelectric power below 17K 9-38052
 transverse acoustic phonons, freq. and damping, supercond. transition temp. effects 9-42687
 US oscillations and dislocation unpinning in supercond. and normal states (*Russian*) 9-11648
 V-V₂O₅-Pb tunnel junctions, IV characts. of SQUID 9-19704
 X-ray Debye temp. calc. 9-19348
 Al-Al₂O₃-Pb tunnel junction, depend. of conductance corres. on chemisorbed ion conc. in barrier 9-15233
 Al-L-Pb tunnel junction, clean and doped, tunnelling conductance 9-15232
 Al-monolayer-Pb, supercond. junction, electron tunnelling meas. 9-28482
 Al-Pb junction, intensity and line-shape measurements in inelastic electron tunneling spectroscopy 9-24104
 Au/Pb thin film couple, room temp. interdiffusion study 9-28154
 CaLaBO₃:Pb²⁺, luminesc. obs 9-32971
 CaSe:Pb²⁺ phosphors, luminesc., refl., emission, and excitation spectra 9-11456
 CdS:Cu,Pb reflectivity of Ni-salt coated powder, pre-irrad. effect on defect form. 9-27973
 EuI₂G:Pb, bubble domain film, magnetocrystalline anisotropy coeff. reduction, by Pb addition 9-11329
 GaAs-Pb junctions, electron tunnelling under high press., transition temp., energy gap, phonon energies 9-15257
 KCl:Pb, impurity valence, heat treatment influence, absorpt. spectra obs. 9-38574
 KCl:Pb, photolum. in A band region, spectral and time decay anal. 9-33823
 KCl:Pb, photoluminesc. induced by Suzuki-like occlusions, ionic thermocond. 9-33808
 KCl:Pb, vibr. struct. of absorption band 9-33735
 KCl:Ti,Pb, X-irradiated, EPR spectra 9-28613
 NaCl:Ti,Pb, X-irradiated, EPR spectra 9-28613
 Nb-I-Pb junctions, fine struct. of current-voltage curves (*Russian*) 9-19693
 Nb-Nb₂O₅-Pb, tunnelling junction, current-voltage characts., knee struct. 9-38261
 Nb-NbO₂-Pb junction, static charact. of tunnelling cryotrons 9-28480
⁵⁵Ni²⁺+⁵⁵Mn(₅₀Sn)(₅₂Pb), 45, 94, and 138 MeV Ni inner shell vacancy production, impact parameter depend. 9-41130
 Pb, effect of supercond. transition on phonon energies and lifetimes 9-28432
 Pb ore dust, pollution analyser using Harwell 6000 series electronics 9-5649
 Pb⁺, electron collisional laser populated by recomb. 9-18405
 Pb-Al₂O₃-HgSe junction, asymmetry of tunnelling characts. 9-47169
 Pb-Nb₂Sn tunnel junction, Josephson props. 9-7937
 Pb-PbO₂-Pb thin film Josephson junctions, prep. (*Slovak*) 9-42699
 Pb-PbO₂-Pb, long Josephson tunnel junction, current steps induced by vortex motion 9-47199
 Pb-SiO₂-Pb₃Sn₂Te, prop. of insulating film for tunnelling study on zero bias anomaly 9-15608
 Pb-Zn belts and their origin 9-48427
 Pb+Fe₂, chemiluminesc. spectrum of PbF 9-24742
 Pb+Pb⁺, inner-shell ionisation of quasimolecular system, perturbation theory 9-31667

lead

see also nuclei with

- adsorbed on W (100) surface, field emission microscopy study 9-15015
 adsorption on Cu stepped and low index surfaces, LEED, AES and desorption anal. 9-46942
 atmosphere vehicle generated Pb concs., correl. study 9-21012
 atom, 1.4 to 5.9 MeV/u, K-shell ionisation cross-section meas. 9-31671
 atom, elastic scatt. of 145 keV gamma rays 9-13680
 atom, hyperfine structure 9-3375
 atom, np²-np(n+1)s transition array, relativistic oscill. strengths 9-31465
 atom, spectral transition probabilities, 200-700 nm 9-31454
 atomic polarisability, oscillator strength and radial integral, Dirac eqn. calc. 9-22620
 atomic spectroscopy, search for parity-violating weak interaction of electrons with nuclei 9-36571
 background levels in air over S.Norway 9-12239
 band structure, and electron-phonon interaction, supercond. transition temp. determ. 9-19512
 bone, X-ray fluorescence technique for in vivo determ. of Pb conc. 9-25084
 cathodic deposition on Ag (111) and (100) surfaces, potentiostatic obs. (*German*) 9-15616
 coadsorbed with Bi on Cu (100), LEED and AES study 9-15017
 coadsorbed with Sn on Al (100) surface, prep. and props. of monolayers 9-15018
 deformed by torsion, stored energy and recrystallization 9-34069
 deposits, layers in South Niger, geological features (*Croatian*) 9-29772
 Derwent Reservoir, N.England, Zn, Cd and Pb in water, sediments and submerged plants 9-25286
 determination in ore, by universal backscattered gamma method 9-1984
 diffusion in Al (*Japanese*) 9-19403
 diffusion in mica, rel. to Po haloes 9-44186
 dislocation inertial effects, internal-friction meas. on normal and superconducting states 9-38883
 dislocations, electronic damping, US meas. 9-27997
 distribution function branch imbalance, relaxation 9-33401
 distribution in waters of Yarra River estuary 9-16552
 electron-phonon interaction, press. depend. rel. to normal state resist. 9-28063
 electron-photon cascade curves 9-44322
 electroplastic deformation, stress relax. meas. (*Russian*) 9-38894
 electroplastic effect 9-24589
 EM cascades caused by electrons and photons, 10-100 GeV, longit. development 9-21120
 environmental aspects 9-34443
 film, friction and fear in ultrahigh vacuum, effects of speed, film thickness and substrate surface roughness 9-20202
 film, near supercond. transition temp., Hall effect 9-42698
 film, on Cu substrate, oxidation, AES and XPS obs. 9-47833
 film, supercond., meas. of effective quasiparticle recombination times, density of electronic states at Fermi level 9-38264
 film, thermal strain, strain relax. mech. 9-42427
 gamma-ray elastic scatt. cross section at 279 keV 9-26421
 gamma-ray scattering, incoherent, total at. cross section 9-13679
 Gruneisen parameters and thermal expansion coeff. 9-33103
 hydroextrusion, effect of longitudinal US oscills. (*Russian*) 9-34071
 hydrosphere, global and regional distrib. 9-16517
 implantation of ions into Fe, effect on corrosion 9-39015
 implanted ^{119m}Sn, Mossbauer spectroscopy, isomer shift and Debye-Waller factors 9-24240
 impregnated porous Ni, porous, internal friction and effective elasticity modulus, temp. depend. (*Russian*) 9-29118

lead continued

- Pb²⁺ + gas target, 50 keV, multiple scatt., target at +energetic ion spatial correlation influence 9-27062
Pb₂, laser induced fluoresc. (*French*) 9-13760
p-PbTe-Pb, barrier props. 9-7898
²¹⁰Pb, atmospheric fluxes determ. from soil profiles 9-2346
²¹⁰Pb, balance in Long Island Sound 9-20861
²¹⁰Pb, time variation of low concentrations in rain water 9-43994
Pd-CdS-In, tunnel junction, light induced DC Josephson current 9-47204
RbLiPb²⁺, optical and elec. props. 9-15493
Si:Pb, diffusion behaviour of Pb in high dose implanted Si layers during isothermal annealing 9-1525
Si:Pb, high dose implantation profiles, determ. using low angle Rutherford He ion backscatt. 9-4327
SrLaBO₃Pb²⁺, luminesc. obs. 9-32971
Ta-Ta₂O₅-Pb, tunnelling junction, current-voltage characts., knee struct. 9-38261
ZnS:Pb, luminescence, polaris. emission 9-38634
ZnS:Pb current pulses due to elec. field liberation of electrons from trapping centres by tunnel processes 9-28378
ZnSe:Pb, luminescence photocond. 9-38634
ZnSe_{1-x}S_x, luminescence, polaris. emission 9-38634

lead alloys

- see also lead compounds
Babbitt grade Bk-2Sh, improvement in antifriction layer props. by impulse discharge (*Russian*) 9-1917
brass leaded, effect of Al, Sn, Fe on solidification, differential thermal analysis exam. (*Russian*) 9-29041
slip band theory, model for creep based on dislocation climb at grain boundaries, comparison with exp. data 9-37756
Ag-Bi, melt, crystal growth of Ag, conditions for transition from round to face forms (*Russian*) 9-28906
AlPb alloy prod. under microgravity (*German*) 9-38766
α-Cu-Ni-Zn-Pb, fire cracking, effect of pores and impurities 9-29207
Pb-Pb, preferred crystallographic orientation of unidirectionally solidified polycrystals (*Czech*) 9-43233
Ga-Pb, liquid alloy, thermodynamic activity determ. using Knudsen method (*German*) 9-34008
In-Pb, liquid alloy, thermodynamic activity determ. using Knudsen method (*German*) 9-34008
In-Pb, thermal anal. solidus determ. 9-20030
InPb-covered manganin wire, level detector, depth gauge, demonstration of superconductivity 9-35751
Pb-2n, work hardening in mixed state (*Russian*) 9-42707
Pb-Ag eutectic alloy, microstruct. coarsening under isothermal and temp. gradient conditions 9-20079
Pb-Bi, elastic moduli, internal friction from US velocity meas. 9-15717
Pb-Bi, supercond. tunnelling, effect of phase composition and press. 9-15261
Pb-Cd eutectic composite, mag. flux entry in proximity effect regime 9-33418
Pb-Cd lamellar eutectic composite, pair potential meas. 9-33396
Pb-Ga(Ge)(Si)(Mo)(Bi) amorphous films, supercond. transition temp. and residual elec. resist. (*Russian*) 9-19680
Pb-In alloys, supercond., AC losses of EM energy, critical current densities 9-33423
Pb-In film, RF sputter anodisation, Josephson junction form., ellipsometry anal. 9-29258
Pb-In-Au alloy, Josephson junction electrode materials, strain relax. 9-38255
Pb-Mn, dil., supercond. film, H_{c2} meas., mag. impurity effects, pair breaking theory 9-42708
Pb-Pd, liq. alloy activity by effusion method (*German*) 9-29023
Pb-Sb, improvement in antifriction layer props. by impulse discharge, impulse discharge treatment (*Russian*) 9-1917
Pb-Sb (1 wt.%), highly averaged, fracture behaviour 9-8366
Pb-Sb eutectic alloys, solidification in space environment 9-47671
Pb-Sn, dil., dislocation inertial effects, internal-friction meas. on normal and superconducting states 9-38883
Pb-Sn (62 wt.%), intercrystalline and interface boundary sliding, tensile tests, SEM obs. 9-38886
Pb-Sn superplastic alloy, cutting, stress distrib. (*German*) 9-24682
Pb-Sn(Sb), dil., US oscillations and dislocation unpinning in supercond. and normal states (*Russian*) 9-11648
Pb-Tl (20 wt.%) rod, supercond., critical current densities in surface pinning region 9-47216
Pb_{0.9}Bi_{0.1}, strong-coupled superconductor, quasiparticle recombination time 9-15259
PbIn superconducting films, penetration depth measured with Nb-NbO₂-PbIn Josephson junctions 9-42691
Pb₂In_{1-x}Pb₂Tl_{1-x}, asymmetric supercond. tunnel junctions, subharmonic gap struct. 9-15260
Po-Ge film, random percolation, elec. resist. meas. 9-28418
Sn-Pb, liquid alloy, thermodynamic activity determ. using Knudsen method (*German*) 9-34008
Sn-Pb alloys, inhibited electrocrystn. (*German*) 9-38753
Ti-Pb, eutectoid decomposition 9-24491

lead bonding

- IC prod., Ag electroplated lead frames surface struct. rel. to bonding behaviour (*German*) 9-11010

lead compounds

- see also lead alloys
chalcogenides, elec. cond. anisotropy in strong electric fields (*Russian*) 9-38082
chalcogenides, interband absorpt., optical absorpt. coeff., two- and six-band models 9-33728
chalcogenides, multicolour photodetectors (*Czech*) 9-26126
crystal glass, chem., electrochem. corrosion (*French*) 9-20232
dicalcium lead propionate, effect of particle size on dielec. behaviour 9-43429
F 9-42913
halide based photodevelopable materials 9-21830
heterogeneous oxidation catalysts, effects of Pb compounds 9-24817
lead phthalocyanine:O₂, photocond., impurity-induced 9-47120
lead phthalocyanine film, switching effects 9-28384
monochalcogenides, interaction of outer s states 9-10825
monochalcogenides interaction of internal s states 9-10826
oxides, antiferroelec., growth and props. 9-38461
n-PbTe, dynamical cond. in freq. range of LO-phonon-plasmon excitations 9-19592

lead compounds continued

- PLZT, diffuse phase transitions 9-33628
PLZT ceramics, ferroelec., special props. 9-42916
PZT, ferroelec. ceramic, mechanical props. determ. by acoustic techniques 9-28685
schulitenes, ferroelectric, sp. ht. 9-19853
stabilisers in PVC, degradation obs. using X-ray diffr. (*German*) 9-34297
zeolites, synthetic, effect of sintering on elec. cond., porosity and microstruct. 9-29009
Ag-Pb-Te, phase equilibrium (*German*) 9-34018
AgPO₃-PbI₃, glass, elec. cond. and Raman. spectra rel. to struct. (*French*) 9-10979
As₂S₃-PbS glasses, structural props. 9-27925
B₂O₃-PbO glass-ceramic-cement composites, review 9-38783
BaPb_{1-x}Bi_xO₃, struct. determ., X-ray and neutron diffr. study 9-42039
BaTiO₃-PbO-B₂O₃, liquid phase sintering, effect on props. (*German*) 9-33980
BiVO₄, ferroelastic phase transition, thermodynamic theory 9-37832
Co(NH₃)₆(PbCl₄), cryst. struct., and relationship with the chlorolead struct. moieties in NH₄(PbCl₄) and PbCl₂ 9-32954
CsPbBr₃, critical thermodynamic props. around successive phase transitions 9-33627
CsPbBr₃, CsPbCl₃, ionic semiconductors, electronic and optical props. 9-38594
CsPbCl₃, critical thermodynamic props. around successive phase transitions 9-33627
CsPbCl₃(Br₃), optical and photoelectronic spectra 9-24410
Cs₂PbCu(NO₂)₆, α-modification, Jahn-Teller induced α to β transition, neutron diffr. obs. 9-1498
(Fe₂O₃)(3B₂O₃PbO)_{1-x}, glass, X-ray diffr. struct. obs. 9-32915
Ge-Pb-Bi-O glass, photoelasticity, glass transition limits 9-33670
K₂PbCu(NO₂)₆, US vel. near cooperative Jahn-Teller phase transitions 9-32680
Na_{0.3}Bi_{0.4}Ti_{0.3}O_{1.5}, hot-forged ferroelec. ceramic with layer struct. 9-43175
PLZT ceramic, transverse electro-optical effect, matrix-addressable transparency 9-27431
PLZT ceramic with memory, domain reorientation, alternating elec. field effect 9-47405
PLZT ceramics, electro-optical props. (*Korean*) 9-11406
PLZT ceramics, electro-optic; defect struct. and prop. 9-42910
PLZT ceramics, photoferroelectric image storage in antiferroelectric phase 9-47404
PLZT ceramics, photoferroelectric effects, image storage device appl. 9-42924
PLZT ceramics, SHG, anomalous phase transition 9-45996
PLZT ceramics, short circuit photocurrent, depend. on polarization 9-38121
PLZT ceramics, stress-induced ferroelec. transition, pseudoelectricity and shape memory, bending meas. 9-24274
PLZT ceramics, transparent ferroelec., photorefractive and photocond. study 9-42581
PLZT composition, effect on its switching characts. 9-42917
PLZT, exam. of grain growth in hot pressing, and liquid phase sintering 9-33981
PLZT ferroelec. ceramics, piezoelec. props. 9-42897
PLZT ferroelectric display electro-optical props. (*Russian*) 9-9211
PLZT, fine grained 90° electric domain wall movement, interpretation of dielectric losses (*German*) 9-33646
PLZT, prep. by liquid phase sintering of oxides 9-38778
PLZT real time 2 colour incoherent to coherent image convertor 9-3805
PLZT, reduced, exam. of ageing phenomena, using dielectric hysteresis (*German*) 9-33647
PLZT, Sn substituted, antiferroelectric ceramics research and their applications (*Chinese*) 9-33617
PLZT, thin film epitaxial growth and characteris. 9-28918
PLZT, transparent, optical exam. of small signal behaviour, of 90° electric domain walls (*German*) 9-33645
PLZT, transparent ferroelectric, ceramics obtained by hot pressing, optimum conditions (*German*) 9-43176
PLZT type ceramics, calorimetric meas. of energy of electrical polarisation 9-2770
(PLZT)(PLZN) system, ferroelec. transparent, prep. and study 9-42911
(Pb,Sr)(Zr,Ti)O₃, piezoceramic, effect of glass additions on props. during hot pressing 9-24475
Pb-Pb₂O₃-Pb thin film Josephson junctions, prep. (*Slovak*) 9-42699
Pb-Pb₂O₃-Pb, long Josephson tunnel junction, current steps induced by vortex motion 9-47199
Pb-Sn-Te system, investigation of liquidus surface by simplex lattice method 9-46784
Pb-Ti-Te, liquidus of ternary system 9-8285
Pb₂AgNb₂O₁₅, Pb₂AgTa₂O₁₅, ferroelec. and ferroelastic props. (*French*) 9-24266
PbAsSb, isomertieite, fengluanite, cryst. struct. (*Chinese*) 9-1417
Pb₅-Ba₂Ge₂O₁₁, Raman spectra, temp. depend. of ferroelec. soft A-mode 9-33682
(Pb_{1-x}Ba_x)_{1-x}La₂Nb_{2-3/5}O₆, ferroelec., phase transitions 9-38487
Pb_{1-x}Bi_xF_{2+x}, new solid electrolytes, conductivities and activation energies 9-28137
(Pb_{1-x}Bi_x)₂Ge₂O₁₁, spontaneous and induced electrogyration 9-42946
PbBi₂Nb₂O₉ ceramic, grain oriented, dielectric and piezoelectric props. 9-42896
PbBi₂Nb₂O₉, hot-forged ferroelec. ceramic with layer struct. 9-43175
Pb₂Bi₄S₂₇, carniziarite, X-ray cryst. struct. determ. 9-23567
PbBi₄Ti₄O₁₅, hot-forged ferroelec. ceramic with layer struct. 9-43175
PbBi₄Ti₄O₁₅, hot-forged ferroelec. ceramic with layer struct. 9-43175
PbCO₃-BaCO₃(SrCO₃)(CaCO₃), solid soln. form., regions of existence 9-11581
PbCO₃-PbX₂ (X=Cl,Br), vibr. props. 9-24319
Pb_{1-x}Cd_xS epitaxial layer, metastable, optical props. and electronic struct. 9-15543
Pb_{0.95}Cd_{0.05}Te, solid solns., thermoelec. power and Hall effect under hydrostatic press. 9-23990
PbCo_{0.33}Nb_{0.66}O₃, ferroelectric, exam. of permittivity and dielectric props. 9-1742
Pb₂CoReO₆, seignettomagnets with perovskite struct. 9-38459
Pb₂CoWO₆, antiferroelectric substruct. 9-38489
Pb₂CrO₆, thermal X-ray and dielec. investigations 9-47403
Pb₂Cr₂(PO₄)₂, synthesis and cryst. struct. 9-19218
Pb(Cu_{1-x}Nb_{3/4})O₃-Pb(Li_{1-x}Nb_{3/4})O₃-PbTiO₃-PbZrO₃, piezoelec. ceramic materials for SAW devices 9-11390

lead compounds continued

- Pb(Cu_{1/4}Nb_{3/4})O₃-Pb(Li_{1/4}Nb_{3/4})O₃-PbTiO₃-PbZrO₃, optimisation of composition for SAW devices 9-33609
- PbF, visible spectra, A-X₁ and B-X₁ fine struct. anal. 9-36657
- PbF₂, acoustic phonon modes up to high temps., neutron scatt. meas. 9-33052
- β-PbF₂, anion mobility from noise meas. 9-46836
- PbF₂ film, ionic conduction, effect of hydrostatic press. (*French*) 9-28259
- PbF₂ film, refr. index and struct., deposition temp. depend. 9-4857
- PbF₂, laser damage resistant antirefl. coatings for 16 μm region 9-31963
- PbF₂:Mn, NMR relaxation by paramag. impurities 9-42866
- PbF₂:Tb³⁺, ESR spectrum of ions in cryst. field of cubic symmetry 9-38378
- Pb₂FeO₆, IR absorpt., Mossbauer spectra, Neel temp., cryst. cell (*French*) 9-42759
- Pb₂FeReO₆, seignettomagnets with perovskite struct. 9-38459
- Pb₂GeO₅, antiferroelectric, cryst. struct. 9-19233
- Pb₂GeO₅, single crystal, props., grown by hydrothermal method 9-11504
- Pb₂GeO₅, X-ray cryst. struct. determ. (*German*) 9-46603
- Pb₂GeO₅, dielec. behaviour, 60 Hz-100 kHz, particle size effects 9-33638
- Pb₂GeO₅, dielec. functions above and below ferroelec. transition 9-33588
- Pb₂GeO₅, electrogyration during phase transitions 9-19859
- Pb₂GeO₅, ferroelec., induced and spontaneous optical activity, permittivity 9-33661
- Pb₂GeO₅, ferroelec. phase transition, for IR transmission meas. 9-38478
- Pb₂GeO₅, ferroelectric soft mode exam., Raman spectra 9-42202
- Pb₂GeO₅, pyroelectric radiation detector appl. (*Czech*) 9-40611
- Pb₂GeO₅, Raman scatt., soft modes and damping near structural phase transition 9-28739
- Pb₂GeO₅, single crystals, photoemission anomaly during ferroelectric phase transitions 9-47599
- Pb₂(Ge_{1-x}Si_x)O₅, ferroelec. soft mode, temp. and Si impurity, effects Raman scatt. 9-1762
- Pb₂Ge_{2-x}Si_xO₅, ferroelec. phase transition, for IR transmission meas. 9-38478
- Pb_{1-x}Ge_xTe epitaxial layers, phase transition obs. by far IR reflectivity spectroscopy 9-33691
- Pb_{1-x}Ge_xTe, p-n junctions, elec. characts., effect of ferroelec. phase transition 9-33338
- PbHAsO₄, ferroelec., far IR and submillimetre dielec. dispersion 9-38528
- Pb(HAsO₄)₂·H₂O, thermal stability, 20-1000°C, decomposition prod. struct. 9-11775
- PbH(D)AsO₄, ferroelectric, sp. ht. 9-19853
- PbH(D)PO₄, ferroelectric, sp. ht. 9-19853
- PbHPO₄, ferroelec., far IR and submillimetre dielec. dispersion 9-38528
- PbHPO₄, ferroelec. phase transition, Brillouin and Raman spectra obs. 9-33683
- PbHPO₄, neutron diff. exam. of struct. at room temp. 9-38490
- PbHPO₄, optical props. near ferroelec. transition 9-33663
- PbHPO₄, single cryst., dielec. props. 9-38426
- PbI, ⁵¹S₀-⁵¹P₁ to ⁵¹S₀-⁵¹P₂ multipole line intensity ratio 9-36658
- PbI, (2H), angular depend. magnetoluminesc. 9-43029
- PbI, (2H), electronic transport and cyclotron reson. 9-28369
- PbI₂, cooperative fluoresc. by excitonic reson. pumping 9-33732
- PbI₂, DC elec. cond. as function of I pot. 9-24023
- PbI₂, exciton dispersion curves, influence of optical phonons 9-15091
- PbI₂, factor-group analysis of high-symmetry layer dynamics 9-42160
- PbI₂, intercalated with organic molis., superlattice and quantum dimens. effect (*Russian*) 9-46628
- PbI₂, ionic layer cpd., lattice dynamics, influence of static dipole moments 9-28057
- PbI₂, photoelectromagnetic investigation, expt. 9-24010
- PbI₂, polar, layered material, quenching of excitonic diagam. shifts 9-19526
- PbI₂, polytypic change, 5 new polytypes, X-ray diff. anal. 9-37648
- PbI₂, press. depend. of band-gap excitons, 77K, optical absorpt. spectra 9-8157
- PbI₂, quasi-two-dimens layered struct., phonon dispersion surfaces 9-42180
- PbI₂, two-photon photoemission 9-28890
- PbI₂-Ag, light sensitivity for high exposure densities (*Russian*) 9-6212
- Pb_{1/3}I_{2/3}, form., cryst. symmetry, X-ray diff. obs. 9-23570
- Pb_{1/3}I_{2/3}, form., cryst. symmetry, X-ray diff. obs. 9-23570
- Pb₃KNb_{3-x}Ta_xO₁₅, ferroelastic-ferroelectric coupling, dielec. props. 9-38433
- Pb_{1-x}La_xTiO₃ (x=1/3, 2/3), permittivity as function of temp. 9-33586
- PbMg_{1/3}Nb_{2/3}O₃, ferroelec., crit. electron-phonon phenomena and diffuse phase transition in elec. field 9-38497
- PbMg_{1/3}Nb_{2/3}O₃ single cryst., electro-optical hysteresis curves and phase transitions (*German*) 9-28717
- PbMg_{0.33}Ta_{0.66}O₃, ferroelectric, exam. of permittivity and dielectric props. 9-1742
- Pb₃Mn₂O₁₅, X-ray cryst. struct. determ. (*French*) 9-14744
- Pb_{1-x}Mn_xTe (x=0.005, 0.001, 0.05), solid solns., exam. of electrical and thermal props. 9-1599
- PbMo₄, M=Mo, W, EPR spectrum, temp. depend. of zero field splitting 9-15346
- PbMoO₄, acousto-optic interaction at high optical intensities 9-42942
- PbMoO₄, electrogyration coeff. meas. 9-19859
- PbMo_{0.8}, Chevrel phase supercond., phonon spectra, neutron scatt. meas. 9-42174
- PbMo_{0.8}, Chevrel-phase superconductors, lattice dynamical calcs. 9-33056
- PbMo_{0.8}, influence of Fe on superconduction transition temp., and mag. props. (*Russian*) 9-42686
- PbMo_{0.8}, inhomogeneous superconductor, scaling laws for pinning forces 9-47214
- PbMo_{0.8}, prod. by solid state reaction, supercond. crit. temp. (*Japanese*) 9-42682
- Pb₂Mo₂S₃, Chevrel phase supercond. prep. and supercond. props. 9-28434
- Pb₂Mo₂Se₃, Chevrel phase supercond., phonon spectra, neutron scatt. meas. 9-42174
- PbNb₂O₆, O defects and elec. props. anomalies 9-42898
- PbNb₂O₆, permittivity and elec. cond. meas., first order transition 9-24270
- PbNb₂O₆, surface (001), microstruct. obs. by optical, etching, and interferometric techniques 9-11399

lead compounds continued

- Pb₂Nb₂O₇, electric cond. and dielect. props. of cathodic-sputtered films (*French*) 9-33371
- PbNb_{0.5}Sc_{0.5}O₃, ceramic, dielec. props. 9-11392
- Pb₂NiReO₆, seignettomagnets with perovskite struct. 9-38459
- PbO glass, thermal focusing of elliptically shaped optical beams 9-18489
- PbO, polycrystalline layers, influence of prep. conditions on phase comp., texture and struct. 9-4495
- PbO, spray coated, reaction with Si, IR investig. 9-39197
- PbO/PbF₂/B₂O₃ solvent system, density, surface tension and expansivity data, effect of B₂O₃ conc. 9-19985
- PbO-B₂O₃, glass exam. of Raman spectra (*Japanese*) 9-19894
- PbO-B₂O₃-SiO₂, glass enamel, heat treated, exam. of microstructure and chemical durability 9-29254
- PbO-B₂O₃-SiO₂-Li₂O-ZrO₂-CdO(CoO)(CuO), glass enamel, chemical durability, microstruct., CuO, CdO and CoO addition effects 9-29256
- PbO-B₂O₃-SiO₂-Li₂O-MgO(CaO)(ZnO)(Al₂O₃)(TiO₂)(ZrO₂), glass enamel, heat treated, chemical durability, MgO, CaO, ZnO, Al₂O₃, TiO₂, ZrO₂ addition effects 9-29255
- PbO-GeO₂, glass, exam. of Raman spectra (*Japanese*) 9-19894
- PbO-K₂O-SiO₂, O tracer diffusion above transform. temp. 9-28120
- PbO-SiO₂, general features of reaction 9-11819
- PbO-SiO₂ and PbO-SO₃-SiO₂ system glasses, struct. and IR absorpt. spectra 9-41967
- PbO-SiO₂ glass, modifier release in acid soln. 9-43450
- PbO-SiO₂ glasses and crystal, silicate anion constitution 9-48023
- PbO-TeO₂ glass, struct. and props. (*Japanese*) 9-32917
- PbO-ZnO-B₂O₃-TiO₂ glass, circuit corrosion protection on alumina substrates 9-29236
- PbO+C→CO+Pb, chemiluminesc. from gas phase reaction 9-8426
- PbO_{1.57}, thermal expansion tensor, phase transitions, X-ray diff. obs. (*French*) 9-1515
- PbO₂, potentiostatic growth on vitreous C electrodes 9-43596
- PbO₂, pressed powder, Hall voltage and change of cond. in transverse mag. fields 9-4567
- PbO₂, photoconducting, phase transitions, occurrence of ferroelectricity, pyrocurrent obs. 9-11395
- PbO₄, phase transition, texture of tetragonal and orthorhombic phases (*French*) 9-23726
- Pb₂OFBr, mimetic twinning, cryst. struct. determ. 9-23568
- Pb₂OFCl, mimetic twinning, cryst. struct. determ. 9-23568
- Pb₂OFI, mimetic twinning, cryst. struct. determ. 9-23568
- PbO₂(Pb) electrode, anodic impedance during suspension-electrolysis leaching of β-Zn in 1N H₂SO₄ soln. (*Japanese*) 9-43594
- (PbO)₂(SiO₂)₂ glass, vibrational spectroscopic exam. 9-11417
- 4PbO-GeO₂, X-ray phase and thermal anal., new antiferroelectric 9-1744
- Pb₃(PO₄)₂, ferroelastic transformations and struct. as function of temp., neutron diff. study 9-19188
- Pb₃(PO₄)₂, ferroelastic phase transition, thermodynamic theory 9-37832
- Pb₃(PO₄)₂, ferroelastic phase, structure domains, electron microscope obs. 9-42078
- Pb₃(PO₄)₂, IR dispersion at room temp. 9-15460
- Pb₃(PO₄)₂, phase transition at 180°C, dielectric meas. 9-37831
- Pb₃(PO₄)₂:Gd³⁺, EPR near ferroelastic transition point 9-15350
- PbPo, electronic struct., relativistic band struct. calc. 9-4510
- PbS, band struct., angle resolved photoemission obs. 9-33899
- PbS, conduction band nonparabolicity and carrier scattering mechanism 9-11065
- PbS, crystal binding energy 9-37650
- PbS, energy gap anomaly, relativistic band struct. calc. 9-4510
- PbS, epitaxial layer, structural nonuniformities and dislocation struct. 9-23852
- PbS epitaxial layers, ion bombardment effects on struct., and annealing 9-10882
- PbS heterojunctions nonideal, photoelec. props. and elec. characts. 9-15215
- PbS, molecule, vibr. anal., in neon matrix (*Russian*) 9-10094
- n-PbS, natural galenite, optical and crystallographic properties 9-42975
- PbS photocells, multicolour detectors in combination with Si photodiodes (*Czech*) 9-26126
- PbS, plastic deform. on compression along (100) direction 9-28036
- PbS, point defects and effect on deoxygenation of Pb with S 9-47918
- PbS, relativistic electronic mol. struct., calcs. 9-761
- PbS-(PbSO₄)_x(PbO.PbSO₄)_y heterosystem, cathodoluminescence spectra 9-24370
- PbS-PbSe(Te), thermoconductivity and thermoresistance 9-23992
- (PbS)_{1-x}(As₂S₃)_x, high field effects 9-42553
- Pb₂S_{1.6}, ferroelec., synthesis and hydrothermal growth 9-38731
- Pb₂S_{1.6}Se, diffused homojunction diode lasers, 140K operation 9-18415
- PbS_{1-x}Se_x, chalco-gen interdiffusion, electron microprobe obs. 9-28145
- PbS(Se)(Te), angle resolved UPS and electronic band struct. 9-37981
- (Pb_{0.66}Sb_{0.34})₂SnS₃, garnet-like struct., synthetic, cryst. struct., X-ray diff. study 9-19217
- PbSe, band struct. angle resolved photoemission obs. 9-33899
- PbSe, crystal binding energy 9-37650
- PbSe, energy gap anomaly, relativistic band struct. calc. 9-4510
- PbSe film, 50 μ, prep. in double quasiclosed volume 9-38745
- PbSe, film, photoconductivity, temp. depend. 9-38200
- PbSe, NMR, chemical shift and linewidth determ. 9-19792
- PbSe photocells, multicolour detectors in combination with Si photodiodes (*Czech*) 9-26126
- PbSe, pressure tunable CW injection laser, emission spectra 9-18419
- PbSe, relativistic electronic mol. struct., calcs. 9-761
- PbSe vacuum deposited thin films, struct. and growth 9-19482
- PbSe, valence band struct., Hall and transverse Nernst-Ettingshausen effects, optical absorption 9-11064
- PbSiO₂ and Pb₂SiO₄, vitreous, free energy of form. at elevated temps. 9-43195
- Pb_{1-x}Sm_xTiO₃+x(1-x)-α, permittivity as function of temp. 9-33586
- PbSnF₄, anionic conductor (*French*) 9-1523
- PbSnF₄, α- and β-, new solid electrolytes, conductivities and activation energies 9-28137
- PbSnTe IR detectors, spectral response depend. on surface carrier concentration (*Japanese*) 9-44929
- PbSnTe-like semicond., Auger recomb., nonparabolic approx. 9-15161
- Pb_{0.78}Sn_{0.22}Te:In, transport phenomena, below 20K (*Russian*) 9-38074
- Pb_{0.8}Sn_{0.2}Te film, growth in quasi-closed space, single and polycryst. 9-33930
- n-Pb_{0.8}Sn_{0.2}Te film, magnetophonon reson., 55-90K 9-7913
- Pb_{0.8}Sn_{0.2}Te surfaces, oxidation in air and thermal desorption, XPS and LEED meas. 9-47830

lead compounds continued

- Pb_{0.82}Sn_{0.18}Te epitaxial films, surface transport of carriers at 77K 9-28419
- Pb_{0.82}Sn_{0.18}Te films, VPE, hot wall technique, struct., elec. props. 9-37926
- Pb_{0.82}Sn_{0.18}Te films, piezoresist. effect 9-38197
- Pb_{1-x}Sn_xTe film, epitaxial layers, patterns of diffuse bands on electron diff. patterns 9-11021
- Pb_{1-x}Sn_xTe, displacive phase transition, effect of interband hybridisation 9-33233
- Pb_{1-x}Sn_xTe, energy band parameter determ. from photoluminescence spectra in mag. field 9-11066
- Pb_{1-x}Sn_xTe, epitaxial layers, carrier lifetime meas. 9-42559
- Pb_{1-x}Sn_xTe films, pure and Bi doped, polycryst., struct., elec., optical props. 9-42542
- Pb_{1-x}Sn_xTe, heteroepitaxial film, fundamental absorpt. edge and Shubnikov-de Haas effect 9-24381
- Pb_{1-x}Sn_xTe heterostructure laser, fabrication and props. 9-10306
- Pb_{1-x}Sn_xTe, lattice instability and phonon-width, comprehensive model 9-14906
- Pb_{1-x}Sn_xTe layers, LPE, phase diagram rel. to lattice const., distrib. coeffs. 9-37925
- Pb_{1-x}Sn_xTe, MBE, state-of-the-art 9-24450
- Pb_{1-x}Sn_xTe, narrow gap solid solns., mag. susceptibility and energy band spectrum 9-28276
- p-Pb_{1-x}Sn_xTe piezoresistance, temp. and conc. depend. (Russian) 9-1601
- Pb_{1-x}Sn_xTe, reststrahlen band, reflection spectra 9-8162
- Pb_{1-x}Sn_xTe, segregation during solidification by Bridgman technique 9-38735
- Pb_{1-x}Sn_xTe, single cryst. grown from vapour, photocond. meas. 9-24016
- Pb_{1-x}Sn_xTe, small-gap, recomb. mech. 9-38099
- Pb_{1-x}Sn_xTe:In, nonequilibrium metallic state (Russian) 9-33300
- (Pb_{1-x}Sn_x)_{1+y}Te_{1-y} system, VPE parameters influence on epitaxial film props. 9-28229
- Pb_{0.87}Sn_{0.13}Te, phonon dispersion, mode softening 9-42175
- Pb_{0.87}Sn_{0.13}Te, solid solns., thermoelec. power and Hall effect under hydrostatic press. 9-23990
- Pb_{0.87}Sn_{0.13}Te, ferroelec., with impurities, lattice dynamics 9-28061
- PbTe, band struct., angle resolved photoemission obs. 9-33899
- p-PbTe based composite material thermoelec. props. degraded by strengthening additive 9-47114
- PbTe, crystal binding energy 9-37650
- PbTe detector arrays, planar oxide-insulated 9-40614
- PbTe, electron scattering interaction with coupled plasmon-polar-phonon modes 9-42536
- PbTe, energy gap anomaly, relativistic band struct. calc. 9-4510
- PbTe epitaxial films, carrier recomb. and deep levels, photocond., Hall effect, and luminesc. meas. 9-38024
- PbTe, epitaxial layers, carrier lifetime meas. 9-42559
- p-PbTe, Fermi surface parameters depend. on carrier density, Shubnikov-de Haas oscils. 9-42435
- PbTe film, 50 μ , prep. in double quasiclosed volume 9-38745
- PbTe film, elec. transport props. 9-42679
- PbTe films, thermal cond. and elec. props., 4.2 to 300K 9-28162
- PbTe, ion implanted, magneto-optical expts. (German) 9-28848
- PbTe, NMR, chemical shift and linewidth determ. 9-19792
- PbTe surfaces, oxidation in air and thermal desorption, XPS and LEED meas. 9-47830
- PbTe, thick sample, atomic comp. determ., H⁺ and He⁺ induced X-ray anal. 9-5223
- PbTe vacuum deposited thin films, struct. and growth 9-19482
- PbTe:Ga, location, behaviour of Ga, electrophysical props. meas. 9-38016
- PbTe:Ti, effect of impurities on transport props. 9-11158
- n-PbTe/p-Pb_{0.9}Sn_{0.1}Te, multicolour photodetectors (Czech) 9-26126
- PbTe-based solid solns., 9-23990
- PbTe-based structures, zero anomaly of tunnel cond. 9-24107
- p-PbTe-M, M=In, Pb, Zn, Cu, barrier props. 9-7898
- PbTeO₂, acousto-optic interaction at high optical intensities 9-42942
- Pb_{0.81}Co_{0.8}Se_{0.1}Sn_{0.1}, solid solns., thermoelec. power and Hall effect under hydrostatic press. 9-23990
- Pb_{1-x}Th_xF_{2+x}, new solid electrolytes, conductivities and activation energies 9-28137
- Pb(Ti,Zr)O₃, pyroelectric props., addition effects 9-33608
- PbTiO₃, crystals, X-ray investigation of 90° domain struct. 9-15426
- PbTiO₃, domain struct., formation at phase transitions 9-38510
- PbTiO₃, mechanical twinning, spontaneous polarisation shielding 9-42930
- PbTiO₃, O_K X-ray emission band spectra (Russian) 9-15563
- PbTiO₃, single crystals, lattice parameters and birefringence as function of temp. 9-38517
- PbTiO₃, spontaneous polaris. shielding destruction by polishing and scribing 9-15427
- PbTi_{1-x}Zr_xO₃, low freq. vibrational modes and ferroelec. transitions 9-33637
- Pb₃(VO₄)₂, ferroelastic phase transition, thermodynamic theory 9-37832
- PbWO₄, photoconductivity spectral depend. 9-7856
- PbWO₄, single cryst. growth by Czochralski method and U incorporation, effective distrib. ratios, luminesc. characts. 9-42094
- PbWO₄, thermal expansion tensor, phase transitions, X-ray diff. obs. (French) 9-1515
- Pb₂WO₅, phase transformation study by high temp. X-ray diff. and differential scanning calorimetry 9-43244
- Pb(FOA)_{1-x}(MOA)_x mixed crystals, X-irrad., EPR and thermoluminesc. 9-15352
- Pb_{1.8}Zn_{0.15}Na_{0.05}Nb₂O_{6.95}F_{0.05}, electric cond. and dielect. props. of cathodic-sputtered films (French) 9-33371
- PbZnVO₄OH, cryst. struct. refinement 9-42015
- Pb(Zr,Ti,Nb)O₃ ceramics, rel. dielec. const. and piezoelec. props. rel. to porosity 9-11388
- Pb(Zr,Ti)O₃ bimorph driven optical fibre switch 9-18502
- Pb(Zr,Ti)O₃, ceramic vibrator, resonant freq. temp. stability (Chinese) 9-47386
- Pb(Zr,Ti)O₃ ceramic, substrate for In₂O₃ film, ferroelec. field effect 9-47177
- Pb(Zr,Ti)O₃, formation 9-43185
- Pb(Zr,Ti)O₃, piezoceramic, nonlinear piezoeffect 9-42900
- Pb(Zr,Ti)O₃, polarisation effect on deform. and strength, Curie pt. region 9-42902
- Pb(Zr,Ti)O₃, synthesis from cryochem. mixtures, chem. reacts. in sublimation drying 9-11538
- Pb(Zr,Ti)O₃, thin film evaporated on stainless steel, photovoltaic effect 9-4580

lead compounds continued

- Pb(Zr,Ti)O₃, X-ray study in tetragonal-rhombohedral phase-transition composition area 9-42921
- Pb(Zr,Ti)O₃:Mn ceramics, anomalous dielec. losses 9-42892
- Pb(Zr,Ti)O₃:Nb ceramic, stress effects on ferroelec. hysteresis, macroscopic strain, US vel. 9-4778
- Pb(Zr,Ti)O₃:Nb₂O₃(Sc₂O₃), elec. cond. investigation with and without various dopants and stoichiometry 9-11120
- Pb(Zr_{0.53}Ti_{0.47})O₃, piezoelec. ceramic, HF filter appl. (Korean) 9-27472
- Pb(Zr,Ti)O₃ pyroelectric ceramics 9-47649
- PbZrO₃ based ferroelec. ceramic, pressure-temp. phase diagrams 9-24273
- PbZrO₃, structural phase transition in super high elec. fields 9-33626
- PbZrS₂, cryst. struct. refinement using neutron diff. powder data 9-4294
- Pb(ZrTi)O₃ type piezoelectric ceramics, compressive properties 9-33612
- PbZr_{0.95}Ti_{0.05}O₃ ceramics, of ABO₃ type, dopant distrib. between A and B sites 9-42093
- Pb(Zr_xTi_{1-x})O₃, anomalous photovoltaic effect 9-19625
- Pb(Zr_xTi_{1-x})O₃ solid solns., elec. props. near morphotropic phase boundary 9-42566
- Pb₂, thermal cond., 2 to 30K, Umklapp processes and phonon boundary scatt. (Russian) 9-10991
- SiO₂-CaO-Na₂O-PbO system, water, alkali, acid resist., chem. durability 9-34162
- Te-Ge-Pb, Te rich, structural phase transformation concurrent with glass crystallisation, thermal evidence 9-4965
- ZnO-PbO-B₂O₃, exam. of glass formation and its props. 9-8283
- leak detection**
- improved low pressure sensitivity 9-5112
- inaccessible pipes, optimised procedure using radioactive tracers 9-34217
- LMFBR steam generators, leak detection of steam or water into sodium 9-13434
- LMFBR steam generators, reliability considerations 9-22437
- mass spectrometer, increasing sensitivity by selective gas accumulation 9-6215
- nuclear reactor leak detection system operating experience 9-9808
- tightness inspection, sensitivity determ. using holographic interferometry 9-36862
- ultrasonic leak detector 9-39090
- West German LWR primary system online surveillance 9-3217
- leakage, electrical** see electrical faults
- leakage, magnetic** see magnetic leakage
- leakage currents**
- MIS and MIM structures, leakage currents and conduction channels on splits 9-42664
- GaAs, with anodic oxides, leakage currents 9-38169
- learning systems**
- see also adaptive systems; self-adjusting systems
- large network models using the brain organisation simulation system 9-8496
- least squares approximations**
- Abel's integral eqn., least squares finite element method appl. 9-25830
- activation analysis, low-energy photon spectra, nonlinear least-squares fitting program 9-1987
- air pollution monitoring by pulsed lasers, numerical filters (Japanese) 9-43801
- array algebra appls. 9-44702
- astrometric plate reduction, least squares prediction appl. 9-40082
- cubic bell spline sum function in least squares sense 9-12583
- curve fitting by least squares criterion, with reference to exponentials and Arrhenius plots 9-17200
- diffusion equation, least-squares anal. of thick-film soln. 9-33107
- Earth's figure and gravit. field determ., least-squares collocation method 9-48392
- effective hamiltonian matrix parameter optimisation, least squares method 9-26874
- elastic quadrilateral plates 9-46201
- equivalence relation in planar least squares inverse approximation 9-30208
- exponential clipped photon autocorrel. spectra, data anal. 9-2837
- flow, Ritz-Galerkin and least squares finite element methods 9-1150
- Fredholm integral equation, free-knot spline inversion using nonlinear least squares method 9-2486
- fusion regime data adjustment experience and trends 9-9881
- gamma-ray spectra, environmental, eval. of standard library spectra for use in least-squares resoln. 9-9915
- gamma-ray spectra, environmental, least squares method for computing nuclide conc. 9-9914
- gamma-ray spectra, linear least-squares peak search algorithm 9-754
- geodesy, parameter accuracy improvement by choice and quality of obs. 9-44078
- gravity data handling using collocation and least squares methods 9-29870
- homonuclear coupled spin system, inversion-recovery data anal. 9-33554
- image restoration by least squares method, appl. to speckle interferometric data 9-25514
- joint instantaneous centre of rotation, least square analysis 9-29555
- kinofrom synthesis by Fresnel transform evaluation, least squared error method (Russian) 9-22913
- Landsat MSS points, coordinates linear least squares transforms for location on maps 9-2389
- methane, Raman intensity from electro-optical parameters, least squares refinement 9-36645
- Navier-Stokes equations, integration, book contrib. 9-32444
- Navier-Stokes equations, object in flow, H⁻¹ least squares method 9-1143
- neutron activation anal., gamma spectra least squares deconvolution on minicomputer, NAALSQ program 9-11853
- NMR bandshape, complex exchange-broadened, iterative computer anal. 9-35805
- NMR fast inversion-recovery spin-lattice relax. time meas., systematic errors elimination 9-30516
- nuclear Overhauser effect factors determ. using dynamic Overhauser enhancement with least square procedure 9-4746
- nuclear scatt., least squares fitting with normalisation parameters 9-45221
- objective functions, constrained minimization technique CONGAU 9-30212
- overlapping spectral bands resolution 9-41198
- Patterson function, three-phase invariants derivation method 9-27868
- phase diagrams, optimization by least squares method 9-10915

least squares approximations continued

- plasma diagnostics, spectral line profile calc. 9-23458
- plate, thick infinite, transversely isotropic, containing circ. hole, end effects 9-27510
- polymer lightguide attenuation coeffs. meas., data anal., accuracy 9-1005
- polystyrene solutions, light scatt., mol. parameters, computer anal. assessment 9-1766
- respiratory parameter interval estimation 9-48277
- respiratory system, human, modeling and parameter identification 9-39444
- restricted three-body problem, surface fitting of three-dimens. closed solns. 9-8800
- rocks magnetic components separation, least squares methods appl. to step demagnetisation data 9-16444
- Savitsky-Golay convolution method, for least-squares fit smoothing and differentiation 9-16059
- source velocity meas. errors, effect on spectral parameters 9-24244
- spectrometer magnets, field parametrisation 9-880
- ventilation, human, twin exponential model fitting process development 9-48284
- weighted residuals, improved finite element formulation by using least squares fit 9-52
- X-ray fluorescence anal., energy-dispersive, appl. of mathematical techniques 9-11837
- BH₃CO, vibrational spectra in Ne matrices, pot. consts., bond strengths 9-45696
- H₂ electron/positron elastic scatt., least squares calcs. 9-3572
- ²³⁵U(n,f), thermal fission, fission product decay heat evaluation by least-squares method 9-30865

leather *see materials***Lee model**

- particle decay, measured lifetime depend. on measuring apparatus 9-22158
- sequential decay processes, quantum theory 9-25896

LEED *see low energy electron diffraction***legal protection of software** *see industrial property***legal research (computing applications)** *see social and behavioural sciences computing***legislation**

- automotive noise legislation 9-34465
- offshore environmental and platform data processing from Norwegian continental shelf 9-12273
- pollution problems from fertilizer manufacture 9-34450
- radiation protection European regulation in EEC countries (*French*) 9-48347
- United States Earthquake Hazards Reduction Act 9-48415
- weather modification, international liability 9-5617
- weather modification, national policy 9-20938

length measurement*see also micrometry*

- cable length, vel. and tension meas. using DBS-2 remote counting block 9-12314
- capacitive transducer method, precision, procedure and instruments (*German*) 9-26024
- gauge blocks, by interferometry, sources of uncertainty 9-26029
- interferometer length meas. by tunable laser 9-35817
- interferometric meas., secondary calibration standards (*Rumanian*) 9-40533
- laser interferometric technique, problems with environmental influences (*German*) 9-30411
- laser interferometry measurement system 9-6171
- linear and angular dimensions, classification and symbols for means of meas. 9-6081
- linear dimension meas. means choice in terms of error levels 9-6082
- metre, Canadian standard 9-12768
- phase modulation interferometry, appls. to dimensional metrology 9-6174
- standards, by holographic interferometry with phase heterodyning 9-6095
- standards, time, freq. and physical measurement, unified standard 9-26038

length standards *see measurement standards***Lennard-Jones and Devonshire theory** *see liquid theory***Lennard-Jones potential**

- acetonitrile, mol. pair correl. functions, scatt. intensities, statistical mechs. calcs. 9-1382
- amino acid, cryst., mol. dielec. function 9-7043
- binary microcluster, struct. and thermodynamics, Monte Carlo simulation 9-7736
- Chevreil-phase superconductors, lattice dynamical calcs. 9-33056
- classical fluid, thermodynamic functions in liq. and vapour region 9-10910
- dense gases and liqs., three-body nonadditive interactions, thermodynamics props., mol. dynamics simulation 9-7435
- dibutyl sebacate, interaction parameters from submicron aerosol drop evap. obs. 9-43639
- Fermi liquid, normal, mag. ordering at absolute zero 9-38344
- fluids with Lennard-Jones pot., thermodynamic props. in terms of Lebowitz variables 9-7702
- globular hydrocarbons, cohesive energy and Gruneisen parameter calcs. 9-19183
- heavy ion collisions, classical microscopic description of particle cluster collisions 9-9533
- high-temperature vapour line of Lennard-Jones pot. fluid, Monte Carlo calcs. 9-37826
- hydration of Lennard-Jones solutes, mol. dynamics study 9-34294
- interfaces, liq.-cryst. and liq.-rigid wall, Monte Carlo simulation 9-27896
- linear, tetrahedral and octahedral molecules, harmonic coeff. for Lennard-Jones pot. 9-41217
- melting of two-dimens. Lennard-Jones system, appl. to Xe adsorbed monolayer 9-28071
- microdrop, energy and mol. structure, mol. dynamics method 9-11004
- microdrop, pressure tensor and surface tension, mol. dynamics method 9-11005
- monatomic liquids, short wavelength collective density excitations, computer simulation 9-46540
- oscillator interacting via Lennard-Jones pot., collision with atom, appl. of non-integer Bessel uniform approx. 9-36733
- phase separation of fluid system by spinodal decomposition, mol. dynamics computer simulation 9-10766

Lennard-Jones potential continued

- phenol, vapour, viscosity coeff. and second virial coeff., conformity with Lennard-Jones pot. (*German*) 9-32732
- polymer chain dynamics, repulsive Lennard-Jones pot. mol. dynamics calc. 9-36805
- satellite line shape, classical broadening theory including Doppler effect, pot. effect 9-22764
- simple classical fluid, 6-12 pot., press. calcs., using integral eqn. and perturbation theory 9-4224
- Varshni V and Lennard-Jones pots., 3rd order WKB eigenvalues 9-6982
- Ar, liq., variational eqn. of state and entropy 9-28070
- Ar, solid-liq. transition and mech. props., modified cell theory 9-23703
- CO₂, thermal conductivity, 400 to 1500K, vibr. internal energy calc. 9-18986
- Cs+He(Ne)(Ar), optical pumping, spectral line shape (*Spanish*) 9-22662
- N₂, thermal conductivity, 400 to 1500K, vibr. internal energy calc. 9-18986
- Ne, phonon dispersion relation, Gruneisen parameters at high press. 9-42179
- Ne-Kr, partially miscible mixture, high press. mol. dynamics using Lennard-Jones pot. 9-41929
- O₂, thermal conductivity, 400 to 1500K, vibr. internal energy calc. 9-18986
- OCS+He(Ar), rot. lines, collisional broadening 9-18267
- Sr+Ar, press. effect on Sr 4607 Å reson. line shape, width and shift 9-22653
- Xe adsorbed monolayers, thermodynamic props. and lattice const., quasi-harmonic theory 9-42380

lenses*see also aberrations; aspherical lenses; electron lenses; electrostatic lenses; focusing; magnetic lenses; photographic lenses*

- acoustic, broadband focusing through converging lens, linear systems approach 9-3817
- aplanetic holographic objectives, for UV photolithography 9-32031
- apochromat optical glass development status and prospects 9-27348
- apochromats from four types of glass, components for broad spectral region 9-32026
- array of simple lenses, for close-up imaging of documents and displays 9-36972
- aspheric mirror optical systems for the infra-red 9-36983
- astronomical doublet system resolution, random speckle structure model and expt. (*Russian*) 9-7082
- automatic lens design, pseudo-second-derivative matrix computation 9-14077
- axicon focusing of CO₂ laser beam, for optically pumped He laser plasma 9-32792
- biconvex and biconcave lens combination, optical energy and spatial filter for Raman spectroscopy 9-35838
- biconvex lens, MTF and wavefront aberration meas., Francon's holographic interferometry method 9-3647
- chirp-grating lens for guided-wave optics 9-7232
- computer programs for optical design 9-36977
- contact lens, hydrogel, change in lens power due to flexure 9-11917
- contact lenses, hydrogel, light transmission 9-11918
- curved Fresnel surface, primary aberration contribs. 9-13913
- derivation of lens maker's equation, teaching 9-44683
- edge image anal., finite area sampling technique 9-22902
- field lens for one-step rainbow holography 9-13923
- flatness of test glass, reading errors of interf. fringes 9-32097
- focal length of thin lens under water, determ., teaching appl. 9-44676
- Fourier optics as approx. of Kirchhoff integral, 4F path of rays with thin lenses (*German*) 9-18357
- Fourier transform, design and structural characts. (*Chinese*) 9-45911
- framing spotlight, optimizing the compound reflector 9-3766
- Fresnel condenser lens faces, nomogram for slope angle determ. 9-7193
- Fresnel optics, for concentrator solar cells 9-14088
- galvanometer beam-scanning rotating lens system, for laser fibre drawing 9-41463
- generalised radiance propag. through lenses 9-27359
- geodesic lenses, spherical aberration correction and fabrication tolerances 9-27435
- graded index materials, optical props. meas. 9-9237
- guided acoustic travelling wave lens for high-speed optical scanners 9-36991
- hologram achromatic lens system, design using ray tautochronism principle 9-3759
- holographic Fourier transform lenses for matched-filter optical processor 9-45913
- image contrast theory of electronic focus 9-13914
- image transmission, lens light-guide line 9-3789
- immersed lenses for IR detectors, performance characts. (*Russian*) 9-27358
- intensity fluctuations in turbulent atmosphere, with (without) central screening 9-7080
- IR imaging and missile-borne tracker optics, selection guidelines 9-23050
- IR inhomogeneity scanner for transmitting material blanks 9-32099
- laser anemometer elements, Gaussian beam transform. 9-45991
- laser focusing objectives, flare image danger reduction 9-22997
- laser optics, Shiva, system, thin film coatings technology 9-7135
- lens-hologram optical system, monochromatic aberrations 9-3760
- lenslet-array optical device for paginal information reproduction 9-27194
- matrix transforming incoherent optical system, using extended lens-array 9-7086
- microscope, wide-field objectives, image forming quality 9-35819
- minicomputer optical design and analysis program 9-14075
- night vision system with refractive optics, glare characts., surface defect influence 9-32024
- objective for holographic recording devices 9-32028
- ocular design, new type, experiences from common ocular testing 9-18501
- ophthalmic lens, choosing the base curve 9-29664
- optical fibre excitation by lenses 9-32057
- optical system design, advances and problems 9-36975
- OTF test standard, afocal system 9-36978
- phase plate consisting of bleached holographic lens, for noise-free coherent imaging systems 9-31817
- photolithographic application 9-36976
- PIR-1 instrument for laser radiation divergence meas. 9-23001
- planar optical elements, dispersion props. 9-3811
- plane parallel lenses, prep., theory 9-3761

- enses continued
plane plates, two sets of different physical props., energy flux splitting
(*German*) 9-18500
plasma, unpotential, for proton beam focusing 9-41326
plastic optics, design patterns 9-32009
plastic rods, light focusing, prep. by two step copolymerisation of diallyl
phthalate with methyl methacrylate (*Japanese*) 9-37064
plastics appls. in optical systems 9-32008
ray trace program, TI59 calculator 9-32023
ray tracing, generalised, caustic surfaces 9-23043
scanning gauge for surface form meas., spherical and aspherical 9-32100
spectacle lens inspection apparatus (*French*) 9-7235
spectacle lens test facility complex 9-39603
switch constructed of graded-index rod lenses, for multimode fibre systems
9-27439
thin lenses formulae for teaching purposes 9-35509
transmission and MTF in 8-13 μ band 9-36982
TV camera zoom lenses, glare characts. 9-10373
two-lens standard phase inhomogeneity 9-14111
UV objectives, for submicron photolithography 9-32032
varifocal compensated lens for flow cells irradi. 9-27357
visual field testing, three-channel optical system (*Spanish*) 9-24993
wide-angle five-lens eyepiece 9-46027
zonal spherical aberrations in optical systems, correction, use of aplanatic
lens 9-27360
- lepton-deuteron interactions**
see also *lepton-deuteron scattering*
ed-eX, polarised deep inelastic scatt., test of Weinberg-Salam model
9-22006
 $\bar{\nu}_d$, evidence against axions 9-13108
- lepton-deuteron scattering**
see also *lepton-deuteron interactions*
No entries
- lepton-hadron interactions**
see also *lepton-hadron scattering; lepton-nucleon interactions*
angular correlations of final state leptons and hadrons, quark-gluon
dynamics 9-395
hadronic μ -pair prod., hadron mass corrections and parton transverse
momentum 9-36034
inclusive lepton productions, scaling violation, colour-octet model effect
9-13077
jet anal. in lepton-hadron deep inelastic scatt. from QCD 9-40785
jet and lepton-pair production in high-energy lepton-hadron and hadron-
hadron scattering 9-17729
multi-jet dynamics in lepton induced reactions, granular struct. calorimeter
anal. 9-9350
perturbative aspects of QCD, an introduction 9-30714
 $e(\mu)(\nu)$ deep inelastic scattering, minimal mass corrections 9-30740
 $\nu\pi^\pm$, semi-inclusive deep inelastic scatt., π struct. functions 9-26323
- lepton-hadron scattering**
see also *lepton-hadron interactions; lepton-nucleon scattering*
Bjorken asymptotic behavior of deep inelastic scattering form factors and
the general principles of field theory 9-21958
deep inelastic lepton scatt., QCD perturbation theory test, review 9-326
polarised lepton scattering, lepton and quark anapole moments (*Russian*)
9-17730
supersymmetry, field theory, fermion (meson)-meson scatt., high energy
behaviour 9-295
 K_L^0 , 30 to 100 GeV, K_S regeneration, K^0 charge radius meas. 9-400
 πe , 16 GeV, absolute differential cross-section meas. 9-40780
- lepton interactions** see *lepton-deuteron interactions; lepton-lepton interactions; photon-lepton interactions*
- lepton-lepton interactions**
see also *electron-electron interactions; electron-positron interactions; lepton-lepton scattering; neutrino-electron interactions; neutrino-neutrino interactions*
multi-jet dynamics in lepton induced reactions, granular struct. calorimeter
anal. 9-9350
- lepton-lepton scattering**
see also *electron-electron scattering; electron-positron scattering; lepton-lepton interactions; neutrino-electron scattering; neutrino-neutrino scattering*
 $e\mu$, weak lepton interaction influence, weak, EM and interference ratios
(*Russian*) 9-6333
- lepton mass**
electron mass, calc. in left-right-symmetric model 9-26282
neutrino, limitation to less than 30 eV by cosmology 9-6358
 $SU(2)\times U(1)$ gauge theory, μ -e mass ratio and CP violation as quantum
effect 9-30691
heavy charged, mass determ., QED 9-9314
 $\tau\rightarrow\nu_e e\bar{\nu}_e$, nature of $\tau\rightarrow\nu_e W$ coupling, ν_e mass upper limit and lifetime
9-40824
- lepton-nucleon interactions**
see also *electron-nucleon interactions; lepton-nucleon scattering; muon-nucleon interactions; neutrino-nucleon interactions*
 $lp\rightarrow l'X$, weak reaction, large transverse momenta, field theories at finite
temp., symm. breaking and restoration 9-399
- lepton-nucleon scattering**
see also *electron-nucleon scattering; lepton-nucleon interactions; muon-nucleon scattering; neutrino-nucleon scattering*
deep inelastic nucleon constituents, parton transverse momentum, structure
function 9-2976
- lepton production**
see also *electron pair production; muon production; neutrino production*
 νN , charged heavy muonic lepton production, explanation of Kolar events
9-9364
charged heavy lepton production by nondiagonal neutral currents (*Chinese*)
9-17668
dilepton prod. during hadronic collision space-time evolution, quark-parton
model 9-2980
Drell-Yan processes and deep-inelastic scatt., valence- and sea-quark distri-
butions 9-13069
 E_γ gauge model, lepton assignments and trimuon events in neutrino scatt.
9-17709
hadron collisions, lepton and photon production, review 9-405
hadron induced lepton production, state of art 9-26340
hadronic collisions, inclusive lepton pair prod., invaried helicity struct.
functions anal. 9-13172
hadroproduction, QCD test 9-17745
- lepton production continued**
heavy lepton pair production by cosmic rays 9-36117
high energy neutrino-hadron collisions, dilepton mass spectrum, V-A and
Weinberg interaction calcs. 9-3010
jet and lepton-pair production in high-energy lepton-hadron and hadron-
hadron scattering 9-17729
large Q_T transverse momentum lepton pairs and hadron jets prod., reac-
tion mech., perturbative QCD 9-2999
massive dileptons, hadronic prod., QCD perturbation theory test, review
9-326
massive lepton pair transverse momentum distrib. in hadron collisions,
QCD predictions 9-9391
pair prod., nonfactorisability of inclusive distribs. in nonperturbative QCD
9-13085
pair prod., structure function relns. at large-transverse momenta 9-17690
pair prod., thermal parton model 9-13075
pair production, leading logarithms technique, correl. with hard scatt.
approaches 9-45072
pion-quark scattering model for lepton pair production from qq annihilation
9-13056
QCD, inclusive distributions in extended leading logarithms 9-13066
QCD and Feynman-x depend. of lepton pairs produced in hadron colli-
sions 9-36036
QCD perturbation theory, high energy behaviour of jet and lepton-pair
prod. 9-2932
QCD prediction for ang. distrib. of dileptons in hadron collisions
9-26300
quark-parton model, leading proton-large p_T particle and proton-lepton
pair correlations 9-353
tensor mesons, EM decay possible source of photons and leptons 9-13130
transverse momentum behaviour of hadrons, multihadron systems, and lep-
ton pairs 9-45121
 $e^+e^-\rightarrow\tau^+\tau^-$, parity violating effects measurement 9-36057
 $N+\nu\rightarrow M^0$, heavy lepton prod. and decay mechanisms cross section and
coupling constant (*Russian*) 9-9365
NN collisions, lepton pair prod., $\gamma\gamma$ background of Drell-Yan process
9-13057
 $\nu N\rightarrow\nu l^+ l^- (+\text{hadrons})$, lepton pair production suppression up to 10^5 GeV
(*Russian*) 9-36065
 $(\bar{\nu})\nu N\rightarrow e^+e^-\mu^+K^0+\gamma\gamma$, exptl. obs. 9-9361
 $\nu p\rightarrow p\pi^0 M^0$, neutrino prod. of neutral heavy lepton in E_γ gauge model
9-17710
pair production in hadronic collisions, appl. of quark parton model
9-30715
 pN dilepton prod. quark-parton distribs., Drell-Yan model 9-17752
 $pp\rightarrow l^+ l^- X$, massive lepton pair prod., quark-gluon-parton model, scaling
9-428
 πN dilepton prod. quark-parton distribs., Drell-Yan model 9-17752
 $\pi^+ p$, 21 GeV, prompt e^+ associated with strange particle in strong in-
teraction, direct evidence 9-419
 $\nu N\rightarrow\mu^3eX$, radiative and hadronic production characts. 9-40771
- lepton scattering** see *lepton-deuteron scattering; lepton-hadron scattering; lepton-lepton scattering; photon-lepton scattering*
- leptonic decays**
see also *baryon leptonic decay; meson leptonic decay; muon decay*
QCD, resonance props. from sum rules 9-26301
radiative corrections to β and μ decays in $SU(2)_L\times U(1)$ models involving
2n flavors 9-40778
 $SU(2)_L\times U(1)$ gauge theories of leptons, T violation, leptonic decay and
dipole moment 9-299
 e decay, lifetime, charge nonconservation, paradoxes 9-6335
 $\nu\rightarrow e^-\nu_e\bar{\nu}_e$, nucleus excitation from bound μ^- decay (*Russian*) 9-22869
 ν decay in gauge theory of weak and EM processes (*Russian*) 9-22087
 τ leptonic decay mode 9-9358
 $\tau\rightarrow\mu\nu_\mu$, branching ratios 9-17703
 τ rare decays and spontaneous symmetry breaking 9-9301
- leptons**
see also *electrons; heavy leptons; muons; neutrinos; positrons*
abundance of stable particles prod. in early Universe 9-44653
current status in elementary particle physics 9-40651
light neutral leptons, dynamical role in cosmology 9-35407
multiplicative baryon number conservation, $H\rightarrow H$ oscill. upper limit,
baryon to lepton transform. 9-298
polarised lepton-hadron scattering, lepton and quark anapole moments
(*Russian*) 9-17730
 $SU(2)_L\times U(1)$ primitive particle model 9-40708
 $SU(2)_L\times U(1)$ gauge theories of leptons, T violation, leptonic decay and
dipole moment 9-299
- level crossing (energy)** see *energy level crossing*
- level measurement**
elastic waveguide slow torsional wave sensors 9-46748
floating level gauge for liq. He 9-2774
glass, molten design of level measuring gauge 9-29304
liquid, non-contact laser interferometric method (*German*) 9-12769
liquid level detection, audible alarm system, thermistor appl. 9-12764
liquid level measurement and regulation using megohmmeter and op. amp.
(*Rumanian*) 9-40532
liquid level meter features (*Italian*) 9-169
liquid level-to-frequency converter 9-6080
optoelectronic two-component spirit-level for whole-arm prostheses (*Ger-
man*) 9-8572
settlement meas. apparatus, adjustment, based on principle of communi-
cating vessels (*French*) 9-40538
water levels, meas. via automated tide gauging network 9-5692
He liquid level indicator, small heat dissipation, made from newly devel-
oped superconducting wire (*Japanese*) 9-2775
InPb-covered manganin wire, level detector, depth gauge, demonstration of
superconductivity 9-35751
- level meters**
see also *power measurement*
liquid, features (*Italian*) 9-169
- levels, energy** see *energy states*
- levitation, magnetic** see *magnetic levitation*
- libraries**
nuclear data libraries (*Spanish*) 9-36120
- LIDAR** see *optical radar*
- Lie groups**
see also *elementary particle symmetry*
affine motions, flat struct. (*French*) 9-30191

Lie groups continued

- Bianchi model Lie groups, automorphisms 9-30313
- Bloch coherent states derivation from SU(2) van der Waerden invariant 9-3671
- classical and quantum mechanics, group theoretical foundations, elementary systems 9-30282
- classical groups, invariant operators 9-21585
- classical limit for arbitrary commutation relations in quantum theories 9-25877
- coherent states and square integrable representations 9-30188
- compact connected Lie groups, tensor product representation, decomposition 9-6021
- compact gauge groups for unified weak and EM interactions, representations and classifications 9-22008
- complexified SU(5) algebra, singular orbits 9-12981
- conformal transformations, unitary implementability 9-21965
- contact structure, Lie group actions upper bound (*French*) 9-30190
- derivative in special Kawaguchi space 9-30193
- distribution representations of Lie groups 9-17631
- exceptional and orthosymplectic graded Lie algebras 9-26254
- exceptional gauge groups and quantum theory 9-35983
- fibre bundles with Ricci curvature on Riemann manifolds (*French*) 9-21594
- foliation and associated Lie algebras (*French*) 9-21521
- Galilean supersymmetry 9-17625
- Galilei relativity in Newtonian mechanics, possible Lie admissible algebras, addendum 9-2619
- gauge theory of gravity and supergravity on a group manifold 9-21635
- generalised brackets, appl. to Lie and Poisson algebras (*French*) 9-21520
- Gibbs fields, absence of continuous symmetry breaking in two-dimensional models of statistical physics 9-21650
- GL(N), characteristic identity appls., Lie algebra generation 9-26253
- Hamilton-Jacobi equation, symmetry and separation of variables, normal parabolic equation (*Russian*) 9-6292
- Hamilton-Jacobi equation, symmetry and separation of variables, nonparabolic equation (*Russian*) 9-6291
- inhomogeneous, nonlinear representations 9-30196
- instantons and fermions in the field of instanton 9-26217
- integrability of operators in Banach space 9-21523
- invariance group instability, spacetime, group contractions and models of Universe 9-9041
- invariant interaction Lagrangians, mathematical theory 9-30267
- invariant renormalisation method for non-linear realisations of dynamical symmetries 9-108
- invertible matrices, with Lie- and symplectic-admissibility, struct. and classification 9-40348
- isometry group representation in eigenspaces of the Laplacian (*French*) 9-21531
- isotopic symmetry group in strong interactions, possible geom. origin 9-17628
- Korteweg-de Vries equation, invariances and conservation laws 9-26244
- Lie admissible pseudo-octonion algebra deformation into octonion algebra 9-17629
- Lie algebras of vectorfields, isomorphisms and ideal struct. 9-21530
- Lie series use in studying nonlinear Hamiltonian systems 9-8811
- lifting Lie group actions to the cotangent bundle 9-45023
- limit cycles as invariant functions of Lie groups 9-35520
- matter field spacetimes, symm. mappings satisfying vanishing contraction of Lie deform. of Ricci tensor 9-113
- method of ordered operators, appl. to obtain exact solns. 9-21525
- nilpotent Lie groups and algebras, analytic vectors and irreducible representations 9-30195
- nonrelativistic particle in spherical space, dynamical symmetries 9-26255
- octonion, pseudo-alternative, and Lie-admissible algebras 9-40347
- octonion as traceless 3×3 matrices via a flexible Lie-admissible algebra 9-17630
- operator hypoellipticity on nilpotent Lie groups (*French*) 9-30192
- optimally controlled boundary layer eqns., group fibering 9-41663
- physics, algebras, manifolds and fibre bundles 9-44709
- polynomial invariant structure in symmetrical algebra of inhomogeneous pseudo-orthogonal group (*French*) 9-30189
- pseudo-Lie algebra, local solvability of nonlinear sequences 9-5965
- pseudo-quaternion and pseudo-octonion Lie-admissible algebras 9-2948
- pseudogroups, appl. of partial differential eqn. systems 9-25823
- quantisation of momenta and Hamiltonian 9-44775
- quasirelativistic equation of motion, invariance group 9-12649
- random walks on simply connected nilpotent Lie group homogeneous spaces (*French*) 9-25977
- relativity and deformed Lie groups 9-121
- residue formula to extend Roos differential forms to analytic complex Lie groups (*French*) 9-44706
- scalar relativistic fields, symmetry groups, with self-interaction 9-30664
- self dual Euclidean gauge fields, semisimple groups, Lie algebra, SU(2) and SU(3) fields 9-6278
- semi-simple graded Lie algebras, finite dimensional representations 9-30675
- semi-simple Lie algebras, linear representation, natural topology (*French*) 9-44704
- soliton eqns., Lund-Regge model generalisations 9-17605
- solvable Lie algebras, characters (*French*) 9-44705
- spatially homogeneous cosmology, dynamical degrees of freedom 9-30155
- spherically symmetric eqns. in gauge theories for arbitrary semisimple compact Lie group 9-9289
- su(1,1) Lie algebra, multiplicity free and finite multiplicity indecomposable representations 9-283
- SU(2) gauge theory instanton solns., duality condition, Lie group interpretation, quasiparticle soln. 9-6261
- super-convergent adiabatic invariants with resonant denominators by Lie transforms 9-1289
- superalgebra generalisation, 3-colour extension of OSP (4,1) de Sitter and SU(2,2;1) Wess-Zumino superalgebras 9-330
- superalgebraic approach to second quantisation 9-21654
- superalgebras, Casimir invariants, calcs. 9-12976
- superalgebras of dimension 4, classification 9-2594
- superalgebras with semisimple even part (*Russian*) 9-30197
- supergravity, auxiliary fields 9-17315
- symmetry breaking perturbation technique, tensor operators 9-12975
- symmetry groups of field equations for spin 1/2 9-21568
- tensor operators and characteristic identities for semi-simple Lie algebras 9-35956

Lie groups continued

- topological solitons graded Lie algebras, appl. to obstructions for crossing defect hypersurfaces 9-42062
- vector field Lie algebra, continuous cohomology 9-21524
- vector products whose components satisfy three parameter Lie algebras 9-45027
- wave eqn. in space-time, SO(4,C) group 9-12968
- Weyl Lie algebra, relativistic scatt. of model particles 9-40690
- Weyl Lie algebra representations as elementary particle models 9-2949
- $Z_2 \otimes Z_2$ graded Lie algebras and superalgebras, sequences 9-5962
- ^3He , superfluid, Ginsburg-Landau region, phase equilib. in Lie group method 9-23799
- ligand field theory** see *bonds (chemical); crystal field interactions; molecular energy levels*
- light**
 - see also *airglow; optics; sunlight; zodiacal light*
 - gravitational lenses, high-intensification regions 9-25463
 - Johann Georg von Soldner and the gravitational bending of light, with an english translation of his essay on it published in 1801 9-17176
 - photon decay in curved space-time, Hubble red shift and solar limb effect explanation 9-35606
- light absorption**
 - see also *atmospheric optics; densitometry; light transmission; optical constants; optical films; optical filters; pleochroism; spectra*
 - alloy, expt. methods, review 9-33655
 - anthracene, structural changes induced by UV irradiation (*German*) 9-42100
 - asymmetric gas-dielectric optical waveguide with wall resonances 9-7216
 - atmosphere, IR anomalous absorption, temp. dependence 9-34951
 - atmosphere, water vapour absorption in 8 to 13 μm spectral region 9-39855
 - atmosphere extinction, monochromatic coeffs. determ. from spectrophotometric obs. on Terskol Peak (*Russian*) 9-44246
 - atmosphere with cloud, water vapour and CO₂ absorpt. rel. to IR radiation flux approximation 9-39854
 - atmospheric extinction and absorpt., effects of particulate complex refr. index and size distribrs. 9-29849
 - bulk materials, low optical absorpt. coeffs. meas., adiabatic laser calorimetry with long rod samples 9-2804
 - carbonized bitumen, refractive index and absorpt. coeff. as measures of structural organization 9-35811
 - cloudy atmosphere, radiative transfer model, solar radiation and cloud struct. 9-21016
 - complex reaction, evaluation of first order rate constant 9-1937
 - degenerate semiconductor photostimulated light absorption in Burnstein-Moss effect (*Russian*) 9-28706
 - diffuse solar radiation field in cloud layer (*Russian*) 9-29851
 - displacive ferroelectrics, connection between electron spectrum parameters and ferroelec. parameters 9-38483
 - exciton ferromagnet, spin-lattice relax., light and US absorption (*Russian*) 9-7960
 - exciton insulator, coherence factors and transport props. 9-28291
 - fog hole boring with pulsed high-energy lasers 9-16662
 - gases, self-interaction and stimulated Raman scattering effects (*Russian*) 9-3740
 - glass laser disc interface with edge cladding glass, reflection meas. 9-27300
 - insulator-metal multilayered structs. (*Japanese*) 9-38191
 - integrating cavity for small optical absorption meas. 9-12838
 - internal field reson. struct., implications for optical absorpt. and scatt. by microscopic particles 9-10259
 - interstellar extinction, polarisation reversal by small particles over strong resons. 9-2564
 - interstellar reddening law in Corona Austrina dark cloud polarimetric meas. 9-17050
 - interstellar reddening law in Taurus dark cloud complex, IR photometry results 9-8963
 - interstellar variable IR extinction at galactic centre, obs. 9-48909
 - IR absorptiometry, gas anal., modern trends 9-8458
 - IR absorption of trapped line photons by dust 9-25460
 - IR coating with low absorpt., use for high energy laser reflector and window 9-45951
 - IR laser window material extrinsic absorption 9-14049
 - IR transparent materials, bulk and surface absorpt., calorimetric meas. method 9-27347
 - large spherical particles, absorpt. efficiencies, approximation scheme 9-31798
 - laser bulk absorption homogeneity, Doppler interferometric meas. 9-14010
 - laser mirror and window absorption, reflection and transmission obs. at 10.6 μm 9-14014
 - laser sounding method and equipment for water absorpt. and attenuation coeffs. meas. (*Russian*) 9-34998
 - light extinction, influence on galactic globular cluster system apparent flattening 9-48908
 - M82 nucleus, Brackett-line obs. rel. to visual extinction 9-25704
 - metal, expt. methods, review 9-33655
 - metal, IR absorption, contribution of conduction electron scattering 9-42971
 - molten salt, metal dilute solns., optical absorption 9-19899
 - Moon, 0.95 μm absorpt. strip intensity expression on colorimetric map (*Russian*) 9-44381
 - nematic liquid crystal transducers, exam. of light absorption behaviour 9-40560
 - nonlinear absorbing media, ray tracing and self-focusing theory 9-27339
 - ocean, clear, effective IR optical depths 9-8635
 - ocean, hydroptic obs. in Sargasso Sea and tropical Atlantic Ocean (*Russian*) 9-39748
 - ocean, in situ attenuation meas. (*German*) 9-39749
 - ocean, radiation attenuation index, suspended matter distrib. estimation (*Russian*) 9-39747
 - opaque, semitransparent materials, Kirchhoff's second law, role of reflection or diffusion (*French*) 9-36835
 - optical absorption wave propagation in gases, struct., propag., effects 9-10629
 - optical component, surface evaluation techniques 9-46094
 - optical fibres, ultimate low-loss single-mode fibre with 0.20 dB/km loss at 1.55 micron 9-36996
 - Orion Nebula, H₂ emission interstellar extinction meas. 9-25668
 - photoacoustic spectroscopy, thermoacoustic coupling effects 9-44954

light absorption continued

photometric light attenuation systems, comparative analysis 9-12839
plane plates, two sets of different physical props., energy flux splitting (German) 9-18500
polymer lightguide attenuation coeffs. meas., data anal., accuracy 9-1005
pulse train propagation, two-level absorber, relax. effects 9-46011
quasars absorption line problem, optically selected high-redshift objects spectrophotometry 9-25746
radiation field, mean specific emission intensity, fluctuation effects (Italian) 9-18346
real space-time rays in absorbing media, Fermat's principle 9-3628
semiconductor layer crystals, light absorption by shallow impurity centres 9-15503
sieve-effect in one-component suspensions 9-22896
solar atmosphere, model including OH continuum opacity 9-40162
solar photosphere, line absorpt. coeff. rel. to weak Fraunhofer lines form. depths (Russian) 9-44438
Spacelab launch conditions for absorption spectroscopy (French) 9-8791
spiral galaxies, light absorpt. by interstellar dust 9-35393
thin layer, weakly absorbing, radiant absorption/transmittance ratio 9-11481
Venus atmosphere, IR extinction meas. from Pioneer Venus IR radiometer expt. 9-48719
weakly absorbing layers, interferometric determ. of optical parameters 9-17471
Ag, granular film, anomalous light absorpt., oblique incidence 9-6205
Ag halides, formation of metallic Ag on surface, optical absorpt. calcs. 9-24791
AgBr polydispersed particles in unsensitised holographic emulsion, bulk attenuation and absorpt. (Russian) 9-2865
Ar III, in pulsed arc plasma, ξ , factor determ. 9-4116
CO₂ laser radiation reson. absorpt., atm. NH₃ conc. determ. on long path 9-29904
EuO, light absorpt. during ferromag. reson. (Russian) 9-28618
Ga_{1-x}Al_xAs-GaAs high-efficiency solar cell 9-29469
GaAs LED absorption effect on freq. characteristic 9-8189
Ge, amorphous film, optical consts. in near IR range (Korean) 9-8137
Ge amorphous films, self-ion bombard., electronic props. 9-28422
H₂O, photoabsorption, Stieltjes-Tchebycheff calculations, Hartree-Fock calcs. 9-18238
HO₂NO₂ gas phase, UV and IR absorpt. cross sections 9-13733
KBr, absorption coeff. determ. in 10.6 μ m region, laser calorimetry method 9-7186
LiNbO₃:Ti optical waveguides, pyroelectric loss meas. 9-46046
NO⁺($\nu=1,2$)+N₂, vibr. transfer, vibr. absorption coeff. 9-6994
Ne superradiation propagation through reson.-absorbing positive column plasma, pulse shape change 9-4117
SF₆, soln. in liquid Kr, resonant IR radiation, nonlinear absorpt., vibr. relaxation estimate 9-36642
Si₆, absorpt. of pulsed CO₂-laser radiation at 140K 9-22707
Si amorphous films, self-ion bombard., electronic props. 9-28422
Si, IR photoresponse at 1.15 microns 9-7864
Si₃N₄, highly insulating film, current cond., CV curves, and IR absorpt. 9-38208
SiO₂ film on Si substrate, reflectance and absorbance obs. 9-15542
SiO₂ optical fibres, plastic clad, gamma-ray irradiated, signal level depend. of recovery rate 9-36997
ZnO-polystyrene photoreceptors sensitised by β -Cu phthalocyanine 9-17552

light absorption spectra *see spectra*
light amplifiers *see image intensifiers*
light attenuation *see light absorption; light scattering; light transmission; optical dispersion*
light coherence
see also laser beams; lasers
apodisation problem, coherent, unified formulation 9-27187
astronomical doublet system resolution, random speckle structure model and expt. (Russian) 9-7082
Cherenkov radiation at resonance frequency of amplifying medium 9-22926
coherent emission, caused by pulsed laser in low-density gas 9-18389
directionality of light beams and spatial coherence 9-36834
edge-ringing and edge-shifting, effects of coherence 9-36833
far-field diffraction, partial coherence, primary astigmatism 9-22899
fibre optical illuminator output speckle, smoothing methods 9-7209
gas-laser beam intensity fluctuations, spatial distrib. 9-18458
gaussian Schell-model planar sources, beam directionality 9-903
generalized Collett-Wolf sources 9-31793
image formation with paraxial coherent light (French) 9-31815
image quality of diffuse objects, laser coherence influence 9-31820
instability of light pulses in absorbing media, resonance detuning effect (Russian) 9-27343
inverse problem for scalar planar sources radiometry and coherence, book contrib. 9-31797
inverse source problems in optics, book 9-31821
inverse source problems in optics, book contrib. 9-31822
laser radiation, spatial coherence degree correlation with wave vector variance 9-45985
Lau effect, diffr. expt. with incoherent illum., appl. to Talbot interferometer, Fourier spectrometer 9-41333
linear restoration of partially coherent images, minimum mean square error 9-3637
methane, anharmonic molecular vibrations, coherent spectroscopy 9-18187
molecular near-resonant fluoresc. and Raman scatt. theory 9-3446
molecules, luminesc., photon echoes and coherence 9-31586
molecules embedded in small particles, Raman and fluoresc. scatt., incoherent results 9-41337
molecules embedded in small particles, Raman and fluoresc. scatt., coherent results 9-41338
optical image spottness reduction by liquid crystal screen 9-14109
optical system design, advances and problems 9-36975
partially coherent image formation, bibliographic review 9-18356
partially coherent source giving rise to highly directional beams 9-14070
pentacene, laser fluoresc. of mol., excitation bandwidth and optical dephasing 9-36679
phase determination by conjugate wave-front generation, optical coherence theory 9-7174
phase reconstruction problem for wave amplitudes and coherence functions, book contrib. 9-31823

light coherence continued

photoelectron counting, maximum photon antibunching in generalized coherent states 9-41358
photomixer with spatially periodic photodetectors, characts., appls. 9-12852
photomixing of coherent radiation by spatially periodic photodetector 9-12851
projection printing, partial coherence 9-31834
propagation of coherent and partially coherent light 9-31790
pulse train propagation, two-level absorber, relax. effects 9-46011
quasi-homogeneous partially coherent source, far zone range criteria 9-14069
radiant intensity from planar sources of any state of coherence 9-27163
ruby laser beam spatial coherence interferometry 9-14003
spatially coherent fields, amplitude and phase spectra synchronous detection (Russian) 9-44937
spectroscopy of high power resolution by means of photon statistics (Spanish) 9-21818
three level absorber, two-photon transition, self-induced transparency 9-27337
US wave, amplitude-modulated, for optical coherence reduction 9-3624
VUV monochromator for coherent signals (Russian) 9-46036
Cu vapour laser, coherent props., dynamic holography in VO₂ films 9-13929
GaAs single-frequency injection laser, coherence of emitted radiation 9-31904
HCl, anharmonic molecular vibrations, coherent spectroscopy 9-18187
He, gas, fifth harmonic generation, coherent XUV light 9-46007
Ne superradiation propagation through reson.-absorbing positive column plasma, pulse shape change 9-4117
Sr vapour, vacuum UV coherent radiation generation by four-wave sum freq. mixing 9-10350

light communication *see optical communication*
light cones
see also current algebra
EM form factors in Bjorken limit and their Fourier transforms on light cone 9-26246
hadronic EM current, short distance scaling, R(s) behaviour as $s \rightarrow \infty$ 9-22095
infrared regularizations in a model gauge theory 9-30700
Lorentz group functionals, Fourier expansion in light cones 9-21604
nonlinear field theory, classical solutions by inverse scatt. method 9-9272
QCD, 2-D, evidence against colour confinement 9-26293
relativistic amplitudes as wave functions, invariant diagram technique (Russian) 9-2957
relativistic Hamiltonian theory on light cone, covariant formulation 9-2942
short-distance and light-cone expansions for products of currents 9-17638
weak neutral currents, light-cone algebra anal. 9-6311
Yang-Mills 2-D theory in leading 1/N expansion 9-26242
eN \rightarrow e γ +X, test of soft-pion theorem in inclusive pion electroprod. 9-17739

light diffraction
see also holography; optical zone plates
acousto-optic deflector, anal. and design of flat transducer array 9-18527
acousto-optical phenomena in solids, review 9-18577
apodised semicircular apertures, Fraunhofer diffr. pattern 9-901
axial patterns diffracted from optical pupils, Fourier analysis of Fabry-Perot spectrograms 9-27188
band-limited angular spectrum representation of diffracted wave field 9-27162
Bragg-diffraction imaging system with partially coherent light illumination 9-14175
cholesteric mixture, solid phase, spherulite textures, optical effects and mol. ordering 9-1746
circular aperture, non-uniform illumination, Straubel pupil function study 9-3623
coherent and partially coherent light, comparison between propag. in given geometry 9-31790
corrugated surface, Brewster affect analogues 9-13901
dichromate gelatin, holographic information recording (German) 9-27207
dimensional metrology, light diffraction patterns, technical structures (German) 9-30415
DOBAMBC, ferroelec. props. 9-32884
energy distribution of converging spherical wave for small Fresnel nos. 9-3626
error reduction in radiometry by toothed apertures 9-9232
evanescent wave holograms, diffraction efficiency 9-18375
Ewald extinction theorem and Green function method for semi-infinite dipole cryst. 9-23683
far-field diffraction, partial coherence, primary astigmatism 9-22899
fibre sizing using Fraunhofer diffraction 9-171
Fourier optics as approx. of Kirchoff integral, Fraunhofer, diffr. (German) 9-18357
Fraunhofer diffraction and polarisation 9-44666
fraunhofer diffraction patterns from apertures illuminated with nonparallel light, for teaching 9-35465
Fresnel images of periodic transparencies of finite dimensions 9-3627
fused quartz, determ. of acoustic and acousto-optical parameters using acoustic interferometry 9-41532
grating, transmission phase with deep rectangular grooves, light diffr. theory 9-10257
gravitational lenses, high-intensification regions and diffr. phenomena 9-25463
impurity containing crystals, light diffr. by sound 9-8119
incoherent annulus object diffraction images in presence of primary astigmatism 9-22904
IR Gaussian laser beam truncated by annular aperture 9-18344
lamellar grating, reson. anomalies, analytical and numerical study using modal expansion technique 9-31791
laser irradiation intensity fluctuations, influence of transmitting aperture diffr. size and turbulence 9-45906
laser particle size analyser, size estimated from diffraction pattern 9-6091
laser particle size analyser, using diffraction of light by particles 9-6090
Lau effect, diffr. expt. with incoherent illum., appl. to Talbot interferometer, Fourier spectrometer 9-41333
linear systems, Fourier transforms and optics, book 9-41350
magneto-optical, by cylindrical magnetic domains (Russian) 9-1753

light diffraction continued
 magneto-optical concentration of light, by regular domain structures (*Russian*) 9-24297
 oligourethaneacrylate photopolymerised layers, production of holograms (*Russian*) 9-7102
 particle velocity measurement in Fraunhofer plane using double exposure holograms 9-44904
 periodic media diff., equiv. of multiwave coupled-wave and modal theories 9-41331
 photothermoplastic layer, diffraction effectiveness, registration of discrete holograms (*Russian*) 9-7100
 point-source image energy centre of gravity, location accuracy, aberrations effect 9-27192
 Raman, by US waves, and optical heterodyning for US vel. and absorpt. meas. 9-18640
 random arrays of grains, spectral props., jitter model, comment 9-41339
 random arrays of grains, spectral props., jitter model 9-45905
 rigorous solution on echelette with acute angle teeth (*Russian*) 9-13895
 SAW oppositely propagating in optical waveguide 9-41453
 SAW propagation study based on coherent light diffraction (*Russian*) 9-14172
 semiconductors, doped, light diff. by sound 9-11404
 sinusoidal interface light diffraction 9-13900
 surface acousto-optic interaction on nonpiezoelectric substrates 9-46090
 surface layer of material, refr. index meas. using diff. method 9-30532
 TEM coma-free alignment using optical diffractograms 9-21860
 vibrating laser speckle in diff. field, dynamic statistical props. 9-22895
 water, light scatt. and diffraction (*French*) 9-27171
 Al surface, light diff., photon excitation of compound plasmon resonances 9-28307
 CaCO₃, aragonite, conical intensity distrib. 9-1747
 α-HIO₃, optically active biaxial crystal, conical diff. intensity patterns 9-4785
 InSe film, photochem. production of holograms on surface (*Russian*) 9-7101
 LiNbO₃, light diffraction from volume phase holograms 9-36860
 Sn, globular film, interf. and diff., solar selective props. 9-4860
 VO₂ film based recording medium, holographic characteristics calc. (*Russian*) 9-7092

light diffusion see *light scattering*

light dispersion see *optical dispersion*

light emitting devices
 see also *light emitting diodes; light sources; luminescent devices*
 No entries

light emitting diodes
 see also *semiconductor junction lasers*
 biocular magnifier design for display system viewing 9-27361
 borehole probe with LED for γ-ray spectrum stabilisation 9-45552
 camera character-forming display, with internal or external timing circuits 9-9251
 fibre communication devices, directional couplers, attenuators, switches development 9-3782
 fibre pigtail incorporation 9-36998
 high efficiency, with endface extraction 9-15216
 information transmission appl., system components construction and operation (*German*) 9-18553
 IR line scanner, Remcofax XIII A, improved recording system using LED 9-25335
 long wavelength light sources, 1.06 to 1.6 μm range, review 9-45969
 monitoring system for large Pb glass counter array 9-45565
 optical transmission evolution and development trends 9-23065
 pulsed, for excitation of photochem. reactions in biological objects (*German*) 9-16250
 pumping, Nd lasers optical transmitters appl., NPP, LNP and NAB 9-3712
 pumping of miniaturized LiNdP₄O₁₂ lasers, single and array of dome-type LEDs 9-41395
 visible spectrum LED, book 9-42428
 wide-gap emitter, continuous variation of composition, emergence of luminesc. 9-11208
 AlAs-GaAs heterostructure, fabrication by selective liq.-phase epitaxy 9-15618
 Al_xGa_{1-x}As heterojunction LED 9-28403
 p-Al_xGa_{1-x}As, LED in red and IR region, multiple-pass heterostruc. 9-19653
 Al_xGa_{1-x}As-GaAs, diode pump system for YAG:Nd³⁺ laser 9-41396
 Al_xGa_{1-x}Sb, LED, 1.54 μm efficient emission at 300K reproducible fabrication 9-42636
 GaAlAs, multiheterojunction, efficient power coupling with taper ended multimode fibre 9-32052
 n-GaAlAs:Sn LED DH donor-level analysis, DLTS obs. 9-47040
 Ga_{1-x}Al_xAs LPE crystals for DH laser, LEDs, TEM obs. of Ge, Si-doped epitaxial layers 9-1556
 GaAs LED, minority carrier lifetime determ. 9-42560
 GaAs LED absorption effect on freq. characteristic 9-8189
 GaAs, optimum p-n junction depth, photoluminesc. method 9-4598
 GaAs p⁺-n diode, radiative hot carrier recomb., photoluminesc. and electroluminesc. meas. 9-38676
 GaAs:Si, LED, effect of struct., defects on quantum efficiency 9-11211
 GaAs:Si grown from restricted soln.-alloy bulk, props. (*Russian*) 9-43043
 GaAs:Si LED, with anti-Stokes phosphor 9-11204
 GaAs:Si p-n structures, speed (*Russian*) 9-43044
 GaAs-GaAlAs superluminescent diodes for optical fibre links, modulation bandwidth 9-36993
 GaAs_{0.4}P_{0.6}, CVD growth for LEDs 9-19998
 GaAs_{1-x}P_x, liquid phase epitaxial growth on GaP, growth and properties for LEDs 9-47641
 GaN, blue LEDs, VPE (*French*) 9-28928
 GaN:Zn, violet bipolar LED 9-38190
 GaP, ionised-cluster beam epitaxial growth on GaP and Si, characts. for LED 9-28951
 GaP, LED, efficiency depend. on O₂ conc. 9-19613
 GaP, light emitting diode structure, effect of neutron irradiation on cathodoluminesc. 9-28843
 GaP:N VPE LED, deep level centres, DLTS studies 9-42493
 GaP:Si p-n struct., on n-Ga_{1-x}Al_xP and n-GaP substrates, electrolum. spectra 9-24368
 SiC, blue-LED for stimulation of visual cells of insects (*German*) 9-39623

light emitting diodes continued
 α-SiC:Al diodes, ion implanted, transient characts. of electrolum. 9-24369
 ZnS Schottky-barrier diodes, blue light emission 9-38671
 ZnS:Er diodes, electrolum. 9-33840
 ZnS-CuGaS₂ n-p heterojunction, for LED appl., prep. and characterisation 9-1831
 ZnSe MOS diodes, injection luminesc., edge emission 9-28842
 ZnSe surface barrier diode, hot charge carriers, elec., photoelec., and electroluminesc. props. (*Russian*) 9-33841
 ZnTe, electro- and cathodoluminesc., impurity segregation 9-43042
 ZnTe:P(Li), luminesc. transitions, quantum efficiency 9-1783

light filters see *optical filters*

light intensifiers see *image intensifiers*

light interference
 see also *light interferometers; light interferometry; Moire fringes*
 beat signal amplitude, influence of photoreceiver diaphragm diameter and interf. fringe width during interf. 9-7071
 cholesteric mixture, solid phase, spherulite textures, optical effects and mol. ordering 9-1746
 double slit experiment, quantum nonseparability and Bohr's complementarity principle 9-35582
 education, scatter plate prod. using laser speckle, for scatter light interference expt. 9-9063
 ellipsometer with quarter-wave compensator, multireflection interference effects 9-12841
 flatness of test glass, reading errors of interf. fringes 9-32097
 fringe intensity distribution, demonstration using vidicon (*Polish*) 9-40340
 glass diffused and thin-film waveguides, light interf. 9-14115
 IR energy-efficient interference coatings 9-23087
 laser beams, meas. of phase distrib. 9-18461
 MBBA-cholesteric chloride mixture, liq. cryst., bubble domain texture, obs. of interference fringes 9-23520
 Michelson experiment seen 90 years after first execution (*Italian*) 9-17175
 photoelastic stress anal. of solids, shadow and interference methods (*Russian*) 9-7352
 photon antibunching enhancement by interf., polarisation effects 9-31990
 photon antibunching enhancement by interf., Young's interf. expt. 9-27313
 reflection hologram preparation by interf. copying of transmission holograms 9-45916
 semiconductor heterogeneity refractive index meas., interferometric method 9-6172
 Li₂GeO₃ monocystal conoscopic figure in polarised white light 9-15433
 SiO₂-Si system, implanted with N, P, and Te ions, reflectance spectra and interference fringes 9-23629
 Sn, globular film, interf. and diff., solar selective props. 9-4860
 Sn globular film, solar selective props., effect of dielec. layer addition 9-4861

light interferometers
 see also *light interferometry*
 adaptive optics, radial Ronchi grating lateral shear interferometer, book contrib. 9-31972
 astronomical monochromatic imaging using filters, slitless (multislit) spectrograph, and interferometers 9-8840
 coherence interferometer, for atmospheric modulation transfer function estimation (*Russian*) 9-16715
 computer-controlled Gabry-Perot interferometer for Brillouin spectroscopy 9-40622
 confocal interferometer light-scattering sample cell 9-6182
 dispersive Fourier Michelson interferometer, meas. of opaque solid at 6K 9-2841
 dye laser, tuning and active mode-locking, interferometry technique 9-22982
 Fabry Perot wide-band electrooptic type modulator, modulation sensitivity 9-3724
 Fabry-Perot, performance computing, program for TI-59 calculator 9-35816
 Fabry-Perot, supersonic flowmeter 9-7420
 Fabry-Perot focusing properties in multiple-beam holography system 9-13927
 Fabry-Perot interference discriminator, for laser freq. stabilisation, optimisation 9-31962
 Fabry-Perot press. scanned three-pass interferometer 9-9238
 Fabry-Perot resonators, second-order perturbation theory 9-18451
 Fabry-Perot rings, speckle, effect of freq. chirping of light from Q-switched ruby laser 9-41340
 Fabry-Perot scanning interferometer, SKIF-1, for spectral-line profiles of plasma sources 9-17476
 Fabry-Perot type, focusing and beam shifting props. 9-6168
 fast-scanning Fabry-Perot interferometer, reflecting surface shape determ. 9-12842
 Fourier spectroscopy, delay compensation, sampling error reduction 9-30566
 Grubb Parson modular cube interferometer, Goly detector housing 9-26113
 heterodyne, freq. shifter using multiple rotating polarisation retarders 9-6167
 homodyne sub-mm interferometer for plasma diagnosis 9-32811
 intensity autocorrelation, real-time, for picosecond, subpicosecond optical pulse display 9-17468
 IR interferometer for NDT 9-8419
 large aperture AC interferometer for optical testing 9-27446
 laser, for displacement and vibration meas. 9-6094
 laser anemometer interferometer, for simultaneous velocity and density meas. 9-18976
 laser Doppler velocimeter instantaneous, using fast wavelength tracking Michelson interferometer 9-7430
 laser feedback interferometer with phase quadrature using two-mode He-Ne laser 9-2813
 laser in-cavity Michelson interferometer, appl. to plasma diagnostics 9-2811
 laser interferometer, two-frequency, small displacement meas. in LF range 9-30533
 laser radiation wavelength meas., 3.39 μm and 0.63 μm 9-30555
 laser shearing interferometer appl. to supersonic flow field meas. (*Chinese*) 9-32715

light interferometers continued

- Lau effect, diff. expt. with incoherent illum., appl. to Talbot interferometer, Fourier spectrometer 9-41333
 length meas. by tunable laser 9-35817
 Mach-Zehnder interferometric waveguide modulator, polarization-independent operation 9-18552
 Michelson far IR balloon-borne for stratospheric emission spectrum obs. 9-39870
 Michelson interferometer, optical circuit props. at zero path difference (*Russian*) 9-9241
 Michelson interferometer, tilt-compensated, for Fourier transform spectroscopy 9-9239
 Michelson polarizing interferometer with optical fibre probe, high sensitivity vibr. meas. 9-7351
 Michelson stellar interferometer for binary star obs. 9-44370
 nonplanar wire polarisers for far IR 9-36989
 optical fibre ring interferometer, Fresnel drag in single-mode fibres 9-37035
 optical pressure-sensing element based on interferometer, for meas. pressure of laser pulses on targets 9-35771
 optical systems, modification for aspherical surface testing, design calcs. and aberration characs. 9-7236
 phase-lock interference microscopy, real-time, design, appls. 9-17480
 plane-mirror two-beam interferometer analysis 9-2812
 plasma electron density and mag. field meas. by far IR polarimeter-interferometer 9-32817
 polarisation, for small dynamic deform. meas. (*Russian*) 9-9205
 polarisation Wollaston-prism interferometer fringe curvature correction 9-6170
 Ronchi interferometer, meas. of aberrations of non-parabolic graded-index medium 9-36843
 Sagnac fibre-ring interferometer gyro with electronic phase sensing, using lasers 9-17472
 scanning Fabry-Perot interferometer for far IR balloon astronomy 9-35093
 thickness measurement in white light 9-21807
 three mirror HF laser modulator 9-3728
 tracking system properties and advantages 9-14080
 two-beam, wavelength comparison to French primary standard 9-6173
 two-beam mirror interferometer, accuracy, emission beam divergence effects 9-26115
 two-wave interferometers for use with monochromatic source, prism components 9-35814
 velocity sensing interferometer (VISAR) modification 9-17481
 vibration-insensitive He-Ne laser interferometer for plasma electron density meas. 9-14610
 Voigt parameters, determination using nonideal interferometer (*Russian*) 9-9240
 wavelength meter, compact static, based on Fizeau interferometer, for pulsed and CW lasers 9-36947
 wavemeter for CW lasers 9-26112
 wedge etalons, for magneto-optic beam shifter and polarization converter 9-32054
 He-Ne laser two-beam interferometer phase errors (*Russian*) 9-6166

light interferometry

- see also *holographic interferometry*; *Moiré fringes*
 acoustic emission measurement transducers, comparison of piezoelec. and optical sensors 9-14192
 aero-acoustic effects in CO₂ laser discharge fast photography and interferometry obs. 9-36875
 atmospheric pollutant detection, spectral interference correlation method 9-8727
 cotton, optical anisotropy, multiple-beam interferometric obs. 9-8115
 crown glass, corrosion by organic acid solns., exam. of corrosion depth by interferometry (*Japanese*) 9-20237
 cuvette for studying optical nonuniformities in aggressive liquids 9-2810
 data treatment in transaxial tomography, optical improvement 9-34666
 diffusing surface inclination determ. rel. to viewing direction, speckle photography 9-2815
 displacement meas. of diffuse surfaces moving with high vel., interferometric method 9-6092
 dye laser, interference metrological applications, spectral kinetic characs. (*Russian*) 9-27253
 Earth strain measurements with laser interferometer (*Japanese*) 9-25346
 elastohydrodynamically loaded surfaces, interferometric deform. meas. 9-43532
 electron beam impact on materials, measurement of dynamic response using laser interferometer 9-42102
 electronic speckle pattern interferometry for NDT 9-24702
 epitaxial magnetic film thickness meas., interferometric method 9-35675
 Fabry-Perot interferogram, determ. of far IR spectrum 9-2840
 fibre optic laser gyro signal detection and processing technique 9-37037
 fibre optic rotation sensor, signal detection and processing 9-37034
 fibre refractometry by interference microscopy, simplified method 9-18504
 Fizeau, for refr. index and thickness meas. of nearly transparent films 9-17469
 gauge block measurement, sources of uncertainty 9-26029
 Gaussian beam astigmatism, meas. by Ronchi grating interferometer 9-3635
 gelatinous light modulating media, dynamic deform. obs. by laser interferometry 9-32072
 graded index materials, optical props. meas. 9-9237
 heat transfer in vertical thermal channels, interferometric simulation 9-17477
 hydrocarbon drops levitated in water, acoustically forced shape oscill. 9-47987
 impulse loaded plates, exam. of stress distribution, using Mach-Zehnder interferometer (*German*) 9-41643
 in plane strain displacement near crack tip at high temp., optical meas. 9-32412
 in-plane stress waves in solids, mapping by laser speckles 9-27608
 interference microscopy for intercrystalline transport process obs. (*German*) 9-30538
 IR pulsed laser spectral characs. determ., interferogram display on luminesc. screen 9-10341
 IR speckle interferometry, appl. to accreting young stars ang. dimensions determ. 9-44482
 laser, for non-contact liquid level meas. (*German*) 9-12769

light interferometry continued

- laser beam contraction dynamics due to thermal transient self-focusing, high speed interferometry obs. 9-10368
 laser bulk absorption homogeneity, Doppler interferometric meas. 9-14010
 laser frequency instability, short duration, interferometric meas. 9-3733
 laser fusion targets, interferometric meas. of microsphere wall thickness variations 9-17470
 laser interferometry in linear measuring techniques, problems with environmental influences (*German*) 9-30411
 laser interferometry measurement system 9-6171
 laser shearing interferometer appl. to supersonic flow field meas. (*Chinese*) 9-32715
 laser single pulse spectral distrib. meas., using Fabry-Perot interferometer and CCTV system 9-3732
 laser speckle interferometry, anal. of double aperture speckle and shearing camera techniques 9-6169
 laser speckle photography, double-exposure, magnification change effect 9-40607
 length meas., secondary calibration standards wavelength meas. (*Rumanian*) 9-40533
 linear velocity meas. by YAG laser 9-26039
 localisation geometry of interf. fringes in classical and holographic interferometry 9-30536
 metal surface inspection appl., with ground finishes 9-34216
 multilayer film, intrinsic and thermal stress modelling and interferometry 9-14059
 multiple beam interferometry, polarisation doubling 9-21806
 noncontact material testing using laser energy deposition and interferometry 9-34258
 optical heterodyne interferometry, double, method of reducing IF 9-17475
 optical heterodyning in US vel. and absorpt. meas., Raman diff. by US waves 9-18640
 optical materials, piezo-optic coeff. determ. under static loading, interferometric and polarimetric techniques 9-4787
 optical phase modulation of light beams, Michelson interferometer meas. (*German*) 9-17473
 optics applied to metrology, conf., Strasbourg, France (1977) 9-6159
 oxide films, corrosion resist. determ. method 9-24689
 phase modulation, appls. to material characterisation and dimensional metrology 9-6174
 phase modulation interferometry combined with object scanning (*French*) 9-2814
 PMMA, destruction kinetics of intense ms loading, laser differential interferometry obs. 9-24623
 reflective object displacement and vibration meas. (*Russian*) 9-21695
 rotary face seals, lubricated, interferometric obs. 9-20204
 ruby laser beam spatial coherence interferometry 9-14003
 sandwich speckle interferometry 9-30537
 semiconductor heterogeneity refractive index meas., interferometric method 9-6172
 small angle meas. by constant inclination interference (*Chinese*) 9-30419
 solar speckle interferometry calibration, atm.-lens MTF changes 9-2370
 speckle, binary stars ang. separations meas. 9-40215
 speckle, two-point, astron. appls. and disadvantages (*Russian*) 9-16840
 speckle interferometric meas. of ang. diameters of asteroids Vesta and Pallas 9-35172
 speckle interferometry, displacement meas. errors rel. to camera displacements during exposure 9-17479
 speckle interferometry, double-exposure, with instant Polaroid film 9-221
 speckle interferometry, image restoration by least squares method 9-25514
 speckle interferometry bandwidth extension using simple optical system 9-26114
 speckle pattern interferometer for measurement of displacements and surface tilt in stress analysis, book contrib. 9-20334
 speckle shearing interferometry, fringe parameters 9-220
 spectra calibration, using Edser-Butler bands, for teachers 9-21504
 static and dynamic calibration using optical interferometric techniques 9-23178
 stellar speckle interferometry, two aperture pupil plane 9-35145
 stellar speckle interferometry data processing method 9-12409
 strain measurement method using diff. beams of diff. beams 9-32397
 thermal turbulence in plane airstream, temp. fluctuation meas., interferometric method 9-7432
 time-resolved interferometry, nonlinear refr. index meas. of glasses and crystals 9-3737
 turbulent media interferometry 9-2816
 US transducer calibration method using laser interferometry 9-23177
 weakly absorbing layers, interferometric determ. of optical parameters 9-17471
 white light interferometric microscopes 9-223
 white light speckle method of experimental strain analysis 9-37255
 Al₂O₃-epoxy mechanical mixtures, stress-wave propag. model, dynamic response expts. 9-1477
 CO₂ laser multiwavelength interferometry, absolute distance meas. 9-31974
 CO₂ TEA far IR laser, optimum spectral matching 9-31857
 He-Ne laser, ¹²⁷I₂ saturated absorption stabilised, wavelength meas. (*Russian*) 9-22996
 He-Ne laser, competitive oscillation mode frequency stabilisation (*Russian*) 9-22962
 He-Ne laser interferometric and diffraction methods for meas. dia. of circular cylindrical wires 9-21703
 Nd:YAG acousto-optically mode-locked CW laser, optical spectra obs. by interferometer 9-7134
 Zn/ZnSO₄/Zn system, laser interferometric study of corrosion of coated and uncoated metals, technique standardisation 9-35815

light meters see *photometers*

light modulation see *optical modulation*

light polarisation

- see also *birefringence*; *optical rotation*; *photoelasticity*; *polarimetry*
 2A 0311-227, orbital period and polarisation obs. of optical counterpart 9-30151
 accretion disc around binary star, polarisation effects in emission 9-35128
 acetic acid, in cyclohexane soln., Raman scatt. near crit. stratification, temp. depend. (*Russian*) 9-11420

light polarisation continued

- acetone, stimulated Brillouin scatt. wave front reversal for depolarised light 9-3743
- anisotropic media, partially polarised light propag., differential 4×4 matrix calculus 9-41330
- anomalous resonances in anisotropic multilayer structures 9-45902
- aromatics, fluoresc. polarisation red edge effect, rot. anomaly 9-3472
- atmospheric haze microstruct. and refr. index from scatt. light polarisation characts. (*Russian*) 9-29852
- atomic electron impact excitation, Bethe approx. modifications, impact radiation polarisation 9-31695
- atoms, and ions, parity nonconservation effects 9-10086
- axicon polarisation effects 9-45900
- bacteriochlorophyll absorption polarisation, in liq. cryst. cell 9-24950
- Be shell stars, $B\beta$ high-resolution polarisation struct. meas. by digicon spectropolarimeter 9-44485
- Be stars, polarimetry at 1.25 and 2.2 microns 9-44484
- beam splitters, multilayer polarised light, laboratory and factory testing 9-27428
- beamsplitters, beam inherent parameters analysis 9-36999
- benzoxazole, polarisation of 274 nm absorpt. system, band contour analysis 9-27043
- binary mixtures, qualitative anal. using fluoresc. polarisation 9-24849
- birefringent retardation plate matrix representation 9-22894
- blue stellar objects, from MC2 and MC3 catalogue, polarisation obs., BL Lacertae objects 9-48918
- β Cephei, linear polarisation obs. rel. to non-radial pulsations 9-40198
- chromophores, circular polarisation of luminescence, book contrib. 9-5250
- circular dichroism for scattering objects, examination using double-beam spectrophotometer 9-35853
- close binary systems, polarimetric determ. of revolution directions and spatial orientations 9-35309
- collisional polarisability effect on scatt. calcs. from dense fluids (*French*) 9-31789
- colloidal particles, interacting Brownian spheres, depolarised light scattering 9-34370
- Comet Ikeya-Seki (1965 VIII), polarization reversal, grain segregation due to radiation press. 9-8881
- compensator retardation determ. 9-26107
- conical refraction, beam intensity distrib., using polarised light (*Russian*) 9-27172
- continuous phase convention, extension to polarised light, impossibility 9-41335
- Crab Nebula, small-scale polarisation obs. 9-25656
- decane: pyrene (coronene), quasiline spectra, multiplet struct., freezing conditions and solvent effects 9-1786
- depolarising diffusers, autocorrelation by holography (*French*) 9-31801
- dispersive particle sizes, from scattering and polarization meas. (*Russian*) 9-34950
- DNA bases, polarised fluoresc. and estimated lifetimes, room temp. and in -125°C soln. 9-39352
- ELLIPSA, two-photon spectroscopy method for polarisation meas. 9-6184
- emergent radiation from Rayleigh atmosphere, polarisation meas. rel. to single scatt. albedo determ. 9-35117
- eosin, fluoresc. polarisation, solvent effects 9-36678
- eosin-erythrosin, soln., qualitative anal. using fluoresc. polarisation 9-24849
- far IR polarising metallic cloth with periodic slits 9-14112
- finite plane parallel atmos., polarisation studies, F_2 method 9-40070
- flow-birefringence, meas. using circularly polarised laser beam 9-35813
- fluorescein-rose bengale, soln., qualitative anal. using fluoresc. polarisation 9-24849
- fluorescence, depolarisation, orientation factors, excitation energy transfer between isolated donor-acceptor fluorophore pairs 9-22740
- fluorescence polarisation detector for polarisation degree calc. 9-219
- Fraunhofer diffraction and polarisation 9-44666
- gas lasers, single-mode in transverse mag. fields, polarisation props. 9-7167
- gases, light scatt., depolaris. factor meas. (*Russian*) 9-13780
- gratings, concave, mounted in Seya-Namioka monochromator, expt. characts. 9-18526
- HDE 226868 (Cygnus X-1), long-term circular polarisation variability 9-9031
- hexane:pyrene (coronene), quasiline spectra, multiplet struct., freezing conditions and solvent effects 9-1786
- high fidelity reproduction with polarised light 9-44957
- integrated optics multilayer anisotropic structures, impedance matching effects 9-7233
- interface between transparent and absorbing medium, light refl. at 45° angle of incidence 9-31792
- interferometer, for small dynamic deform. meas. (*Russian*) 9-9205
- interstellar absorption bands in O, B and A stars, polarized intensities 9-8915
- interstellar grains with water ice mantles, max. linear polarisation wavelength 9-5882
- interstellar polarisation, reversed by small particles over strong resons. 9-2564
- ion, multiply charged, two-electron, parity nonconservation in spectra 9-10087
- IR frustrated-total-reflection polarising beam splitter 9-46047
- laser-induced optical activity, QED theory of multiphoton processes 9-31794
- lattice relaxation and time resolved polarization of emission from localized electron with level crossing 9-4840
- LP 790-29, mag. degenerate star with blanketed energy distrib., spectropolarimetry 9-5815
- macromolecular solutions, orient. in laser beam elec. field, anisotropic light scatt. 9-1768
- magneto-optical concentration of light, by regular domain structures (*Russian*) 9-24297
- modulation of polarized light beam using piezo-optical and photoelastic modulator/chopper (*German*) 9-27395
- molecular gas orientation by reson. radiation, optical detect., laser spectroscopy appl. 9-27742
- molecular single crystal, librational Raman spectra polaris., temp. depend. 9-1760
- multilayered structures containing anisotropy, EM wave anomalies 9-41460

light polarisation continued

- multimode capillary light guide, effect on light polaris. (*Russian*) 9-37017
- multiple beam interferometry, polarisation doubling 9-21806
- naphthalene, solid, high-energy vibr. overtone spectra, local modes intramol. relax. 9-28052
- noctilucent clouds, circularly polarised light detect. 9-48568
- object mutual orientation using active polarisers with tetrahedral reflectors 9-26109
- ocean reflected and scattered radiation polarisation, utility in remote sensing 9-5498
- octane: pyrene(coronene), quasiline spectra, multiplet struct., freezing conditions and solvent effects 9-1786
- one-quantum photoeffect, ang. photoelectron distrib. due to elliptically polarized light 9-6920
- optical fibres, single-mode low birefr., prep. and polarisation characts. 9-7195
- optical film, non-homogeneous, oblique light incidence (*Russian*) 9-13905
- p-n-pentyl-p'-cyanobiphenyl, nematic liq. cryst., Raman depolaris. ratios, order parameters 9-28733
- α Persei star cluster, polarisation wavelength depend. 9-48865
- phase-polarisation nonlinear high-resolution spectroscopy in longit. mag. field 9-41423
- phonon-assisted radiative electronic transitions 9-24348
- photoluminescence of solutions, decay and self-depolarisation 9-24351
- photon antibunching enhancement by interf., polarisation effects 9-31990
- physics course demonstration (*Russian*) 9-21508
- planetary atmospheres, scatt. indicatrix and polarisation meas. via laser beam (*Russian*) 9-44365
- planetary surface, dust covered, polarimetric model 9-25528
- pulses, ~ 1 μsec , meas. using amplitude-digital converter 9-17465
- VV Puppis, AM Herculis type binary, spectrophotometry and polarimetry 9-5860
- VV Puppis, circular polarimetry in active state and evidence for two accreting poles 9-48854
- VV Puppis, linear polarisation obs. in faint state 9-25643
- QSOs, optical polarisation alignment with radio struct. 9-25751
- radiative transfer in semi-infinite Rayleigh scattering atmosphere, exact soln. for Stokes parameters 9-35112
- reflection grating polariser for IR 9-1001
- reflection nebula, inhomogeneous, scatt. function for grains of silicates and ice 9-21405
- relaxation measurement in materials, using synchronously mode-locked dye lasers 9-44952
- rhodamine 6G, blue and UV luminesc., obs. and mechanism 9-3486
- rhodamine 6G dye laser, degree of polaris., solvent effect 9-41375
- ruby, optically-pumped, excited-state Raman processes 9-4798
- SEM, polarisation contrast of cathodolum. 9-7529
- semiconductor, polarisation effects in photoconductivity, exptl. method for study 9-4581
- spectrometer system for investigating light polaris. dynamics in nanosecond band 9-2834
- spectroradiometer, polarisation sensitive, methods for overcoming refl. spectra meas. problems 9-40623
- spectroscopy, high-resolution polarisation, in 10 μm region 9-6196
- spin-dependent magneto-optical rotation for free radicals and for singlet-triplet transitions 9-10129
- standard stars, polarisation obs. by Hatfield near IR polarimeter 9-2482
- stars, early-type emission-line, intrinsic and interstellar polarization components separation 9-30079
- stars, early-type emission-line, intrinsic polarization interpretation 9-30080
- stars, zero polarisation standards list 9-40187
- stars in Corona Austrina dark cloud, BV polarimetry and interstellar reddening law 9-17050
- stimulated Brillouin scattering wave front reversal for depolarised light 9-3743
- Stokes parameters, of light beam, polarisation modulation meas. 9-21803
- Stokes parameters of light meas. using Fourier photopolarimeter 9-21805
- stress distribution, 3D, scatt. light meas. method using depolarised incident light 9-37254
- superluminescence polarisation obs. of high-current pulsed discharge in gas with anisotropic gain 9-14515
- transparent media interface, light refl., 45° angle of refraction 9-27164
- transport process of polarized radiation in optically isotropic media 9-13899
- troposphere and low stratosphere, scattered solar radiation field meas. (*Russian*) 9-16667
- two-photon spectroscopy, elliptical polarisation state alteration technique 9-40627
- vapours, light scatt., depolaris. factor meas. (*Russian*) 9-13780
- Venus, Pioneer orbiter cloud photopolarimeter investigation 9-48713
- weak light fluxes with slowly varying intensity detector 9-2806
- wire grid polarisers, new optical model 9-902
- young stellar objects, origin of polarisation 9-8911
- Ag mirror IR reflectance at 45° incidence, obs. 9-14074
- Al mirror IR reflectance at 45° incidence, obs. 9-14074
- Ar, electron-photon coincidence obs., reson. lines, polarisation correls. 9-31697
- $\text{B}_2\text{O}_3\text{-SiO}_2$ optical fibres, exposed cladding technique, birefr. and polarization props. 9-14094
- $\text{Ba}^{++} + \text{ZZ}$ 9-13811
- BaSO_4 suspension, light scatt., optical anisotropy determ. by polarisation ratio 9-1772
- Bi, vapour, optical activity and HFS, neutral weak currents (*Russian*) 9-13660
- Br_2 , organic solvent effects on Raman parameters 9-26998
- CO_2 laser, with anisotropic resonator, radiation polarisation (*Russian*) 9-27309
- $\text{Ca}^{++} + \text{ZZ}$ 9-13811
- $\text{Cr}(\text{CO})_6$, solid and matrix isolated, Raman spectra 9-28755
- Cs, photoelectron energy distrib. curves, depend. on light polarization 9-15591
- EuO , optical orientation of f-electrons, Curie temp. variation due to exchange interactions (*Russian*) 9-15431
- $\text{Eu}_0.4\text{Si}_{0.31}\text{O}_{0.55}$ glass, optical, magnetic, and magneto-optical props., chemical clustering 9-42951
- GeS_2 , orthorhombic single cryst., fine struct. in reflectivity, depend. on polarisation 9-19903
- H_2 , radiation polarisation, electron-impact excited, Lyman and Werner emissions and Lyman- α 9-36681

light polarisation continued

- He-Ne laser with anisotropic cavity, fluctuations of field polaris. 9-27242
 $\text{He}^+ + \text{H}_2$, charge transfer, appl. of atom-photon coincidence meas. 9-45829
 $\text{He}^+ + \text{He}$, charge transfer, appl. of atom-photon coincidence meas. 9-45829
 $\text{He}^+ + \text{He}$, interference struct., optical emission interpretation 9-45816
 $\text{La}_2(\text{SO}_4)_3 \cdot 9\text{H}_2\text{O}$, and isotopic forms, water librations, Raman obs. (French) 9-28754
Li, two-photon ionis., many-body perturbation theory 9-22679
 LiNbO_3 , anisotropic diffused optical waveguides, polarisation and spectral characts. 9-32073
 LiNbO_3 , pure and Fe doped, photorefractive kinetics under irradiation and heating 9-42934
Mg, reson. line, Hanle effect, density depend. 9-6917
 NO_2 , 8170-8280 Å absorption spectrum, rot. struct., assignments 9-6937
NaF, M-centres, dichroism absorpt., appl. to optical waveguide polariser 9-995
Nd:glass laser with continuously tunable ps output, polaris. filter 9-22985
Nd:glass Q-switched laser emitting polarised radiation 9-45974
 $(\text{Pb}_{1-x}\text{Bi}_x)_2\text{GeO}_5$, spontaneous and induced electrogyration 9-42946
Rb, circ. polarised reson. fluoresc. excited with π polarised D_2 line, 0-170 G 9-41133
Rb, Doppler-free superradiance, polarisation characts. 9-782
S-, photodetachment in mag. field 9-41143
Si, reconstructed surface (111)2X1, polarization depend. of optical absorpt. spectrum 9-28396
n-Si, surface-barrier electrorefraction, polarisation anisotropy 9-24295
 SiO_2 , vitreous, luminesc. centres, decay time and polarization props. 9-33829
 $\text{Sm}_2\text{Tb}_{1-x}\text{FeO}_3$ orthoferrites, crystallo-optical props. 9-42027
 $\text{Sr}^+ + \text{Zr}$ 9-13811
 ZnO , ellipsometric spectroscopy of nonpolar (1100) surface 9-33651
ZnS-Mn crystal, polarisation meas., luminesc. and Raman spectra 9-8138

light propagation

- see also *atmospheric light propagation; guided light propagation*
anisotropic crystals, in which dielec. tensor has components with different signs, opt. props. 9-42931
anisotropic media, partially polarised light propag., differential 4X4 matrix calculus 9-41330
Cherenkov radiation at resonance frequency of amplifying medium 9-22926
coherent and partially coherent light, comparison between propag. in given geometry 9-31790
crystal inhomogeneous in optical anisotropy due to stress distrib., light propag. eqns. 9-13897
electro-optical effect anisotropy in plane of light wavefront 9-8121
gases, self-interaction and stimulated Raman scattering effects (Russian) 9-3740
Gaussian beam propagation, Fresnel-Kirchhoff integral anal. 9-45984
Gaussian Schell-model planar sources, beam directionality 9-903
Huygens' principle and Broglia waves (French) 9-21545
isotropic turbulence spectrum determ. from optical meas. 9-3634
negative correlation effect (Czech) 9-45901
noninertial reference system (Russian) 9-897
nonlinear absorbing media, ray tracing and self-focusing theory 9-27339
nonsymmetric unified field theory, physical interpretation and light propag. 9-21618
photoelastic materials and crystals, geometrical optics approx. 9-898
photoelastic specimens, effect of stress gradient on propagation direction 9-45903
photoelastic stress anal. of solids, shadow and interference methods (Russian) 9-7352
pulse train propagation, two-level absorber, relax. effects 9-46011
radiation field, mean specific emission intensity, fluctuation effects (Italian) 9-18346
randomly inhomogeneous medium, field intensity moments in fluctuation saturation region (Russian) 9-3630
real space-time rays in absorbing media, Fermat's principle 9-3628
rotating disc, light ray and particle paths 9-2670
turbulent water optical propag., refr. index spectrum of temp. or salinity fluctuations 9-5487
 LiNbO_3 , electro-optical modulator, light propag. close to optic axis 9-42947

light propagation in plasma

- anomalous intense laser radiation transmission through overdense plasma 9-10671
backscattered light, nonlinear decay 9-46455
collisions effects on light scattering by plasmas containing ionized impurities 9-41835
density profile deformation and efficiency of resonance absorpt. in nonuniform plasma (Russian) 9-4148
discharge plasma, optogalvanic effect analysis using rate eqns. in modified Schottky formalism 9-23421
gas-laser beam intensity fluctuations, spatial distrib. 9-18458
Gaussian laser beam, nonlinear self-focusing 9-27786
high power laser pulses, localisation in plasmas 9-14554
ion-acoustic wave excitation by two Gaussian laser beams, density profile modification 9-19006
laser beam, elliptically shaped Gaussian, self focusing and self defocusing 9-32777
laser beam interacting with ion-acoustic wave, filamentation instability 9-41838
laser beam propagation in plasma waveguide, normal mode anal. of oscillating Gaussian soln. 9-4145
laser beam-plasma interaction nonlinear force, generalised derivation of Stamper term 9-37502
laser energy reson. absorpt. in magnetised plasma 9-37500
laser light absorpt., mag. field generation 9-10670
laser light absorpt. by ion acoustic turbulence in laser prod. plasma 9-4144
magnetoplasma, axially inhomogeneous, laser beam self-focusing and filamentation 9-19042
metallic target, self-generated mag. fields due to laser field 9-27808
noncooperative radiation scattering, from finite vol. of relativistic plasma (Russian) 9-37497
nonlinear laser forces, acting on electrons of tenuous plasma 9-41837

light propagation in plasma continued

- oblique incidence of laser radiation on plasma, refl. obs. (Russian) 9-32752
plasmon decay, cause of anomalous light absorpt. 9-1318
Poynting's theorem for inhomogeneous moving media reconsidered 9-48661
refractive index modulation in plasma, laser-induced 9-10668
resonant absorption, mag. field generation 9-10669
resonant absorption at a rippled critical surface 9-4146
self-focusing, of laser beam, in multiply ionized absorbing plasma 9-32776
self-focusing, short-range, due to relativistic effects on refr. index 9-10673
self-focusing of a laser beam in an inhomogeneous plasma 9-32778
specular reflection of light from laser-produced plasmas 9-37456
stimulated Brillouin scattering, saturation in CO_2 laser plasma interaction 9-27787
Al vapour, surrounding plane target, light propag. in plasma vapour, 10.6 μm laser 9-23435
Ar, plasma, shock-compressed optical props. 9-23426
 CO_2 laser pulse temporal shaping by controlled plasma switching 9-3725
 H_2 discharge plasma, laser-induced transient striations obs. 9-27785
Na-seeded flame, $\text{H}_2\text{-O}_2\text{-Ar}$, population inversion, two-photon laser excitation 9-34307
Ne glow discharge plasma, coherent on-resonance self-focusing of optical pulses 9-41427
Ne superradiation propagation through reson.-absorbing positive column plasma, pulse shape change 9-4117
Xe low threshold supersonic emission waves and effect on laser beam 9-27780

light reflection

- see also *mirrors; optical films*
achromatic holographic optical elements 9-22917
atmospheric turbulence effects on echo signal of reflected optical radiation 9-8693
beam splitters, beam inherent parameters analysis 9-36999
binary stars, reflection effects evaluation, generalised approach 9-25631
caustics from rippling water 9-18345
chiral smectic C liq. cryst., kinematic and dynamic light scatt. from periodic struct. 9-11427
dielectric plate refractive index profile determ. 9-7081
diffuse radiation emerging from semi-infinite medium, intensity accounting for inner refl. (Russian) 9-8637
diffuse reflection and transmission in accordance with phase function $\frac{3}{4}(1+\cos\theta)$ 9-44353
diffuse reflection and transmission problem, exact soln. using Laplace transform and linear singular operators 9-35116
diffuse reflection for arbitrary phase function (Russian) 9-8816
diffuse solar radiation field in cloud layer (Russian) 9-29851
distributed feedback structures, hybrid modes 9-27441
doubly-curved narrow-beam reflectors 9-23040
Earth albedo sudden change, climatic effects 9-44241
echelle reflection characteristics in polarized radiation for an autocollimation setup 9-3787
Ewald extinction theorem and Green function method for semi-infinite dipole cryst. 9-23683
film, laser damage thresholds, effect on refl. scatt. and transmission 9-45988
frustrated total internal reflection method for refr. index meas. 9-6165
Gaussian beam displacement after propag. through inhomogeneous medium 9-27175
hollow dielectric lightguide fabrication defects 9-27425
interface between transparent and absorbing medium, light refl. at 45° angle of incidence 9-31792
isotropic media boundaries, energy balance 9-3625
large optical components for high-power lasers, refl. and transmission meas. 9-44927
laser mirror and window absorption, reflection and transmission obs. at 10.6 μm 9-14014
lateral wave structure in refl. from active medium 9-27315
microscope image flare factor rel. to illumination system aperture 9-14083
moderately rough surface, probability density function of refl. light intensity in far field 9-36837
multiply reflected Gaussian beams in circular cross section 9-18343
nematic liquid crystal, electrically controlled transparency based on frustrated total internal refl. 9-32074
nonlinear media boundary, between transmission and total internal refl. cases 9-18470
opaque, semitransparent materials, Kirchhoff's second law, role of reflection or diffusion (French) 9-36835
optical constant calculation from frustrated total internal reflection meas. 9-33658
optical systems with spherical and nonspherical diopeters, in three-dimens. space, calc. method (Rumanian) 9-13898
phase reflection gratings, theory 9-27417
plane plates, two sets of different physical props., energy flux splitting (German) 9-18500
planetary surface, dust covered, polarimetric model 9-25528
plasma, backscattered light, nonlinear decay 9-46455
radiative transfer diffuse refl. problem, exact soln. for semi-infinite Rayleigh scatt. atmosphere 9-35112
Rayleigh atmosphere single-scatt. albedo, determ. from polarisation meas. 9-35117
reflection from a corner reflector moving at high velocity 9-30228
reflective object displacement and vibration meas. (Russian) 9-21695
retroreflection from rough surfaces 9-10258
Saturn ring system, light refl. and thickness from low tilt angle photometry 9-35186
sea surface reflected light polarisation, utility in remote sensing 9-5498
spectroscopy, IR interference enhanced attenuated total reflection matrix technique 9-21823
thermal band imaging, glare in optical systems 9-32025
thermal radiation, reflection, Helmholtz reciprocity theorem (French) 9-7070
total reflection region, refracted beam field distrib. 9-27169
transparent materials, laser light refl. and transmission, high power densities 9-27305
transparent media interface, 45° angle of refraction 9-27164
turning of beam through const. ang. by prism, for teaching 9-25805

light reflection continued

- uniaxial media, reflection (refraction) in directions of vanishing double refraction (*German*) 9-13894
- CdS, optical axis inversion (*Russian*) 9-24284
- InSe film, photochem. production of holograms on surface (*Russian*) 9-7101

light reflection spectra *see reflectivity; spectra***light refraction***see also birefringence*

- achromatic holographic optical elements 9-22917
- atmospheric refraction, interactive computer graphics applied to visual image transmission 9-8689
- beam splitters, beam inherent parameters analysis 9-36999
- caustics from rippling water 9-18345
- conical, beam intensity distrib., using polarised light (*Russian*) 9-27172
- Ewald extinction theorem and Green function method for semi-infinite dipole cryst. 9-23683
- internal conical refraction of bounded light beams in biaxial crystals 9-28708
- lens, thin, under water, focal length determ., teaching appl. 9-44676
- liquid film, falling, 3-dimens. wave characts., laser beam refraction obs. 9-27654
- nonlinear media boundary, between transmission and total internal refl. cases 9-18470
- optical systems with spherical and nonspherical diopters, in three-dimens. space, calc. method (*Rumanian*) 9-13898
- satellite laser tracking data, ray tracing evaluation of refraction errors 9-8588
- solid state laser, refraction effects and gain meas. 9-31905
- streaking of beam by electro-optically induced travelling lens 9-46045
- total reflection region, refracted beam field distrib. 9-27169
- transparent media interface, light refl., 45° angle of refraction 9-27164
- turning of beam through const. ang. by prism, for teaching 9-25805
- uniaxial media, reflection (refraction) in directions of vanishing double refraction (*German*) 9-13894
- wedge deflection angle calc., approx. formula 9-32068
- CaCO₃, aragonite, conical intensity distrib. 9-1747
- α -HIO₃, nonlinear conical refraction, second-harmonic cone 9-27329
- α -HIO₃, optically active biaxial crystal, conical diffr. intensity patterns 9-4785
- Si, high-resistivity, local IR refraction and transmission 9-15429

light scattering*see also Brillouin spectra; opalescence; Raman spectra; Rayleigh scattering; stimulated scattering*

- aerosol model, cigarette smoke, optical props. 9-7073
- algal suspension, light scatt. expts. and theory, ang. depend. 9-16166
- Ambartsumyan's function for a cloudless atmosphere in the case of isotropic scattering (*Russian*) 9-39850
- antiferromagnet, one-magnon light scatt., effect of anisotropy 9-33676
- antiferromagnet, one-magnon light scatt., from metamagnetic phase effect of anisotropy 9-33678
- antiferromagnet, one-magnon light scatt. from spin-flop and paramag. regions, effect of anisotropy 9-33677
- antiferromagnets, light scatt. as probe for dynamical crit. props. 9-15314
- aspherical optical surface low-scatter finishing 9-14125
- atmosphere, aerosol extinction coeff. from outgoing solar radiation meas. in O₂ 0.76 μ m band (*Russian*) 9-8690
- atmosphere, extinction at 10.6 μ m CO₂ laser wavelength, from meteorological records 9-39848
- atmosphere, haze microstruct. and refr. index from scatt. light polarisation characts. (*Russian*) 9-29852
- atmosphere, scatt. coeff. as function of visibility and wavelength, empirical formula 9-34944
- atmosphere, scatt. of middle UV radiation from an internal source, Monte Carlo model 9-12263
- atmospheric experiments, definition weaknesses of visibility 9-8688
- atmospheric extinction and absorpt., effects of particulate complex refr. index and size distrib. 9-29849
- atmospheric scattering from marine aerosols, ELOS optical communications system 9-29862
- atomic collisional radiation redistrib. in spectral line nonimpact region 9-22667
- atoms, reson. light scatt., collisional repopulation of at. levels 9-6907
- bacteria, appl. of Mie theory and cubic splines 9-36838
- bacteria, motile, rot-translational models for interpretation of quasi-elastic light scatt. spectra 9-11906
- Be shell stars, H β high-resolution polarisation struct. rel. to circumstellar envelope scatt. 9-44485
- Be stars, 1.25 and 2.2 microns polarimetry rel. to electron scatt. 9-44484
- bimodal systems, particle size distrib. meas., forward scatt. techniques 9-21699
- binary liquid mixtures, sp. ht., light scatt., two-scale-factor universality 9-42267
- biological cell analysis, high speed light scattering system 9-12042
- biological cells, backscatter depend. on membrane thickness and refr. index 9-48225
- biological cells in flow system, paraxial anal. of light scatt. 9-11907
- biological macromolecules, picosec. and subpicosec. relax. and dephasing, reson. light scatt. obs. 9-45876
- biological particle structural change dynamics, rapid light scatt. meas. 9-39615
- biomembrane microviscosity measurement, light scatt. effects 9-39365
- brain, microtubule solns., calf, dynamic laser light scattering 9-16150
- brightening of disperse media, role of laser fluctuations 9-41405
- VY Canis Majoris, dia. meas. rel. to scatt. by dust shell 9-16974
- cataract microstructure meas., picosecond range-gated light scatt. technique 9-8584
- chiral smectic C liq. cryst., kinematic and dynamic light scatt. from periodic struct. 9-11427
- cholesteric mixture, solid phase, spherulite textures, optical effects and mol. ordering 9-1746
- circumolar radiation, single and multiple scatt. contribs. 9-25325
- classical fluid, crit. dynamics, double scatt. correction 9-42979
- cluster of spheres, scatt. problem, soln. using Debye potentials 9-31800
- collagen, optical activity rel. to ordered aggregation 9-11899
- collective plasma density fluctuations, far IR scatt. apparatus obs. 9-32818
- collisional polarisability effect on scatt. calcs. from dense fluids (*French*) 9-31789
- colloidal, concentrated dispersions, dynamic light scattering 9-15469
- colloidal particles, interacting Brownian spheres, depolarised light scattering 9-34370
- critical opalescence, multiple scatt. contrib. 9-8151
- deep water, scattering effects (*Russian*) 9-34850
- defect structure near phase transition pt., effect on solid props. (*Russian*) 9-37838
- densely distributed scatterers, pulse diffusion 9-3632
- depolarised light scatt. spectrom. double scatt. effects 9-42978
- depolarising diffusers, autocorrelation by holography (*French*) 9-31801
- p-p'-dibutyl-azobenzene, nematic liq. cryst., elasticities and viscosities light scatt. meas. 9-4245
- dielectric, transparent, laser-induced damage, role of absorbing microinclusions, passive methods 9-31969
- dielectric kernel, functional differential eqn. 9-32871
- dielectric particles, variational principle for light scatt. 9-18348
- dielectric plate refractive index profile determ. 9-7081
- diffuse radiation emerging from semi-infinite medium, intensity accounting for inner refl. (*Russian*) 9-8637
- diffuse solar radiation field in cloud layer (*Russian*) 9-29851
- diffusing glass, optically thick-layer transmission ang. distrib. 9-27179
- diffusing glass catalogue and basic operational characteristics 9-46019
- diffusing object microstructure, moire methods extension (*French*) 9-27177
- diffusing surface inclination determ. rel. to viewing direction, speckle photography 9-2815
- diethyl phthalate, polydisperse, spectrophotometer studies 9-21797
- dioctyl solids, light scatt. from configurational fluctuations 9-11428
- dispersive particle sizes, from scattering and polarization meas. (*Russian*) 9-34950
- dust on Mars, scattering by nonspherical particles and optical props. 9-25535
- education, scatter plate prod. using laser speckle, for scatter light interference expt. 9-9063
- ellipsoidal particles, random orientation, backscatt. cross section, in optical limit 9-18349
- emulsion, H₂O-cyclohexane-sodium dodecyl sulphate-pentanol I, light scatt. (*French*) 9-1968
- erythrocyte membrane hydraulic cond. determ., light scatt. changes 9-34528
- exchange and dipoles coupled ferromags., light scatt. from mag. surfaces, response theory 9-42820
- ferrocyclochrome c, picosec. and subpicosec. relax. and dephasing, reson. light scatt. obs. 9-45876
- fiberglass materials, fatigue damage effects on light scatt. 9-11706
- fibre sizing using Fraunhofer diffraction 9-171
- film, laser damage thresholds, effect on refl. scatt. and transmission 9-45988
- film, light scatt. from interface, polaritons 9-8202
- flat layered glass, ang. distrib. for various incidence angles 9-7079
- flexible polymers in soln., hydrodynamic interactions in quasi-elastic light scatt. 9-37612
- fluids, atomic and molecular, collision induced light scatt. (*German*) 9-27057
- fog hole boring with pulsed high-energy lasers 9-16662
- gas, self-structure factor, kinetic modelling 9-41791
- gases, light scatt., depolaris. factor meas. (*Russian*) 9-13780
- glass, opalescing, visible light scattering, angular depend. of intensity, correction for attenuation 9-4814
- glass, undergoing phase separation and homogenisation, light scatt., kinematic theory 9-24326
- glass edge cladding-glass laser disc interface, reflection meas. 9-27300
- glass melt, unified theory of chem. relaxation using light scattering or US absorption 9-16028
- guided wave polaritons in thin crystals, light scatt. spectra 9-15100
- halftone or line printing, Yuie-Nielsen curve fitting parameter 9-13906
- haze, statistical model (*Russian*) 9-34946
- high density excited system, population instability and optical anomalies 9-28826
- high-pressure cell for depolarised light scatt. from liquids (*German*) 9-21799
- II-VI crystals, scatt. light intensity variation under secondary illumination 9-33718
- inhomogeneous atmosphere, double-scatt. approx. of lidar eqn. 9-29855
- intense radiation in a liquid, propag. instability 9-10346
- internal field reson. struct., implications for optical absorpt. and scatt. by microscopic particles 9-10259
- interstellar dust cloud, scattering in isotropic radiation field 9-30107
- interstellar dust clouds above galactic plane, light scatt. detect. possibility 9-30124
- inverse problem uniqueness, scatt. object reconstruction, book contrib. 9-31824
- inverse scattering in Rayleigh-Debye approx., diameter distrib. for thin circular discs 9-24840
- inverse scattering in Rayleigh-Debye approx., length distrib. for thin cylinders 9-24839
- inverse source problems in optics, book 9-31821
- lamellar liquid crystal, biaxiality due to oriented defects 9-41945
- large spherical particles, absorpt. efficiencies, approximation scheme 9-31798
- laser blue-green pulsed propagation through fog 9-39846
- latex, colloidal concentrated dispersions, dynamic light scattering 9-15469
- lidar returns from clouds, double scatt. contrib. 9-5615
- liquid crystal, texture, light scatt. determ. in dynamic scatt. regime 9-27913
- liquid with spectral resolution of 10¹⁴, registration of central peak (*Russian*) 9-4812
- low angle, multichannel meas. for environmental pollution detection 9-21061
- macromolecular solution, light scatt. in AC electric field 9-47468
- macromolecular solutions, orient. in laser beam elec. field, anisotropic light scatt. 9-1768
- macromolecules, conf., Prague, Czechoslovakia, (July 1976) 9-1764
- macromolecules, interacting, spherical, light scatt., conc. fluctuations, transport eqn. 9-1775
- MBBA, nematic liq. crystals, AC excited, dynamic light scatt., orient. fluctuations 9-1769
- medium-induced relaxation, laser pulse meas. 9-38667
- 4-methoxy-4'-azobenzene, nematic liq. cryst., elasticities and viscosities, light scatt. meas. 9-4245

light scattering continued

- microscopic regions, photon correlation spectroscopy 9-44933
 Mie modified theory for nonspherical particle scatt., validity 9-27173
 Mie scattering from seeded flow, instantaneous two-dimens. conc. meas. in turbulent jet 9-41670
 molecules embedded in small particles, Raman and fluoresc. scatt., incoherent results 9-41337
 molecules embedded in small particles, Raman and fluoresc. scatt., coherent results 9-41338
 multilayer thin film, optical scatt., matrix formulation 9-31804
 multiple scattering, two-dimens., theory and expt. 9-31805
 narrow resonance structure in Mie scatt. characts. 9-7072
 nematic liquid crystal, viscoelastic properties, spectral noise intensity of scattered laser light obs. 9-23522
 nematic liquid crystals, texture, light scatt. determ. in dynamic scatt. regime 9-27913
 nociluculent clouds, circularly polarised light detect. 9-48568
 nonequilibrium stationary states, light scatt., broken time reversal symm. 9-28776
 nonrigid polymer chains, theory of dynamic depolarised light scattering 9-3601
 nonstationary radiation diffusion system, iterative soln. method 9-31796
 Nylon 6,6 fibres, birefringence determination, using backscattered light intensity distrib. 9-42939
 ocean, scatt. obs. in African upwelling region, suspended particle meas. 9-5483
 ocean frontal zones, light scatt. obs. 9-2266
 ocean underwater scattered light polarisation, utility in remote sensing 9-5498
 opaque, semitransparent materials, Kirchhoff's second law, role of reflection or diffusion (French) 9-36835
 optical component, surface evaluation techniques 9-46094
 optical fibre, nondestructive determ. of refr.-index profile using forward light scatt. method 9-23060
 optical materials containing irregularities, scatt. characts. 9-3753
 optical waveguides, light scatt. 9-10375
 order parameter fluctuation spectrum, central peaks near ferroelectric phase transitions, review 9-19851
 oriented molecules, hyper-Raman activity from index dissymmetry in scatt. tensor 9-36650
 p-n solar cell, influence of light scatt. through junction on collection efficiency 9-34436
 partial atomic vapour pressure, meas. by forward light scatt., transverse mag. field 9-16087
 particle motion round variable luminosity source, stochastic scatt. accretion and ejection 9-44338
 particle shape, in laminar flow, by optical mixing (Russian) 9-10619
 particle size analyser, using light scattering 9-6088
 particle size analysis using an ultramicroscope 9-44902
 particle size distrib. remote sensing, Rayleigh-Gans-Born approx. 9-27174
 particles, log-normal size distrib. from laser scatt. 9-6079
 n-pentane-benzene, light scatt. of liq. near crit. vaporisation state, correl. radius 9-24328
 periodic interface scattering, rigorous method derived from integral formulation 9-13896
 phase screen statistical features from scatt. data, book contrib. 9-36851
 phase transition points, light scatt. near points 9-15415
 planetary atmospheres, scatt. process meas. via laser beam (Russian) 9-44365
 PMMA, destruction kinetics of intense ms loading, laser differential interferometry obs. 9-24623
 polarized radiation, transport process in optically isotropic media 9-13899
 poly-2,6-dimethylphenyleneoxide, fluoresc. correction in light scatt. meas. 9-1771
 poly-N-vinyl imidazole solution, light scatt., viscosity and dynamic birefringence, mol. wt. obs. (Russian) 9-33665
 polyacrylamide, aq. solns., conform. changes, intermol. interactions, optical mixing spectroscopy 9-10770
 polydisperse system of coarse spherical particles 9-3633
 polydispersion, forward scatt. corrections for optical extinction meas. 9-7075
 polydispersion, moments determ. of size distrib. function in scatt. 9-18347
 polymer films, rod-like superstruct., small-angle light scatt., vol. fraction, orient. effects 9-1795
 polymer glasses and melts, struct., review of expt. results 9-37636
 polymer mixtures, thermodynamics, review 9-1506
 polymer solns., phase diagrams, pulse-induced critical scatt. 9-1490
 polymer solution, intermolecular interpenetration and entanglement, crit. concs. 9-27900
 polymer solutions, conformational motions, comp. of neutron and light scatt. expts. 9-41938
 polymer solutions, moderately conc., light scatt. curves, struct. model 9-4810
 polymer solutions, order, conf., Midland, USA, (Aug 1973) 9-10769
 polymer solutions, solvation, preferential, effect on polymer dimensions 9-10771
 polymer solutions light scatt. rel. to mol. wt. distrib. function type (German) 9-1767
 polymers, crystalline, homophase and heterophase, small-angle neutron, X-ray and light scattering, recent developments 9-10751
 polypropylene, transparent film, strain anal. by scattered-light speckle photography 9-32399
 polypropylene fibres, helically twisted, small-angle light scatt. 9-1765
 polystyrene charged particles in water, quasielastic light scatt. 9-24835
 polystyrene latex aq. solns., exponential clipped photon autocorrel. spectra, data anal. 9-2837
 polystyrene solutions, light scatt., mol. parameters, computer anal. assessment 9-1766
 polystyrene-benzene-methanol system, preferential solvation 9-10772
 polystyrenes, in toluene 9-1773
 polyvinyl imidazolium sulphobetaine, aq. soln. props. 9-32879
 polyvinylidene fluoride films, uniaxially stretched, small-angle light scatt. 9-24377
 powder particles in fluid, size distrib. anal. by light blockage principle 9-6089
 PVC, exam. of microstructure, using X-ray and light scattering 9-41983
 PVC chlorinated, mol. parameters determ. 9-41974
 PVC soln., mol. wt. meas. by light scatt. photometry 9-7045

light scattering continued

- QSOs, scatt. rel. to optical polarisation alignment with radio struct. 9-25751
 quartz, α and β phases coexistence state, elastic light scatt., birefringence 9-47412
 quartz, fused, light scatt. by SAW on refl. and transmission 9-24288
 quinoline, liq., depolarised light scatt., 1-1800 bar 9-24327
 radiative transfer eqn. exact soln. for semiinfinite plane-parallel isotropic scatt. atm. 9-12396
 radiative transfer in semi-infinite Rayleigh scattering atmosphere, exact soln. 9-35112
 radiative transfer through turbid atmosphere, single-scatt. solution 9-16663
 radiative transfer transport equation with scattering albedo $\omega_0 < 1$, exact soln. 9-35111
 Rayleigh atmosphere single-scatt. albedo, determ. from polarisation meas. 9-35117
 Rayleigh scattering, exact soln. of diffuse refl. and transmission problem 9-35116
 reflection nebula, inhomogeneous, scatt. function for grains of silicates and ice 9-21405
 ring laser with methane cell, backscatt., influence on operation 9-10329
 RNA solns., oriented in DC mag. field light scatt. 9-2004
 ruby laser elements, laser backscatt. by bulk damage zones 9-23000
 seawater, turbid, vol. scatt. function and light field characts. (Russian) 9-13902
 semitransparent structural materials, degree of blackness determ. (Russian) 9-27161
 single particle scattering, asphericity effects 9-7069
 smectic mesophases, viscoelastic properties and field instabilities 9-27904
 soil moisture and component estimation from spectral polarisation 9-16678
 speckle pattern statistics for general scatt. objects, mean, covariance and power spectrum 9-31802
 spectroscopy, optical heterodyning, for light scatt. spectra 9-6186
 spermatozoa motility meas. by laser light scatt. (German) 9-12056
 spermatozoa motility meas. by light scatt., appl. to reproduction immunology (French) 9-34628
 spherical Brownian particles, interacting, wave vector dependent mutual diffusion 9-44859
 spheroidal macromolecules solutions, quasielastic light scatt. 9-24325
 stars, continuous spectrum, electron scattering effect (Russian) 9-12461
 stray light, monochromators 9-32056
 stress distribution, 3D, scatt. light meas. method using depolarised incident light 9-37254
 styrene-isoprene block copolymers, dilute soln., conform. obs. 9-10774
 surface irregularity statistics for laser component materials 9-14057
 suspension, form-anisotropy, Rayleigh-Gans-Debye type approx. validity 9-1770
 TCNQ salt, K^+TCNQ^- particles, light scatt., absorpt. spectra 9-24332
 tenuous particle scattering of focused laser beams 9-36836
 thermal band imaging, glare in optical systems 9-32025
 thin liquid film stretching mode relax. obs. by laser intensity fluctuation spectra 9-28177
 three-level atoms, multitime correlations in scatt. and fluoresc. (Russian) 9-10065
 tissue heating by laser radiation, temp. profile and scatt. determ. (German) 9-2099
 Titan, inhomogeneous scattering model of atmosphere 9-44406
 transfer through horizontally non-uniform scattering cloud layer (Russian) 9-25326
 transparent media inhomogeneities, laser radiation backscatt. 9-23000
 troposphere and low stratosphere, scattered solar radiation field meas. (Russian) 9-16667
 turbid media, vol. scatt. function and light field characts. (Russian) 9-13902
 twilight in Sun's meridian, single- and multiple-scattered light dependencies, on air dispersion factor (Russian) 9-5612
 ultrashort laser pulse, scatt. by large spherical particle 9-906
 upper atmosphere H Lyman α reson. emission obs. during 1973 June 30 solar eclipse 9-8901
 UV communication based on molecular and aerosol scattering in atmosphere 9-3736
 vapours, light scatt., depolaris. factor meas. (Russian) 9-13780
 Venus, cloud particles phase function, Mariner 10 data 9-40105
 Venus atmosphere, scatt. solar radiation in cloud layer, multiple scatt. theory inversion 9-8865
 vibronically coupled systems, cluster model 9-19540
 visual telescope light scatt. factor meas. apparatus 9-27365
 water, light scatt. and diffraction (French) 9-27171
 wind velocity lidar meas. by spatial filtering 9-29901
 young stellar objects, polarisation prod. by scatt. in circumstellar shell 9-8911
 Ar, collision induced light scatt., three- and four-body spectra 9-18260
 Ar, fluid, collision-induced, line-shape theory and mol. dynamics 9-41921
 Ar, pair polarisability determ. from collision induced light scatt. spectrum 9-13678
 BaSO₂, suspension, light scatt., optical anisotropy determ. by polarisation ratio 9-1772
 BaTiO₃, light scatt., Comes Lambert Guinier model 9-15471
 CdS, light scatt. by Bleustein-Gulyaev waves on refl. and transmission 9-24288
 CuCl, polariton vel. direct obs. 9-28297
 DyPO₄, metamagnet, phase diagrams, investigation by Faraday rot. and light-scattering technique 9-28544
 EuO, ferromag. light scatt. from bulk and surface spin waves 9-28778
 Ge, electron-hole drops, size distrib., light scatt. meas. 9-28292
 Ge, light scattering, by pure single cryst., influence of photoexcitation 9-28780
 He, light scattering spectra of gas, collision-induced scatt. 9-18137
 He, liq., dynamic scaling near λ point 9-14977
 LiNbO₃, light scatt. by Rayleigh waves on refl. and transmission 9-24288
 LiNbO₃, y-z crystal, line shape of light scattered by SAW upon total internal refl. 9-24287
 (NH₄)₂SO₄-H₂O-ethanol-benzene, tricritical mixture, light scatt. 9-15473
 Nb₂O₅-ZrO₂, sputtered thin layer structure and optical props. 9-28851
 Nb₃Sn, superconducting, inelastic scattering of light 9-33390
 PLZT ceramics, photoferroelectric image storage in antiferroelectric phase 9-47404
 PbMoO₄, acousto-optic interaction at high optical intensities 9-42942

light scattering continued

- PbTeO₂, acousto-optic interaction at high optical intensities 9-42942
 Si/SiO₂, adsorbed methanol, light scatt. from clusters 9-33721
 SiO₂, fused, surface roughness rel. to prep. and treatment history 9-14058
 TiO₂-Nb₂O₅ sputtered thin layer structure and optical props. 9-28851
 TiO₂-ZrO₂ sputtered thin layer structure and optical props. 9-28851
 TiCl₃-TiBr₃, KRS-5, KRS-6 crystals, optical strength pulsed CO₂ laser radiation 9-27307
 Xe, light scattering, in crit. region, scaling interpretation 9-46420

light sources

- see also *infrared sources; light emitting devices; photometric light sources; spectroscopic light sources*
 Cepheid variable stars, simulated, for introductory astronomy course 9-44664
 coherent radiation novel sources, book 9-27231
 directionality of light beams and spatial coherence 9-36834
 discharge, evaporating-wall high-current type, pulsed press. 9-27838
 framing spotlight, optimizing the compound reflector 9-3766
 free electron devices for light prod., history, book contrib. 9-27147
 gaussian Schell-model planar sources, beam directionality 9-903
 generalized Collett-Wolf sources 9-31793
 halogen lamps, KIM 9-75, relative spectral distrib. determ. 9-7189
 inverse problem for scalar planar sources radiometry and coherence, book contrib. 9-31797
 inverse source problems in optics, book 9-31821
 inverse source problems in optics, book contrib. 9-31822
 negative correlation effect (Czech) 9-45901
 optical fibre communications development and need for standardisation (Italian) 9-23066
 partially coherent source giving rise to highly directional beams 9-14070
 photodiode array sampled light distrib. profile reconstruction (French) 9-30557
 proximity pick-ups, optical detection of light source and photoelectric cell (Dutch) 9-36985
 quasi-homogeneous partially coherent source, far zone range criteria 9-14069
 radiance spectral density meas. 9-30527
 radiant intensity from planar sources of any state of coherence 9-27163
 rectangular intensity profile source, estimate of coordinates 9-31819
 reference source radiation, temp. instability and compensation methods 9-14071
 spatial resolution of subwavelength sources from optical far-zone data, book contrib. 9-31825
 spectral energy standard, for stellar absolute spectrophotometry (Russian) 9-44372
 spectrozonal light source factors in exterior photography (Russian) 9-40638
 UV, pulsed high-power gas-discharge lamp 9-18496
 Na light source, for undergraduate laboratory 9-35479
 Rb optical pumping light source 9-46023
 Sr vapour, vacuum UV coherent radiation generation by four-wave sum freq. mixing 9-10350

light transmission

- see also *light absorption; optical filters*
 atmosphere, extinction at 10.6 μ m CO₂ laser wavelength, from meteorological records 9-39848
 atmosphere, laser transmission, anomalous effects during August, 1976 at Farnborough, England 9-39862
 atmosphere with cloud, transmission functions band averaging for IR radiation flux 9-39854
 bandpass interference filters, peak transmittance 9-46053
 beamsplitters, beam inherent parameters analysis 9-36999
 black liquid water, total transmittance of solar radiation 9-34441
 cloudy atmosphere, radiative transfer model, solar radiation and cloud struct. 9-21016
 contact lenses, hydrogel 9-11918
 cyanobiphenyls, physical props., appl. to Kerr cells 9-19142
 diffuse reflection and transmission in accordance with phase function $\frac{3}{4}(1+\cos^2\theta)$ 9-44353
 diffuse reflection and transmission problem, exact soln. using Laplace transform and linear singular operators 9-35116
 diffusing glass, optically thick-layer transmission ang. distrib. 9-27179
 distributed feedback structures, hybrid modes 9-27441
 electrohydrodynamics, relax., inversely normalised frequency, rel. to Prandtl number 9-23369
 fibre transmission, dispersion, and strength characteristics 9-37021
 fibre-optic component polished end degradation in storage 9-32064
 filter transmission coeff. zonal nonuniformity 9-32063
 flat layered glass, ang. distrib. for various incidence angles 9-7079
 glass, IR transmitting, as optical material in passive systems, preparation and characterisation 9-23034
 glass high-temperature. transmission/wavelength characteristics (French) 9-7188
 inhomogeneous atmosphere, interpolation method for rapid calc. of transmittance (Russian) 9-29850
 inorganic glasses, IR transmitting materials, appl. in 1 to 6 μ m range, mech. props., review 9-4250
 IR inhomogeneity scanner for transmitting material blanks 9-32099
 large optical components for high-power lasers, refl. and transmission meas. 9-44927
 laser mirror and window absorption, reflection and transmission obs. at 10.6 μ m 9-14014
 lenses and optical materials, transmission and MTF in 8-13 μ m band 9-36982
 liquid crystal T-cell light transmission rel. to angle of incidence 9-27426
 MBBA, nematic, EHD instabilities, director-fluctuation autocorrelation and power spectrum 9-41944
 MBBA, nematic, EHD instabilities, director-fluctuation second moment 9-41943
 MBBA, nematic liq. cryst., secondary dynamic scatt. mode, light transmission and microscopic obs. 9-4246
 metal island film, two-dimens. distrib. system, optical refl. and transmission calcs. 9-4862
 multilayer interference filter, design and construction 9-46052
 ocean, hydroptic obs. in Sargasso Sea and tropical Atlantic Ocean (Russian) 9-39748
 ocean waters, Pacific, irradiance and beam transmittance meas. 9-48491
 optical cuvette, high temp., for transmission spectra meas. over 2-13 μ m, 300-1600K ranges 9-2839

light transmission continued

- optical fibre, timing extraction in optical transmissions 9-10397
 optical fibre preform, high-silica, OH-ion distribution by light transmission profiles 9-14121
 optical film, non-homogeneous, oblique light incidence (Russian) 9-13905
 oxazine dyes, orientation of S₁→S_n transition moments, continuous ps photometry 9-10152
 PAA, nematic liq., cryst., light transmission in high elec. field grad. 9-19150
 photochromic glass, Ag halide type, photobrown, transmittance meas. at environmental extremes 9-46020
 photothermoplastic layers, optical transmission function, charge carrier drift effects (Russian) 9-3661
 plane plates, two sets of different physical props., energy flux splitting (German) 9-18500
 Saturn ring system, light transmission and thickness from low tilt angle photometry 9-35186
 sea spray and coastal aerosol effects on transmission 9-39861
 semitransparent structural materials, degree of blackness determ. (Russian) 9-27161
 solar radiation penetration of Indian Ocean waters, calc. 9-2278
 spectrophotometer, photometric scale calibration using fluorite 1200-800 cm⁻¹ transmission 9-12837
 star simulator lightguide test instrument and method 9-27422
 submarine communication lightguide cable design and manufacture 9-37027
 thin layer, weakly absorbing, radiant absorption/transmittance ratio 9-11481
 transparent materials, laser light refl. and transmission, high power densities 9-27305
 turning of beam through const. ang. by prism, for teaching 9-25805
 vacuum UV coatings reflectance and transmission, depend. on wavelength 9-46030
 vacuum UV optics, reflecting coatings and transmitting filters, review 9-46029
 Venus atmosphere, results of solar flux radiometer expt. aboard Pioneer Venus multiprobe mission 9-48718
 Ag granular film, plasma reson. absorpt. by incident light 9-28850
 As-Se amorphous film, optical props. change under high-power light pulse action 9-47534
 Cd₂Hg_{1-x}Te films, epitaxial growth, optical, elec., and photoelec. props. 9-11512
 Cd₂SnO₄ film, sputter deposition and characterisation 9-43146
 Cr/Au layered films, microstruct. and interdiffusion during ageing, 423 to 573K 9-46965
 EuO₂ thin film, Faraday effect dispersion and transmission, 0.5-1.1 μ m, 20.4 and 77K, anion vacancies 9-19945
 Ge, free carrier, intervalence band indirect absorpt., at high optically created carrier densities 9-42961
 Ge optical windows, contaminated by NH₃, CO₂, CO, HCl, methane, cryocooled, IR transmission 9-32007
 InAs IR filter properties, operational characts. of antireflection coatings 9-14107
 In₂O₃:Sn, transparent conducting films, prep. by InCl₃ thermal decomp. transmittance, resistivity 9-33944
 In₂O₃:Sn transparent cond. films, hydrolysis deposition, elec. and optical props. 9-43144
 MgAl₂O₄, composition rel. to ceramic microstruct. form., light transmission 9-43188
 PLZT ferroelectric display electro-optical props. (Russian) 9-9211
 Si, interband and free carrier absorpt. const. at high-level photoinjection 9-38514
 Sn, globular film, interf. and diff., solar selective props. 9-4860
 SnO₂, transparent conductive film, prep. by magnetron sputtering and elec., optical and structural props. (Japanese) 9-8247
 SnO₂:Sb, transparent cond. films, hydrolysis deposition, elec. and optical props. 9-43144
 ZnS-MgF₂ mixtures, triple-layer broad band antireflection coatings 9-32011
 ZnS-MgF₂/MgF₂ double-layer antireflection coatings, transmittance meas. 9-36967
- light velocity**
 invariance, three-temporal Lorentz transformation 9-44717
- light velocity measurement**
 education, undergraduate expt. 9-9060
 Foucault's method modification, student laboratory expt. 9-40327
 one-way velocity meas., determ. of Earth's absolute velocity 9-44924
- light water** see *water*
- lighting**
 equipment and services, 1979 video yearbook 9-14197
 equivalent sphere illumination, maximum contrast sensitivity publication proposal, advantages 9-9235
 equivalent sphere illumination meas., new instrument features 9-9243
 fibre optical illuminator output speckle, smoothing methods 9-7209
 fibre optics commercial developments, 1978 state of art 9-3776
 luminous fields, integral charact. meas. (Czech) 9-40604
 reflection factor for walls, floors and ceilings, determination (German) 9-27165
 relief objects on plane, brightness and illumination characts. calc. 9-904
 studio, control system for cinematography, ring power supply system appl. (Russian) 9-2863
- lightning**
 ball lightning, maximum energy liberation 9-16615
 ball lightning, report freq. during 1651-1978 period 9-48552
 currents meas. in Italy, results of statistical survey (German) 9-12187
 DMSP data from lightning flash detection 9-16593
 flux induced voltage transients on low loss transmission lines, aircraft lightning threats 9-36814
 incidence prediction and effects in electrical systems, obs. 9-39789
 Kennedy Space Center, unusual lightning flash 9-20953
 leader stroke model, electric field strength computation (Czech) 9-5554
 multiple-stroke flashes, S.African storms 9-34921
 New York City blackout (1977 July 13) economic and social costs 9-24894
 photographs, daylight time-resolved 9-20954
 recording with modified cine sound camera 9-21058
 research methods and problems (German) 9-12186
 return streamer, EM radiation 9-8652
 return stroke lightning, current and vel. 9-25306
 return stroke wave forms fine struct. 9-39800

- lightning** continued
 return strokes, EM radiation simulation, tortuosity effects 9-8672
 stepped leader theories, review 9-25320
 superbolts detect., criticism of comment 9-20921
 VHF direction finder studies 9-20928
 VLF atmospherics meas. at San Miguel, Argentina, rel. to thunderstorms 9-39799
 what it is, how it happens, effects, and protection 9-48536
 N fixation in instantaneous linear discharges, variable energy input effect 9-20952
- lightning conductors** *see lightning protection*
- lightning protection**
see also surge protection
 general principles 9-48536
 research methods and problems (*German*) 9-12186
- lightning rods** *see lightning protection*
- limit, elastic** *see elastic limit*
- limit cycles**
 dissipative systems, limit cycles and constants of motion 9-35555
 invariant functions of Lie groups 9-35520
 reactors, chem., relaxation oscils. 9-39120
 retarded Josephson eqn., critical limit cycles 9-1644
 synergetics, introduction and appls. 9-26019
- limited space charge accumulation**
see also Gunn effect; negative resistance effects; space-charge limited devices
 No entries
- limiters**
 frequency-selective, for correction of speech sound track defects (*Russian*) 9-27486
- limiting circuits** *see limiters*
- linear accelerators**
see also electrostatic accelerators
 5 MeV electron accelerator modulator charging system 9-13563
 Brookhaven 200 MeV proton linear accelerator 9-31245
 CANDU Th advanced fuel cycle, accelerator breeder concept 9-45393
 collective proton acceleration in system with insulated anode 9-31246
 depth dose curve improvement, Monte Carlo calcs. 9-20681
 electron, 600 MeV, Saclay, 40000 hrs. of operation, recent improvements (*French*) 9-688
 electron, ALIN accelerator, waveguide system (*French*) 9-9925
 electron, equipment and methods (*Russian*) 9-13562
 electron, health physics aspects of 20- to 40-MeV LINAC operations 9-45482
 electron, multisection, freq. characts. calc. method 9-13560
 electron 35 MeV accelerator at Univ. of Tokyo (*Japanese*) 9-26786
 electron acceleration, in two-conductor struct. by EM wave 9-26788
 electron accelerator, computer prediction and diagnosis of failures of systems 9-693
 electron accelerator, efficiency of calorimetric method 9-6778
 electron accelerators, development for industry and medicine, review 9-45481
 free electron devices for light prod., history, book contrib. 9-27147
 Harwell 136 MeV electron linac, slow neutron production, optimisation calcs. 9-41048
 heavy element linear accelerators (*Japanese*) 9-36436
 heavy ion, Argonne, development and production of supercond. resonators 9-36435
 heavy ion-nucleus reactions, use of accelerators (*Norwegian*) 9-13316
 heavy particles, development at Kharkov Inst., Ukrainian SSR (*Russian*) 9-22503
 Heidelberg heavy-ion postaccelerator with spiral resonators 9-13558
 high power, low energy electron linac, radiation processing appl. 9-45472
 hollow-beam accelerator, with phase focusing, limiting current 9-18065
 integrator for use in bombardment experiments 9-18092
 ion linear accelerator development for neutron radiotherapy 9-20654
 LAMPF mineral-insulated magnet experience 9-31248
 leakage radiation characts., 18 MeV, clinical linear acceleration 9-5379
 LWR fuel enrichment and prod. using 1-3 GeV proton accelerator 9-13497
 membranes in pulsed electron beam, temp. and ultimate load calcs. 9-45484
 muffin tin cavity, computer calc. of EM fields 9-9923
 muffin-tin structure, deflecting modes (*French*) 9-45469
 Munich heavy ion postaccelerator 9-22500
 nanosecond electron beam, particle dynamics in linear accelerator 9-26787
 NIIIEFA linear accelerator—flaw detectors for nondestructive inspection of atomic power plant equipment 9-47856
 nondestructive inspection appl. 9-41046
 PIGMI, 250 kV proton injector system 9-45467
 PIGMI, accelerator control system 9-45475
 PIGMI, linear proton accelerator, mechanical description 9-45474
 PIGMI program at LASL, proton linac development for medical appl. 9-45471
 plasma accelerator, linear rail type, plasma cluster ionised front vel., theory 9-46494
 proton dynamics in linear accelerator with variable phase focusing, space charge effect, simulation 9-13561
 proton LINAC—injector I-2 operation for several users 9-45480
 pulsed electron gun with Ta cathode, for linear accelerator (*Russian*) 9-9924
 'Pulsed ferrite core tests for 50-ns linear induction accelerator' 9-690
 quadrupole lenses, magnetically hard, for ion drift tubes 9-3261
 reactor fuel enrichment by proton accelerator 9-13498
 SL 75-20, clinical results with 9-48332
 superconducting quadrupole magnet design for ion beam fusion linac 9-36433
 theoretical physics at Kharkov Inst., Ukrainian SSR (*Russian*) 9-12558
 Therac 6 linear accelerator, computer controlled evaluation for X-ray therapy 9-5363
 Therac 6 linear accelerator, field elongation effects on depth-dose curves, central-axis output of X-rays 9-5361
 two stage linear accelerator, H ion beam optics 9-36438
 X-ray beam characteristics, 25 MV, from a 35 MeV linear accelerator 9-25110
 π^- clinical facilities, linear accelerator selection 9-20645
 H^- ion short bunch shaping at entrance of accelerator, calcs. 9-700
 Nb superconducting C-band cavities for linear accelerator appl. 9-36432
- linear algebra**
see also determinants; eigenvalues and eigenfunctions; matrix algebra; tensors; vectors
 CG method generalisation, linear and nonlinear problem appl. 9-30243
 density matrix characterisation, geometric and other methods comparison 9-6001
 linear equation solution, out-of-core assembly in FORTRAN IV subroutines 9-30213
 optical image matrix transforming system 9-7086
 perturbed energies, 2nd order, coupled HF iterative procedure, geometric approx. 9-9991
 plane wave set, orthogonalised, construction method, bound states 9-25894
 reconstruction from projections, uniqueness and resolution, book 9-43989
 resistance of anisotropic medium, geometric effects 9-28331
 two- and three-dimensional magnetostatic problem program packages 9-41276
 two-density matrix, N-representability, rels. between necessary conditions 9-6000
- linear combination of atomic orbitals calculations** *see LCAO calculations*
- linear differential equations**
 biological model mathematically exact soln. by Laplace transform (*German*) 9-1991
 Cauchy problem, linear eqns. with const. coeffs., absolute instability, 3-dimens. 9-12622
 earthquake model, nonstationary, identification, nonlinear filtering approach 9-5458
 hard rods and spheres, radial distrib. function, differential difference eqns. in Percus-Yevick approx. 9-18701
 holonomic quantum fields, deformation model 9-25907
 holonomic quantum fields, model 9-25908
 holonomic quantum fields, model 9-25909
 holonomic quantum fields, Riemann-Hilbert problem on complex sphere 9-25910
 holonomic quantum fields 9-25911
 periodic solns. of eqns. with maxima (*Russian*) 9-12571
 structural dynamics problem soln., generalised Euler method 9-46245
 time-dependent polynomial Hamiltonians, nonlinear transform. 9-40395
 turbulent flows with coherent struts., theory of mixing mechanism 9-7369
- linear integrated circuits**
 No entries
- linear motors**
 blood intermittent pump with linear motor drive (*German*) 9-5401
- linear programming**
 Pourbaix diagrams, calc./using modified linear programming technique 9-10919
 reservoir design and management, SESLP model 9-2314
 reservoir management for irrigation, chance-constrained linear programming 9-2317
 SAW filter design optimisation 9-32154
 space vehicle family selection for space study programs 9-8790
- linear rectification** *see rectification*
- linear systems**
 continuous-time, varying environment, state estimation methods 9-12581
 damped linear systems, vibr. 9-18790
 oscillation due to external parametric random perturbations (*Russian*) 9-12707
 oscillatory system response to shock impact (*Russian*) 9-9096
 respiratory system, human, modelling and parameter identification 9-39444
 solution by modified Stone finite element method (*French*) 9-41279
 spectral anal. of systems with multiple inputs and outputs, comment 9-17344
 stochastic, with non-white fluctuations of parameters, differential description (*Russian*) 9-145
- linear vibrations** *see vibrations*
- linearisation techniques**
see also piecewise-linear techniques
 diffusion flames, appl. of quasi-linearisation techniques 9-20368
 digital thermometer sensor nonlinearity correction (*Russian*) 9-26054
 four-arm bridge measuring circuits with linearised characteristics (*Russian*) 9-12820
 wedge compensator, operating nonlinearity elimination 9-32065
- lines (telephone)** *see telephone lines*
- linewidths (spectral)** *see spectral line breadth*
- linguistics**
 Japanese vowels, multivariate anal. of estimated vocal tract area functions (*Japanese*) 9-27469
 Telugu vowels, acoustic-phonetic features 9-18666
- linguistics, language** *see linguistics*
- linkages (electric connectors)** *see electric connectors*
- linking** *see joining processes*
- Liouville equation**
see also Vlasov equation
 correlation functions, two-time, in Liouville space, calc. 9-44795
 DC resistivity as functional of generalised dynamical susceptibilities, solid state model 9-28330
 difference analogues to nonlinear partial differential eqns., reducible to linear eqns. 9-25831
 fluctuations, dynamic theory, Liouville operator and eqn. anal. (*Russian*) 9-6051
 generalized Liouville equation, entropy, and dynamic systems containing limit cycles 9-21648
 molecular vibrational relaxation and dephasing in condensed phases, non-Markovian theory 9-41224
 phase space quantization of the linearly damped harmonic oscillator 9-35627
 spectral and scattering inverse problems 9-17282
 system theoretic representation of mechanical systems 9-17342
 systems theoretic representation of mechanical systems, stochastic interpretation 9-17343
 thermodynamics, second law, classical derivation 9-21682
- lip microphones** *see microphones*
- lipid bilayers**
 artificial membranes, pancuronium inactivation of alamethicin-induced conductance 9-39189

lipid bilayers continued

- bacteriorhodopsin containing, photoelectric activity investigation by focused laser beam scanning 9-16148
 Biophysical Society, 23rd annual meeting, conf., Atlanta, USA (Feb. 1979) 9-34468
 black lipid membranes, permeability of cyclic nucleotides 9-39376
 curvature elasticity 9-48222
 dioleoyl-phosphatidylcholine/dipalmitoyl-phosphatidylcholine bilayer membranes, phase transitions 9-39367
 dipalmitoyl phosphatidyl choline, deuterated gel phase lipid bilayer, neutron scatt. study 9-43829
 dipalmitoyl phosphatidylcholine, conformational nonequivalence of chains 1 and 2 9-16133
 dipalmitoyl phosphatidylcholine-(cholesterol) aligned multilamella lipids, elastic props., Brillouin spectra 9-5255
 dipalmitoyl-lecithin, NMR dispersion of layers dispersed in D₂O 9-48223
 diphenylhexatriene, quantitation of hindered rotations by differential polarised phase fluorometry 9-16128
 discrete charge effect, dipicrylamine anions surface absorption 9-16159
 dynamic molecular organization 9-39364
 egg lecithin membranes, magnetic anisotropy obs. 9-20520
 gramicidin channel structures, charact. of succinyl derivatives 9-8484
 hydrophobic interactions, lipid-protein binding, thermodynamics, book contrib. 9-16129
 lamellar liquid crystalline system, rheological props. 9-23289
 lecithin, reaction kinetics of radicals, OH₂, e_{aq} 9-11886
 liposomes, interactions with mammalian cells, review, book contrib. 9-5261
 liposomes, nanosecond relax. processes 9-8477
 liquid crystals, lipid, parabolic focal conics and polygonal defect arrays 9-37618
 membrane, black, adsorpt. of phloretin 9-34504
 membrane buried charges, virial expansion 9-16158
 membrane electron density profiles, determ. method on an absolute scale 9-16358
 membrane-bound enzymes, lipid requirement 9-20521
 membranes, ionic displacement current 9-34503
 N-methyl acetamide, Na⁺, Mg²⁺ binding to carbonyl O, lipid membrane permeation mechanisms 9-16134
 molecular motion determ. using periodic pattern photobleaching 9-34719
 monolayer, backfolding, SCF theory 9-8451
 permeation of water mol. meas. using fluoresc. quantum yield solvent-isotope effect 9-34710
 phosphatidyl choline bilayers, interaction of chlorophyll-a with β -carotene, fluoresc. quenching 9-20506
 phospholipid bilayer membranes, voltage depend. channel form. by colicin K 9-8490
 phospholipid membranes, artificial, lamellarity determ. by photometric phase-contrast microscopy 9-39368
 phospholipids, direct obs. of hydrocarbon chain tilt angle 9-34481
 planar, light guide effect, bilayer spectrosc. appls. 9-29509
 protein-lipid interaction, appl. of surface tension meas. 9-24940
 protein-lipid interaction in membrane bound Na⁺, K⁺-ATPase, spin label anal. 9-11902
 protein-lipid interactions, in bilayer membranes 9-5254
 purple membrane topography of Halobacterium halobium 9-48211
 structural constitution and function (German) 9-5256
 tumour cells, differences in fluidity between bilayer halves of plasma membranes 9-16164
 vesicles, theoretical shapes under conditions of increasing membrane area 9-24960
 virus envelopes, plasma membranes, review, book contrib. 9-5257
- liquefaction of gases**
 air, from Cailletet and Pictet to microkelvin 9-40
 O₂, isotopically enriched, prep. and storage under press. 9-29620
- liquid alloys**
 see also liquid metals
 binary alloy melts, assoc., liquidus curve calcs. (German) 9-20352
 binary substitution solution, molten thermodynamics 9-11559
 dilute, partial interference functions of solutes 9-19139
 dilute ternary liq. alloy, heteroatomic solute, thermodynamic partial pair struct. factory, sticky hard sphere 9-32867
 metals and alloys, gas diffusion coefficients, stationary method determ. (German) 9-10974
 steel, 20A, melt, tube blanks, mech. props., statistical determ. 9-29316
 steel, molten, spectrochem. anal. 9-16096
 steel-(MnO-SiO₂-ZrO₂) slag system, molten, interface, wetting angles, surface tension (Czech) 9-19432
 thermoelectric power measurement apparatus 9-40591
 Ag-Au, liquid, surface tension (Japanese) 9-19431
 Ag-Bi(Pb), melt, Ag crystal growth, transition from round to face forms (Russian) 9-28906
 Ag-O system, melt, blow hole form. during solidification 9-43238
 Ag_{0.285}Li_{0.715}, partial interference functions, short range chem. order effects 9-7541
 Al alloys, molten, determination of H content, using electrochemical probe 9-11843
 Al-Cu, melt near solid-liquid interface, diffusion during crystallisation (German) 9-29046
 Al-Cu, partially solidified, viscosity and struct. (Japanese) 9-14950
 Al-Cu liquid alloys, rapid quenching prep. of metastable solids, apparatus (German) 9-28990
 Al-Cu-Fe, liquid, mag. moment and transition from mag. to nonmag. state 9-24132
 Al-Si, compressibility and struct. factors at zero wavevector 9-23515
 Al-Sn liquid alloys, heats of mixing and activities calcs. 9-42264
 Al-Sn(Ag)(Cu)(Au), liquid alloys, exam. of Si diffusion (Russian) 9-24118
 Cd-Sb, liq., thermoelec. power meas. 9-40591
 Ce-Sn, liq., elec. resistivity negative temp. coeff., CPA calcs. 9-42515
 Cu-Ag, liquid alloy, solubility and activity of O₂ 9-29028
 Cu-Fe(Co)(Ni), liquid, surface tension (Japanese) 9-19431
 Cu-SO₂ system, melt, blow hole form. during solidification 9-43238
 Cu-Sn, self-diffusion of Sn, correl. with other props. (Russian) 9-23764
 Cu_{1-x}Ga_x liquid alloys, elec. resistivity 9-47073
 Fe-Al, liquid, N solubility, AlN precipitation 9-11630
 Fe-C-S-Mg melt, S and Mg effect on graphite growth shape 9-38817
 Fe-Ge, liquid alloy, thermodynamic mixing function determ. by mass spectrometric meas. 9-29025
 Fe-Ge melts, struct. determ. 9-41940

liquid alloys continued

- Fe-Ni, solid and liquid, determ. of activities for temp. range 1500-1900K using mass spectroscopy 9-11558
 Fe-Ni(Co), liquid, activity meas. by transportation method (Japanese) 9-4949
 Ga and alloy high-temp. couplants for acoustic transducers 9-14195
 Ga-In, repetitive pulses electron emission 9-24416
 Ga-Pb, liquid alloy, thermodynamic activity determ. using Knudsen method (German) 9-34008
 In-Hg, Knight shift of ¹¹⁵In, temp. and conc. depend. 9-47343
 In-Hg amalgam, EMF meas. of In/InCl₃/amalgam cell and thermodynamic quantities 9-33999
 In-Pb, liquid alloy, thermodynamic activity determ. using Knudsen method (German) 9-34008
 In-Sn liquid alloy, 2-butanol vapour adsorption, effect on surface tension and surface comp. 9-14981
 In-Zn, liq., Zn activity meas. by Knudsen torsion-effusion method 9-10950
 Li-In, liquid alloy, elec. resist., Knight shift of ¹¹⁵In and ⁷Li nuclei 9-11352
 Mg-Sn, melt, assoc., liquidus curve calcs. (German) 9-20352
 Mn-Si, vapour-pressure meas. using torsion effusion method 9-42215
 Na-Ga liquid alloy, thermodynamic props. 9-37854
 Na-Sn liq. alloys, thermodynamic props. by EMF meas. with β -Al₂O₃-Ba₂ electrolytes 9-19379
 Ni-Co, liquid, activity meas. by transportation method (Japanese) 9-4949
 Ni-Co-Mo-Al-Cr, melt, effect of Al, Cr on O₂ activity, electrochemical determ. 9-11556
 Pb-Pd, liq. alloy activity by effusion method (German) 9-29023
 Pd-Te liquid alloys, thermodynamic activities (German) 9-29022
 Se-Tl(Bi)(Sb), liquid alloys, vapour phase effect on activity determ. (German) 9-43210
 Sn-Ag liquid alloys, thermodynamic study by solid-oxide galvanic cell 9-20031
 Sn-Pb, liquid alloy, thermodynamic activity determ. using Knudsen method (German) 9-34008
 Sn-Zn, molten, struct. investig. by neutron diff. 9-4233
 Sn-Zn eutectic, liq. appl. to drilling of steel, cutting conditions rel. to tool parameters (Russian) 9-34187
 Ti-Sn-Bi, liquid alloy, thermodynamic props. (Russian) 9-10968
 Ti-Te, miscibility gap 9-10952
 Ti-Te system melts, conc. depend. of surface tension 9-37904
 Zn-Ca, liquid alloy, exam. of thermodynamic props., using EMF method (Russian) 9-34003
- liquid crystal devices**
 bibliography of liquid crystals, 1976 9-19146
 bistable optical spatial device using direct optical feedback 9-18535
 cholesteric liquid crystal non-ionising radiation monitor, response charact. 9-2818
 cholesteric liquid crystal resonator for distrib. feedback dye laser, theory 9-31956
 cyanobiphenyls, physical props., appl. to Kerr cells 9-19142
 electrically controlled transparency based on frustrated total internal refl. 9-32074
 image convertor, with memory effect 9-23711
 image transducer, input device for coherent optical processor, phase response 9-23051
 information display technology, symposium, San Francisco (1978) 9-9209
 light valve, light-modulated 9-14098
 matrix-addressable controlled transparency, spatial modulation in holographic memory recording 9-10401
 MBBA-EBBA mixtures, quinone and hydroquinone doped, dynamic scatt., elec., electro-optical props. 9-37616
 S-(+)-4-2'-methylbutyl phenol, cholesteric derivatives, appl. in display devices 9-19145
 molecular orientation, effect of deposition of SiO₂ films (French) 9-10789
 nematic crystal operation, display appl. (Italian) 9-46553
 nematic display, thin film process to improve off axis viewing 9-4239
 nematic liquid crystals, temp. dependent props., twisted nematic displays 9-32901
 one-dimensional Fourier hologram line data recording scheme (Russian) 9-22912
 optically active binary liquid crystal thermometry 9-42952
 real-time moving object tracking by optical correlation, using liq. cryst. image transducer 9-32035
 screen, coherent optical image spotty structure reduction 9-14109
 spatial light modulator, for optical data processing, 1978 state of art and development trends 9-7201
 T-cell light transmission rel. to angle of incidence 9-27426
 transparency, liq. cryst. controlled, information optical recording in microholograms 9-10406
 VHF field thermooindication, linearity (Russian) 9-1391
- liquid crystal phase transformations**
 p'-acryloyloxyoxobenzene, substituted 9-1494
 n-alkoxy- α -methyl-p'-cyanophenyl cinnamate, orientational order, tricrit. behaviour 9-27907
 p-n-alkoxybenzoic acids, mol. arrangement in cryst., nematic, and smectic C phases 9-32889
 n-alkyl 4'-n-alkoxybiphenyl-4-carboxylates, smectic C and tilted smectic B phases 9-32888
 n-alkyl 4'-n-alkoxybiphenyl-4-carboxylates, smectic polymorphism, X-ray diff. and miscibility meas. 9-27912
 azoxy-4,4'-(di-undecyl α -methyl cinnamate), refr. index at 2nd order smectic A to C phase transition 9-19357
 BBOA, pretransitional shear viscosity divergence near smectic A-smectic B transition 9-33077
 CBOOA/4-cyanobenzylidene-4'-n-octyloxybiphenyl mixture, reentrant nematic phases 9-41953
 chiral smectic A-C* transition, elec. susceptibility and electroclinic coeff. 9-28089
 chiral smectic A-C* transition, elec. susceptibility and electroclinic coeff. 9-28088
 chiral smectic liquid crystal, A-C phase change, electroclinic effect 9-42224
 cholesteric, phase transitions and critical phenomena (Russian) 9-4407
 cholesteric defect struct. near smectic A transition 9-46559
 cholesteric nanoate, US attenuation near cholesteric to smectic A transition 9-28091
 cholesteryl caproate, isothermal crystn., spherulites growth rate, optical microscopy obs. 9-32892

liquid crystal phase transformations continued

cholesteryl decanoate, NMR spectroscopy of blue phase 9-4236
cholesteryl linoleate, dielec. props., phase transitions rel. to temp. 9-33592
cholesteryl myristate, polymorphism of blue phase, DTA and microscopy meas. 9-37819
cholesteryl nonanoate, polymorphism of blue phase, circular dichroism at high-press. 9-37821
cholesteryl nonanoate, polymorphism of blue phase, DTA and microscopy meas. 9-37819
cholesteryl nonanoate, polymorphism of blue phase, optical rot. and refl. 9-37820
cholesteryl pelargonate, liq. cryst. phase transitions (*Russian*) 9-37818
cholesteryl vinyl succinate (fumarate), polymer+monomer systems, liq. cryst. phase states 9-1494
cholesterylpelargonate, cholesteric-smectic A transition, metal-supercond. analogue 9-23712
cyano Schiff bases, high press. reentrant nematic bilayer smectic-A transition 9-28087
cyanobiphenyls, isotropic phase, pretransitional behaviour, optical and elec. Kerr effects 9-10928
p-n-decyloxybenzoic acid p-n-hexyloxyphenyl ester, dielec. permittivity in nematic and smectic phases 9-32899
dielectric relaxation at phase transitions 9-28090
dimer-forming compounds, nematic to isotropic transition 9-28085
DOBAMBC, ferroelec. props. 9-32884
dodecylamine ($(-\text{NH}_2)/\text{H}_2\text{O}_2$ and deuterated cpd., liquid crystal, phase relationships, isotope effects 9-19358
EBBA, nematic-isotropic transition, birefringence anomaly at clearing pt. 9-46788
EBBA-aromatic hydrocarbon systems, solute size and shape effect on nematic-isotropic equilb. 9-23710
EBBA-polymer systems, phase diagrams 9-23709
enantiomers, discrimination using liq. crystalline solns., IR rot. dispersion meas. 9-16064
eutectic mixtures, glassy transition, DTA obs. 9-4405
ferroelectric helicoidal smectic-C liq. cryst. dynamics 9-1396
ferroelectric liquid crystals, kinetics of spontaneous polarisation (*Russian*) 9-8101
HBAB soln. in CBOOA, re-entrant nematic phase 9-14674
p-n-heptylhydroxybenzylidene-p'-n-butylaniline, phase transition study from 22 to 80°C 9-14679
p-n-heptyloxybenzylidene-p-aminobenzoic acid, smectic C to nematic transition 9-33076
4-n-hexyloxybenzylidene-4'-n-propylaniline, smectic S_H and S_m phase structs. 9-14673
HOAB, effect of smectic C struct., on dielectric relax. 9-19140
HOAB, liq. cryst. phase transitions, specific ht. meas. 9-33075
image convertor, liq. cryst., with memory effect 9-23711
MBAB:cholesteryl chloride, thickness depend. of threshold elec. field for instabilities 9-32896
MBBA, isotropic-nematic transition, birefringence for tricrit. exponents 9-37816
MBBA, nematic-isotropic transition, birefringence anomaly at clearing pt. 9-46788
MBBA liquid crystal, premelting detected by spin probes, effect of spin probe size 9-46563
MBBA-cholesteryl chloride mixture, mol. orientation during mag. field induced cholesteric-nematic transition 9-28086
MBBA-EBBA mixtures and MBBA, thin and mol. films, between Hg electrodes, I-V characts. 9-11253
mesogenic compounds with smectic F phase, succession order of smectic mesophases (*French*) 9-19143
molecular model with ordered liq. columns (*Russian*) 9-19152
nematic liquid crystal, two-dimensional, Kosterlitz-Thouless phase transitions 9-7680
nematic-cholesteric mixture, surface boundary conditions influence on transition (*Russian*) 9-23705
nematic-isotropic transition, chain flexibility, flexible chain in rigid rod solvent 9-4400
nematic-isotropic transition, lattice model, semiflexible chain solutes 9-10927
nematogenic solutions, binary, Van der Waals theory 9-27916
4-nitrophenyl 4-octyloxybenzoate, smectic-A and nematic phases, dielectric meas. 9-23516
octyl-cyano-biphenyl, elastic props. near smectic-A nematic transition 9-23704
octyl-cyano-biphenyl, smectic-A and nematic phases, dielectric meas. 9-23516
octyloxycyanobiphenyl, nematic-smectic-A transition sp. ht. 9-42225
OOPBD, smectic, DTA obs. of phase transitions to 3 kbar 9-23708
p-(p-ethoxybenzylidene) amino benzonitrile, positron annihilation exam. 9-19149
paradiheptyloxyazobenzene, mol. cryst., characts. of mesomorphic transition to smectic phase 9-14920
4-n-pentyl-4'-cyanobiphenyl, isotropic, optical and electrical Kerr effect 9-32886
phenyl 4-benzoyloxybenzoates, influence of lateral substitution on liq. cryst. props. 9-4242
polymeric mesophases, discotic phases, optical microscopy obs. 9-41951
polymorphic properties, impurity effects 9-10930
reentrant nematic-smectic A phase transition, Landau theory 9-28084
smectic A and C phase and A-C phase transitions, diffuse-cone model 9-41952
smectic A to C phase transition, phenomenological model 9-1495
smectic A to nematic phase transition, critical dynamics 9-1493
smectic A-nematic transition, defect model 9-14916
smectic liquid cryst., long range order exim. (*Russian*) 9-1392
smectic mesophases, viscoelastic properties and field instabilities 9-27904
smectic-B to smectic-E, orientational intermol. pot. calcs. 9-4406
TBBA, temp. depend. of deuteron NMR splittings in nematic and smectic phases 9-32898
TBBA mesophases, mol. orientational order 9-37619
triphenylene hexa-n-dodecanoate, mesomorphic polymorphism 9-41950
US expts. and phase transitions 9-46571
viscosity-pressure behaviour rel. to transition pts. 9-23707
water-in-dodecane microemulsions, dielec. study of phase transition 9-28668
water-in-dodecane microemulsions, struct. transitions in liq. cryst. phase, dielec. props. 9-28669

liquid crystals

see also *cholesteric liquid crystals; liquid crystal phase transformations; nematic liquid crystals; smectic liquid crystals*
alignment, appl. of submicrometer struct., using STEM and X-ray lithography 9-15844
alignment by amphiphilic monolayers 9-37614
p-alkoxybenzylidene-p-alkylaniline, liq. crystals, ^2H NMR, aliphatic and chain conformation 9-14670
4-n-alkyl-4'-cyanobiphenyls, deuterated, improved synthesis 9-32893
aminoacidic side chain-liquid crystalline polymers, synthesis physicochem. props., struct., optical anisotropy (*Russian*) 9-23521
amphiphilic compounds, phase diagrams 9-1389
azobenzenes, substituted, isotropic, nucl. spin-lattice relax. 9-23519
azoxybenzenes, substituted, isotropic, nucl. spin-lattice relax. 9-23519
bibliography, 1976 9-19146
biomembranes, struct. and energy characts., appl. with liq. cryst. (*Chinese*) 9-16163
birefringence measurement, high resolution apparatus 9-2803
caesium perfluoro-octanoate/ D_2O , NMR of ^2D nuclei, response to three-pulse sequences in inhomogeneous B_0 field 9-42861
caesium perfluoro-octanoate/ D_2O , NMR of ^2D nuclei, response to three-pulse sequence in homogeneous B_0 field 9-42860
cell membrane studies 9-29508
conference, International Crystallography Congress, Warsaw, Poland (Aug. 78) 9-23481
continuous symmetry groups 9-32902
4-cyan-phenyl esters of 4'-N-alkoxycinnamic acids, liq. cryst., refr. indices, optical anisotropy 9-28704
cyanobiphenyls, isotropic phase, pretransitional behaviour, optical and elec. Kerr effects 9-10928
defects, electron microscopy, conf., Nancy, France (May 1978) (*French*) 9-41915
defects, struct., optical, electron microscopy (*French*) 9-46567
dielectric anisotropy meas., over wide freq. range 9-33594
disclinations (*French*) 9-41947
EHD instabilities, director relax. time depend. on wave number near WD pt. (*Japanese*) 9-32700
electrodynamic instabilities, principle of conservation of moment of momentum study 9-46566
p-p-ethoxyphenylazo phenyl heptanoate, mesogenic compounds, thermal stabilities, packing coeffs. and mol. packings 9-46558
eutectic mixtures, glassy transition, DTA obs. 9-4405
ferroelectric liquid crystals, kinetics of spontaneous polarisation (*Russian*) 9-8101
lamellar liquid crystal, biaxiality due to oriented defects 9-41945
Landau crit. point, mean-field theory, scaling theory and crit. exponents to second order in ϵ^2 9-4395
lipid liquid crystals, parabolic focal conics and polygonal defect arrays 9-37618
liquid lamellar liquid crystalline system, rheological props. 9-23289
lyo-mesophases, induced chem. shift, NMR obs. 9-33548
lyotropic, orientation in mag. field, glass interface effects 9-1390
lyotropic, parabolic focal conic struct., disclination/dislocation relation 9-27909
lyotropic mesophase, ^6Li , ^7Li , and ^{23}Na NMR, metal ion-polar head group interaction 9-4243
lyotropic systems, NMR of dissolved cations and D_2O molecules 9-22732
MBBA-EBBA mixtures, quinone and hydroquinone doped, dynamic scatt., elec., electro-optical props. 9-37616
mesogenic compounds, thermal stabilities, packing coeffs. and mol. packings 9-46558
molecular geometry, orientational order and melting 9-37810
molecular model with ordered liq. columns (*Russian*) 9-19152
molecular ordering from incoherent quasi-elastic neutron scatt. 9-4241
molecular orientation, effect of deposition of SiO_2 films (*French*) 9-10789
neutron scattering techniques in applied research, medium-flux research reactors 9-13514
NMR of ^{13}C , high-resolution spectra 9-38388
nonylphenol diethylene glycol ether-water-p-xylene system, liquid crystal stabilization of multiple emulsions 9-16046
orientation mol. ordering determ. by Raman scatt. (*Russian*) 9-19153
PAA, isotropic, nucl. spin-lattice relax. 9-23519
phenyl 4-benzoyloxybenzoates, influence of lateral substitution on liq. cryst. props. 9-4242
physical props. and analysis, liquid chromatography and purity improvement 9-14682
piezoelectric solution, thermodynamic treatment 9-32903
poly- γ -benzyl-L-glutamate, ^{131}Xe orientation, NQR quadrupolar splitting 9-4741
polymeric mesophases, discotic phases, optical microscopy obs. 9-41951
polymorphic properties, impurity effects 9-10930
review, history of development, props., appls. (*Chinese*) 9-32905
technological appls., role in biological systems (*Croatian*) 9-10788
terphenylene mesophase, X-ray diff. meas. 9-41946
texture, light scatt. determ. in dynamic scatt. regime 9-27913
theory, phenomenological and microscopic approaches connection 9-4248
thermotropic, X-ray diff. obs. of struct. 9-27905
triphenylene hexa-n-dodecanoate, mesomorphic polymorphism 9-41950
undecylenate, mesogenic compounds, thermal stabilities, packing coeffs. and mol. packings 9-46558
US expts. and phase transitions 9-46571
VHF field thermoincandence, linearity (*Russian*) 9-1391
viscosimeter for three coeffs. of viscosity of liq. crystals meas. 9-4095
water-in-dodecane microemulsions, struct. transitions in liq. cryst. phase, dielec. props. 9-28669

liquid drop model (nuclear) see *nuclear liquid drop model*

liquid films

see also *adsorbed layers; helium films; liquid helium; superfluidity; surface tension*
boiling, post-dryout heat transfer, review 9-1094
boiling, transition type, in forced convective flow, boundaries meas. 9-27499
boiling instability, during quenching in subcooled water (*French*) 9-46167
breakdown, numerical anal. 9-46285
condensation inside pipes, heat transfer, general correlation 9-46312
cooling, from single hole and hole row, free stream turbulence effect 9-46310
deposit of liq., response of quartz crystal microbalance 9-30422
draining, vertical column of drops approaching interface, shape 9-32725
dryout in an SGHWR rod bundle, exptl. and calc. comparison 9-3192

liquid films continued

- education, soap film on wire frame in zero gravity, variation problem branching 9-9057
- electrolyte layer, convection onset condition 9-14492
- falling, 3-dimens. wave characts., laser beam refraction obs. 9-27654
- falling, laminar, evaporation model 9-46305
- falling film, thickness meas., statistical props. 9-12708
- flow affected by streaming turbulent gas (*Russian*) 9-14386
- flow down inclined plane, deflection toward underside 9-18867
- flow of stratified gas-liquid film, eqns. of motion 9-37376
- flowing down inclined plane with heat transfer, interfacial shear, stability 9-37290
- free coating of surface, effect of angle 9-46892
- gas mixture, binary, condensation in boundary layer flow, numerical method 9-1236
- hexadecane, boundary viscosity using blow-off method 9-23383
- horizontal elliptical conduits, turbulent film evaporation and condensation 9-1182
- laminar liquid films, dependence of temp. variation of film substance viscosity 9-41686
- laminar non-Newtonian falling liquid films, dynamics 9-7393
- latex suspension liquid film flow, local thickness meas. 9-4070
- metal, supercooling, electron diffraction study (*French*) 9-7676
- microemulsion, struct. description of liq. particle dispersion, ultracentrifugation and small ang. neutron scatt. obs. 9-5184
- mixtures, decomposition into components by thermal action of continuous laser irradiation 9-19362
- multi-layered liquid films, instability 9-1158
- multicomponent mixtures, mass transfer, penetration depths 9-42286
- multilayered liquid films, wave motion, governing eqn. 9-10580
- nematic liquid crystal film, mol. dynamics (*Russian*) 9-27903
- Newtonian liquid, coating on to rotating roll 9-41692
- non-Newtonian fluid, rot. liq. film, free surface instability 9-37294
- non-Newtonian laminar falling liq. films with smooth wave free gas-liq. interface, heat transfer 9-7389
- oil, spreading on water, rel. to surface contamination 9-43795
- oil films, thickness meas. by neutron imaging, and scattering, exam. of flow props. 9-15815
- pseudoplastic liquid film, wave motion 9-32583
- rotating radial pipe with liq. film, Coriolis effect, film width and vaporisation 9-18955
- soap film in a wedge, expts. for teachers 9-17169
- surface tension driven instability of flow down heated incline 9-27620
- thickness measurement, of thin liquid films on inaccessible surfaces 9-30412
- thin films, role of disjoining pressure in equilb. and flow 9-14984
- thin liquid film stretching mode relax. obs. by laser intensity fluctuation spectra 9-28177
- vapour absorption, combined heat and mass transfer 9-19430
- viscoplastic liquid film, shaking off flat surface 9-14362
- volatile liquids, boundary viscosity, meas. by blowoff method 9-11006
- water, liq.-like layer between ice and substrate, model, appl. to wire regeneration and particle migration 9-46893
- water films vaporisation in rot. pipes 9-14228
- wedge, forced-convection film boiling, boundary layer flow 9-46366
- ⁴He superfluid, subcooled, Kapitza resistance of Al 9-23794

liquid flow coaxial cables *see coaxial cables***liquid He** *see liquid helium***liquid helium**

- see also helium films; liquid helium-3; liquid helium-4; liquid helium sound propagation; ripples; vortices*
- boiling, critical heat fluxes, effect of cylindrical heater dimensions 9-35756
- electron bound states on surface 9-28166
- electron sheet on liquid surface, liq. to cryst. transition 9-42341
- electron solid on surface, phonon-ripple coupling 9-42337
- film, superfluidity and the two dimensional XY model 9-28498
- floating level gauge 9-2774
- Hamiltonian of interaction with quantised EM field 9-46853
- laminar free convection heat transfer, analytical study 9-23311
- level indicator with small heat dissipation, made from newly developed superconducting wire (*Japanese*) 9-2775
- nucleate pool boiling, heat flux and press. effect on heat transfer 9-14235
- surface, escape rate of two-dimensional electrons, around 1K 9-46856
- surface, escape rate of two-dimensional electrons 9-28165
- surface, parametric excitation of electrons (*Russian*) 9-37892
- surface electrons over macroscopic periodic struct. (*Russian*) 9-10997
- time depend. effects above convection, Rayleigh-Benard expt. using local probe 9-7718
- vapour formation and heat transfer in supercond. magnet cooling channels 9-32197
- H atoms on liquid He surface, interaction and bound states 9-18131
- ⁴He, liquid groundstate, pairing function, numerical calc. 9-4441

liquid helium-3

- see also fermion systems; superfluid helium-3*
- acoustic impedance, variational theory 9-42334
- adsorbed on Grafoil, ground state, thermodynamic anal. 9-19421
- adsorbed on Grafoil, NMR relax. times 9-28171
- adsorbed on solid Ne, desorption heat capacity 9-4452
- collective quantum fields for many body systems, appl. to BCS, ³He and type II superconductors (*German*) 9-35917
- dynamic form factor, particle density, spin density correlation, RPA calcs. 9-46873
- dynamical structure factor and elementary excitations 9-33142
- elementary excitation, neutron scatt. study 9-46874
- energy expectation value, test of Wu-Feenberg and F₂ approximations 9-40873
- free-surface density profile and tension 9-33147
- hyperfine enhanced nuclear cooling using PrNi₂ powder, demagnetisation expt. 9-44909
- long-range order Hartree-Fock states with different magnetic properties 9-42476
- low temperature props., review 9-37896
- magnetically polarised state, prep. and obs. 9-46870
- nearly ferromagnetic Fermi systems, temp. depend. of spin susceptibility 9-8008
- negative ionic mobility, absence of non-linearity at low temp. 9-28167
- neutron scatt. meas. 9-46860
- normal and superfluid, acoustic props. 9-46875

liquid helium-3 continued

- phase diagram, press. and mag. temp. coordinates meas. 9-30469
- positive ion mobility in normal and superfluid phases 9-4449
- positive ion nonlinear behaviour, expt. and parameterless theoretical prediction comparison 9-14978
- shear viscosity and thermal cond., s- and p-wave approx. 9-1535
- spin polarisation, rapid melting of polarised solid 9-46872
- spin polarised, quantum fluid (*French*) 9-46862
- spin polarised, thermodynamical nuclear orientation 9-46879
- spin relaxation to paramagnetic centres, in surfaces at very low temps. 9-33552
- SQUID NMR techniques, appl. to liquid ³He 9-26093
- surface ferromagnetic instability, attraction to solid substrate 9-46863
- thermodynamics below Debye temp., thermal capacity temp. depend. (*Russian*) 9-10999
- viscosity coefficient, T-approx. (*Russian*) 9-21655
- CeLa_{2-x}Mg₃(NO₃)₁₂·24H₂O, magnetically diluted thermometer for s. ht. meas. 9-17420
- liquid helium 3-4 mixtures**
- dilute, ³He excitations, calc. 9-7730
- dilute ³He-⁴He mixtures, ³He superfluidity 9-19420
- excitation spectrum, neutron inelastic scatt. study 9-46877
- film, superfluidity precipitous onset 9-23802
- films, thickness calc. from dielec. const. data (*Russian*) 9-11003
- interface, charge induced ripplon softening and dimple crystallisation 9-28170
- ion trapping at tricritical point, depend. on temp. and elec. field 9-7729
- Kapitza resistance at Au interface, dynamic meas. 9-28188
- multiple positive ionic mobility, in normal ³He contaminated with ⁴He 9-46876
- phonon velocity in dilute solns. 9-23803
- positive ion mobility in dil. soln. of ³He in ³He 9-33151
- superfluid, second sound attenuation and dissipation processes, 1.3-2.0K (*Russian*) 9-42335
- superfluid solution, second sound velocities (*Russian*) 9-33150
- ³He, quasi particles in superfluid ⁴He, dispersion law, under pressure (*Russian*) 9-42336
- ³He-⁴He mixtures, rotating, ion trapping on vortex lines 9-28169
- ³He-He II solns., magnetokinetic effects 9-19419

liquid helium-4

- see also boson systems; superfluid helium-4*
- binary boson mixtures, thermodynamics ground state 9-35630
- Bose condensate density temp. depend., rel. to supercond. (*Russian*) 9-33140
- critical dynamics and fluctuation-dissipation theorem 9-40467
- droplet, charged, in ⁴He vap., He⁺ mobility, 1.3-2.0K 9-32734
- dynamic structure factor, neutron scatt. meas. 9-46545
- ground state energy, analytical treatment of hypernetted-chain and Percus-Yevick eqns. 9-30359
- hydrodynamic theory, variational methods 9-42331
- interface with NaF, phonon transmission in both directions 9-28164
- irreducible cluster expansion for the logarithm of the s-particle density matrix of a many-boson system 9-21657
- Jastrow wave function optimisation 9-7719
- neutron scattering study in low momentum transfer region 9-46546
- nucleate boiling crisis in supercond. magnet cooling channels 9-32196
- positive ions, struct. 9-4440
- second and third virial coeffs., meas. from 2.6 to 27.1K 9-37808
- solvent effect on (³He)₂, (³He)₂ dimers and ³He-⁴He mixture 9-41120
- statistical mechanics of bosons with attractive interaction 9-12717
- surface, hot electrons theory 9-42329
- thermodynamics below Debye temp., thermal capacity temp. depend. (*Russian*) 9-10999
- transients in critical dynamics of He⁴ 9-40513
- He I liquid, temp. fluctuations 9-19414
- He-II, critical heat flux for narrow Sn films 9-23795

liquid helium sound propagation

- see also second sound; zero sound*
- first sound response, nonlinear, at 1, 3 10 MHz 9-46858
- ³He, normal and superfluid, acoustic props. 9-46875
- ³He, superfluid, hydrodynamic modes interaction, sound propag. and spin waves (*Russian*) 9-37897
- ³He-⁴He, phonon vel. 9-23803
- ⁴He film, third sound, two-dimens. hydrodynamics and elementary excitations 9-7721
- ⁴He, liq., nonsuperfluid, low momentum transfer neutron scatt. study 9-46546
- ⁴He monolayer superfluid films, third sound modes, superfluid solitons 9-10998
- ⁴He, superfluid, concave energy spectrum of very low wave numbers 9-4438
- ⁴He, superfluid, excitation spectrum, Bogoliubov theory 9-7722
- ⁴He, superfluid, temp. depend. of sound vel. 9-33139

liquid lasers

- see also dye lasers*
- benzene, Raman laser as efficient excitation source for stimulated Raman scatt. 9-18480
- nitrobenzene, Raman laser as efficient excitation source for stimulated Raman scatt. 9-18480
- nitromethane, Raman laser as efficient excitation source for stimulated Raman scatt. 9-18480
- organic compound solution laser, miniature broadband type LOS-3 9-3706
- Raman laser, IR, high-power tunable 9-7140
- CS₂, Raman laser as efficient excitation source for stimulated Raman scatt. 9-18480
- N₂ liquid IR Raman laser with unstable resonator 9-31957

liquid metals

- see also electron energy states of liquid metals; liquid alloys; mercury (metal)*
- alkali liquid metals, US absorption due to electrons- and phonons 9-28046
- alkali metal, liq. struct., from 1st-principles pseudopot. calc. 9-41941
- boiling, mag. field effect on bubble growth 9-32217
- crystal melt interfacial free energy calc. from exptl. radial distrib. function data 9-10926
- d-band metal force fields 9-33051
- electroconductivity, effect of multiparticles interionic correls. (*Russian*) 9-28333
- embrittlement, review 9-29272

liquid metals continued

embrittlement 9-15798
 embrittlement of Armo Fe, Rebinder effect (*Russian*) 9-29266
 embrittlement of cast Fe, brass, Zn alloys, eval. by quasistatic crack propagation, technique 9-29262
 embrittlement of metals 9-43495
 entropy, electron component (*Russian*) 9-23747
 entropy of fusion and activation energy for self-diffusion 9-28121
 fast reactors, Na purification system for primary and secondary loops 9-45344
 flow at high temperatures through circular pipes, connection mechanism (*Spanish*) 9-37315
 flow rate measurement for metals with poor contact resistance 9-41778
 flow redistribution using const. mag. fields (*Russian*) 9-1261
 forced convection in metals with variable thermal cond. and capacity 9-37310
 gas diffusion coefficients, stationary method determ. (*German*) 9-10974
 gas-liq. metal two-phase two-component heat transfer, review 9-1239
 interface phenomena (*French*) 9-43632
 isothermal compressibility, harmonic pot. model calc. 9-14870
 jet disintegration by electric pulse, powder and granule prod. 9-33968
 LMFBR boiling acoustic detection sensitivity, PFR commissioning expts. 9-13452
 LMFBR coolant flow monitoring by balanced outlet temp. signals 9-13393
 LMFBR core orificing computer code 9-9681
 LMFBR debris bed simulation expt., in-reactor expt. 9-13404
 LMFBR fuel subassembly temp. noise prediction, Monte Carlo approach 9-13392
 LMFBR Na vapour bubble collapse detection by acoustic emission 9-13451
 LMFBR Na-cooled 7-rod bundle acoustic and temp. noise obs. 9-13391
 LMFBR steam generators, leak detection of steam or water into sodium 9-13434
 LMFBR subassembly local boiling detection by outlet temp. fluctuation analysis 9-13390
 LMFBR subchannel coolant flow behind blockage, temp. noise obs. 9-13389
 LMFBR surveillance technique development 9-13448
 LMFBR wire-wrapped subassemblies, Na boiling behaviour 9-31031
 metallic systems, liq. metal embrittlement mechanism, Rebinder effect (*Russian*) 9-34186
 MHD in EM trough creating azimuthal and axial forces (*Russian*) 9-1259
 microparacrystals in physics, review (*German*) 9-27933
 mixing volumes, pseudopotential method 9-37846
 molten core debris contact with Na, particulate debris bed formation expt. 9-13405
 periodic fluid transients in cylindrical ducts with transverse magnetic fields 9-27708
 plasma arc heating, equilib. in gas-melt system (*Russian*) 9-37512
 plugging indicator, liquid Na impurity deposition rate obs. 9-13557
 purification and thermodynamics, possibilities in space environment 9-46816
 rare earth, liquid, divalent electrical resist. 9-38039
 rare earth, liquid, trivalent, electrical resist. 9-42514
 reactor coolant interaction, vapour film collapse expts. 9-13474
 solid-liquid interfacial energy 9-42396
 solidification interface shape during continuous casting 9-15656
 specific heat determ. in tunnel theory 9-33095
 surface entropy using hard-sphere model 9-37906
 surface tension and critical props. 9-28176
 surface wave excitation, parametric, by alternating AC elec. field 9-23375
 thermoelectric power measurement apparatus 9-40591
 thin film, supercooling, electron diffraction study (*French*) 9-7676
 transition metal, amorphous and liq. state, simulated model 9-14733
 transition metals, electrical transport 9-38040
 transition metals, structure factors, calc. of temp. coeff. of resistivity, one component plasma model 9-32881
 two phase flow, gaseous phase redistrib. in strong mag. field 9-37410
 two-phase MHD flow in strong mag. field 9-23368
 UMFBR molten core debris and core containment material interactions 9-13469
 vaporisation in arc heated gas stream, model 9-46795
 Al, liq. struct. factor, 680 to 840°C, neutron diff. study 9-46552
 Al, molten, determination of H content, using electrochemical probe 9-11843
 Al, radial distrib. function calc., pseudopot. method (*Russian*) 9-19138
 Al, resist. and thermo-electric power using corrected parameters of Shaw model 9-19566
 Al, short-wavelength density fluctuations 9-46550
 Al, thermodynamic props., pseudopot. calc. (*Russian*) 9-46549
 Al, US effect on graphite wetting 9-15629
 Al, X-ray diffraction analysis 9-4232
 Cd, electron energy states calc. (*Russian*) 9-4506
 Cd, resist. and thermo-electric power using corrected parameters of Shaw model 9-19566
 Co, amorphous and liquid, density of electronic states 9-23881
 Cr, N₂ absorption at high temps., Cr-N phase diagram, solubility-temp. relation (*Japanese*) 9-43201
 Cs, resist. and thermo-electric power using corrected parameters of Shaw model 9-19566
 Cu, X-ray diffraction analysis 9-4232
 Fe liquid, C saturated, decarburization by CO₂, effect of S 9-11726
 Fe, liquid, N solubility and AlN precipitation 9-11630
 Ga and alloy high-temp. couplants for acoustic transducers 9-14195
 Ga, field ion microscopy using mag.-sector atom probe, ionisation characts. 9-43106
 Ga, liquid, supercooled, dynamics 9-27902
 Ga, surface tension, low-temp. H₂ plasma influence, elec. double layer form. 9-33160
 Ga-Ag interface, γ -phase interlayer growth, two-dimens. electron diff. 9-19487
 Gd, thermal diffusivity, conductivity and elec. cond. 110 to 2100K 9-42516
 H₂, electron kinetic eqn. with exchange, elec. resist. 9-15131
 H meter for Na coolant systems 9-9690
 Hg, electron energy states calc. (*Russian*) 9-4506
 Hg, expanded, thermodynamic and electron transport props. 9-23938
 Hg, expanded fluid, optical props. 9-19902

liquid metals continued

Hg, expanded fluid, thermoelec. power near crit. point 9-23951
 Hg, long wavelength limit, triplet and higher correl., Percus-Yevick eqn., perturbative anal. 9-37613
 Hg, X-ray diffraction analysis 9-4232
 In, diffusion coeff. determ. of P, mathematical model, numerical method 9-23754
 In, resist. and thermo-electric power using corrected parameters of Shaw model 9-19566
 In, surface tension, low-temp. H₂ plasma influence, elec. double layer form. 9-33160
 K heat pipe, heat transport characteristics, transverse mag. field effects 9-37127
 K, paracrystalline BCC lattice evidence 9-41942
 K, resist. and thermo-electric power using corrected parameters of Shaw model 9-19566
 K, short-wavelength density fluctuations 9-46550
 La, liquid, viscosity from 940 to 1220°C (*German*) 9-28123
 Li, corrosion resistance properties of Fe alloy containers 9-47815
 Li, electron energy states calc. (*Russian*) 9-4506
 Li, paracrystalline BCC lattice evidence 9-41942
 Li, penetration into Nb-O at 400°C, effect of O content 9-11719
 Li, resist. and thermo-electric power using corrected parameters of Shaw model 9-19566
 Li, short-wavelength density fluctuations 9-46550
 Li, solubility of Li₂O, determ. by fast neutron activation 9-42252
 Li, temp. and density depend. of struct., improved pseudopot. theory 9-14669
 Lu, struct. factors, high temp. X-ray diff. obs. 9-7544
 Na boiling acoustic emission burst detection in parasitic noise 9-3214
 Na boiling detection technique tests, FFT capabilities 9-13395
 Na boiling expts. ref. to fast reactor safety (*Italian*) 9-9764
 Na cooled power reactor noise analysis for malfunction diagnosis 9-13450
 Na, effect on austenitic stainless steel mech. props. 9-20150
 Na, electronic structure, optical absorption 9-38566
 Na, incipient boiling in the presence of a mag. field 9-37411
 Na, paracrystalline BCC lattice evidence 9-41942
 Na pool fuel vapour and aerosol transport in HCDA 9-13455
 Na, resist. and thermo-electric power using corrected parameters of Shaw model 9-19566
 Na, short-wavelength density fluctuations 9-46550
 Na, solubility of NaH, and elec. resist. of Na-NaH and Na-Na₂O solns. 9-14934
 Na test loop boiling, acoustic detection expts. 9-13487
 Na, thermocouple transfer function and flow velocity meas. by temp. noise 9-13394
 Na thermodynamic props. for reactor safety analysis 9-13478
 Na, velocity autocorrelation function and freq. spectrum 9-27892
 Ni, electronic density of d-states, hard-sphere model and tight-binding approx. calc. 9-15065
 Ni, molten, mag. small-angle scatt., persistent spin fluctuations 9-11288
 O₂ bomb calorimeter modification for liquid metal reaction enthalpy meas. 9-201
 Pb, short-wavelength density fluctuations 9-46550
 Pb, stream interaction with N₂ jet in metal powder prod. 9-43170
 Rb, current-fluctuation spectra, mode-coupling theory 9-4231
 Rb, equilib. props., self consistent field methods calcs. 9-10767
 Rb, higher order struct. functions in long wavelength limit, improved perturbation approx. 9-37606
 Rb, kinetic model, dynamic struct. factor 9-10768
 Rb, long wavelength limit, triplet and higher correl., Percus-Yevick eqn., perturbative anal. 9-37613
 Rb, resist. and thermo-electric power using corrected parameters of Shaw model 9-19566
 Rb, short-wavelength density fluctuations 9-46550
 Rb, static struct. and electronic transport props., pseudopotential calc. 9-7543
 Sb, liq., thermoelec. power meas. 9-40591
 Sn, electron energy states calc. (*Russian*) 9-4506
 Sn, friction of C steels and Fe, Rebinder effect (*Russian*) 9-29269
 Sn melt fragmentation on quenching in n-pentadecane and water 9-15706
 Sn, molten, struct. investig. by neutron diff. 9-4233
 Sn, stream interaction with N₂ jet in metal powder prod. 9-43170
 Sn, viscosity meas. (*Italian*) 9-19137
 Sn, X-ray diffraction analysis 9-4232
 Tl, resist. and thermo-electric power using corrected parameters of Shaw model 9-19566
 UO₂-Na contact interface temp., effect of internal radiation 9-13477
 W 9-42280
 W, density at onset of sharp fall in elec. cond. 9-33026
 Zn, electron energy states calc. (*Russian*) 9-4506
 Zn, hot galvanising of Fe, Fe-Zn compound form. (*French*) 9-20275
 Zn, liq., NMR and relax. 9-8061
 Zn, molten, struct. investig. by neutron diff. 9-4233
 Zn, reaction with WC-Co, lamellar struct. form. 9-33964
 Zn, resist. and thermo-electric power using corrected parameters of Shaw model 9-19566
 Zn, X-ray diffraction analysis 9-4232

liquid oscillations

see also liquid waves

BWR coolant oscillatory flow perturbations, altered transverse momentum transport 9-608
 charged liquid, parametric surface wave excitation by AC elec. field 9-23375
 compressive and tensile wave propagation in fluid column 9-18901
 ferromagnetic fluid rotating about vertical axis, convective instability of layer 9-27698
 forced oscillations of an enclosed rotating fluid under a uniform magnetic field 9-32688
 gas bubbles in vibrating liq., selective bubble drift (*Russian*) 9-14456
 heavy viscous rotating fluid system, normal oscillations (*Russian*) 9-14417
 hydraulic lines, wave phenomena, freq. characts. between press. and flow rate 9-32669
 hydrocarbon drops levitated in water, acoustically forced shape oscill. 9-47987
 nonlinear instabilities, filtering in fluid dynamic eqns. 9-41667

liquid oscillations continued

- ocean inertial oscills. radiation damping, wind mixed layer turbulence 9-39730
- oscillatory hydromagnetic free convection flow past an infinite vertical flat plate with suction 9-32687
- pigment dispersion rheology, kinetic model, expt. results 9-7361
- polymer solutions, drag-reducing, in U-tube 9-1217
- polymeric liquid, steady shear flow, parallel superposition of oscillatory motion 9-18919
- Rivlin-Ericksen viscoelastic fluid, unsteady flow through confocal elliptic cylinders 9-7354
- self excited oscillations, impact of liquid jet against plane barrier 9-32545
- solar energy collector system using regenerative oscills. in water columns 9-23188
- unsteady viscous flow near axisymmetric stagnation point on circular cylinder 9-23302
- viscous flow in oscillatory spherical annuli 9-32542
- viscous incompressible fluid generating flow past porous plate with free stream oscillations, laminar free convection 9-37311
- viscous incompressible fluid generating flow past porous plate with free stream oscillations, laminar free convection 9-37312
- wall with one-way heat flow, vertical inclined cavity stack 9-3899
- water, forces on sinusoidally oscillating cylinder, parametric study 9-32547
- wave-induced oscillations in harbours of variable depth 9-4023
- He, aspect ratio, effect on time depend. flow above convection 9-7718

liquid permeability *see permeability***liquid phase epitaxial growth**

- film property control, regression eqns. 9-33200
- garnet, bubble film, LPE growth reproducibility 9-1830
- garnet bubble film, LPE with high Pb content 9-38750
- garnet film, LPE technique, difficulties and advantages 9-28958
- garnet layers, growth rate depend. on supercooling, induced striation expt. 9-24453
- growth rate calc., from GaP and GaAs LPE data 9-19485
- III-V semiconductor compounds for optical devices in 1.0-1.6 μ m region, crystal growth by LPE and CVD 9-43161
- macromolecules, epitaxial crystallisation, review 9-42409
- model layer thickness calc. 9-19484
- perturbations propagation, surface, large-amplitude 9-37929
- sliding boat method for high purity LPE growth, GaAs FET buffers appl. (Japanese) 9-28955
- AgCl, epitaxial overgrowth on AgBr sheet crystals 9-19988
- AlAs-GaAs heterostructure, fabrication by selective liq.-phase epitaxy 9-15618
- Al_{1-x}Ga_xAs thick epitaxial layer production, by zone recrystn. in temp. gradient 9-15619
- Al_{1-x}Ga_xAs, waveguide heterostruct. epitaxial growth with gradual composition change 9-42416
- Al_{1-x}Ga_xAs-GaAs multilayers, using addition of GaCl vapour and new boat struct. 9-33950
- Al_{1-x}Ga_{1-x}As_{1-x}Sb_x, LPE, strain effects near miscibility gap, importance 9-7759
- Al_{1-x}Ga_{1-x}P-GaP structure, double heterostruct. light modulator appl. 9-28963
- Al_{1-x}Ga_{1-x}Sb, surface flatness depend. on LPE condition 9-15042
- p-CuGaS₂, on n-ZnS, heterojunction prep. and characterisation 9-1831
- Ga-Al-Sb, liq. phase epitaxy, phase diagram, X-ray microanal. 9-19491
- (GaAl)As system, automated system for growth of multilayered structs. by LPE 9-38752
- GaAlAs-GaAs heterostruct. solar cells, Al, P, Zn incorporation by LPE (French) 9-24899
- Ga_{1-x}Al_xAs, growth mechanism and morphology on channelled substrates 9-28960
- Ga_{1-x}Al_xAs LPE crystals for DH laser, LEDs, TEM obs. of Ge, Si-doped epitaxial layers 9-1556
- Ga_{1-x}Al_xAs-GaAs LPE multilayer heterostructure photovolt. solar cells, fabrication and performance 9-48128
- Ga_{1-x}Al_xAs_{1-y}P_y layer of uniform composition grown on GaAs by LPE, temp. diff. method appl. 9-23864
- GaAs, deep levels rel. to growth conditions 9-28314
- GaAs FET buffers, high purity LPE growth by sliding boat method (Japanese) 9-28955
- GaAs, gaseous impurity source and effect on purity 9-28959
- GaAs, heteroepitaxial layers on Si substrates by LPE 9-1832
- GaAs LPE on polycrystalline Mo 9-43157
- GaAs, layer growth by electroepitaxy, thickness profiles 9-4486
- GaAs layers, grown by electroepitaxy and LPE, surface morphology 9-19478
- GaAs, liquid-phase electroepitaxial growth kinetics, Peltier effect and solute electromigration 9-42401
- GaAs, residual impurities and deep levels, FET fabrication 9-28964
- GaAs, solar cell, thin film, prep. by Peeled Film Technology 9-29472
- GaAs:Se, LPE growth, Ga-As-Se phase diagram 9-1849
- GaAs:Sn, doping characts. during LPE 9-10866
- GaAs:Zn, Se, double doping during LPE, exam. of elec. cond. and Hall effect 9-4923
- GaAs:Zn(S), LPE, and doping characts. 9-33948
- GaAs-Al_{1-x}Ga_xAs structures for DH lasers (Polish) 9-4922
- GaAs-Ga_{1-x}Al_xAs double heterojunction laser structures, LPE growth with double source method 9-28962
- GaAs-GaAlAs double heterostructures for CW injection lasers, LPE growth 9-31931
- GaAs-P_{1-x}, liquid phase epitaxial growth on GaP, growth and properties 9-47641
- GaAsSb_{1-x}, lattice-matched LPE growth in InP substrates 9-42402
- GaAsSb_{1-x}, miscibility gap, rel. to LPE 9-33090
- GaInAsP/InP DH lasers, with (100) substrate, 1.2-1.5 μ m, LPE growth conditions 9-15617
- GaInAsP-InP buried stripe DH laser, fabrication using meltback method and CW operation 9-3708
- GaP epitaxial layers, stable growth conditions, by molten salt electrodeposition on Si and GaP substrates 9-20000
- GaP, heteroepitaxial deposition on GaAs, Sn solvent inclusion, surface morphology (German) 9-28968
- GaP layers, LPE growth, elec. props., residual impurities 9-38202
- GaP:N, N doping profiles in GaP grown by LPE, cathodoluminesc. data 9-23631

liquid phase epitaxial growth continued

- GaP:Te on GaAs, LPE growth from Sn, exam. of impurity band conduction effects 9-11249
- (GaP)_{1-x}(ZnSe)_x solid solution, reaction of Zn with Se during Czochralski growth and LPE 9-8238
- Hg_{1-x}Cd_xTe-CdTe photodiodes, backside-illum., LPE growth and thermal noise characts. 9-40610
- InGaAs-In_{1-x}Ga_xAs_{1-y}P_y DH laser, LPE fabrication, electroluminesc., lasing characts. 9-3709
- In_{1-x}Ga_xAs, LPE growth on InP substrate, quasi grown layers, photoluminescence meas. 9-23862
- In_{1-x}Ga_xAs, on InP substrate, comp. latching phenomenon and lattice mismatching effects 9-28961
- InGaAsP, LPE growth on InP, influence of lattice mismatch on surface morphology 9-1553
- InGaAsP:Sn(Te)(Zn), LPE growth, influence of growth-solution dopants on distrib. coeffs. 9-47640
- In_{1-x}Ga_xAs_{1-y}P_y layers on InP substrate, LPE growth, quaternary phase diagram, and band gaps 9-42403
- In_{1-x}Ga_{1-x}As_{1-y}P_y layers on InP, LPE and opt. props. characteris. 9-28849
- In_{1-x}Ga_xP, LPE, conditions, reacts. in In-Ga-P system 9-11525
- InP film, on (100) and [111] substrates (Slovak) 9-15037
- InP, LPE growth on GaAs, etching and electron probe anal. 9-11526
- InP substrates, control of thermal degradation in LPE growth with PH₂ partial pressure 9-33949
- InP:Sn, LPE growth from Sn soln., elec. props., 80 to 300K 9-11250
- InP-Ga_{1-x}In_xAs_{1-y}P_y systems, for optical devices in 1 to 1.6 μ m region, LPE growth (Japanese) 9-28956
- KNdP₂O₁₂ laser waveguide, fabrication by LPE 9-36925
- Li(Nb,Ta)O₃ solid solution, LPE growth of thin film waveguides on LiTaO₃ substrates 9-41467
- NiFe_{2-x}Al_xO₄, stress-induced anisotropy in LPE grown single cryst. films, domain struct. 9-28238
- Pb_{1-x}Sn_xTe layers, LPE, phase diagram rel. to lattice const., distrib. coeffs. 9-37925
- Si layers on metallurgical-grade polycryst. substrates, characteris. 9-28967
- Si:Ga, LPE on Si, technique and characterisation 9-38751
- Si-Au-P system, partition coeff. of P, temp. depend. 9-43158
- (YSmCa)₃(FeGe)₂O₁₂ LPE film, growth and coercivity 9-4707
- ZnS-CuGaS₂ heterodiodes, LPE, emission spectra 9-33335
- ZnSe, from Zn-Ga soln., characts. 9-28965

liquid semiconductors*see also electron energy states of liquid semiconductors*

- AgSbSe₂(Te₂), exam. of kinematic viscosity of melts, and short range ordering 9-1383
- Ag₂Te, changes in elec. cond. and thermoelec. power at melting point 9-15147
- Ag₂Te, elec. cond. at high temps. and pressures 9-11119
- As₂Se₃, struct., investigation using neutron diff. meas. 9-23514
- CuGaTe₂, exam. of kinematic viscosity of melts, and short range ordering 9-1383
- CuInSe₂-CuInS₂, melts, viscosity, elec. cond., density composition properties 9-14948
- CuInTe₂, exam. of kinematic viscosity of melts, and short range ordering 9-1383
- Ga₂Te₃, liq., elec. resistivity meas. up to 30 kbar 9-38070
- GeSe₂, struct., investigation using neutron diff. meas. 9-23514
- In-Te alloys, atomic struct., X-ray diff. meas. 9-41934
- In₂Te₃, liq., elec. resistivity meas. up to 30 kbar 9-38070
- Se, liquid-crystal phase transition, elec. cond. changes 9-33310
- Se:Cd dilute liquid, perturbed ang.-correl. meas. of motional-correl. time 9-41930
- Te, liq., elec. resistivity meas. up to 30 kbar 9-38070
- Tl-Te alloys, atomic struct., X-ray diff. meas. 9-41934
- Tl₂Te, liq., elec. resistivity meas. up to 30 kbar 9-38070

liquid-solid transformations *see solid-liquid transformations***liquid structure***see also classical theories of fluid structure; long-range order; quantum theories of fluid structure; short-range order; X-ray diffraction examination of liquids*

- acetic acid, Rayleigh-Brillouin scatt., 20-115°C, viscoelastic theory anal. 9-28774
- acoustic levitation technique appl. 9-44906
- alkali metal, from 1st-principles pseudopot. calc. 9-41941
- n-alkane chains, pure liq. and solns., small angle neutron scatt., ang. depend. 9-1384
- n-alkane liquids, molecular orientational correlations 9-19131
- alloy, dil., partial interference functions of solutes 9-19139
- aqueous solution, hydrophobic interaction, simple solute, one-dimens. model 9-37601
- autocorrelation function spectrum of the velocity of a molecule in a liquid (Russian) 9-7534
- binary alloy, dil., partial interference functions, short range chem. order effects 9-7541
- binary liquid system, colligative prop., composition diagram (Russian) 9-14663
- carbon tetrachloride, struct., oscill. amp., neutron diff. study 9-46544
- chloroform, liquid, RMS calc. of struct. 9-37610
- chloroform-d₁, and isotopic forms, liq., neutron diff. obs. 9-32878
- computer simulation on molten ionic salts, review 9-19130
- conference on neutron inelastic scattering, Vienna, Austria (Oct. 77) 9-41912
- diffraction data neutron and X-ray 9-46538
- dilute ternary liq. alloy, heteroatomic solute, thermodynamic partial pair struct. factory, sticky hard sphere 9-32867
- p-dioxane-water mixtures, adiabatic compressibilities and sound vels., temp. depend. 9-28044
- electrolyte, Debye-Huckel ionic atmosphere, number density of ions 9-29369
- electrolyte, polarisable dielectric spheres model, struct. around ions in soln. rel. to ionic solvation and activity coeff. 9-29368
- electrolyte, solutions, 1-1 and 1-2, extended mean spherical approxs. 9-4216
- electrolyte solution, anion-cation couple, role in struct. 9-37604
- electrons in fluids, picosecond chromodynamics 9-35850
- ethylene-propylene copolymer, melt struct., X-ray diff. obs. (Russian) 9-23533
- fluid interfacial stress and struct., gradient theories 9-19428

liquid structure continued

n-hexadecane, pure liq. and solns., small angle neutron scatt., ang. depend. 9-1384
 n-hexatriacontane, pure liq. and solns., small angle neutron scatt., ang. depend. 9-1384
 imidazoline nitroxide radical, H-bonding with H donors, NMR, DNP and spin lattice meas. 9-15971
 immiscible mixtures, variational theory 9-27885
 inhomogeneous fluid, pair and density correl. functions 9-27887
 interfaces, liq.-cryst. and liq.-rigid wall, Monte Carlo simulation 9-27896
 intermolecular nucl. relax. by translational and rot. diffusion, effect of pair correl. functions (*French*) 9-19794
 ionic solutions, struct., neutron diff. technique study 9-10787
 isopropyl alcohol-carbon tetrachloride, mixture, dielec. const., two-sided estimate 9-42262
 Lennard-Jones fluid, phase separation by spinodal decomposition, mol. dynamics computer simulation 9-10766
 Lennard-Jones solutes, hydration, mol. dynamics obs. 9-34294
 metals, d-band, force fields 9-33051
 methane, dil. aqueous soln., Monte Carlo calcs. on struct. 9-32874
 methanol, pure liq. and soln., Raman and IR intensity, polymerisation degree (*French*) 9-28740
 methanol solns., IR spectroscopic detection of free lone-pair groups or terminal methanol moles, PMR 9-19869
 methanol-ethanol mixture, dielectric const. composition depend. rel. to struct. effects 9-11378
 methanol-H₂O, liq., zero-angle X-ray scatt., conc. depend. 9-27897
 2-methyl-1-propanol, liq. struct. at 20°C 9-32873
 microparacrystals in physics, review (*German*) 9-27933
 modified cell theory, thermodynamic props. 9-19133
 monatomic liquids, short wavelength collective density excitations, computer simulation 9-46540
 neopentane, liq. struct. by X-ray diff., -17-150°C 9-27898
 neutron diffraction studies at high momentum transfer 9-46525
 neutron scattering conference, Gatlinburg, TN, USA (June 1976) 9-41910
 nonelectrolyte aqueous solns., X-ray diff. meas. of struct., scatt. curves 9-10785
 nonelectrolyte aqueous solutions, lattice model approach 9-32876
 organic N bases, solutions in organic solvents, IR spectra and struct. 9-38534
 n-pentane-benzene, light scatt. of liq. near crit. vaporisation state, correl. radius 9-24328
 polydimethylsiloxanes, liq., proton spin relax., mol. motion, network form. 9-15369
 polyethylene, melt struct., X-ray diff. obs. (*Russian*) 9-23533
 polymer melt, cross-links effect on struct. 9-41928
 polymer melt, review of expt. results 9-37636
 polymer solns., supermol. struct. determ. from scattered light spectrum (*Russian*) 9-32880
 polymer solution, quasimonomers, concept and appl. to polymer statistics 9-41931
 polymer solutions, long chain immersed in shorter chains, end-to-end dist. 9-1387
 polymer solutions, moderately conc., light scatt. curves, struct. model 9-4810
 polymer solutions light scatt. rel. to mol. wt. distrib. function type (*German*) 9-1767
 polymer systems, phase dualism, gas-, liq.-like, appl. to compression effects 9-1388
 polysulphone, glass and melt, PVT props., glass transition 9-14911
 protein solutions, small-angle neutron scatt. using time of flight method, spectrometer 9-1371
 PVC, suspensions, melts, rheological props. rel. to struct. 9-3983
 rare earth metals, structure factors, calc. of temp. coeff. of resistivity, one component plasma model 9-32881
 significant liquid structure theory, liquid-vapour transition, reduced eqn. of state for real fluids 9-32869
 simple fluids, dynamics, history of inelastic neutron scatt. determ. 9-46539
 simple liquid, dynamical structure factor and Green's functions 9-4228
 stability limit at low temp. 9-7539
 surface of molten salt, Fowler model, electroneutrality correction 9-28174
 tetrabutylammonium halides, solutions in organic solvents, IR spectra and struct. 9-38534
 transition metals, structure factors, calc. of temp. coeff. of resistivity, one component plasma model 9-32881
 water, heat capacity and structure, isomerisation reaction role 9-33097
 water, solutions in organic solvents, IR spectra and struct. 9-38534
 AgSbSe₂(Te₂), exam. of kinematic viscosity of melts, and short range ordering 9-1383
 Al, liq., short-wavelength density fluctuations 9-46550
 Al, liq. struct. factor, 680 to 840°C, neutron diff. study 9-46552
 Al, radial distrib. function calc., pseudopot. method (*Russian*) 9-19138
 Al, thermodynamic props., pseudopot. calc. (*Russian*) 9-46549
 Al-X-ray diffraction analysis 9-4232
 Al-Si, compressibility and struct. factors at zero wavevector 9-23515
 Ar, liq., quasi-cryst. model, radial distrib. function 9-19135
 Ar, solid-liq. transition and mech. props., modified cell theory 9-23703
 As₂Se₃, struct., investigation using neutron diff. meas. 9-23514
 C₂O₃, liq., mol. conform. and orientation correlation 9-32877
 C₃O₂, liq., neutron diffraction studies at high momentum transfer 9-46525
 CoCl₂, electronic absorpt. spectra and coord. in cryst., soln. and melt 9-38570
 Cu, X-ray diffraction analysis 9-4232
 CuCl, molten, struct. and transport props. 9-19134
 CuGaTe₂, exam. of kinematic viscosity of melts, and short range ordering 9-1383
 CuInTe₂, exam. of kinematic viscosity of melts, and short range ordering 9-1383
 Fe-Ge melts, struct. determ. 9-41940
 FeCl₃ aq. soln., quasi-elastic neutron scatt. 9-37607
 FeCl₃, nonaq. solns., solvent-solute interactions, Mossbauer investig. of equilib. consts. 9-1729
 Fe(NO₃)₃, aq. soln., Fe (III) hydration shells, X-ray diff. 9-29337
 FeO-SiO₂, molten, X-ray diff. exam. of struct. 9-46543
 Fe₂(SO₄)₃, aq. soln., solute struct. by X-ray scatt., Fe(III) sulphate complexes 9-32875
 GeCl₄, liq. struct., oscill. amp., neutron diff. study 9-46544

liquid structure continued

GeSe₂, struct., investigation using neutron diff. meas. 9-23514
 H₂O, H₂¹⁸O, D₂O, low freq. Raman spectra, isotope shifts, ice-like struct. 9-28732
 H₂O, liq. struct. factor, neutron diff. meas. 9-46547
³He, dynamical structure factor and elementary excitations 9-33142
⁴He, liq., nonsuperfluid, dynamic struct. factor, neutron scatt. meas. 9-46545
 Hg, liq., thermoelec. power from X-ray diff. struct. at -30 to 290°C 9-46551
 Hg, long wavelength limit, triplet and higher correl., Percus-Yevick eqn., perturbative anal. 9-37613
 Hg, X-ray diffraction analysis 9-4232
 Ho, struct. factors, high temp. X-ray diff. obs. 9-7544
 In-Sn liquid alloy, 2-butanol vapour adsorption, effect on surface tension and surface comp. 9-14981
 In-Te alloys, atomic struct., X-ray diff. meas. 9-41934
 K, liq., paracrystalline BCC lattice evidence 9-41942
 K, liq., short-wavelength density fluctuations 9-46550
 KBr, molten, charge fluctuations, neutron diff. anal. 9-42198
 KI-KCl(CsI) melts, X-ray diff. struct. determ. 9-41925
 K₂O-CaO-Al₂O₃-SiO₂ glass, exam. of liquid phase separation phenomena 9-4417
 Li, liq., paracrystalline BCC lattice evidence 9-41942
 Li, liq., short-wavelength density fluctuations 9-46550
 Li, temp. and density depend. of struct., improved pseudopot. theory 9-14669
 Li-ND₃, near liq.-liq. crit. point, conc. fluctuations, neutron diff. long wavelength thermodynamic limit 9-10948
 Li-NH₃ solution, small angle X-ray scatt. meas. 9-14667
 MgCl₂ aq. soln., quasi-elastic neutron scatt. 9-37607
 MgCl₂, aq. solns., X-ray diff. study 9-37608
 Mg(NO₃)₂, aq. soln., ionic coordination by X-ray diff. 9-29338
 N₂, liq. struct., thermal neutron diffraction 9-46542
 N₂+H₂(D₂), vibr. relax. in liquid phase 9-847
 Na, liq., paracrystalline BCC lattice evidence 9-41942
 Na, liq., short-wavelength density fluctuations 9-46550
 Na-NH₃ solution, small angle X-ray scatt. meas. 9-14667
 NaAlSi₃O₈, albite, melt, viscosity and struct. changes at high press. 9-29754
 NaCl, liq. surface, Fowler model, electroneutrality correction 9-28174
 NaCl-KCl(CsCl) melts, X-ray diff. struct. determ. 9-41925
 Na₂O-CaO-Al₂O₃-SiO₂ glass, exam. of liquid phase separation phenomena 9-4417
 Na₂W₂O₇, molten, struct. anal. 9-41927
 Ne, liquid, higher order struct. functions in long wavelength limit, improved perturbation approx. 9-37606
 NiCl₂ aq. soln., quasi-elastic neutron scatt. 9-37607
 O₂, liq. struct., thermal neutron diffraction 9-46542
 Pb, liq., short-wavelength density fluctuations 9-46550
 Rb, higher order struct. functions in long wavelength limit, improved perturbation approx. 9-37606
 Rb, liq., current-fluctuation spectra, mode-coupling theory 9-4231
 Rb, liq., short-wavelength density fluctuations 9-46550
 Rb, long wavelength limit, triplet and higher correl., Percus-Yevick eqn., perturbative anal. 9-37613
 Rb, static struct. and electronic transport props., pseudopotential calc. 9-7543
 SbCl₃ liquid, X-ray and neutron diffraction study at 80°C 9-4230
 Se₂Cd dilute liquid, perturbed ang.-correl. meas. of motional-correl. time 9-41930
 SiCl₄, liq. struct., oscill. amp., neutron diff. study 9-46544
 SiCl₄-TiCl₄, liq. struct., oscill. amp., neutron diff. study 9-46544
 Sn, molten, struct. investig. by neutron diff. 9-4233
 Sn, X-ray diffraction analysis 9-4232
 Sn-Zn, molten, struct. investig. by neutron diff. 9-4233
 SnCl₄, liq. struct., oscill. amp., neutron diff. study 9-46544
 SnCl₄-TiCl₄, liq. struct., oscill. amp., neutron diff. study 9-46544
 SrAg₂I₄, Raman and autocorrelation spectra, solid and soln. 9-38532
 SrCl₂, liq., dynamic struct. factors, computer simulation 9-37611
 TiCl₄, liq. struct., oscill. amp., neutron diff. study 9-46544
 Ti-Te alloys, atomic struct., X-ray diff. meas. 9-41934
 U complex, tetrakis(dipivaloylmethanato)uranium IV, in CS₂ soln., ¹H NMR, intramol. rearrangement 9-19784
 Zn, molten, struct. investig. by neutron diff. 9-4233
 Zn, X-ray diffraction analysis 9-4232
 ZnCl₂-CdCl₂ melt, Raman spectra, struct. anal. 9-38549
 ZnCl₂-ZnBr₂ melt, Raman spectra, struct. anal. 9-38549

liquid surface waves see surface waves (fluid)

liquid theory
 see also classical theories of fluid structure; equations of state of liquids; quantum theories of fluid structure
 acetone, mol. pair correl. functions, scatt. intensities, statistical mechs. calcs. 9-1382
 adhesive hard sphere fluids, clustering phenomena, theory of freezing 9-7533
 alcohols, liq., picosec. mol. dynamics and electron localisation 9-46548
 alkali-halides, crit. consts., dense gas formulation 9-23700
 anormal fluids, saturated liq. densities, four-parameter corresponding state theory 9-33066
 aqueous mixtures, lower crit. soln. pt. theory 9-4415
 aqueous solution, hydrophobic interaction, simple solute, one-dimens. model 9-37601
 atom-glasses, hard sphere model of glass transition 9-4399
 binary liquid mixture, diffusivity from simple kinetic model 9-23752
 binary liquid mixtures, dispersion interactions, struct. effects 9-46535
 binary liquids, dynamical correlations, fourth moment of current and appl. 9-14664
 binary solution, equilibrium distrib. function (*Russian*) 9-1377
 bromoethane, liq., relative mol. orientation appl. of nucl. mag. relax. data 9-41933
 charged hard spheres, distrib. function, mean spherical approx. 9-4222
 charged hard spheres, pair correlation function, mean spherical approx. 9-4223
 charged particles in continuous dielectric medium, free energy, hard core pot. effects 9-37600
 classical fluid, crit. dynamics, double scatt. correction 9-42979
 classical fluids, triplet correl. and moments of current correl. functions 9-14666
 classical liquids, kinetic model, dynamic struct. factor 9-10768

liquid theory continued

- coexistence curve of liquid system with global eqn. of state 9-1487
 condensation, cluster model, excluded volume effect 9-10932
 dense fluid, with square-well+hard core pot., equil. props., quantum corrections 9-27891
 dense gases and liqs., three-body nonadditive interactions, thermodynamics props., mol. dynamics simulation 9-7435
 density fluctuations in classical and quantum liquids, general theory 9-35628
 dielectric kernel, functional differential eqn. 9-32871
 diffusion of particle, in hard sphere liq., translational, mol. theory 9-23288
 dipolar fluids, theory 9-37602
 dynamical correlation functions of classical liquids 9-1381
 electrolyte solution, Brownian dynamics approx., time evolution and transport props. 9-37604
 electrolytes, osmotic coeffs., mean spherical approx. refined model 9-1965
 excess enthalpy of liquid mixtures 9-23733
 fluid interfacial stress and struct., gradient theories 9-19428
 free energy, charged hard sphere system, restricted primitive model 9-27890
 free energy, of electrolyte, due to Coulombian and hard core pots. 9-23748
 hard sphere fluid struct. near hard wall 9-23511
 hard spheres with square-well attraction, Percus-Yevick eqn. soln. 9-37599
 hard-disc fluids, long-time correlation effects on displacement distributions 9-27894
 hard-sphere fluid, interacting with wall, virial coeffs., in surface tension 9-23808
 hard-sphere fluid, kinetic theory of self-diffusion 9-4225
 hard-sphere liquid, shear viscosity, from nonequilib. mol. dynamics 9-19132
 Helmholtz free energy of triangular well fluid, Barker-Henderson perturbation theory 9-4218
 hydrophobic solutions molecular properties, one dimensional soluble models 9-46536
 immiscible mixtures, variational theory 9-27885
 interface with vapour, kinetic eqn. at mean field level 9-37905
 ionic solution, charged square well model, virial osmotic coeffs. 9-4217
 isopropyl alcohol-carbon tetrachloride, mixture, dielec. const., two-sided estimate 9-42262
 Lennard-Jones fluid, 6-12 pot., press. calcs., using integral eqn. and perturbation theory 9-4224
 Lennard-Jones pot. liquid, high-temperature vapour line using Monte Carlo methods 9-37826
 Lennard-Jones system, 2- and 3-dimens., crit. point parameters, quantum corrections 9-4227
 mean spherical approx. for arbitrary hard ions and dipoles, soln. for electrolytes 9-1380
 metal, entropy of fusion and activation energy for self-diffusion 9-28121
 metal, surface entropy using hard-sphere model 9-37906
 mixtures, binary interaction consts., thermodynamic props. 9-41917
 mixtures, perturbed hard chain theory, thermodynamic props., appl. in chem. technology 9-34343
 modified cell theory, thermodynamic props. 9-19133
 molecular fluid, spherical harmonic formalism, thermodynamic props. 9-27886
 molecular fluids, Lennard-Jones interaction site, RISM theory applications 9-46532
 molecular fluids, RISM eqn., cluster theory for site site pair correl. functions 9-7536
 molecular rotation and reorientation, microscopic and hydrodynamic contrib. 9-1379
 molecules, nonrigid, orientational correlation times, tensor correlations 9-4220
 nonelectrolyte aqueous solutions, lattice model approach 9-32876
 orientational dynamics of non-rigid three-bond chains 9-7537
 Ornstein-Zernike eqn. with Yukawa closure for a mixture of spherical molecules 9-27893
 paired ion model, conductance-conc. function 9-37603
 picosecond molecular dynamics and electron localisation 9-46548
 polar fluid, thermodynamics and thermodynamics perturbation theory 9-41919
 polar fluids, fluctuations and inequalities 9-7538
 polarisable fluid, effective field of dipole 9-7540
 polarisable hard sphere fluid, thermodynamic props. 9-42277
 polyatomic fluid mixtures, thermodynamics, phase equilib. calcs. 9-1485
 polymer gelation, statistical mech. model, site-band correl. 9-34368
 polymer single chain in soln., dynamical scaling exponent, renormalisation along the chain 9-10786
 polymer solutions, internal viscosity, in poor solvents, self-entanglements (French) 9-4229
 randomly stirred fluids, energy spectra 9-41923
 scaled particle model for mixtures of hard spheres with nonadditive diameters (German) 9-10765
 significant liquid structure theory, liquid-vapour transition, reduced eqn. of state for real fluids 9-32869
 Simha-Somcynsky hole theory, eqns of state eval. of polyolefin melts 9-37807
 simple classical liquids, vel. autocorrel. spectrum 9-4226
 simple liquid, dynamical structure factor and Green's functions 9-4228
 single-particle motion in a fluid, kinetic theory 9-41922
 soft-sphere melting transition, phase coexistence props., mol. dynamics calcs. 9-10909
 solution ionisation, induced ion pair separation, Coulomb cage pair 9-11811
 sorbitol, relax. processes, optical probe obs. 9-47430
 spherical Brownian particles, interacting, wave vector dependent mutual diffusion 9-44859
 square well+hard core fluid, quantum corrections 9-7535
 square well molecule system, below triple point, Yvon-Born-Green eqn. soln. 9-32872
 stability limit at low temp. 9-7539
 surface of molten salt, Fowler model, electroneutrality correction 9-28174
 thermodynamic props. in terms of Lebowitz variables 9-7702
 topological cell model in two dims., correl. functions 9-41924
 transition metal, amorphous and liq. state, simulated model 9-14733

liquid theory continued

- triangular-potential fluid, Zwanzig's perturbation theory, appl. to thermodynamic props. 9-41920
 trichloromethane-d₃, in nonpolar solvents, vibrational and rotational relax. 9-10182
 two fluids model of simple liquid 9-37605
 two-dimensional itinerant oscillator model testing by molecular dynamics 9-32868
 viscous liquids, relax. processes, optical probe obs. 9-47430
 water, single-particle motions 9-1385
 Ar, fluid, light scatt., collision-induced, line-shape theory and mol. dynamics 9-41921
 Ar, liq., elastic modulus and stress relaxation 9-19304
 Ar, liq., quasi cryst. model, radial distrib. function 9-19135
 Ar, solid-liq. transition and mech. props., modified cell theory 9-23703
 Ar, velocity autocorrelation function and freq. spectrum 9-27892
 Ar-He(Kr)(Ne), solubility in Ar, and related functions, three-body forces 9-10776
 CS₂, liq., electronic optical Kerr effect, subpicosec. optical gating 9-46548
 N₂, liq. and glassy state, spin density and current correl. functions, computer simulation 9-14661
 Na, liq., equil. props., self consistent field methods calcs. 9-10767
 Na, velocity autocorrelation function and freq. spectrum 9-27892
 NaCl, liq. surface, Fowler model, electroneutrality correction 9-28174
 Ne-Kr, partially miscible mixture, high press. mol. dynamics using Lennard-Jones pot. 9-41929
 Ni, liq., electronic density of d-states, hard-sphere model and tight-binding approx. calc. 9-15065
 SF₆-N₂O solution, IR and Raman rot. correl. functions, expt. and theory 9-46541
 SrCl₂, liq., dynamic struct. factors, computer simulation 9-37611
- liquid-vapour transformations**
see also boiling; condensation; evaporation; liquefaction of gases
 acetone-chloroform-methanol system, multicomponent vapour-liquid equilibrium, direct integration of Gibbs-Duhem eqn. 9-23714
 benzene-carbon tetrachloride-cyclohexane system at atmospheric pressure, isobaric-liquid equilib. data 9-46793
 binary liquid mixtures nonidealities, optimal representation 9-42248
 binary vapour mixtures, simulation of unsteady state behaviour of dephlegmation 9-7285
 blurred phase transitions, effect of external factors (Russian) 9-19364
 critical point in 3.3 dimensions 9-7684
 disperse annular flow, crit. heat transfer, liq. distrib. 9-32209
 equation of state, nonanalytic, modification for low density limit, appl. to ethylene 9-46779
 equilibrium theory, data and correlation 9-33081
 ethane-n-butane-n-hexane, vap.-liq. equilib. behaviour, visual cell, for 48.3-143.5°C, up to 7619 kPa 9-46790
 fluid phase equilibrium data, qualities of models for evaluation, representation and prediction 9-14921
 heat of evaporation and liq.-vapour equilib., appl. to real substances 9-4409
 high pressure, quantitative description 9-1486
 high pressure experimental technique 9-42227
 high pressure vapour-liquid equilibrium quantitative description 9-14923
 Ising model, spin-1 asymmetric, liquid-gas transition exam. 9-42212
 isobutene, droplet nucleation from crit. gas-phase+positive ions 9-39222
 Lennard-Jones fluid, phase separation by spinodal decomposition, mol. dynamics computer simulation 9-10766
 Lennard-Jones pot. fluid, location of phase transition using reduced vol. 9-37826
 2-methoxyethanol-1,1,2,2-tetrachloroethane binary system, isobaric vapour-liquid equilib. data 9-46792
 2-methoxyethanol-chlorobenzene binary system, isobaric vapour-liquid equilib. data 9-46792
 methylcyclohexane-1,1,2,2 tetrachloroethane binary system, isobaric vapour-liquid equilib. data 9-46792
 methylcyclohexane-chlorobenzene binary system, isobaric vapour-liquid equilib. data 9-46792
 methylethylketone-butanol-water-isobutadiene quaternary system, isobars of liq.-vapour and liq.-liq. equil. (German) 9-33079
 multicomponent vapour-liquid equilibrium, direct integration of Gibbs-Duhem eqn. 9-23714
 n-pentane-benzene, light scatt. of liq. near crit. vaporisation state, correl. radius 9-24328
 phase equilibria calculation possibilities (German) 9-33067
 phase equilibrium, derivation and extension of UNIQUAC eqn. 9-14933
 phase equilibrium, systems with components of very different volatility, total press. static method meas. 9-14922
 pure component liquid-vapour transition, two component decorated lattice gas model 9-35650
 semimetal, excitonic phase and gas-liquid transition in strong mag. field 9-4514
 significant liquid structure theory, liquid-vapour transition, reduced eqn. of state for real fluids 9-32869
 steam, saturated and superheated, up to 800°C, equation of state 9-14908
 steam-water mixtures, reversible adiabaticity equations 9-12751
 trifluoromethane, dielectric const. near critical point 9-15394
 Van der Waals fluid near critical pt., transport props. 9-46537
 vapour pressure, rel. to liq. internal press., statistical mech. 9-33094
 water cluster evidence from phase transition changes in IR mol. absorpt. coeff. 9-10100
 H₂-Ar, liq.-vapour equil. 83 to 141K, to 52 MPa 9-42226
 HBr, triple-point temp. and pressure, vapour pressure of liquid to 205K 9-7683
 He, dense gas, positive ion excess, ion-induced droplets 9-14925
 NH₃-ethylene (propylene) mixtures, crit. curves at high-press. 9-23715
 NH₃-water system, vapour-liquid equilib., thermodynamics 9-42246
 SmS-GdS system, crit. effects and phase equilibria 9-7692
- liquid waves**
see also capillary waves; ocean waves; surface waves (fluid)
 Blasius boundary layer, sound and Tollmien-Schlichting waves 9-10578
 Cauchy problem for nonstationary surface waves of perfect liquid (French) 9-27652
 couple stress effects on wave prop. in elastic layer immersed in infinite liquid 9-1126
 diffraction theory appl. to free floating and moored rigid structs. 9-7321

liquid waves continued

- flood wave propagation in channels with storage areas, diffusion eqn. 9-25277
 fluid-solid dynamic interactions and wave forces, numerical treatment 9-3944
 forced water waves, 2-D anal. (*Chinese*) 9-18904
 gravitationally unstable propagation, rot. and streaming effects 9-37293
 hydraulic lines, wave phenomena, freq. characts. between press. and flow rate 9-32669
 immiscible liquid layers, Kelvin-Helmholtz instability, nonlinear wave packets 9-46289
 inertial damping collocation approx. for uncoupling fluid-struct. interaction problems 9-27655
 internal waves, generated by local disturbances in stratified fluid (*Russian*) 9-16480
 Kelvin wave diffraction from rotating channel with infinite and semi-infinite barrier 9-46331
 magnetohydroelectric waves in fluid dielectric 9-27703
 multilayered liquid films, wave motion, governing eqn. 9-10580
 nonlinear internal wave solitons, Calogero-Moser-Sutherland N-body problem 9-27679
 nonlinear wave packets propagation, finite depth effects 9-48510
 oscillating water column wave-energy device 9-39274
 pipeline hydrodynamical resistance reduction by dynamical effects (*Ukrainian*) 9-32670
 propulsive wave hydrodynamics 9-46330
 resonance in harbour, combined finite element boundary integral eqn. method 9-2633
 river, tidal wave propag., nonlinear model 9-5512
 Rossby waves in parallel flow, nonlinear critical level evolution 9-27621
 solid particle suspension, wave propagation (*French*) 9-46361
 soliton interaction in liq. with gas bubbles (*Russian*) 9-14419
 stratified liquid flow around submerged body, wave motion (*Russian*) 9-14453
 surface waves and internal waves interaction 9-10576
 viscoelastic layer, flow down inclined plane, finite amplitude long wave stability 9-37365
 viscoelastic tube, viscous fluid wave propag., asymptotic formulae and numerical results 9-34595
 water, forces on sinusoidally oscillating cylinder, parametric study 9-32547
 water waves in narrow channels: faster capillary waves 9-18905
 wave-induced oscillations in harbours of variable depth 9-4023
 wind waves calc. 9-14418
 SrCl_2 liq., dynamic struct. factors, computer simulation 9-37611

liquids

- for generalities only; for specific aspects see appropriate headings
 see also liquid structure; liquid theory; solutions
 No entries

literature reviews see reviews**lithium**

- see also nuclei with
 anharmonic props., temp. depend. 9-19340
 atmospheric tracking of Li release by photometer, upper atm. daytime neutral winds obs. 9-39871
 atom, ^2P -state, hyperfine structure, UHF and PHF methods calcs. 9-36517
 atom, doubly excited states, fine and hyperfine struct. of $1s2s2p^4\text{P}^o$ state 9-3370
 atom, doubly excited states, Hartree-Fock energy 9-22613
 atom, elastic electron scatt., momentum-transfer cross sections 9-25777
 atom, electron impact total excitation cross section, first order exchange approx. 9-31692
 atom, electron scatt., elastic, adiabatic exchange approach 9-31684
 atom, fine and hyperfine structure of $1s2p^2\ ^4\text{P}^o$ state, using configuration-interaction wavefunctions 9-3369
 atom, ground state static polarisability and hyperpolarisability, numerical SCF method 9-36567
 atom, hyperfine splitting and isotopic shift, Doppler-free two-photon spectroscopy 9-36592
 atom, in diatomic mol., nuclear magnetic shielding LCAO MO functions and gaussian expansion calcs. 9-36548
 atom, K-edge photoabsorpt. cross section 9-10080
 atom, lowest $^4\text{P}^o$ and $^2\text{P}^o$ states, variational Hylleraas-type wavefunction 9-10023
 atom, perturbed Hartree-Fock wavefunctions for ^2S and ^2P states 9-10033
 atom, photoexcitation of high levels, reson. radiation at 670.7 nm 9-783
 atom, photoionis., one-electron pseudopotential calc. 9-18166
 atom, two-photon ionis., many-body perturbation theory 9-22679
 atom ^2S , $^2\text{P}^o$ and ^2D autoionising states, positions and widths 9-26944
 atomic electron scatt., polarised orbitals method modification 9-22835
 atomic excited state lifetimes, differential meas. using atomic ionoluminesc. 9-13672
 Auger line shape KVV, energy band theory 9-43074
 battery solid electrolyte evaluation 9-29465
 binding energy and equilib. struct., pseudopot. calc. (*Russian*) 9-47037
 in brines in SW.Bolivia, chemical composition and distribution 9-48479
 chain, linear, ab initio calcs., cryst. orbital method 9-37659
 concentrations in McDermitt Caldera, in Nevada and Oregon, geological survey 9-48478
 deposits and potential, Quebec and Atlantic Provinces, in Canada, report 9-48481
 electronic structure and lattice const. determ. using orthogonalised modulated plane wave method (*Ukrainian*) 9-42436
 fine structure, 3^2D state, level crossing meas. 9-13832
 flow stability of liquid Li thin films on inclined surface 9-22458
 galactic Li abundance, rel. to cosmic-ray nucleosynthesis and extragalactic matter infall rate 9-17084
 heat pipes, for thermionic converters using Li and K working fluids 9-48153
 interatomic function from phonon-dispersion curves and Heine-Abarankov-Shaw optimised model pot. 9-19185
 intercalation compound with CrPS_4 , phys. props. 9-19788
 ions, 65 to 500 keV, stopping power and straggling in H_2 , He, CO_2 , N_2 , O_2 , Ne, Ar, Kr, and Xe 9-3529
 isoelectronic sequence, doubly-excited states, relative ordering 9-31424
 isoelectronic sequence, Hartree-Fock eqns., perturbation calcs. 9-6846
 isoelectronic sequence, ionization equilib. balance, solar and stellar atms. appl. 9-36587

lithium continued

- isoelectronic sequence, pot. energy relationships 9-22584
 isoelectronic series, doubly excited states, Hartree-Fock energy 9-22613
 isoelectronic series, relative contribution of excitation-autoionisation process 9-45850
 isotopic comp. determ., using coincident meas. of complementary particles in $^6\text{Li}(\text{p},\alpha)$ and $^7\text{Li}(\text{p},\alpha)$ 9-5201
 liquid, electron component of entropy (*Russian*) 9-23747
 liquid, electron energy states calc. (*Russian*) 9-4506
 liquid, Fe alloy containers corrosion resistance properties 9-47815
 liquid, paracrystalline BCC lattice evidence 9-41942
 liquid, penetration into Nb at 400°C, effect of O_2 9-11719
 liquid, resist. and thermo-electric power using corrected parameters of Shaw model 9-19566
 liquid, short-wavelength density fluctuations 9-46550
 liquid, solubility of Li_2O , determ. by fast neutron activation 9-42252
 molecular, ground state, determination and use of molecular α values in $\text{MSX}\alpha$ calcs., $\text{MTX}\alpha_R$ meth. 9-10032
 occurrence in flint clay and related rock types in United States, preliminary survey 9-48475
 ores in Horse Spring Formation Miocene rocks, Clark County, Nevada, report 9-48474
 ores in United Kingdom, brief assessment 9-48476
 ores resource evaluation, United States Geological Survey role 9-48477
 Pauli susceptibility meas. by CESR method 9-42735
 pegmatite ores in Tanco mine area, SE.Manitoba, in Canada, exploration methods 9-48577
 pegmatite ores in Western Superior Province, in Canadian Shield, distribution and petrogenesis 9-48480
 plasma, fully ionized dense, hollow cathode arc, V-I characts. and other props. 9-14627
 requirements for fusion power plants, survey 9-45401
 resources, conf., Corning, USA (Oct. 1977) 9-48473
 resources, Yellowknife area, in NW.Canada, report 9-48482
 resources and potentials, NW.Ontario, Manitoba, Saskatchewan, in Canada, estimation 9-48483
 surface relaxation in CESR, evidence of spin lattice character 9-28615
 surfaces, Van der Waals forces computation 9-15204
 Tunguska event, 1908, egregious theory involving Li meteorite nuclear explosion 9-21229
 vapour, absorpt. spectra 9-21509
 X-ray inelastic scatt. for $k \geq 2k_F$ plasmon dispersion relation 9-15557
 $\text{AgBr}:\text{Li}^+$, time-depend. infrared absorpt. due to Li-localised mode 9-8133
 Be:Li, ion-implanted, interstitial props. 9-37876
 Be:Li, lattice location of implanted ^6Li , ion beam channelling study 9-37730
 CdS:Li, Auger excitation mech. of 1.6-2.0 micron luminesc. band 9-8184
 CdS:Li, TSC and optical photocurrent quenching spectra, Auger excitation of recomb. centres 9-33294
 CdS:Li, thermochemical changes in microstructure of anisotropic centres, polarisation modulation method meas. 9-38027
 CdTe:Li, excitation spectrum of Li acceptor and valence band parameters 9-28795
 Ge:Li, diffusion study using $^6\text{Li}(\text{d},\alpha)$ reaction 9-5202
 Ge:Li, thermal cond., 0.4-20K, Li valley-orbit splitting 9-15111
 Ge:Li-O, donor complex EPR and photoelectron piezoelectric spectra, dynamic tunnelling 9-1711
 $\text{n-H}_2+\text{Li}^+$, rot. excitation, 150-750 eV 9-45805
 KBr:Li, low temp. radiation hardening mechanism, single halogen interstitials as hardening agent, Ha annealing 9-23634
 KBr:Li, low temp. radiation hardening mechanism, dislocation-halogen interstitial interaction 9-23635
 KCl:Li $^+$, shape of pot. energy well of impurity 9-23692
 KF:Li $^+$, shape of pot. energy well of impurity 9-23692
 $\text{KTAO}_3:\text{Li}$, susceptibility extrinsic peak, dielectric const. meas. 9-11394
 Li II, III, X-ray lasers pumped with synchrotron radiation and low-energy photons 9-41371
 Li^+ , S-autoionising states, energy calcs. 9-36520
 Li^{2+} , electron scatt. near ionis. threshold, ang. momenta 9-31698
 Li-like atoms, ^{45}Sc doubly excited states, orbital config. assignment 9-41118
 Li-ND $_3$, near liq-liq. crit. point, conc. fluctuations, neutron diffr. long wavelength thermodynamic limit 9-10948
 Li-NH $_3$, conc. solns., elec. cond. and thermoelec. power 9-19640
 Li-NH $_3$ solution, small angle X-ray scatt. meas. 9-14667
 $\text{Li}^+(\text{H}_2\text{O})_n$, complex struct., coord. numbers 9-7049
 $\text{Li}+\text{H}_2$, inelastic collision, ab initio pot. energy surface 9-10055
 $\text{Li}+\text{H}_2$, vibr. excitation, rotationally sudden calcs. 9-22797
 $\text{Li}+\text{He}^{2+}$, electron capture, ionis. cross section, low-vel. $\text{He}^+(3\text{l})$ production, X-ray production 9-22822
 $\text{Li}+\text{O}_2$, semiempirical pot. surfaces, dynamical considerations 9-11766
 Li^++CO , rot.-vibr. energy transfer, 1-10 eV, calc. 9-45799
 Li^++H_2 , elastic scatt. and rot. excitation, multistate semiclassical orbital method 9-27058
 Li^++H_2 , vibr.-rot. excitation at intermediate energies 9-3534
 $\text{Li}^++\text{H}_2(\text{D}_2)(\text{O}_2)(\text{N}_2)$, vibr. excitation cross sections, 100-1200 eV 9-27077
 $\text{Li}^++\text{He}(\text{Ne})$, slow collision, ionis. obs. 9-10194
 $\text{Li}^++\text{methane}$, vibrational excitation, time of flight measurements 9-45826
 Li^++N_2 , rot-vibr. transitions, semiclassical calc. of cross sections 9-22798
 Li^++N_2 , rot.-vibr. energy transfer, 1-10 eV, calc. 9-45799
 $\text{Li}^{3+}+\text{He}$, electron capture and impact-ionis. cross sections, Monte Carlo calcs. 9-27083
 $\text{Li}^{3+}+\text{He}(\text{C})(\text{Ne})$, K-shell charge transfer cross sections, Bates-Born formalisms 9-45834
 Li^+ , charge distrib. anal. rel. to Berlin's binding and antibonding regions 9-6875
 Li_2 , emission circ. polaris., hyperfine coherence and elastic collisions effect 9-3471
 Li_2 , pot. energy surface, half-projected HF model 9-36564
 Li_2^+ , $^2\Sigma$ and $^2\Pi$ state pot. energy curves, two-centre model 9-26906
 Li_2^+ , $^2\Sigma_g^+$, $^2\Sigma_u^+$, $\text{A}^2\Pi_g$ and $^2\Pi_u$ states, electronic struct. vibr. spectra, ab initio calcs. 9-36507
 $\text{Li}^++\text{inert gas}$, energy and ag. momentum transfer, polarised laser fluoresc. obs. 9-31590
 Li^++Li , collisional depolaris. and rot. energy transfer, laser-induced fluoresc. 9-13794
 Li^++H_2 , elastic of rot. excitation, semiclassical treatment 9-31657

lithium continued

- LiNbO₃, thin-film electrooptic modulator, optimal characts. 9-10405
⁶Li enrichment, isotope separation in rotating plasma (*Japanese*) 9-41248
⁶Li glass scintillators, appl. as neutron detector, problems and consequences 9-9968
⁶Li, surface anal. using ⁶Li ion beams 9-5211
⁷Li, HFS using Doppler-tuned HFS spectroscopy 9-13831
⁷Li selective excitation, by intracavity nonlinear absorpt. in CW dye laser 9-866
Li⁺(²S²P), electron impact excitation, absolute 548.5 nm emission cross-section 9-10209
MgO:Li, oxidation and reduction up to 1700K, defect prod. 9-39013
MgO:Li, TEM studies 9-29069
MgO:Li⁺, quenched, elec. polarisation, thermal depolarisation and dielectric loss meas. 9-1738
phonon frequencies, depend. on atomic mass, cross-over of [300] branches 9-14901
RbCl:Li⁺, new off-centre defect system, studied with dielec. techniques under hydrostatic press. 9-19834
Si:Li, bound exciton complexes associated with Li, photolum. meas. 9-28823
Si:Li, luminesc. of bound exciton and bound multiexciton complexes 9-28821
Si:Li, phonon conductivity, phonon reson. scatt. effects 9-19407
Si(Li), 2D position sensitive detector with 100 μ m resolution 9-45544

lithium alloys

- Ag_{0.28}Li_{0.72}, liq., partial interference functions, short range chem. order effects 9-7541
Al-Li, diffusion coeff. determ. during hydriding (*German*) 9-29288
Al-Li-Mg, estimation of isothermal sections of phase diagram 9-11567
Al-Mg-Li-Zr alloys, struct., mech. props. 9-24498
Al-Zn-Mg-Li alloys, effect of Li on thermal props. 9-24515
Ca-Li-Mg, isothermal section calc. 9-29034
Li-Al-Mg alloy electrodes, polarisation behaviour and struct. 9-43588
Li-B alloys, Li extraction and determ. using potentiometric titration 9-48016
Li-In, liquid alloy, elec. resist., Knight shift of ¹¹⁵In and ⁷Li nuclei 9-11352
Li-LiH(D/T), decomposition in (α + β) field 9-15652
LiCd_{1-x}Tl_x, intermetallic, X-ray and Knight shift meas. of ²⁰⁵Tl and ¹¹³Cd 9-42851
Na-Li (19.2 wt.%), elec. resistivity, immiscibility region 9-1593
NiNaK, mol., intersection of pot. energy surfaces, ab initio calcs. 9-36557

lithium compounds

see also lithium alloys

- β -eucryptite, glass-ceramics, internal stresses 9-15770
 β -spodumene, glass-ceramics, internal stresses 9-15770
ferrite, ferromag. reson., linear elec. field shift 9-1716
LiF, TLD material, nonlinear response to mixed dose rates 9-5372
lithium ammonium tartrate, ferroelectric and ferroelastic transitions, Brillouin scatt. meas. 9-33716
lithium hydrogen phthalate monohydrate, X-ray cryst. struct. determ. 9-14791
lithium thallium tartrate, single cryst., thermal cond. at low temps. 9-33125
lithium thallium tartrate monohydrate, paraelectric phase structure by neutron diffraction data 9-19238
melt-crystal interface temp. meas. during crystallization of melts 9-44908
sodium decylsulphate-Li₂SO₄-decanol-H₂O system, lyotropic liq. cryst., high resolution NMR 9-4243
LiTbF₄, NMR shift tensors, temp. and field depend. 9-38391
Ag-LiF, alternating plasma-dielec. five layer system, ATR angular spectra 9-19943
 β -Al₂O₃-Li₂O, Raman scatt. from ⁶Li⁺ and ⁷Li⁺ ions 9-28766
 β -Al₂O₃-Na₂O-Li₂O, ⁷Li NMR 9-15361
 β -Al₂O₃-Na₂O-Li₂O, struct. determ. by powder neutron diff. 9-46623
B₂O₃-Li₂O glass, absorption spectra of S₂ mols. 9-24337
B₂O₃-Li₂O-Fe₂O₃, prep. by quenching methods, exam. of microcrystalline precipitates of Li₂O-Fe₂O₃ (*French*) 9-20019
B₂O₃-Li₂O-Cl₂, X-ray irradiation, EPR of Cl₂⁻ colour centres (*French*) 9-47333
ClI₃, desorption from graphite expt., ionis. pot. 9-34392
CaO-Li₂O-B₂O₃-Dy³⁺ glass, optical excitation energy transfer from Dy³⁺-Nd³⁺ 9-15515
CoCl₂-LiCl-glycerin-water system, Co²⁺ ion coordination transition, spectral investig. 9-42953
Cs₃LiFe(CN)₆, struct., phase transformations, temp. depend. Raman spectra 9-11416
Fe₃LiO₈, magneto-crystalline anisotropy, magnetoelectric effect interpretation (*French*) 9-47316
Fe₃LiO₈, magnetoelec. effect interpretation by magneto-cryst. anisotropy (*French*) 9-33515
K_{2.89}Li_{1.55}Nb_{0.51}O₁₅, elastic and piezoelec. props. 9-15403
K₁Li_{1-x}NbO₅ films, epitaxial growth by melting on K_{1.5}Bi_{1.0}Nb_{0.5}O₁₅ substrate by RF sputtering 9-15041
K₂NdLi₂F₆, high yield luminesc., potential miniature Nd laser 9-1784
Li₂/PO₃F system, low melting point comp., solvent for InP electrodeposition 9-28079
Li₂Na/PO₃F and Li₂K/PO₃F systems, low melting-point comps. for electrodeposition appl. 9-43662
Li₂Na/PO₃F system, low melting point comp., solvent for InP electrodeposition 9-28079
Li IO₃, parametric generation of nanosec. high-power pulse, tunable over 0.74-1.85 μ m 9-18484
Li-La_{1-x}Nd_x phosphate glasses, stimulated emission spectroscopy of ⁴F_{3/2} to ⁴I_{11/2} and ⁴F_{3/2} to ⁴I_{13/2} transitions 9-38573
Li-Na ferrite powders, props. rel. to Fe₂O₃ chem., thermal, mech. historical 9-11539
Li_{0.5}Fe_{2.5}O₄, microwave material, mag. props., review 9-33504
LiAl-NaAlCl₄-MoCl₅ thermal battery test results 9-29459
LiAl-NaAlCl₄-MoCl₅ thermal battery evaluation and optimisation 9-29458
LiAlO₂ coating, on 316 stainless steel, corrosion protection of molten carbonate fuel cell gas seal 9-39293
 α -LiAlO₂, NMR study of Li⁺ motion 9-42863
LiAl₂O₃:Cr³⁺, fluoresc. and excitation spectra, zero phonon lines 9-33785

lithium compounds continued

- LiAl₂O₃:Cr³⁺, primary and stimulated photon echo generation 9-10364
Li₅AlO₄, α and β phases, NMR study of Li⁺ motion 9-42863
Li₅AlO₄, NMR relaxation by paramag. impurities 9-42866
 β -LiAlSiO₄, superionic cond., ionic cond. and NMR line narrowing 9-42306
LiAlSiO₄, β -eucryptite, superionic conductor, order-disorder transition, microwave impedance obs. 9-14966
Li₃AsO₄:CrO₄³⁻, EPR, 4.2K, cryst. field parameters 9-28586
Li₂B₄, cryst. struct., X-ray and neutron diff., and NMR 9-23571
LiBH₄, comparison of potential surfaces, calculated ab initio and semiempirical CNDO/2 scheme 9-41112
LiBH₄, struct., pot. surface, ab initio calcs. 9-41092
Li₂B₂O₃ glass, phase separation 9-41965
Li₂B₂O₃:Mn, TLD phosphor, γ -induced sensitisation and residual thermolum. 9-28844
Li₂B₂O₃:Mn TLD phosphor, additivity of α and γ response 9-9891
Li₂B₂O₃Cl, new solid electrolytes, conductivities and activation energies 9-28137
Li₂B₂O₃:xWO₃ (x=0 to 1 mol.) glass, random elec. dipole, cooperative phenomena 9-28693
LiBaAlF₆:Eu²⁺ luminesc., band emission and line emission 9-28810
LiBeH₃, ab initio calc. of pot. surfaces and geometry 9-10024
LiBi(MoO₄)₂, acoustooptic characteristics 9-8118
LiBr, Compton profile anisotropies 9-27044
LiBr solution, EPR of O₂⁻ luminesc. centres, 4.2K (*Russian*) 9-15339
LiC₆, band struct., density of states and Fermi surface props. 9-37982
LiC₆ intercalation cpd., synthesis method and reflectivity spectrum 9-15600
LiC₆, Raman spectrum, rigid band model anal. 9-4800
LiC₆, spatial distribution of valence electrons 9-37983
⁷Li₂CO₃ and ⁶Li₂CO₃, polycryst., low freq. IR and Raman bands assignments 9-42970
⁷Li₂CO₃ and ⁶Li₂CO₃, polycryst., Li-O Raman bands 9-42969
LiCdBO₃, cryst. struct., X-ray determ. 9-19226
LiCl, and LiBr, glassy aq. solns., Raman spectra, rel. to amorphous ice and liq. water 9-47423
LiCl, aqueous, proton, deuteron and ⁷Li relax. times, mol. motion obs. 9-28632
LiCl, Compton profile anisotropies, charge and momentum distrib., LCAO-SF-MO calc. 9-3500
LiCl, deuterated aq. glasses, pulse radiolysis, trapped electron reactions 9-24804
LiCl, deuterated aqueous glasses, pulse irradi., trapped electron yield 9-20385
LiCl, electron momentum distrib. and Compton profiles 9-13631
LiCl solution, EPR of O₂⁻ luminesc. centres, 4.2K (*Russian*) 9-15339
LiCl, spectral interference in at. absorption spectroscopy in C tube atomiser (*Japanese*) 9-48018
LiCl:Ag, luminesc. anal. using synchrotron radiation 9-38639
LiCl:Cu⁺, MO calc. of luminesc. Cu⁺ centres 9-38609
LiCl:Ni²⁺, EPR meas. of Ni²⁺ vacancy dipoles 9-28594
LiCl-KCl:Li⁺, fused eutectic, electrolytic behaviour (*Japanese*) 9-16009
LiCl-KCl:Th⁴⁺, fused eutectic, electrolytic behaviour (*Japanese*) 9-16009
LiCl-NaCl-AlCl₃ ternary melt, density as function of temp. and composition, meas. by macrometric method (*Japanese*) 9-42130
Li₂CrO₄, electron irradi., reduced species form., XPS 9-11498
Li₂Cr₂O₄·2H₂O, cryst. struct. 9-32980
LiCrX₃, X=S, Se, EPR meas., g-factors, effective mag. moments, and dipolar shifts 9-8043
Li₂Cu₂(Si₂O₇)₂, cryst. struct. and proposal of new values for effective ionic radii of Cu²⁺ 9-42276
LiD, phonon dispersion, microscopic calc. 9-42188
LiD plasma, laser-irrad., inverse bremsstrahlung energy absorption 9-37521
LiF (001), He scatt., sudden approximation accuracy, coupled channel calcs. 9-4873
LiF, calc. of third- and fourth-order elastic constants 9-10891
LiF, charged dislocations, comprehensive deform. effects on charge, elec. field 9-14815
LiF, coherent freq. tunable radiation generation in F-centres, 0.6 to 1.26 μ m range 9-36902
LiF crystal, gamma irradiated, shear stress depend. on oriented dipoles conc. 9-28013
LiF, dilute paramagnet, ⁶Li-⁶Li cross relaxation (*Russian*) 9-4747
LiF, dosimeter material, thermolum. non-linear response to sequential irradi. at different dose rates 9-1793
LiF, electrification by plastic deform. 9-33334
LiF, electron momentum distrib. and Compton profiles 9-13631
LiF, evaporated film, thermally stimulated exoelectron emission rel. to thermolum. 9-47602
LiF, exposed to ultrasoft X-rays, thermal luminesc. and electron emission 9-8192
LiF film, guided wave excitation by fast electrons 9-24384
LiF, ground state, pot. curve, determination and use of molecular α values in MSX α calcs., MTX α meth. 9-10032
LiF, IR filter, elimination of near from far IR, Brewster angle refl. (*French*) 9-3772
LiF IR window refractive index var. with temp., -180° to +200°C obs. 9-14052
LiF, K α -satellites of F⁻ (*German*) 9-28864
LiF, Knoop microhardness anomaly on (001) planes 9-38942
LiF, molten, polaritonic spectra 9-23908
LiF, Ne atom scatt., test of scatt. model on expt. data 9-28877
LiF, prep. and dosimetric props. of new highly sensitive form 9-22483
LiF, self-trapped exciton, ODMR spectra 9-28286
LiF single crystals, exam. of void morphology effects on their disappearance kinetics 9-10843
LiF single crystals, visible superradiance of excited F₂-centres 9-33733
LiF TLD 100, TLD phosphor, γ -induced sensitisation and residual thermolum. 9-28844
LiF, TLD phosphor, Z₃ centre, thermolum. and optical absorption spectra 9-24374
LiF, thermal and athermal plasticity (*Russian*) 9-11685
LiF thermoluminescent dosimeter, high and low temperature response to X-rays 9-22492
LiF type surface, He scatt., selective adsorption intensities, attractive corrugated wall model 9-28874
LiF, V_K and F-centres, efficiency of formation, temp. depend. 9-7600
LiF, viscous drag of dislocations exam., using mobility of individual dislocations 9-14814

lithium compounds continued

- LiF:Co⁺⁺, solid soln. decomp., precip. of new phase, electron microscope expt. 9-11619
- LiF:H, neutron irradi., ENDOR meas. 9-11356
- LiF:Mg, effects of grain size on thermolum. and thermally stimulated exoelectron emission 9-15536
- LiF:Mg, role of impurity-vacancy pairs in thermolum. 9-8195
- LiF:Mg:Ca detectors, variation of parameters of thermally stimulated luminesc. 9-6793
- LiF:Mg:Ti, (TLD-100), optical bleaching of defect centres 9-19911
- LiF:Mg:Ti, optically induced dichroism of Z₂-centres 9-28710
- LiF:Mg dosimetric cryst., light-sum storage during linear stage 9-8194
- LiF:Mg(Eu)(Co)(Si)(O), elec. cond., influence of impurity ion 9-7709
- LiF:Ti, thermoluminesc., effect of plastic deform. 9-33853
- LiF:Ti, thermoluminesc. dosimetry appl. 9-38683
- LiF-BF₂, molten, corresponding state principle with MgO-SiO₂ and appl. 9-11589
- LiF-Li₂O-Al₂O₃-P₂P₅ glass, ionic cond., transport numbers determ. 9-28143
- LiF-NaF(KF)(CaF₂)(BaF₂), densities of binary molten salts (*Japanese*) 9-7644
- LiF+inert gas atom, interaction anisotropy, Van der Waals forces 9-6985
- LiFeO₂, quadrupole splitting in Mossbauer ⁵⁷Fe spectrum, geometric anal. and computer simulation 9-1730
- Li_{0.13}Fe_{2.87}O₄, acoustic spin wave dispersion branch, exchange const., neutron scatt. study 9-47266
- Li_{0.5}Fe_{2.5}O₄, polar Kerr rotation spectra, 2-5.7 eV, comparative study with YIG 9-47413
- Li_{0.5}Fe_{2.5}O₄, spinel ferrite, prep. by thermal treatment of spray-dried formates, scanning electron microscope examination 9-24482
- Li₂FeO₄, compatibility of Fe-Ni-Cr alloy with Li₂O pellets, mass spectrometric study of Li₂FeO₄ evaporation 9-8385
- LiGaO₂, light scatt. (*German*) 9-28730
- LiGaO₂, Raman scatt., optical modes determ. 9-15463
- LiGa₂O₆:Cr³⁺, antisymmetric exchange interaction, EPR study 9-47331
- LiGa₂O₆:Cr³⁺, fluoresc. and excitation spectra, zero phonon lines 9-33785
- LiGd(MoO₄), defect struct. and phase transitions 9-28697
- Li₂GeO₃, melt-grown single crystals, polar twins, piezoelec. meas., etching behaviour 9-32999
- Li₂GeO₃ monocrystal conoscopic figure in polarised white light 9-15433
- Li₂GeO₃, pure, and Si- and Mg-doped, impurity effects on elastic and piezoelec. props. 9-47388
- LiH, adsorption of H₂ on (100 surface), FSGO calcs. (*German*) 9-33196
- LiH, correlation energy, perturbation calc. using Gaussian-type geminals 9-10042
- LiH, cryst., Compton profile, position space anal. 9-47536
- LiH, directional Compton profiles 9-4867
- LiH, electronic struct., equation of state, insulator-metal phase transition 9-33234
- LiH, ionic polarisability in cryst. lattice, quantum mech. model 9-47384
- LiH, limited MC SCF calcs. 9-36537
- LiH, linear chain, ab initio calcs., cryst. orbital method 9-37659
- LiH, motion and relax. of free excitons, luminesc. spectra 9-43037
- LiH, nuclear antiferromagnetism, dynamic nuclear polaris., NMR 9-1724
- LiH, nuclear antiferromagnetism studied by neutron diff. 9-11358
- LiH, pairwise correlated ~~SVB~~ model, multiconfig. overlap approx. calcs. 9-31408
- LiH plasmas, magnetic mirror confinement decay measurement 9-46470
- LiH, STO calcs. 9-6847
- LiH, separated electronic pair functions, direct minimisation of energy functional, LCAO-MO SCF, density matrix formalism 9-31392
- LiH, X²⁺ ground state, spectroscopic and pot. functions, method for combining spectroscopic data 9-45782
- LiH⁺, spin densities, SCF and CI calcs. 9-3362
- LiH²⁺, LCAO method, improvement by directed variation of exponential parameters 9-41101
- LiH:Ce, thermolum., appl. as X-ray detectors 9-6794
- LiH+Ar, rot. transition cross-section, 0.8 eV 9-36742
- Li₂H, natural orbital contour diagrams and occupation nos. for form. and dissoc. 9-18107
- LiH(D), electrical conductivity, effect of isotopic composition of H 9-15150
- LiH(D), second-order Raman spectra 9-47443
- Li(H₂O)₃ClO₄, Li sites determ., using method based on bond-strength calcs. 9-7514
- LiHSeO₃, and deuterated analog, vibr. spectra 9-24311
- LiHoF₄, crit. behaviour of mag. suscept. 9-33465
- LiHoF₄, NMR shift tensors, temp. and field depend. 9-38391
- LiIO₃ crystal, coherent antiStokes Raman scatt. by polaritons 9-36961
- LiIO₃ crystal elastic, piezoelec., dielectric and acoustic props. 9-46740
- LiIO₃, electrogyration coeff. meas. 9-19859
- LiIO₃, nonlinear optical activity (*Russian*) 9-45994
- LiIO₃, polarisation effect in piezoelectric executing longitudinal vibs. 9-1741
- LiIO₃, single crystals, Raman induced Kerr effect 9-7185
- LiO₄·2/3H₂O, and LiO₄, dynamics of IO₄⁻ vibr. in lattice 9-42157
- (Li_{0.5}La_{0.5})₂Ba_{1-x}TiO₃, cryst. struct., dielec. and IR spectral meas. 9-46614
- LiMnCrF₆, ferrimagnetic, magnetic props. (*French*) 9-1668
- LiMn[BO₃], X-ray cryst. struct. determ. 9-42034
- Li₃N, defect struct., quartet state param. centres, EPR meas. 9-42837
- Li₃N, existence of N³⁻ ion in cryst. struct. 9-7583
- Li₃N, ionic conductor, single cryst. defect struct. anal. data reduction and struct. refinements, 153-678K 9-32988
- Li₃N, NMR exam. of ion diffusion 9-19397
- Li₃N, superionic conductor, cryst. growth and struct., phys. props., book contrib. 9-42308
- Li₃N:H, ionic cond. 9-42305
- LiND₂SO₄, ⁷Li and ²D NMR exam. of high-pressure phase 9-11396
- LiNH₂SO₄, atomic struct. exam. 9-37678
- LiNH₂SO₄, ferroelect. and press. induced phase transitions 9-38473
- LiNH₂SO₄, low temp. antiferroelec. III phase, X-ray cryst. struct. determ. 9-42036
- LiNO₃ cell, power capacity assessment 9-34428
- LiNO₃, mol. struct. ab initio calcs. 9-26884
- LiNO₃, spectral interference in at. absorption spectroscopy in C tube atomiser (*Japanese*) 9-48018
- ^{6,7}LiNO₃, cryst. vibr., Raman and IR spectra 9-15445

lithium compounds continued

- LiNO₃·3H₂O, crystallisation kinetics 9-4264
- Li(Na,K)CO₃, therm. anal. and X-ray diff. study (*French*) 9-46630
- Li(Nb,Ta)O₃ solid solution, LPE growth of thin film waveguides on LiTaO₃ substrates 9-41467
- LiNbO₃, 400 MHz saw filters 9-23158
- LiNbO₃, acoustic characts. meas. of Z-cut single crystals by acousto-optical method 9-3867
- LiNbO₃, acousto-optic interaction, phase grating production 9-41454
- LiNbO₃, anisotropic diffused optical waveguides, polarisation and spectral characts. 9-32073
- LiNbO₃, anisotropy and phase velocities of prop. of elastic waves 9-1478
- LiNbO₃, anomalous photovoltaic effect and photocond. 9-38122
- LiNbO₃, crystallisation from solution in borate, vanadate and tungstate melts 9-1820
- LiNbO₃ crystals, activated by 3dⁿ ions, enhancement of polarisation echo 9-38439
- LiNbO₃, damping of LF elastic vibs., internal friction meas. 9-28043
- LiNbO₃ deflector, use in streak camera of approx. 100 ps resolution 9-18533
- LiNbO₃ delay line, bulk wave generation due to nonlinear interaction of SAW 9-42359
- LiNbO₃, electro-optic cryst., photo-induced electron and hole transport holographic method for determ. 9-28375
- LiNbO₃, electro-optical modulator, light propag. close to optic axis 9-42847
- LiNbO₃ electrooptic crystal, dynamic holographic light beam conversion, geometric factors 9-13928
- LiNbO₃, ferroelectric, anomalous photovoltaic effect 9-7861
- LiNbO₃ film on Al₂O₃, optical guided wave mode conversion by Love waves 9-46055
- LiNbO₃ glass, quenched, ionic cond., appl. as solid electrolyte 9-1522
- LiNbO₃, heteroepitaxial growth on MgO by RF sputtering, SHG 9-27323
- LiNbO₃, in-diffused Y-cut, optical switching device using leaky surface wave 9-23090
- LiNbO₃, influence of spontaneous polarisation on photoelec. emission 9-28898
- LiNbO₃, ion-bombardment erosion of single cryst., prep. for TEM exam. 9-38996
- LiNbO₃ laser beam/SAW mode conversion 9-46056
- LiNbO₃, light diffraction from volume phase holograms 9-36860
- LiNbO₃, light scatt. by Rayleigh waves on refl. and transmission 9-24288
- LiNbO₃, Nd laser radiation, difference frequency generation in rectangular mm waveguide 9-18479
- LiNbO₃, nonstationary intracavity stimulated Raman scatt. by polaritons 9-18473
- LiNbO₃, optical parametric oscillator, for IR linear absorpt. spectroscopy 9-7180
- LiNbO₃ optical parametric oscillator, depend. on pump laser beam quality 9-23019
- LiNbO₃, optical stability to laser pulse, 1.54 μm 9-3734
- LiNbO₃ optical waveguide, tuning characts. of parametric interactions 9-3779
- LiNbO₃ optical waveguide fabrication, closed tube control of out-diffusion 9-10419
- LiNbO₃ optical waveguide, coupling length adjustment by loading a metal film 9-23055
- LiNbO₃ optical waveguide, diffused with mag. garnet film top layer, non-reciprocal props. 9-41444
- LiNbO₃ out-diffused and in-diffused waveguides, WKB analysis of guided and semileaky modes 9-27416
- LiNbO₃ parametric generator, producing high power tunable ps visible and IR pulses, spectroscopy appl. 9-46003
- LiNbO₃ parametric oscillator-amplifier system, grating tuned 9-3747
- LiNbO₃, planar optical waveguide, SHG in angle-matched conditions 9-41422
- LiNbO₃ planar waveguide mode conversion and intensity modulation 9-10410
- LiNbO₃, polariton excitation for tunable coherent far IR generation 9-31982
- LiNbO₃ powder, RF field depend. of memory echoes 9-8095
- LiNbO₃, pure and Fe doped, photorefractive kinetics under irradiation and heating 9-42934
- LiNbO₃, radiation induced heating by thermal neutrons, meas. of temp. 9-4337
- LiNbO₃, Raman spectra and dielec. props. near Curie point 9-38330
- LiNbO₃, SHG in external optical resonator, He-Ne laser radiation 9-27326
- LiNbO₃ substrate, Ti in-diffusion, planar optical waveguides construction (*Czech*) 9-41452
- LiNbO₃, surface elastic wave propag. in piezoelec. plate, elec. screening effect (*Russian*) 9-14999
- LiNbO₃, Ti diffused, optical waveguide isolator using electrooptic branching waveguide 9-18532
- LiNbO₃, Ti diffused optical waveguides, efficient prism-coupling 9-46089
- LiNbO₃, Ti diffused waveguide, active Y-junction switching devices 9-23091
- LiNbO₃, Ti diffused waveguide, refr. index and thickness precise determ. 9-41446
- LiNbO₃, Ti diffusion and characts. of graded-index lightguide 9-27433
- LiNbO₃, transition metal doped, photoferroelectric phenomena and optical storage 9-42577
- LiNbO₃, tunable parametric Raman laser utilizing polaritons 9-41418
- LiNbO₃ waveguide, diffused, 2nd harmonic generation 9-14041
- LiNbO₃, X-ray diffuse scatt., temp. depend., 20 to 750°C 9-37800
- LiNbO₃, Y-cut, waveguide form. by Ti diffusion, refr. index and electrooptic coeffs. 9-14114
- LiNbO₃, y-z crystal, line shape of light scattered by SAW upon total internal refl. 9-24287
- LiNbO₃:3Li₂O.Nb₂O₅ eutectic, dielectric props. 9-1743
- LiNbO₃:Fe, bulk photovoltaic effect in ferroelects. 9-15181
- LiNbO₃:Fe, electron irradi., photoinduced charge transfer and hologram recording 9-36859
- LiNbO₃:Fe, influence of anomalous photovoltaic effect on exoelectron emission 9-28374
- LiNbO₃:Fe, intensity enhanced bulk photovoltaic effects 9-19616
- LiNbO₃:Fe, local photodeformation 9-42932
- LiNbO₃:Fe, optical damage induced by laser light, X-ray irradi., carrier mobility effects 9-33657

lithium compounds continued

- LiNbO₃:Fe, optical damage, Fe ion conc., EPR and optical spectra evaluation 9-42933
- LiNbO₃:Fe, photocond. and photorefractive effects 9-38124
- LiNbO₃:Fe, photoinduced Rayleigh scatt. and bulk photovoltaic effect 9-38554
- LiNbO₃:Fe, photovoltaic effect and charge transport mechanism 9-38123
- LiNbO₃:Fe, recording dynamical holograms in crystals with photovoltaic effect, nonstationary energy exchange (*Russian*) 9-31842
- LiNbO₃:Fe crystals, reflection hologram recording 9-10272
- LiNbO₃:Fe³⁺, electrooptical effect, charge transfer mechanism, defect. pair form. 9-38519
- LiNbO₃:Fe(Cu)(Co), pure and doped, nonlinear excitation, multiphoton photorefractive process 9-36950
- LiNbO₃:Ti, graded-index optical waveguides, mode dispersion characts. 9-3770
- LiNbO₃:Ti, in-diffused waveguide, acousto-optical meas. of optical field profiles 9-23054
- LiNbO₃:Ti, in-diffused waveguides, optical damage thresholds 9-46033
- LiNbO₃:Ti optical waveguides, elec. field tuning of SHG, phase-matching condition 9-41412
- LiNbO₃:Ti waveguide, integrated bistable Fabry-Perot resonator fabrication 9-41459
- LiNbO₃:Ti waveguide for lightwave communications and data processing systems 9-37052
- LiNbO₃:Ca(NbO₃)₂, cryst. growth in baked mixture, Seignetteolec. phase (*Russian*) 9-47395
- LiNbO₃:CdS layer structure, temp. depend. of acoustoelectric current 9-7867
- LiNbO₃:InSb layer structures, fabrication and use in SAW amplification 9-41540
- LiNbO₃:Fe, anomalous photovoltaic effect and diffraction efficiency (*Russian*) 9-15190
- LiNd_{0.7}La_{0.3} phosphate glass, stimulated emission characts. 9-18426
- LiNd(MoO₄)₂, defect struct. and phase transitions 9-28697
- LiNd(PO₃)₄, crystallisation from LiPO₃ flux, exam. of optical props. (*German*) 9-11401
- LiNdP₆O₁₂ (LNP) laser, optical transmitter appl., properties and LED pumping 9-3712
- LiNdP₆O₁₂ electroluminescent diode pumped miniaturized laser for optical transmission system 9-41395
- LiNdP₆O₁₂ laser material, optical props. and crystal growth (*Japanese*) 9-27259
- LiNdP₆O₁₂ laser material, crystal growth and optical props. 9-41386
- LiNdP₆O₁₂ miniaturised lasers for optical communication systems (*Japanese*) 9-27278
- LiNdP₆O₁₂, simultaneous oscillations of different transitions in lasers 9-22927
- LiNdP₆O₁₂, single crystals. flux growth and cryst. morphology, solubility curve 9-43124
- Li₂NiPS₃, antiferromag., mag. props. and ionic mobility, NMR meas. 9-24223
- Li₂NiPS₃, ionic conductivity, activation energies, NMR study 9-28138
- Li₂O, heat capacity 306 to 1073K 9-10965
- Li₂O, mass-spectrometric study of vaporization of solid and thermochemistry of gas 9-10940
- Li₂O pellets, neutron irradi., microstruct. and Vickers microhardness meas. 9-8339
- Li₂O pellets, sintered, reaction with Mo and Ho alloys 9-47913
- Li₂O, single crystals, growth by floating zone method 9-43139
- Li₂O sintered pellets, reaction with 316 stainless steel, Incoloy 800, Hastelloy X-R, Inconel 600 and pure Ni 9-39137
- Li₂O solid state breeding blanket for controlled thermonuclear reactors (*Japanese*) 9-9869
- Li₂O solubility in liquid Li, determ. by fast neutron activation 9-42252
- Li₂O-2SiO₂ glass, ionic cond. under DC potential 9-28134
- Li₂O-Al₂O₃-SiO₂, with refractive index gradient, produced by ion exchange diffusion, exam. of refractive index and concentration changes 9-4782
- Li₂O-Al₂O₃-SiO₂ glasses, Tb³⁺(⁵D₃) luminesc., cross-relax. quenching (*Russian*) 9-33836
- Li₂O-Al₂O₃-SiO₂ glasses, viscosity, thermal expansion, glass transform. temp. and refr. index 9-42282
- Li₂O-Al₂O₃-SiO₂:Cu, Cu film self-generation for low-expansion IR laser mirrors 9-14127
- Li₂O-B₂O₃:Eu³⁺ glass, laser induced fluoresc. line narrowing, struct. 9-38613
- Li₂O-B₂O₃-WO₃ glass, photochromic and electrochromic props. 9-28787
- Li₂O-Na₂O-P₂O₅, heat of soln. (*Japanese*) 9-34350
- Li₂O-Nd₂O₃-P₂O₅ ultraphosphate glasses, Nd³⁺ conc. quenching of luminesc. effect 9-19931
- Li₂O-SiO₂ glass, crystallisation and phase separation 9-10803
- Li₂O-Ta₂O₅ system phase diagram 9-47668
- Li₂O-TeO₂ glass, struct. and props. (*Japanese*) 9-32917
- Li₂O-ZnO-P₂O₅, exam. of chemical durability, glass transformation temp. 9-20221
- Li₂O₂, gas, thermochem. props., mass spectra study 9-47957
- Li₂O, gas, thermochem. props., mass spectra study 9-47957
- LiOH, 'A' pot. energy surface, diatomics-in-mols. method calcs. 9-36566
- LiOH, NMR study, motional narrowing 9-42863
- LiOH, spectral interference in at. absorption spectroscopy in C tube atomiser (*Japanese*) 9-48018
- (Li₂O)_{1-x}(U_{1/2}W_{1/2}O₁₈), 0 ≤ x ≤ 0.4, crystallographic identification, paramag. props. (*French*) 9-46633
- 19Li₂O-19Al₂O₃-62SiO₂ glass, ionic cond. meas. 9-33110
- Li₂O-2SiO₂ ceramics unidirectionally solidified, porosity (*Japanese*) 9-38816
- LiPO₃-Li₂SO₄, new Ag⁺ and Li⁺ ion glass conductors, glass transition, Raman spectra (*French*) 9-47094
- 7-Li₃PO₄ cryst. struct. of synthetic analog of lithiophosphate 9-37688
- Li₃PO₄:CrO₄³⁻, EPR, 4.2K, cryst. field parameters 9-28586
- (LiPO₃)_x·H₂O, existence of high- and low-temp. cryst. forms, X-ray diff. data 9-19179
- LiPr(SO₄)₂, X-ray diff. cryst. struct. determ. 9-14786
- Li₂SO₄, optical fibres, material dispersion 9-27377
- LiScO₂:Bi³⁺, luminesc., vibr. struct. 9-33790
- Li₂SiO₃, melt-grown single crystals, polar twins, piezoelec. meas., etching behaviour 9-32999
- LiTaO₃ and SiO₂/LiTaO₃ struct., Rayleigh waves, piezoelectric leaky surface waves, temp. depend. 9-46905
- LiTaO₃, ¹⁸¹Ta NQR spectra, 77K to room temp. 9-38401

lithium compounds continued

- LiTaO₃, electro-optic cryst., photo-induced electron and hole transport holographic method for determ. 9-28375
- LiTaO₃, far IR complex refl. coeff. and refr. index, dispersive Fourier transform meas. 9-2841
- LiTaO₃, ferroelec., IR high temp. amplitude-phase spectroscopy 9-35860
- LiTaO₃ glass, quenched, ionic cond., appl. as solid electrolyte 9-1522
- LiTaO₃ high-temp. ferroelec. transition, soft mode IR reflectivity spectroscopy 9-33692
- LiTaO₃, quadratic optical susceptibility dispersion crystal struct. 9-18478
- LiTaO₃, Raman spectra and dielec. props. near Curie point 9-38530
- LiTaO₃, rotated Y-cut, SH and Rayleigh surface waves 9-46910
- LiTaO₃, single crystals, Czochralski growth for SAW device appl. 9-33922
- LiTaO₃ substrates, LPE growth of Li(Nb,Ta)O₃ solid soln. thin film waveguides 9-41467
- LiTaO₃, Ti diffused, electrooptic diffraction modulation 9-10381
- LiTaO₃, X-ray diffuse scatt., temp. depend., 20 to 750°C 9-37800
- Li_{1-x}Ta₂O_{8-x}F₂ (x=0,0.25,0.5), structural studies by full profile refinements of Guinier-Hagg X-ray film data 9-23584
- LiTbF₄, magnetisation near crit. pt., temp. and field depend. 9-38337
- Li₄TeO₆, cryst. struct. anal. by Patterson and Fourier synthesis (*French*) 9-4273
- Li₂TiO₃-MgO (20 to 40 at.%), order-disorder transitions, DTA and X-ray anal. 9-29050
- Li₂Ti₂O₇, Li⁺ ion conductor, X-ray cryst. struct. determ. 9-46604
- Li₂Ti₂O₇, superionic cond., ionic cond. and NMR line narrowing 9-42306
- Li₂UO₃, EPR and mag. susceptibility, temp. depend. 9-33451
- Li₃VO₄:CrO₄³⁻, EPR, 4.2K, cryst. field parameters 9-28586
- Li₂WO₄ liq. mixture, mixing enthalpy with WO₃ at 801, 950°C 9-10949
- Li₂WO₄, Vegard relationships, lattice parameter versus composition, X-ray and chem. anal. 9-23582
- LiYF₄, UV reflectance, transmission and photoluminescence obs. 9-15488
- LiYF₄:Ho³⁺, optical absorpt. and luminesc. spectra 9-4844
- LiYbF₄:Ho³⁺, x-ray converter for 2.06 μm radiation, Nd primary laser 9-18427
- Li₂ZnCl₄, conc. aq. solns., ionic hydration and secondary dielec. relax. 9-24882
- Li₂ZnGe, single cryst. growth, by normal freezing method, X-ray diff. study 9-28908
- LiZn[BO₃], X-ray cryst. struct. determ. 9-42034
- MgO-LiCl, solution under hydrothermal conditions, exam. of phase equilibria 9-8292
- Na₂AlF₆-LiF-CaF₂-AlF₃-Al₂O₃, electrolyte, exam. of phase equilibria, review 9-11590
- PbO-B₂O₃-SiO₂-Li₂O-ZrO₂-CdO(CoO)(CuO), glass enamel, chemical durability, microstruct., CuO, CdO and CoO addition effects 9-29256
- PbO-B₂O₃-SiO₂-Li₂O-MgO(CaO)(ZnO)(Al₂O₃)(TiO₂)(ZrO₂), glass enamel, heat treated, chemical durability, MgO, CaO, ZnO, Al₂O₃, TiO₂, ZrO₂ addition effects 9-29255
- RbLiSO₄, thermal and dielectric props., ferroelectricity 9-28688
- SiO₂-LiTaO₃ structure, SAW propag. characts., thermal strain effects 9-19440
- TeO₂-Li₂O glass:Nd³⁺, highly doped, spectroscopic props. and CW laser action (*French*) 9-41385
- TeO₂-V₂O₅-Li₂O glass, IR spectra of crystalline phases 9-38536
- WO₃-LiF, glass film compositions, electrochromism (*Russian*) 9-28721
- YLiF₄, rare earth, spin-lattice relax. and nuclear polarisation (*Russian*) 9-8049
- ZnCl₂-LiCl, molten, density meas. (*Japanese*) 9-19383
- lithospace** see *Earth crust*
- lithosphere** see *Earth crust*
- livestock** see *farming*
- living systems**
see also *biocybernetics; brain models; extraterrestrial life; physiological models*
heart adaptation to large loads structural changes simulation 9-5258
- load control** see *load regulation*
- load regulation**
levelling, Li-FeS₂ batteries appl., ANL program with industrial participation 9-48113
- off-peak power storage system, thermal, high efficiency, for utility appl. 9-48188
- peak-shaving battery plants, 100 MWh, Zn-Cl₂ 9-48119
- utility energy storage, Li-Si alloy/FeS cells appl., research and development at Atomics International 9-48115
- lobes (distribution)** see *antenna radiation patterns*
- local moments in dilute systems**
actinide elements, cpds. and alloys, mag. props., review 9-4649
- degenerate Anderson model, Fermi liq. theory 9-19715
- dilute alloy, method of orthogonal operators 9-33254
- localised states and local moments, theory, review 9-23935
- magnetic impurities and Kondo effect, theoretical model 9-33455
- magnetism conference, Freudenberg and Bad Nauheim, Germany (March and April 1978) 9-24121
- metals, with mag. impurities, kinetic exchange interaction, Curie-Weiss high temp. susceptibility 9-33457
- rare-earth impurities in s-p hosts, self-polarization hyperfine fields 9-33456
- Ag-Mn, dilute spin glass, AC susceptibility and ESR meas. 9-7968
- Al-Cu-Fe, liq. mag. moment and transition from mag. to nonmag. state 9-24132
- Al-Mn, dil., magnetisation, 2-0.01K 9-4652
- Cu-Fe (1.2 at.%), Fe moment and lattice distortion, neutron scatt. meas. 9-24133
- Pd-Fe(Mn), dil., depend. of neutron small-angle scatt. intensities on appl. mag. field and temp. 9-11291
- localised electron states**
see also *Anderson model; charge-ordered states; charge transfer states; Wigner crystal*
alkali metals, positive muon spin rotation frequency, Knight shift meas. 9-38421
- alkaline earths, positive muon spin rotation frequency, Knight shift meas. 9-38421
- alloy, random binary, Anderson localization, equation-of-motion method 9-42482
- amorphous semiconductor, local order as determined by electronic and vibrational spectroscopy 9-37627

localised electron states continued

band tailing due to zero-point vibr. in perfect cryst. 9-28267
 binary alloy, self-consistency theory (*French*) 9-42480
 chalcogenide glass, localised gap states, Mott-street model 9-37968
 chalcogenide glasses, localised states calc. rel. to contact capacitance and field effect 9-11090
 disordered system, local moments and localized states, theory, review 9-23935
 glass systems, electronic props. 9-42495
 HEED, Bloch waves, corresponding atomic and mol. orbitals 9-27880
 ilvaite, electron delocalisation obs. in Mossbauer spectrum 9-33581
 ilvaite, temp. dependent electron delocalization, Mossbauer spectra 9-11361
 inert gas solid, delocalisation probability of interstitials 9-7801
 lattice relaxation and time resolved polarization of emission from localized electron with level crossing 9-4840
 metallic glass, conduction electrons interacting with tunnelling states 9-15137
 methanol, dry-electron localisation, impurity trapping, solvated electron rate consts. 9-1990
 molecular solid, localisation of mol. ion or exciton states 9-47048
 neutron scattering from localised electronic excitation, theory 9-4539
 one-dimensional solids, energy transfer processes, optically detected electron spin coherence meas. 9-19808
 orthogonality catastrophe for a system of interacting electrons 9-1576
 perovskite oxides, ferroelec., point defects and elec. props. 9-42533
 l-propanol, dry-electron localisation, impurity trapping, solvated electron rate consts. 9-1990
 radiative and nonradiative recomb. at metal ions, core struct. effects, review 9-4834
 random potentials insufficient to localise all electronic states in 1-dimens. 9-42481
 rare earth compounds, mixed-valence systems spatial correlations of rare-earth ions 9-19560
 rare earth orthotitanates, RTiO_3 , metallic and semicond. elec. and mag. props. 9-38068
 resonant Raman scattering in systems with localised electron states, theory 9-15455
 semiconductor, ferromagnetic, with mag. impurities, low-energy localised states (*Russian*) 9-19543
 solid state systems, electron localisation and spectra 9-15110
 solid-state theory, introduction, book 9-33215
 spectrum of one electron Hamiltonians with impurities 9-1578
 tetrahedrally coordinated solids, charge distrib., localised mol. orbitals 9-23560
 vibronic systems with localised electrons, reson. Raman scatt., hot luminesc. 9-38616
 AgBr sensitized photolayer, overall spectra of local electronic levels 9-23933
 Al, vacancy electron density, local electronic struct. theory 9-1580
 Al-3d transition metal, dil., localisation of additional screening charge 9-47051
 As_2Te_3 , chalcogenide glass film, charge screening length 9-23974
 $\text{As}_{30}\text{Te}_{48}\text{Si}_{12}\text{Ge}_{10}$, chalcogenide glass film, charge screening length 9-23974
 BaMnF_4 , luminesc., emission from localised traps 9-33777
 BiTeI-SbTeI, solid solns., phase diagrams, photocond., elec. props. 9-38125
 C, elec. cond. at low-temp. as function of freq., hopping cond. between localised states 9-23965
 CaSe:Pb²⁺ phosphors, luminesc., refl., emission, and excitation spectra 9-11456
 CdCr₂Se₄, optical absorption due to transitions between bands and local levels 9-38537
 $\text{Cd}_{93}\text{Cu}_{0.07}\text{Cr}_2\text{Se}_4$, single cryst., ferron formation 9-7848
 CeAs, XPS for electronic struct. determ. 9-33888
 CeN, XPS for electronic struct. determ. 9-33888
 CeP, XPS for electronic struct. determ. 9-33888
 CeSb, XPS for electronic struct. determ. 9-33888
 Cu atom in bulk, local density of states 9-37947
 Cu, positive muon spin rotation frequency, Knight shift meas. 9-38421
 $\text{Cu}_{46}\text{Cr}_{17}\text{Mn}_{27}\text{Se}_{7}\text{Br}_{34}$, ferrons and mag. and elec. props. 9-7846
 EuO, nonstoichiometric film with excess EU, effect on elec. resist. and Curie temp. 9-8204
 FeF₃, thin film, optical absorpt. meas., electronic transitions from localised states in forbidden band 9-15546
 GaAs, piezoelectric constant due to bond bending, electron redistribution effect 9-38457
 GaAs, self-consistent localised electronic struct. 9-42445
 Ge, amorphous film, annealing, effect on localised states 9-4535
 Ge amorphous films, self-ion bombard., electronic props. 9-28422
 Ge, self-consistent localised electronic struct. 9-42445
 Hg, expanded fluid, optical props., localisation of electronic states 9-19902
 KCl:Ti, neutron scattering from localised electronic excitation, theory 9-4539
 KMnF_3 , luminesc., emission from localised traps 9-33777
 $\text{Mg}_2\text{V}_2\text{O}_7$, elec. props. and EPR meas. 9-11114
 N₂, solid, self-localisation of high frequency triplet excitations (*Russian*) 9-8176
 Na_xVS_2 , Na_xVSe_2 , charge density waves, electron localisation 9-47038
 Ni, (001) surface, local density of states, asphericity of pot. and charge transfer, ab initio self-consistent calcs. 9-15064
 SbSI-BiSI, solid solns., phase diagrams, photocond., elec. props. 9-38125
 Si, amorphous, electronic struct. and optical dielec. function, LCAO calc. 9-42478
 Si amorphous films, self-ion bombard., electronic props. 9-28422
 Si:P, amorphous, CVD, substitutional doping, electronic props. 9-23923
 Si:P, CVD amorphous film, electronic density of states 9-46993
 Si:P amorphous films, doping and annealing effects on localized states, ESR meas. 9-38380
 SmS, phase diagram in p-T plane, theory 9-28278
 UO_2 , localised versus itinerant 5f electrons exam., reflectivity meas. 9-19905
 USb , localised versus itinerant 5f electrons exam., reflectivity meas. 9-19905
 V_2O_5 , electronic and band struct. and spectra, CNDO CI cluster method 9-11091
 ZnO ceramic varistors, trapping by localized states, effect on dielec. and elec. props. (*Russian*) 9-28671

localised electron states continued

ZnO sensitized photolayer, overall spectra of local electronic levels 9-23933
 ZnSe 9-38457
 ZnSe, self-consistent localised electronic struct. 9-42445
localised modes in crystals see *lattice localised modes*
localised states, electron see *localised electron states*
locomotives
 see also *electric locomotives; railways*
 noise measurements, stationary locomotive in-cab 9-14155
loggers see *data loggers; recorders*
logging (recording) see *recording*
logic, formal see *formal logic*
logic circuit elements see *logic devices*
logic circuits
 see also *emitter-coupled logic; flip-flops; formal logic; integrated logic circuits; logic devices; sequential circuits*
 Josephson logic circuits, nonlinear current injection switching 9-11269
logic devices
 see also *threshold elements*
 thin-film laser logic elements, characts. and limiting capability optimisation (*Russian*) 9-18431
long-range order
 see also *order-disorder transformations*
 binary, segregating alloy, theory of surface effects 9-19435
 binary ordering alloy, theory of surface effects 9-19434
 1,3-bis(phenylene-2-phenyl) allyl benzene complex, free radical, EPR, antiferromag. long range ordering 9-47335
 brass, creep of β and β' phases, influence of order (*French*) 9-38921
 CDW, one-dimensional, commensurability pinning versus impurity pinning 9-11075
 cholesteryl decanoate, NMR spectroscopy of blue phase 9-4236
 cholesteryl m-fluorobenzoate, NMR spectroscopy of blue phase 9-4236
 deformable-jellium model, self-consistent long-range order in terms of non-plane-wave HF states 9-19533
 p-dioxane-water mixtures, adiabatic compressibilities and sound vels., temp. depend. 9-28044
 fermion system, long-range order Hartree-Fock states with different magnetic properties 9-42476
 ferromagnets and antiferromagnets, one-dimens., thermodynamically stable long-range order (*Russian*) 9-27946
 hard-sphere solid, disordered, lattice energy 9-23542
 Ising chain with several phase transitions, Monte Carlo simulation, changes in long-range order 9-12732
 itinerant electron ferromagnetic alloys, magnon energy, effect of ordering 9-7986
 pair correlation splitting in phases with long range order 9-15109
 Permalloy, order-disorder transform. and magnetic props. obs., by neutron diffraction method (*Slovak*) 9-4963
 polymer glasses and melts, struct., review of expt. results 9-37636
 pyrographite, surface struct., amorphisation, secondary electron spectra and AES 9-43077
 rare earth ternary compounds, coexistence of superconductivity and long-range magnetic order 9-11264
 smectic B, liq. cryst., bond orientational long-range order 9-10790
 smectic liquid cryst., long range order exim. (*Russian*) 9-1392
 solid solution, ordering, characterisation by long range order parameters (*Russian*) 9-1489
 two-dimensional lattice, ordered phase form. by elastic stress relax. at antiphase boundaries (*Russian*) 9-14817
 AgCd-AgMg(AgZn), quasibinary alloys, phase relations 9-8273
 Al-Cu-Ni, vacancy ordering, electron microscope and electron diff. obs. 9-27954
 C films, surface struct., graphitisation, secondary electron spectra and AES 9-43077
 $\text{Co}_2\text{Zn}_{1-x}\text{Rh}_2\text{O}_4$ spinel, crit. conc. for long range mag. order, expt. evidence 9-47239
 CuAu, order-disorder transform., band theory for internal energy 9-19539
 Cu_3Au , elec. resistivity, temp. depend. 9-47078
 Cu₃Ga, interpretation of diffuse contours in electron diff. (*French*) 9-19377
 Fe-Al, Mossbauer study of ordering (*Japanese*) 9-19822
 Fe-Al-C alloys, C migration and mag. aftereffect, mag. permeab. disaccommodation and long-range order meas. 9-8020
 Fe-Co, long range order, neutron powder diff. meas. 9-42243
 Fe-Cr-Co martensite, ordering and segregation (*Russian*) 9-20052
 Fe-Ni₃, hyperfine field, variation with atomic order 9-7953
 Fe-V (10 to 50 at.%), solid soln., tempered, exam. of long and short range order, using Mossbauer effect (*Russian*) 9-29105
 FeAl, order parameter, atomic scattering factor, thickness fringes in electron micrographs 9-10832
 Ni-Al-Fe system, order-disorder phase transform., Gorski-Bragg-Williams approx. (*Russian*) 9-29048
 Ni-Cr (33.3 at.%) alloy, ordering after US deform., microhardness and elec. resist. meas. (*Russian*) 9-20113
 Ni₄Mo, order-disorder phase transform., X-ray diff. (*Russian*) 9-1855
 Ni(111), chemisorbed CO, adsorption sites and long range order, vibr. spectra 9-46946
 Pd-H_x, model possibilities for the 50K transition 9-8299
 $\text{Ta}_2\text{D}_{1+x}$, phase relations in terms of long-range order 9-38808
 $(\text{Y}_{1-x}\text{Ca}_x)(\text{Fe}_{2-x}\text{Sn}_x)(\text{Fe}_3)\text{O}_{12}$, long and short range magnetic order 9-38419
long tailed pair see *differential amplifiers*
loop antennas
 cylindrical tissue models excited by loop antenna 9-39446
Lorentz transformation
 affine connections in special relativity and Lorentz transforms. 9-2626
 classical spin and the Lorentz group, a correlation 9-5979
 conformal transformations in spinor space-time 9-30674
 covariant quantum equations in curved spacetime, Lorentz covariance and tachyons, book contrib. 9-44725
 evanescent EM wave behaviour under Lorentz transformation 9-22880
 homogeneous 16-vertex model, symm. group Lorentz similarity transformation interpretation 9-9300
 k-calculus approach and the generalized Lorentz transformations 9-17212
 monopoles, elec. and mag., without strings, heuristic pot. theory, teaching approach 9-5931

Lorentz transformation continued

- nonlinear field theory, classical solutions by inverse scatt. method 9-9272
- nonlinear vector product, appls., teaching 9-44668
- photon, stochastic phase space kinematics 9-2649
- Poincaré IO_{31} , coordinate transforms. and centraliser subalgebra, algebra Casimirs 9-6295
- Poincaré-invariant motion equations for arbitrary spin particles (*Russian*) 9-2964
- quaternions and subluminal and superluminal Lorentz transformations, book contrib. 9-44724
- renormalised Thirring model, massless scalar field in 2-space-time dimensions 9-12929
- self-inverse form, for teaching 9-25808
- superluminal frames and tachyons, introductory view, book contrib. 9-44719
- supersonic flow, Lorentz-like coord. transform. 9-37348
- tachyons, role in strong interaction field theory 9-9353
- Thomas precession, geometrical kinematical origin 9-6
- three temporal, theoretical reliability 9-35550
- three-temporal, light speed invariance 9-44717
- Weyl tensor diagonalisation, Lorentz transformation of gravitational superenergy flux 9-134
- K_S^0 decays and Lorentz invariance 9-26250

Lorenz number

- spin glass, low temp. Lorenz number 9-19567
- thermophysical measurements, sample shape determ. 9-30457
- As, reduction in Lorenz number due to inelastic scatt. of charge carriers 9-19610

Loschmidt number *see constants***loss angle***see also dielectric losses*

No entries

loss angle, dielectric *see dielectric losses***loss measurement**

- multimode step index optical fibres, effect of lossy outer layer, optical links appl. 9-18540
- spectral loss meas., automated, optical fibres 9-23074

losses

- see also dielectric losses; eddy current losses; heat losses; loss angle; magnetic leakage*
- acoustic waveguides, damping of normal and surface waves, depend. of vel. on losses 9-14135
- anisotropic optical waveguides of $LiNbO_3$ type, guided and semileaky modes 9-18530
- corrugated dielectric waveguide, radiation loss calcs. 9-41461
- energy losses in magnetically soft materials, determ. (*Russian*) 9-8014
- externally coupled resonator-filter (ECRF), loss minimizing 9-41542
- fibre optic measurement system based on near IR SiO_2 fibre Raman laser 9-23070
- fibre optical cable, low loss 9-18546
- fibre to fibre coupling loss due to displacement, separation, misalignment, automatic measuring technique 9-32036
- fusion-welded optical fibre splice loss expts. 9-37023
- grating mirrors, periodic mode losses and optimal geom. characts. (*Russian*) 9-27434
- heavy-current cabled and soldered multifilament superconductor AC losses 9-32808
- magnetron cylindrical sputtering system, end losses 9-47628
- microstrip waveguide, theory of radiated waves using asymptotic wave diff. theory 9-18339
- multifilamentary composite superconductor power losses 9-30507
- multifilamentary superconductors with alternating twist, losses in transverse pulsed fields 9-30508
- multimode focusing fibre with random bends, optical power loss 9-7214
- optical fibre, graded index, connectors and splices, transmission loss estimation 9-18550
- optical fibre, multimode, optical loss changes caused by hydraulic pressure 9-41440
- optical fibre, origin of temp. dependence of attenuation 9-46073
- optical fibre, single-mode, misalignment and bend losses 9-10411
- optical fibre cables using reverse-lay unit-core struct., with attenuation <3 dB/km 9-46072
- optical fibre concatenated connectorized cables, transmission losses 9-46071
- optical fibre mode losses, coupled power eqns. 9-10376
- optical fibre splices, parabolic-profile, loss mode 9-23058
- optical fibres, Al coated, empirical formula for induced excess loss 9-46074
- optical fibres, meas. method of connection loss using steady-state power distrib. 9-46084
- optical fibres, non-circular graded index, leaky modes 9-1003
- optical fibres, number of gaps allowable 9-14110
- optical fibres, single mode, curvature and microbending losses 9-27418
- optical fibres, single-mode, splicing and bending losses 9-18505
- optical fibres, two dims., microbending theory, role of nonadjacent mode coupling 9-27415
- optical fibres, ultimate low-loss single-mode fibre with 0.20 dB/km loss at 1.55 micron 9-36996
- optical fibres, water diffusion, measured changes with time in OH absorpt. 9-46082
- optical fibres with bends, singly and doubly clad, excess losses 9-14104
- optical multimode fibre, mode conversion coeffs. and mode dependent losses meas. 9-10377
- optical parabolic index fibre, modal dispersion characteristics, lossy cladding effect 9-18515
- optical waveguide, bent multimode, loss calcs., geometric optics method 9-37013
- optical waveguides, graded-index anisotropic, WKB analysis of guided and semileaky modes 9-27416
- optical-fibre loss for high-speed drawing 9-14095
- radiation from optical waveguides: leaky-mode interpretation 9-32039
- rhodamine laser, induced losses in active medium during incoherent excitation (*Bulgarian*) 9-10297
- waveguides, metal, hollow, multimode IR laser losses 9-23076
- GeO_2 - B_2O_3 - SiO_2 optical fibres, optical transmission loss as function of drawing conditions 9-32038
- $LiNbO_3$:Ti optical waveguides, pyroelectric loss meas. 9-46046
- $Si-SiO_2$ - Si_3N_4 waveguide model (*Russian*) 9-10374

losses continued

- SiO_2 optical fibres, plastic clad, gamma-ray irradiated, signal level depend. of recovery rate 9-36997
- SiO_2 : GeO_2 single-mode optical fibre fabrication 9-46050

loudness*see also acoustic intensity measurement*

- complex sounds, loudness as function of standard stimulus and number of components 9-5296
- fans, loudness rating programme 9-24930
- minimized sonic boom waveforms, subjective loudness 9-16221
- N-wave sonic booms, subjective loudness tests 9-16220
- pipe organ, loudness, plenum combinations 9-18628
- pipe organ, loudness, single notes 9-18629
- speech perception, use of comfortable listening levels, effect of loudness level 9-2078
- statistical prediction of vibr. distrib. and random noise in higher level region (*Japanese*) 9-1023
- tones, AM, dependence of fluctuation strength on sound parameters (*German*) 9-34569
- traffic noise, meas. by L_{eq} and L_a (*Japanese*) 9-1024

loudspeakers

- acoustic imaging, impulsive sound method 9-10431
- acoustic measurement limitations (*German*) 9-37105
- cone, vibration analysis using finite elements method (*Japanese*) 9-18660
- damping materials, behaviour in loudspeaker units (*Spanish*) 9-46146
- elastically supported circular plate, sound radiation 9-41507
- phase inverter loudspeaker system, design using nonlinear optimization method (*Japanese*) 9-18659
- sound amplifying systems in halls, model (*French*) 9-37090
- sound diffusion systems, fundamentals calc. (*Spanish*) 9-3855
- sound power measurement (*Spanish*) 9-3871
- three-way systems, proposals for correct combinations (*German*) 9-32171

Love waves

- dispersion eqns. in transversely isotropic layer on isotropic elastic material 9-14308
- dispersion in continuously stratified layered Earth 9-20760
- frequency eqn. for waves under initial stresses 9-29714
- hypoclastic half space, transverse elastic waves in medium with material boundary 9-1133
- inversion of wave data for vel. and anelasticity 9-8604
- magnetoelastic Love waves by interaction with carrier waves in layered composite 9-28577
- oceanic Lg phase search 9-25203
- propag. in bodies with initial strains (*Ukrainian*) 9-30258
- propagation in heterogeneous medium between semiinfinite homogeneous elastic media 9-18767
- propagation in viscoelastic medium, effect of initial stresses 9-14299
- resonant excitation, acoustic wave passage through gap between piezoelectrics coated with insulating films 9-28187
- seismic surface waves dispersion curves, partial derivatives calc. (*Russian*) 9-34764
- stratified elastic solid, transverse surface waves in medium with material boundary 9-1135
- strong simple harmonic motion in isotropic layer over isotropic elastic material 9-23239
- thin film with periodic surface corrugation 9-14130
- YIG, anisotropic elastic waveguide normal-mode anal., appl. to Rayleigh-Love wave mode converter 9-23113

low energy electron diffraction

- disorder theory, appl. to Au (101) 9-4463
- disordered crystal surface, diffuse LEED pattern, correl. between statistics and multiple diff. 9-4461
- disordered overlayers, diffuse LEED intensities, multiple scatt., theory 9-4476
- Fourier transform deconvolution procedure, multiple scatt. effects 9-32862
- Fourier transform-deconvolution procedure, LEED data anal., multiple scatt. effects 9-41913
- Fourier transform-deconvolution procedure, LEED data anal. multiple scatt. effects 9-41914
- measurements of spectra (*Japanese*) 9-37595
- metal, surface relax. from LEED, Fourier transform-convolution method 9-4459
- metal adsorbed molecules, low-energy electron inelastic scatt. 9-46526
- n-paraffins, thin crystals and monolayers on Ag(111) surface, LEED 9-11014
- photographic-vidicon camera method for intensity meas. 9-37596
- surface and interface struct., book contrib. 9-42358
- surface crystallography, reliability 9-37910
- surface crystallography 9-42349
- surface struct. anal., review of LEED crystallography 9-14656
- surface structure, coherence length and transfer width in LEED and mol. beam diff. 9-42347
- surface structure studies, review (*Russian*) 9-14994
- surface studies, review 9-10764
- surfaces with hexagonal symm., anal. of two-dimens. superstructs. obs. by LEED and RHEED 9-23817
- transition metal oxides, UPS, LEED and AES studies of mol. adsorption 9-4480
- WO_3 (100) and (111) layers, electron stimulated desorption of O^+ , LEED obs. 9-23840
- Ag (110), surface struct., LEED determ., const. momentum transfer averaging 9-42350
- Al (100) surface, prep. and props. of Pb and Sn monolayers 9-15018
- Al, adsorption of O_2 , AES, XPS, and LEED obs. 9-46938
- Au (100), disordered, diffuse LEED intensities obs. 9-4462
- Au (101), disordered surface, diffuse LEED intensities statistical disorder theory 9-4463
- Au (111), relativistic effects on LEED intensities 9-7737
- BaO epitaxial films, cathode poisoning due to O_2 , CO_2 , and S, surface anal. 9-42600
- BaO, film, initial struct., field electron emission microscopy and LEED determ. 9-11033
- BaO films on Ir, thermionic props., Auger, LEED, and emission microscopy 9-43089
- CO adlayers, on Cu(100) and Cu(111), struct., LEED pattern reinterpretation 9-28209
- CdS(Se)(Te), evap. onto electron bombarded NaCl substrates, epitaxial growth and characts. 9-28948
- Co (1012), struct. and CO chemisorption obs. 9-4474

low energy electron diffraction continued

- CoO, surface layer spacing relax., electrostatic argument 9-46901
 Cs monolayer on Cu(111), dilution of electron gas by O adsorption, plasmon energy losses 9-47036
 Cu (100), coadsorption of Pb and Bi, LEED and AES meas. 9-15017
 Cu, adsorption of Pb on stepped and low index surfaces, LEED, AES and desorption anal. 9-46942
 Cu film, superstruc. caused by O adsorption 9-33179
 EuO (100), disordered, LEED and electron spectroscopy 9-28178
 Fe, adsorption of CO and O₂ 9-15003
 Ge, surface structure, LEED and spot photometric meas. 9-23811
 H, adsorbed on transition metal surfaces, charge density oscills., LEED pattern anal. 9-42389
 Ir (110), chemisorption of O₂, sorption and dissoc. kinetics 9-33186
 Ir, chemisorption of CO on clean and oxidised (110) surfaces 9-11015
 Ir surface, (110), unreconstructed, determ. of atomic arrangement by LEED 9-14990
 Ir(110), adsorption of O, structure of c(2×2)O overlayer 9-19463
 LaNi₅, surface segregation induced by O₂, LEED and AES exam. 9-11009
 MgO, surface layer spacing relax., electrostatic argument 9-46901
 Mo (001), surface struct. determ. using LEED 9-42351
 Mo film, characteristics of elastic reflection of slow electrons 9-14657
 Ni (001), adsorbed S, crystallography by LEED, appl. of iso-intensity map method 9-19128
 Ni (001) and (001)c(2×2)S adsorbed, electronic surface resonances by LEED 9-24051
 Ni (100) surface, adsorption of H₂, LEED, work function meas. and thermal desorp. obs. 9-23843
 Ni, (110) and (111) surfaces, oxidation exam. at room temp. by combined SIMS-AES/LEED method 9-20241
 Ni (111), adsorption of H₂, LEED intensity spectra, 173K 9-28192
 Ni (111), C monolayer phase condensation, LEED and AES obs. 9-46960
 Ni film, ferromagnetic (100) and (110), energy bands, surface state to LEED state transition 9-1630
 NiO, surface layer spacing relax., electrostatic argument 9-46901
 Ni(111), chemisorption of H₂, geometry, LEED anal. 9-28200
 Pb_{0.5}Sn_{0.5}Te surfaces, oxidation in air and thermal desorption, XPS and LEED meas. 9-47830
 PbTe surfaces, oxidation in air and thermal desorption, XPS and LEED meas. 9-47830
 Pt, adsorption of O₂, surface struct. depend., LEED, AES, and electron energy loss spectra 9-46934
 Rh, (111) surface struct. study 9-14987
 Ru(001) surface, adsorption of CO, IR spectra and LEED 9-37914
 Se surface, (1010) and (1210), LEED study (*French*) 9-14991
 Si, (111) 2×1 surface, LEED theory and expt. 9-46895
 Si (111) surfaces, 2×1 to 7×7 struct. transition during annealing, LEED obs. 9-42352
 Si, adsorption of O₂, early stages, AES, LEED, and XPS obs. 9-46937
 Si, surface structure, LEED and spot photometric meas. 9-23811
 Si(001)2×1 surface, struct. determ. by LEED 9-19438
 SnTe surfaces, oxidation in air and thermal desorption, XPS and LEED meas. 9-47830
 UO₂ (~100), vicinal surfaces, LEED and AES expts. 9-4464
 W (001), electron spin polarisation and intensity in LEED, temp. depend., 1000-300°C 9-14989
 W (001), surface relax., LEED rotation diagrams 9-28180
 W (100), adsorp. of acetylene, room temp., electron spectroscopy obs. 9-7749
 W (110), order-disorder transform. in chemisorbed O, theory compared with LEED data 9-7748
 W (110)-O chemisorbed layer, island size determ., response function and substrate struct., LEED meas. 9-42414
 W (111), adsorption of O₂, AES, LEED and electron stimulated desorption obs. 9-46935
 W [001] (1×1)-(√2×√2)R45° surface struct. transition, LEED, AES, and work function meas. 9-42348
 W, chemisorpt. of O₂, island form., adatom interactions 9-46922
 W, surfaces (100) and (110), adsorbed O electron stimulated desorption, combined method using LEED and AES 9-33181
 W(110), adsorp. of Xe, 77 to 90K, LEED study 9-42382
 W(111), chemisorption of ethane, AES and LEED pattern exam. 9-15005
 W(210) surface, surface struct. for adsorbed CO and N₂ 9-15009
 ZnO (1010), surface struct. from LEED anal., matrix inversion method 9-46897
 ZnSe, evap. onto electron bombarded NaCl substrates, epitaxial growth and chars. 9-28948

low gravity experiments *see zero gravity experiments***low induction loss** *see loss angle***low-pass filters**

- acoustic, muffler for small two-cycle engines 9-18585
 Butterworth, oceanographic data appl. 9-16704
 Fourier spectroscopy, delay compensation, sampling error reduction 9-30566
 US low-pass spatial filtering 9-47869

low-temperature physics *see cryogenics***low-temperature production**

- see also Joule-Thomson effect; magnetic cooling; refrigeration*
 cryosurgical applicator, temp. distrib. reproducibility 9-39589
 cryosurgical instruments, open and closed circuit supplies compared 9-39592
 dilution refrigeration, history from 1951 9-41
 dilution refrigerator, concentric heat exchanger 9-21756
 evacuated chamber with specimen cooling via a mechanical switch [for optical measurements] 9-35765
 nuclear spin system, ultra low temp., nuclear adiabatic demagnetisation (*Japanese*) 9-12807
 He cooling systems, large, review of hydrodynamics and heat transfer 9-204
 He refrigerator, gas bearing turbine with dynamic gas bearings 9-35754
³He/⁴He dilution refrigerator, temp. inhomogeneity in glass mixing chamber 9-17429

low-temperature techniques

- see also cryostats; refrigeration*
 absolute temperature stabilizer, below lambda point, the adritron 9-21757
 C-impregnated glass thermometer (*Chinese*) 9-30479

low-temperature techniques continued

- compact low-temperature fixed point device 9-35761
 coolant transfer, four-fold coaxial corrugated piping 9-21758
 cryocoagulator for uterine contraction promotion and bleeding suppression 9-39591
 cryocoolers for superconductive electronics 9-26058
 cryogenic container, cylindrical estimation of steady state heat link 9-35750
 cryogenic cryst., apparatus for cryostat transfer and deform. 9-2773
 cryogenic free-precession ³He magnetometer using a SQUID 9-6153
 cryogenic insulation, thermal cond. meas. 9-30484
 cryogenic liqs., floating level gauge 9-2774
 cryogenic refrigerators for fusion research 9-679
 crystal, low temp. spectrophotometry (*Russian*) 9-40635
 crystal growth, apparatus for growing low-temp. single crystals. 9-4908
 elastomer seal, easily demountable, for cryogenic appl. 9-207
 EPR Dewars containing liq. N₂, bumping elimination 9-40600
 gas flow measurement method 9-4093
 gravitational-wave antenna, small, cryogenic, meas. at 1.5K 9-21646
 heat detector, temps. close to absolute zero (*Russian*) 9-6130
 heat pipe, mathematical model including transport-opposing body forces 9-41552
 hydrostatic liquids for obs. of NMR of ¹H at high press. and low temp. 9-2801
 IR cell, low temp. for use with hydrated films 9-6193
 lambda tight cement, for low temp. techniques 9-35752
 laser, low-temp. ruby, with optical delay line inside resonator, cooling system 9-36922
 low frequency acoustic thermometry in the range 4.2-20K with implications for the value of the gas constant 9-30477
 magnetic thermometry, to below 1 mK, with La diluted C₂Mg₃(NO₃)₁₂.24H₂O 9-30469
 manostat, stable automatic pressure controller, use of thin polyester film 9-35700
 noise thermometry, using Josephson junctions 9-21752
 optical chamber with fixed pressure up to 16 kbar, single-window, 1.5-300K 9-35770
 rapid low-temp. dielectric meas. method 9-12818
 resistive SQUID thermometer, theory 9-21753
 screw-fastened joints for thermal contact at low temperatures 9-35760
 sealing nylon chambers for use at low temp. 9-6131
 semiautomatic bridge for high-precision DC resistance measurements on pure metals at low temperatures 9-35788
 spectrophotometer UR-10 attachment for investigation of small objects at low temps. 9-21822
 temperature error of some low-temp. thermometers magnetic field effects 9-12802
 thermal capacity, heat transfer meas. instrument for mK region (*French*) 9-1097
 thermovacuum system, thermal system design for temp. range 173-373K 9-35764
 triple point temp. of Ar and O₂ realised by calorimetry 9-12806
 voltage measurement, to ±15 nV, CMOS analogue gates at low temp. 9-35776
 wind tunnel, cryogenic induction-driven, preliminary tests (*French*) 9-27730
 X-ray topography, specimen stage with vacuum chamber (*Japanese*) 9-35901
 CH₄ triplet point temp. meas. at 90.6861K 9-26060
 CdSb resistance thermometer, chars. of cryogenic temps. 9-21760
 Cu-constantan cryogenic thermometer and temp. controller (*Czech*) 9-26056
 He, liquid, temp. control by manostat 9-35757
 He liquid level indicator, small heat dissipation, made from newly developed superconducting wire (*Japanese*) 9-2775
³He melting curve obs. by Pomeranchuk cooling 9-7731
 InPb-covered manganin wire, level detector, depth gauge, demonstration of superconductivity 9-35751
 Pt resistance standard capsule thermometer, for 13.81 to 273.15K, two-point calibration 9-206
 Si diode thermometer, anomalous behaviour, 11 to 16K 9-35738
 U atomic motion on thin C substrate, low-temp. obs., biomolecule marking appl. 9-25176

LPE *see liquid phase epitaxial growth***LS coupling** *see Russell-Saunders coupling***LSA** *see limited space charge accumulation***LSI** *see large scale integration***lubrication***see also friction*

- articulation mechanical properties and physical aspects of lubrication (*French*) 9-34591
 articulations, global anal. (*French*) 9-34592
 boundary lubricated surfaces, wear initiation 9-34157
 bronze-on-steel contact, lubricated, effect of zinc di-n-butyl dithiophosphate on wear 9-20219
 coatings for wear and lubrication 9-19494
 EHD contacts, asperity interactions 9-20215
 elasto-hydrodynamic lubrication at high press., non-Newtonian behaviour 9-46350
 elasto-hydrodynamic lubrication of elliptical contacts for materials of low elastic modulus 9-20214
 elastomers in contact with regularly spaced sliders, frictional dynamics 9-20213
 film temp. and traction, rel. to solidification and glass transition temp. 9-28041
 friction, lubrication and wear, review of papers published 1974 to 1976 9-15806
 glass transition, light scattering study 9-29228
 glass transition rel. to elasto-hydrodynamic lubrication 9-29227
 hydrodynamic, roughness effect 9-20207
 hydrodynamic lubrication, turbulence field study 9-1255
 hydrodynamic lubrication of rough surfaces, two-dimensional Reynolds roughness 9-1919
 hydroextrusion under hydrodynamic lubrication conditions (*Russian*) 9-38852
 liquid props. review, viscoelasticity and lubrication 9-7356
 mechanism, by surrounding gas molecules in adhesive wear 9-42143
 oil, HF combined mag. treatment (*Russian*) 9-15682
 oil films, thickness meas. by neutron imaging, and scattering, exam. of flow props. 9-15815

lubrication continued

- phosphate ester, electrical prop. rel. to lubrication 9-38150
 phosphate esters, scuffing resistance 9-38990
 polymer electrophoretic coating, effect of silicone additive on electrophys. props. (*Russian*) 9-15615
 pressure meas. at solid-lubricant interface, strain and deform. meas. techniques with diaphragms, comparison (*French*) 9-30453
 Reynolds equation, asymptotic soln. 9-14369
 rotary face seals, lubricated, interferometric obs. 9-20204
 rough surfaces, lubrication theory, derivation of Reynolds equation 9-14355
 sliding bearings, effect of solid surface lubricant interaction on load carrying capacity 9-20206
 steel, contact fatigue life of S-P type extreme pressure additive lubricated surfaces 9-47780
 steel against Al_2O_3 , elastohydrodynamic contact, lubricated by naphthenic hydrocarbon, IR meas. of surface temp 9-15807
 steel/Al sliding system, tribological behaviour, effect of temp., atmos., load and geometry (*German*) 9-34158
 tribopolymerised lubricants, mechanism of action, SEM expts. 9-29226
 viscoelastic lubricants reln. to human joints 9-39430
 viscous plastic lubricant, nonlinear effects on stability of bearing tenon movement (*Russian*) 9-32393
 MoSe_2 lubricant, synthesis by Mo+Se vapour reaction, process kinetics 9-33942

Luder's bands

- herringbone specimen weld stresses rel. to heat-affected zone rigidity 9-29130
 Al-Mg (5 wt.%), serrated flow 9-43343
 Cu-Ge (8 wt.%), anelastic effect due to deform. twins (*Japanese*) 9-20095

Ludwig-Soret effect see *diffusion in solids***luminescence** see *brightness***luminescence**

- see also *cathodoluminescence*; *chemiluminescence*; *electroluminescence*; *fluorescence*; *fluorescent screens*; *ionoluminescence*; *luminescence of gases*; *luminescence of liquids and solutions*; *luminescence of solids*; *luminescent devices*; *phosphorescence*; *phosphors*; *photoluminescence*; *sonoluminescence*; *stimulated emission*; *superradiance*; *thermoluminescence*; *triboluminescence*
 bioluminescence field in ocean, meas. by moving linear sensor 9-20732
 conference, luminescence, Paris (July 1978) 9-33755
 molecules, luminesc., photon echoes and coherence 9-31586
 radioluminescence, spectrometer system for investigating light polaris. dynamics in nanosecond band 9-2834
 research, survey of new trends 9-47503
 two-phase inhomogeneous media, cylindrical geometry 9-23377
 weak light fluxes with slowly varying intensity detector 9-2806

luminescence chambers see *scintillation chambers***luminescence of gases**

- air, light flash excited by γ -ray source, electric field effect 9-14514
 spectrometer for examining emission spectra of gas mixtures produced by α -particles 9-35852
 superluminescence polarisation obs. of high-current pulsed discharge in gas with anisotropic gain 9-14515
 NO concentration meas. in gas mixtures, chemiluminescence method (*Russian*) 9-16094
 $\text{N}_2\text{O}+\text{N}_2$, vibroluminesc., V-V transfer consts., quadrupolar transition moment, IR spectra 9-10112
 SiF_4 , interaction with strong IR field, instantaneous luminescence 9-18232

luminescence of inorganic solids

- alkali halide: $\text{Cu}^+(\text{Ag}^+)$, high press. studies of luminesc. phenomena 9-43017
 alkali halide: In, high press. studies of luminesc. phenomena 9-43017
 alkali halide, F-centre, stabilisation process in first colouring stage 9-19246
 alkali halide, rel. between thermoluminescence and X-ray induced luminesc. 9-28830
 alkali halide crystal, activator centres, excited state transitions, bleaching dynamics 9-4527
 alkali halide salt solid solns., Stokes losses for crystalline vibr. in impurity O_2^- anions luminescence spectra (*Ukrainian*) 9-43012
 alkali halides, colour centres and radiation-tunnel transition 9-4846
 alkali halides, cryst., optical emission following pulsed 10.6μ irradiat. 9-28847
 alkali halides, luminescence of Ti^{4+} -like centres, Ga^{3+} -centre polaris. effect 9-33806
 alkali halides, rare earth ion doped, optical props., review 9-15492
 alkali halides F-centre luminescence and lifetime, review 9-11442
 alkali halides with NaCl structure, F-centre emission and relaxed excited state 9-42060
 alkaline earth dimens., heteronuclear, matrix-isolated, laser photoluminesc., van der Waals ground state 9-41192
 alkaline earth glasses, $45\text{RO} \cdot 5\text{Al}_2\text{O}_3 \cdot 50\text{P}_2\text{O}_5$ (R=alkali earths), electron beam irradiat., exam. of charge accumulation and light-sum kinetics 9-4336
 alkaline earth glasses, $\text{RO} \cdot \text{Al}_2\text{O}_3 \cdot \text{P}_2\text{O}_5$, R=Mg, Ca, Sr, Ba, exam. of electron beam irradiation effects 9-4253
 alkaline earth halides, rare earth ion doped, optical props., review 9-15492
 alkaline earth oxides photoluminescent spectra of surface states 9-47505
 aluminate phosphors, energy transfer models 9-43019
 amorphous semiconductor, defect chemistry and states in gap, models 9-38030
 anomatic hydrocarbon high density excitation effects on fluoresc. 9-1782
 calibo glass: Eu, Br, quantum efficiency of non-radiative energy transfer 9-33832
 charge transfer complex high density excitation effects on fluoresc. 9-1782
 1,4-di(triphenyl lead)diacetylene, phosphoresc. spectra, triplet state 9-47490
 1,4-di(triphenyl tin)diacetylene, phosphoresc. spectra, triplet state 9-47490
 diamond, electroluminescence, thermoluminesc., photocurrents 9-38675
 diamond, ion implanted, p-i-n structure, double injection of carriers 9-11214
 diamond cathodoluminesc. at dislocations 9-47524
 direct gap semiconductors, exciton energy determ., electron beam excited luminesc. 9-38680

luminescence of inorganic solids continued

- electroceramics, thermoluminescent and dosimetric characts. 9-8196
 fluoride, Mn^{4+} activated, configurational co-ordinate model, predictive use 9-19918
 germanate glass: Tb^{3+} , luminesc. props. 9-33798
 germanate glass: Bi^{3+} , time-resolved spectra, radiative and nonradiative processes 9-47501
 germanate glass: Bi^{3+} , Eu^{3+} , time resolved spectra for Bi-Eu energy transfer 9-33748
 germanate glass: Nd^{3+} , spectral behaviour under narrow-line excitation 9-33747
 glass: Eu^{2+} , spectroscopic props. of excited states of ions, laser induced fluorescence line narrowing meas. 9-38641
 glass: Nd^{3+} , ED-2 glass, spectral behaviour under narrow-line excitation 9-33747
 glass: Nd^{3+} , line narrowed fluorescence spectra and site dependent transition probabilities 9-38640
 glass with nonequivalent optical centres, decay rate averaging 9-8178
 highly photoexcited semiconductors, picosec. luminesc. spectrosc. 9-47517
 II-VI semiconductor: Co^{2+} , IR luminesc., local density of phonon states 9-33778
 II-VI semiconductors, highly excited blend type involving free particle scatt. 9-38648
 III-V semiconductor, acceptor levels, anisotropy of Zeeman splitting and polarization of luminesc. in mag. field 9-24365
 inelastic biexciton-biexciton collision, effect on radiative recombination of biexcitons 9-15529
 inert gas: Eu(Sm), absorpt. and emission spectra, phonon sidebands 9-43021
 inert gas solid, electronic struct. of self-trapped excitons 9-19525
 inert gas solid, VUV luminesc. from excitons 9-43020
 inert gas solids, luminesc., self-trapped exciton 9-38605
 interstellar grains, luminesc. emission 9-8967
 ionic crystal: transition metal, excitation and trapping at impurity sites 9-33776
 ionic crystals, exposed to ultrasoft X-rays, thermal luminesc. and electron emission 9-8192
 ionic crystals, luminesc. of free and self-trapped excitons 9-33757
 lattice relaxation and time resolved polarization of emission from localized electron with level crossing 9-4840
 leucosapphire, phosphorescence, decay obs., impurity effects (*Russian*) 9-15530
 metal film, electroluminescence mechanism (*Russian*) 9-47523
 metal film, luminescence, electron beam excited (*Russian*) 9-47526
 metal oxides, mixed, luminesc., of U^{5+} 9-33765
 metaphosphate glasses with Ag activator, radiophotoluminesc. 9-38596
 neutron scintillating glasses activated by Ce^{3+} , luminesc. 9-38668
 p-n structure, variable-gap, current-voltage and spectral characts 9-7885
 phosphate glass: Nd^{3+} , spectral behaviour under narrow-line excitation 9-33747
 phosphate glass: Tb^{3+} , luminesc. props. 9-33798
 PMMA, X-ray irradiat., thermoluminescence emission, exam. of kinetic order 9-43046
 polar semicond., impurity pseudopotential screening, absorption and emission energies 9-15121
 rare earth compound: $\text{Ho}^{3+}(\text{Er}^{3+})$ phosphors, active layer effective thickness calc. (*Russian*) 9-43039
 rare earth laser materials, linear conc. quenching of luminesc. 9-31908
 rare earth niobates, pyrochlore structure, synthesis and props., 9-11533
 rare earth oxysulphides, $\text{R}_2\text{O}_2\text{S} \cdot (\text{Eu}^{3+})(\text{Tb}^{3+})(\text{Pr}^{3+})$, branching ratios for fluoresc. 9-33807
 rare earth vitreous dielectric, electronic energy transfer to impurity OH^- , luminesc. kinetics (*Russian*) 9-47509
 ruby, energy transfer time const. between single Cr^{3+} and Cr^{3+} pairs 9-38627
 ruby, ground state of Cr(III) pair 9-33782
 ruby, phosphorescence, decay obs., impurity effects (*Russian*) 9-15530
 ruby, piezo-spectroscopy of exchange coupled Cr^{3+} pairs 9-33783
 ruby, spin dependency of optical feeding into $\text{E}^{(2)}\text{E}$ metastable doublet 9-28812
 sapphire, phosphorescence, decay obs., impurity effects (*Russian*) 9-15530
 sapphire, pure and doped, luminesc. centres 9-33791
 secondary photon emission from sputtered excited neutrals, thermal excitation model anal. 9-4878
 semiconductor, luminescence in presence of intense laser field 9-38621
 semiconductor, non-radiative de-excitation of deep centres 9-38644
 semiconductor, optical orientation of electrons, surface quality effects 9-11466
 semiconductor alloys, reson. light scatt., luminesc. and Raman spectra 9-38615
 semiconductors, II-VI cpds., dislocation motion obs. by SEM in cathodolum. (*Japanese*) 9-46666
 semiconductors, photoluminescence in crossed electric and magnetic fields 9-11464
 semiconductors, recombination processes, review 9-38088
 semiconductors, spin orientation by optical pumping, review 9-38410
 silica glass: Nd^{3+} , laser-spectroscopic method, for studying solids with nonuniform spectral broadening (*Russian*) 9-40630
 silicate glass: Tb^{3+} , photoluminesc. and optical absorption spectra 9-19919
 single crystals and thin films, absorpt. edge temp. depend., gap energy changes 9-42991
 tellurate perovskites, $\text{M}_2^{2+}\text{Y}^{2+}\text{TeO}_6$, $\text{M}=\text{Ba}, \text{Sr}, \text{Ca}, \text{Cd}$, $\text{Y}=\text{Ba}, \text{Sr}, \text{Ca}, \text{Cd}, \text{Zn}, \text{Mg}$, luminesc. on activation by Eu^{3+} , Tb^{3+} , Dy^{3+} , Er^{3+} 9-4838
 tellurite glass: Nd^{3+} , spectral behaviour under narrow-line excitation 9-33747
 thermoluminescence, traps and emission centres 9-24373
 thin organic crystals, electrolum., detection and determ. of spatial distrib. 9-19937
 transparent dielectrics, with inclusions, laser-induced stresses 9-28012
 tungstate phosphors, thermoluminesc. and afterglows 9-38681
 uranates, luminesc. 9-33765
 ureilite meteorites, fluorescent accessory phases in carbonaceous matrix 9-40143
 vacuum UV laser possibility for crystals pumped by X-ray synchrotron radiation 9-41387
 ZnS:Mn,Cu , thin-film phosphors, LV DC electroluminescence 9-11472
 Ag halide, crystals and photographic emulsions, luminescence parameters at 77K 9-24787

luminescence of inorganic solids continued

- Ag halide microcrystals, pulsed luminescence expts. 9-24786
 AgBr, electron simulation, luminescence and hidden image formation (*Russian*) 9-47515
 AgBr, shoulder in luminesc. spectra due to triplet excitons 9-15525
 AgBr:1, activator luminesc., energy model 9-28808
 AgBr:1, isoelectronic trap 9-43016
 AgBr: 1^- , emission spectra at 4.2K 9-4841
 AgBr1 microcrystals, luminescence spectra 9-19935
 AgCl, electron simulation, luminescence and hidden image formation (*Russian*) 9-47515
 AgCl, theory and measurement 9-19934
 AlGaAs DH, temp. depend. of intensities and times of radiative transitions 9-38660
 AlGaAs DH stripe geometry lasers, spontaneous radiation, carrier conc., and threshold current, luminesc. meas. 9-36898
 Al_{1-x}Ga_xAs epitaxial diode, neutron and γ -irrad. effects on cathodolum. in SEM 9-11473
 Al_{1-x}Ga_xAs, indirect, exciton-phonon coupling, photolum. meas. 9-47511
 Al_{1-x}Ga_xAs MBE layers, ionized beam doping, elec. and optical characs. 9-37721
 n-Al_{1-x}Ga_xAs, variable-gap solid solns., diffusion length, photolum. meas. 9-38659
 Al_{1-x}Ga_{1-x}As:N, photoluminesc. and optical absorpt. spectra of N impurity bound-excitons 9-47496
 Al_{1-x}Ga_{1-x}N epitaxial layers, growth and props. 9-11522
 Al₂Ga_{2(1-x)}O₃:Cr³⁺, luminesc., lifetime, 77 and 4K, struct., energy transfer 9-28798
 Al₂Ga_{2(1-x)}O₃:Cr³⁺, luminesc., lifetimes 9-33784
 Al_{1-x}Ga_{1-x}Sb, LED, 1.54 μ m efficient emission at 300K reproducible fabrication 9-42636
 Al_{1-x}Ga_{1-x}Sb, photolum. intensity increase due to composition variation 9-15528
 AlN:Mn, vol. and surface excited luminesc. 9-38630
 Al₂O₃, optical props. of F-centre 9-43003
 β -Al₂O₃-Na₂O:Cr, absorpt. and emission spectra, mag. susceptibility 9-15495
 3Al₂S₃-La₂S₃:Ho³⁺, radiative and multiphonon relax. 9-33794
 Ar, condensed, luminescence decay under α - and β -particle excitation 9-38678
 ArO, in doped inert gas matrix, photoluminesc. 9-31579
 As₂S₃, amorphous, time-resolved photolum., spectrosc. 9-24360
 As₂Se₃:Ti, hole transport, photoluminesc. and photoinduced ESR 9-8183
 Al₂O₃, thermoluminescent trap stability, 450 to 1400°C 9-24372
 BaBr₂:Sm²⁺, spectra, ³D states, Lauer-Fong formula and SCC model 9-15513
 Ba₂CaUO₆, luminescence and energy migration 9-4837
 BaCl₂:Sm²⁺, spectra, ³D states, Lauer-Fong formula and SCC model 9-15513
 BaF₂:Er³⁺, fluoresc., importance of defect clustering 9-33827
 BaF₂:Sm²⁺(Tm²⁺), vibronic spectra and dynamics of impurity-containing lattice 9-1787
 BaFCl, luminesc. and ionic conduction 9-28829
 BaMnF₄, luminesc., emission from localised traps 9-33777
 BaO-Nd₂O₃-P₂O₅ ultraphosphate glasses, Nd³⁺ conc. quenching of luminesc. effect 9-19931
 Ba₃(PO₄)₂:Eu, X-ray phosphor, study of emission and trapping centres 9-8197
 BaS:Cu phosphor, photo- and electro-luminescence 9-43030
 BaTi(PO₄)₂, cryst., luminesc., struct. interpretation 9-47489
 BaWO₄ crystals, X-irradiated, EPR, TSC and thermoluminescence spectra meas. 9-1791
 BaWO₄, single cryst. growth by Czochralski method and U incorporation, effective distrib. ratios, luminesc. characs. 9-42094
 Ba[Pt(CN)₄]₄H₂O, polarised time-resolved emission spectra 9-33811
 BeO, ceramic, thermolum. glow curves 9-47527
 CaF₂:Co, X-irrad., luminesc. spectra 9-28801
 CaF₂:Eu²⁺, X-ray induced luminesc. kinetics, energy transfer processes 9-8181
 CaF₂:Na, tunable room temp. laser action of M-centres, luminesc. and absorpt. spectra 9-31907
 CaF₂:Pr³⁺, laser selective excitation and energy transfer 9-38612
 CaF₂:Sm²⁺, luminesc. spectra, vibronic wing, 2K 9-8182
 CaF₂:Tm²⁺, vibronic spectra and dynamics of impurity-containing lattice 9-1787
 CaLaBO₄, crystallographic and Pb²⁺ luminesc. data 9-32971
 CaO:Y phosphor, chemical instability, thermoluminescence study 9-36882
 CaO-Li₂O-B₂O₃:Dy³⁺ glass, optical excitation energy transfer from Dy³⁺ to Nd³⁺ 9-15515
 Ca(PO₃)₂:Eu³⁺, anomalous spectral props. 9-38614
 CaS:Ce, Na, photon sidebands in emission and excitation spectra, pseudolocalised vibrs. 9-28800
 CaS:Nd, Cu, phosphor, electroluminesc., spectral characs. 9-19936
 CaS:Pb²⁺ phosphors, luminesc., refl., emission, and excitation spectra 9-11456
 CaS:Zr phosphors, photoluminesc. 9-28806
 CaS:Zr phosphors, photoluminesc. 9-28805
 CaSO₄:Dy, thermolum., studies for dosimetry 9-29634
 CaWO₄ phosphor, interaction between intrinsic and impurity emission 9-8198
 CaWO₄, single cryst. growth by Czochralski method and U incorporation, effective distrib. ratios, luminesc. characs. 9-42094
 CdF₂:Eu³⁺, luminesc., charge transfer states 9-33799
 CdF₂:Mn films, electroluminesc. meas. (*French*) 9-11471
 CdGeP₂:In, photolum. spectra and kinetic coeffs. 9-19927
 Cd₂, luminesc., relaxed excitonic states 9-33758
 Cd₂, thermoluminesc. of traps (*French*) 9-4856
 CdIn₂S₄, photoluminesc., thermal quenching and recomb. centres 9-24362
 CdS, anti-Stokes excited crystals, luminescence band at 12K 9-19922
 CdS, Auger excitation mech. of 1.6-2.0 micron luminesc. band 9-8184
 CdS, dislocation effects on radiative recombination processes 9-8186
 CdS, highly excited cryst., biexciton, impurity transition and electron-hole plasma 9-15092
 CdS, highly photoexcited, picosec. luminesc. spectrosc. 9-47517
 CdS, local cathodolum. of single crystals. under colour contrast conditions in SEM 9-8191
 CdS, luminesc. and gain spectra of two-photon excited excitons 9-33815
 CdS, psec time resolved spectroscopy, electron-hole plasma 9-47500

luminescence of inorganic solids continued

- CdS, reversible threshold modification of luminesc. spectrum by uniaxial compression 9-38662
 CdS, single cryst., bound excitons in surface layers, luminesc. obs. 9-28294
 CdS single crystals, depend. of radiative props. on equilb. carrier density 9-19932
 CdS, spectral anal. of luminesc. of high density excitons 9-11451
 CdS:Ag, orange luminesc. at 77K and induced impurity photoconductivity 9-43035
 CdS:Cu, IR photolum. at 10K 9-28824
 CdS:Li, TSC and optical photocurrent quenching spectra, Auger excitation of recomb. centres 9-33294
 CdSe, optical gain spectra, exciton collision processes and electron-hole plasma 9-28814
 CdSe, psec time resolved spectroscopy, electron-hole plasma 9-47500
 CdSe, radiative recomb. process, P-band, 2-psec time resolution 9-24346
 CdTe, excitation spectra, resonant Raman scatt. versus hot electron effects 9-38645
 n-CdTe, photolum., plastic deform. effects 9-15509
 CeBO₃:Tb³⁺, vacuum UV excitation spectra and quantum efficiencies 9-28811
 Cs halides, electronic struct. of self-trapped excitons magneto-optic props. 9-33805
 CsBr, luminesc., mag. circ. polaris., self-trapped excitons, EPR 9-33805
 CsBr:Th, absorpt., excitation, fluorescence spectra 9-43032
 CsBr:Ti, emission bands, press. effect 9-33789
 CsI based powdered phosphors and screens possible appl. in X-ray radiography and fluorography 9-6245
 CsI, luminesc., mag. circ. polaris., self-trapped excitons 9-33805
 CsI, pure, influence of strain on photolum. 9-15527
 CsI:Na, UV irrad., thermoluminesc. 9-28846
 CsI:Ti, emission bands, press. effect 9-33789
 CsI:Ti X-ray phosphor, spectral characs. 9-8172
 CsMnBr₃:Nd³⁺, nearly 1-dimens. cryst., emission spectrum, extensive energy transfer 9-15516
 Cs₂NaEuCl₆, mag. dipole transitions ⁵D₃-⁷F₄, interpretation 9-42505
 Cs₂NaYCl₆:Bi³⁺, luminesc., cryst. growth, Stockberger method 9-8174
 CsPbBr₃, CsPbCl₃, ionic semiconductors, electronic and optical props. 9-38594
 Cs₂SnCl₆:UO₂Cl₂²⁻, luminesc., vibronic anal. 9-33767
 Cs₂UO₂Cl₄, fluoresc. decay rate of pure and impure cryst. 9-47487
 Cs₂UO₂Cl₄, low-lying excited electronic levels, fluoresc. decay meas. 9-47491
 Cs₂ZrCl₆:UO₂Cl₂²⁻, luminesc., vibronic anal. 9-33767
 Cs₂[Pt(CN)₄]₄H₂O, polarised emission, correlation to cryst. struct. 9-19917
 Cu, dislocation mechanism of luminescence during fracture 9-24376
 Cu target, bombardment by Ar²⁺-ion beam, luminosity spectrum 9-4884
 CuBr, emission spectra after two-photon excitation, Raman scatt. 9-47518
 CuCl, direct creation of high biexciton density at K=0, two-photon absorpt. and emission spectra 9-33727
 CuCl, emission spectra after two-photon excitation, Raman scatt. 9-47518
 CuCl, H⁺ irrad., luminesc., high density excitons in particle tracks 9-47020
 CuCl, luminesc. and Raman processes under reson. two-photon excitation 9-33796
 CuCl, luminesc. and reson. Raman scatt. of excitonic mols. 9-33814
 CuCl, luminesc. from Bose-condensed state of biexcitons 9-23905
 CuCl, picosecond spectroscopy of secondary radiation from resonantly excited excitonic molecules 9-15461
 CuCl, psec time resolved spectroscopy, excitonic mols. 9-47500
 CuCl, Raman and luminesc. processes under reson. two-photon excitation of excitonic mol. 9-8143
 CuCl, reson. Raman scatt. and luminesc. of biexcitons 9-38618
 CuCl, time-resolved study of induced absorption due to exciton-biexciton transitions 9-38658
 CuCl, two-photon reson. Raman scatt. and luminesc. of excitonic mols. 9-28819
 CuGaSe₂, photoluminesc. spectra at 76K 9-38655
 Cu₂S, photon and electron excitation phenomena 9-7865
 ErP₂O₄, single cryst., radiative and non-radiative transitions 9-19920
 Ga_{0.9}Al_{0.1}As-GaAs(Ge) DH structure, minority carrier lifetime and internal quantum efficiency of surface-free GaAs 9-43013
 Ga_{1-x}Al_xAs_{1-y}P_y-GaAs heterojunctions, light-induced misfit dislocation motion, photoluminesc. and X-ray diff. meas. 9-11200
 n-GaAs, donor-acceptor pair recomb., isolated-pair model revisited 9-28825
 GaAs, donor-acceptor type complex, mag. field splitting of photolum. line 9-15512
 GaAs, electron-hole liquid form., luminesc. 9-33804
 GaAs epitaxial layer, comparison of compensation ratios determ. by photolum. and elec. methods 9-28818
 GaAs heterolaser, active layer, photoluminesc., temp. depend. (*Russian*) 9-10310
 GaAs, highly deformed samples, absence of dislocation-induced luminescence 9-4835
 n-GaAs, hot electron distrib. function with LO phonon kink, photoluminesc. 9-19925
 GaAs, impact ionisation of excitons 9-38079
 n-GaAs, interband transition times, luminesc. depolarisation obs. (*Russian*) 9-33831
 p-GaAs, linear polarisation of hot photoluminescence 9-38661
 GaAs, MBE, growth temp. depend. and characs. 9-28946
 GaAs MOS and Schottky systems, electromodulated reabsorption of luminesc. 9-15524
 n-GaAs, non-Maxwellian electron distribution function, from electric field-depend. photolum. spectrum 9-11450
 GaAs p⁻n diode, radiative hot carrier recomb., photoluminesc. and electroluminesc. meas. 9-38676
 GaAs, polariton fluoresc., spatial and spectral features 9-33760
 GaAs, psec time resolved spectroscopy, electron-hole plasma 9-47500
 GaAs:C, Zeeman effect of effective mass acceptor, polarised luminesc. 9-4541
 GaAs:Cr, intracenter radiative transition in Cr²⁺ ions 9-11463
 GaAs:S, LPE growth, photoluminescence spectra at liquid N₂ temps. 9-33948
 GaAs:Si, LED, effect of struct., defects on quantum efficiency 9-11211
 n-GaAs:Si, thermally treated, photolum., acceptor levels obs. 9-38587

luminescence of inorganic solids continued

- n-GaAs:Sn, photoluminesc. spectra 9-43031
GaAs:Zn films, VPE growth and photoluminesc. props. 9-38642
GaAs:Zn MBE layers, ionized beam doping, elec. and optical characts. 9-37721
GaAs-Al_xGa_{1-x}As heterostruct., photon recycling, diffusion length and lifetime determ. 9-47499
GaAs-Ga_{1-x}Al_xAs-Ga_{1-y}Al_yAs n⁺-i-n heterostructure, electroluminesc. characts., 80 to 330K (*Russian*) 9-28404
GaAs-Si₃N₄ system, photoluminesc. edge line (*Russian*) 9-4852
GaAs_{1-x}P_x:N, photoluminesc. and optical absorpt. spectra of N impurity bound-excitons 9-47496
GaAs_{1-x}P_x, liquid phase epitaxial growth on GaP, growth and properties 9-47641
GaAsSb_{1-x}GaAs epitaxial films and multilayer heterostruct., SEM obs. under cathodolum. conditions 9-11023
Ga_{1-x}In_xAs_{1-x}P_x film, energy band struct., photolum. meas. 9-7784
GaN:Zn, cathodolum. obs., recomb. model 9-11474
GaN:Zn, cathodoluminesc., photocapacitance 9-38679
GaP, camel's back induced stabilisation of electron-hole liquids 9-19524
GaP, donor-acceptor pair spectra, electron-phonon interactions 9-38631
GaP, electron-hole drop, luminesc. 9-33812
GaP, electron-hole plasma luminesc. 9-38651
GaP, epitaxial layers, dislocation recomb., SEM cathodoluminescence studies 9-42558
GaP, impurity interaction on excited acceptor states, luminesc. excitation spectra 9-15517
GaP, luminesc. from electron-hole drops, 2 to 77K 9-11454
GaP, Mott transition of exciton gas, cathodoluminesc. 9-33845
GaP, spectral depend. of O photoneutralisation cross-section near threshold, and band gap 9-1788
GaP:Bi(N), luminesc. decay kinetics 9-38646
GaP:Cu, deep levels, photoluminesc. and optical cross sections 9-38653
GaP:N, luminesc. from electron-hole drop 9-33813
GaP:N, photoluminescence, temp. modulated 9-38623
GaP:Ni, absorpt. and luminesc. spectra 9-42996
GaS₂Se_{1-x}, indirect exciton spectrum and phase transition, luminesc. and absorption spectra 9-8160
GaS₂Se_{1-x}, recomb. radiation intensity, temp. depend. (*Russian*) 9-33830
3Ga₂S₃La₂S₃:Ho³⁺, radiative and multiphonon relax. 9-33794
GaSb, bound excitons at doubly ionisable acceptors 9-42459
GaSb, interaction of exciton recombination with LO phonons 9-38647
GaSb, inversion of Γ and L conduction bands under uniaxial stress, photoluminescence meas. 9-33229
GaSb, photolum. spectra under hydrostatic press. 9-19930
GaSb:Fe, shallow acceptor level, electrical meas. 9-11087
n-GaSb:Te, heavily doped, spontaneous radiative recomb. vel., photoluminesc. spectra 9-11458
GaSb_{1-x}As_x, disorder-enhanced Auger recomb. 9-43014
GaSe, electron beam excited free exciton luminesc. 9-19940
GaSe, photolum. decay 9-15518
GaSe, photolum. under strong optical excitation 9-24364
GaSe, reson. light scatt., luminesc. and Raman spectra 9-38615
GaSe, triplet indirect bound exciton, level anticrossing effect on magnetolum. 9-47513
Gd³⁺ in host lattices, energy transfer from sensitizer to activator 9-38628
GdBO₃:Eu³⁺(Tb³⁺) and GdBO₃:Bi³⁺,Eu³⁺, vacuum UV excitation spectra and quantum efficiencies 9-28811
GdBr₃, frozen aq. soln., fluoresc. and absorpt. spectra 9-43022
GdCl₃, frozen aq. soln., fluoresc. and absorpt. spectra 9-43022
Gd(ClO₄)₃, frozen aq. soln., fluoresc. and absorpt. spectra 9-43022
Gd₂O₃:Eu³⁺, luminesc., rel. to crystallographic data 9-33793
Ge, direct gap recombination, at high excitation level and low temp. 9-38650
Ge, electron hole drop diffusion const., hysteresis effect determ. 9-23902
Ge, electron-hole correlation density depend., in electron-hole liq., under uniaxial stress 9-15090
Ge, electron-hole drop binding energy, optical threshold studies 9-38652
Ge, electron-hole drop formation, nucleation phenomena 9-33240
Ge, electron-hole drops, inflammation radiation under action of ultrasound (*Russian*) 9-7788
Ge, electron-hole drops, motion in low mag. fields 9-23904
Ge, exciton condensate and electron-hole droplet, metastable state, effect of illumination and high-frequency heating 9-15097
Ge, Mott distortion of the electron-hole fluid phase diagram, luminesc. meas. 9-42457
Ge, pure, large, electron hole drops, microwave heating and evaporation 9-28287
Ge, pure and doped, electron-hole drops net charge, photocond. and photoluminesc. 9-38589
Ge, recombination luminesc. spectra from hot and cold carriers in electron-hole drops 9-38608
Ge, size distrib. of electron-hole drops, kinetics of recomb. 9-28292
Ge, strain-confined electron-hole liquid, lifetime and radiative efficiency vs density 9-38000
Ge, strain-narrowing of luminesc. line from excitons 9-24356
Ge, stressed, α_1 and α_2 electron-hole droplet luminesc. 9-28820
Ge, stressed cryst., props. of strain-confined electron-hole liquid 9-7787
GeO₂ based glasses, absorpt. and emission of Ho³⁺ 9-11439
GeSe₂, glassy photoinduced photoluminescence fatigue 9-28827
Ge_{1-x}Si_xGaAs, interimpurity radiative recombination, composition depend. 9-11465
HgI₂, low temp. luminesc. spectra by holographic spectroscopy 9-33820
HgI₂, red, luminesc., excitation spectra on M-band 9-28822
 α -HgS, cinnabar, photolum. meas. 9-19929
III-V alloys, disorder-enhanced Auger recomb. 9-43014
InAs, heavily doped, Burstein-Moss effect and near-band-edge luminesc. 9-47525
InAs, photoluminescence exam. 9-28809
InAs_{1-x}Sb_x, disorder-enhanced Auger recomb. 9-43014
InAs_{1-x}Sb_x, epitaxial film, carrier recomb., elec. and optical props. 9-15164
InGa-GaSe interface, microplasma electrolum. at 300K 9-11469
InGaAs-In_{1-x}Ga_xAs_{1-y}P_y DH laser, LPE fabrication, electroluminesc., lasing characts. 9-3709
InGaAsP, with and without InP cladding layers, low photolum. regions 9-33754
In_{1-x}Ga_xAs_{1-y}P_y layers on InP substrate, LPE growth, quaternary phase diagram, and band gaps 9-42403

luminescence of inorganic solids continued

- In_{1-x}Ga_xAs_{1-y}P_y DH laser material, spatially resolved photolum. characterisation and optically induced degradation 9-47486
In_{1-x}Ga_xAs_{1-y}P_y layers on InP, LPE and opt. props. characteris. 9-28849
InGaP-GaAs junction, effect of elastic strain on energy band gap and lattice parameters 9-24057
In_{1-x}Ga_xP_{1-x}As₂ solid solution, radiative transitions 9-11476
In_{1-x}Ga_xP_{1-x}As₂, stimulated yellow-green emission under electron excitation, 80K 9-33846
InI, photoluminesc., Raman scatt. 9-38593
InP, exciton localisation at impurity pairs 9-37999
InP, excitons bound to neutral donors in VPE layers, luminesc. and absorpt. obs. 9-42460
InP, growth and props., Zn acceptor obs. 9-1822
InP, synthesis solute diffusion grown, elec. props., photoluminesc., etch pit profiles 9-4914
InP:Bi, isoelectronic impurity states, emission and absorpt. obs. 9-42491
InSb, interaction of exciton recombination with LO phonons 9-38647
n-InSb, photoluminescence exam. 9-28809
KBr, optical conversion, luminesc. and colour centre formation 9-24354
KBr:Ga³⁺, luminescence decay times, fluorescence kinetics, 1.6-300K 9-3825
KBr:I, energy transfer due to excitons and holes under host sensitization 9-15526
KBr:I, luminesc., exciton and hole migration to I⁻ sites 9-38626
KCl, gamma irradi. relationship between thermolum. and deform. luminesc. 9-19942
KCl, luminesc. of Z₄ centres 9-24355
KCl:Ca, optical studies of Z₄ centres 9-24336
KCl:Pb, photolum. in A band region, spectral and time decay anal. 9-33823
KCl:Pb, photoluminesc. induced by Suzuki-like occlusions, ionic thermoc. cond. 9-33808
KCl:Sm²⁺, spectra, ⁵D states, Lauer-Fong formula and SCC model 9-15513
KCl:TI, effective cross sections ratio of charged and neutral centres for holes and electrons (*Russian*) 9-28319
KCl:TI, low-temp. ionisation of activator, photoexcitation, in region of interzone transitions (*Russian*) 9-28320
KCl-SrCl₂, photoluminescence of Z₄-centre and associated Z type colour centre (*Russian*) 9-4851
K₂Cr₂O₇, luminesc., vibr. anal. 9-38620
KH₂PO₄, electrophotoluminescence obs. 9-47521
KI, electron irradi., polariton effects in reson. emission 9-33843
KI, luminesc. due to free excitons, line shapes 9-33803
KI, zero phonon and LO phonon assisted luminesc. of free excitons 9-28799
KI:Sn²⁺, luminesc. 9-33817
KI:Sn²⁺, red emission, mag. field effect on radiative decay time 9-33818
KI:TI, cryst., induced recomb. emission 9-4845
KI:TI, emission bands, press. effect 9-33789
KI:TI, X-ray phosphor, influence of different factors on emission intensity 9-8171
KI:TI⁺, luminesc., time depend. polaris. 9-33810
KMgF₃:Ni²⁺, Co, emission from Ni-Ni and Ni-Co pairs, exchange coupling const. 9-33788
KMnF₃, exciton and exciton-magnon emission 9-33779
KMnF₃, luminesc., emission from localised traps 9-33777
K₂NaAlF₆:Cr³⁺, ²E_g, ⁴A_{2g} phosphoresc. spectrum, vibr. struct. 9-47494
K₂NdLiF₁₀, high yield luminesc. 9-1784
K₂UO₂Cl₆, fluoresc. decay rate of pure and impure cryst. 9-47487
KYF₄, KY₂F₆, KY₃F₉, Er³⁺ and Yb³⁺ doped, IR excitation curves for visible luminesc. 9-33795
KZnF₃:Mn²⁺, Cu²⁺, exchange coupled, luminesc. props. 9-33781
K₂O, in doped inert gas matrix, photoluminesc. 9-31579
LaBr₃:U³⁺, luminesc., fluoresc. lifetimes 9-33768
LaCl:Pr(Dy)(Sm), mech. for X-ray luminesc. and thermolum. 9-8170
LaF₃:Dy³⁺, laser excited fluoresc. lifetimes meas. 9-24353
LaF₃:Er³⁺, spin-lattice relax. meas. in excited ⁵S_{3/2} state by purely optical method 9-19923
LaF₃:Ho³⁺, single crystals, multiphonon relax., fluoresc. obs. 9-47495
LaF₃:Nd³⁺, radiative transition rates of Nd³⁺, Judd-Ofelt theory 9-33753
LaF₃:Pr³⁺, anomalous luminesc. decay, phonon reson. trapping and bottlenecking 9-43023
LaF₃:Pr³⁺, optical free induction decay meas. of low temp. dephasing 9-46009
La₂O₃:Eu³⁺, luminesc., excitation spectra, cooperative phonon sidebands 9-33771
La₂O₃:Yb³⁺, charge transfer type luminesc. 9-33797
LaPO₄:Yb³⁺, charge transfer type luminesc. 9-33797
LiAlO₂:Cr³⁺, fluoresc. and excitation spectra, zero phonon lines 9-33785
LiBaAlF₆:Eu²⁺, band emission and line emission 9-28810
LiCl:Ag, luminesc. anal. using synchrotron radiation 9-38639
LiCl:Cu⁺, MO calc. of luminesc. Cu⁺ centres 9-38609
LiF, prep. and dosimetric props. of new highly sensitive form 9-22483
LiF, TLD phosphor, Z₁ centre, thermolum. and optical absorption spectra 9-24374
LiF:Mg, effects of grain size on thermolum. and thermally stimulated exoelectron emission 9-15536
LiF:Mg, role of impurity-vacancy pairs in thermolum. 9-8195
LiF:Mg:Ca detectors, variation of parameters of thermally stimulated luminesc. 9-6793
LiF:Mg dosimetric cryst., light-sum storage during linear stage 9-8194
LiF:Ti, thermoluminesc. dosimetry appl. 9-38683
LiF:Ti, thermoluminesc., effect of plastic deform. 9-33853
LiGaO₃:Cr³⁺, fluoresc. and excitation spectra, zero phonon lines 9-33785
LiH, motion and relax. of free excitons, luminesc. spectra 9-43037
LiH-LiF(Cl), mixed cryst., thermolum., appl. as X-ray detectors 9-6794
Li₂N, superionic conductor, cryst. growth and struct., phys. props., book contrib. 9-42308
Li₂O-Al₂O₃-SiO₂ glasses, Tb³⁺(⁵D₃) luminesc., cross-relax. quenching (*Russian*) 9-33836
Li₂O-B₂O₃:Eu³⁺ glass, laser induced fluoresc. line narrowing, struct. 9-38613
Li₂O-Nd₂O₃-P₂O₅ ultraphosphate glasses, Nd³⁺ conc. quenching of luminesc. effect 9-19931
LiScO₂:Bi³⁺, luminesc., vibr. struct. 9-33790

luminescence of inorganic solids continued

- LiYF₄ UV reflectance, transmission and photoluminescence obs. 9-15488
 LiYF₄:Ho³⁺, optical absorpt. and luminesc. spectra 9-4844
 Lu₂O₃:S₂Eu³⁺, luminesc., excitation spectra, cooperative phonon sidebands 9-33771
 Lu₂O₃:S₂Yb³⁺, charge transfer type luminesc. 9-33797
 LuPO₄:Yb³⁺, charge transfer type luminesc. 9-33797
 Mg(S)²⁺Ne⁺, O-dependent photon emission 9-1810
 MgF₂ crystal, M(D_{2h}) centre absorption and emission spectra obs. 9-19910
 MgF₂:Mn(Co), photoluminesc. due to X-rays, colour centre thermal breakdown 9-24359
 MgO, cathodoluminesc. at dislocations 9-47524
 MgO, pure and doped crystals, X-ray stimulated luminesc. 9-28802
 MgO, thermoluminescence mechanism 9-15538
 MgO:Li, oxidation and reduction up to 1700K, defect prod. 9-39013
 MgO:Ni²⁺, single crystal, thin film, near IR luminescence (*Russian*) 9-28807
 Mg₂SiO₄:Tb TLD, response to X-ray and electron irradi. 9-3285
 Mg[Pt(CN)₄].7H₂O, high press. tuning of optical transitions 9-28813
 MnCl₂, fine struct. of Mn²⁺ lines 9-33780
 MnF₂:Zn, shift and broadening of optical transitions 9-38579
 N₂ in Ar matrix, luminesc. lifetime 9-36690
 N₂, luminesc., multiphonon-assisted energy transfer 9-47498
 N₂, solid 9-19939
 NH₄Br:Ti, absorption, excitation and fluorescence spectra 9-33824
 (NH₄)₂Cd₂(SO₄)₂:Mn²⁺, UO₂²⁺, luminesc., vibr. modes 9-38629
 NH₄Cl:Ti, phosphoresc. decay rates obs., pretreatment effects 9-4853
 Na, chemisorption of halogens, surface chemiluminesc., MO description 9-43048
 Na₃Al₂Si₂O₁₂Cl:Br,Ge, solalite, reflectance and luminescence obs. 9-4839
 NaBr:Cu⁺, luminesc. and lifetimes, press. depend. 9-33809
 Na₃Ce_{1-x}Tb_x(PO₄)₂, UV excitation, emission spectra 9-38595
 NaCl, microcryst. powder, isothermal stability of colour centres, thermolum. glow curve 9-15535
 NaCl, optical conversion, luminesc. and colour centre formation 9-24354
 NaCl:Ag, irradi. with synchrotron radiation, thermolum. light-sum spectrum of L absorpt. edge of Cl⁻ 9-15540
 NaCl:Br, host-sensitized luminesc., energy transfer due to excitons and holes 9-38590
 NaCl:Cu, X-irrad., thermoluminesc., F-centres 9-33849
 NaCl:Cu⁺, luminesc. and lifetimes, press. depend. 9-33809
 NaCl:Cu⁺, X-irrad., thermoluminesc. centre, EPR anal. 9-43045
 NaClO₃, X-irrad., thermal stability of radiation damage products 9-34324
 NaLnO₃:Bi³⁺, (Ln=La, Gd, Sc), luminesc., vibr. struct. 9-33790
 Na₂NdPb₆(PO₄)₄Cl₂, self-activated mini-laser material, quantum yield determ. 9-33773
 Na₂O-Al₂O₃-B₂O₃-SiO₂-AgBr(Cl), photochromic glass, exam. of role of O and Cu ions, using luminescence spectra 9-4849
 Na₂O-TeO₂:Ho³⁺(Er³⁺)(Yb³⁺), luminesc. quenching by OH and OD (*Russian*) 9-28839
 Na₂ZrGeO₅:Eu³⁺ crystals, luminescence spectrum 9-47604
 Nd glasses, luminesc. obs. by chronospectroscopic technique 9-11467
 Nd³⁺ activated laser matrices, luminesc. quantum efficiency, conc. depend. 9-27263
 Nd³⁺:glass, laser induced fluoresc. line narrowing, site depend. 9-33819
 Nd³⁺:glass, laser props., uncorrelated inhomogeneous broadening of 1.06 μm band induced luminesc. quenching 9-31914
 NdAl₃B₂O₁₂, self-activated mini-laser material, quantum yield determ. 9-33773
 NdP₂O₁₄, fluoresc. decay times meas. 9-8187
 NdP₂O₁₄, laser materials, linear conc. quenching of luminesc. 9-31908
 NdP₂O₁₄, luminesc. excited by LED radiation 9-24366
 NdP₂O₁₄, self-activated mini-laser material, quantum yield determ. 9-33773
 Nd₂Y_{1-x}P₂O₁₄, fluoresc. energy transfer and radiationless relax. 9-38625
 Ne, solid, lattice relax. model of n=1 exciton emission 9-47492
 Ne:Ar(Kr)(Xe), luminesc. in vacuum-UV excitation of guest atoms by free and relaxed excitons 9-15519
 Ne:Xe(Ar), electronic relax. cascades in Wannier and Frenkel type exciton states 9-33759
 OH⁻ vibr. dipole field and ion-pair processes with rare earth ions 9-38624
 P₂O₅-K₂O-CdO-Na₂O glass:Nd³⁺, highly doped, spectroscopic props. and CW laser action (*French*) 9-41385
 PbI₂ (2H), angular depend. magnetoluminesc. 9-43029
 PbS, molecule, vibr. anal., in neon matrix (*Russian*) 9-10094
 PbS-(PbSO₄)_x(PbO.PbSO₄)_y heterosystem, cathodoluminescence spectra 9-24370
 Pb_{1-x}Sn_xTe, energy band parameter determ. from photoluminescence spectra in mag. field 9-11066
 PbTe epitaxial films, carrier recomb. and deep levels, photocond., Hall effect, and luminesc. meas. 9-38024
 PbWO₄, single cryst. growth by Czochralski method and U incorporation, effective distrib. ratios, luminesc. characts. 9-42094
 Pb(WO₄)_{1-x}(MoO₄)_x mixed crystals, X-irrad., EPR and thermoluminesc. 9-15352
 RbCl, undoped and Sn doped, γ-irrad. crystals, thermolum. and emission, 300 to 560K 9-15539
 RbCl:Mg, γ-irrad., thermoluminesc. 9-47528
 RbI, electron irradi., polarization effects in reson. emission 9-33843
 RbI, zero phonon and LO phonon assisted luminesc. of free excitons 9-28799
 RbI:Ti, emission bands, press. effect 9-33789
 RbMnF₃, exciton and exciton-magnon emission 9-33779
 Rb₂UO₂Cl₂, fluoresc. decay rate of pure and impure cryst. 9-47487
 ReCl₂²⁺ doped in various host lattices, luminesc. spectra and vibr. struct. 9-43024
 S₂, matrix isolated, chemilum. in solid Ar 9-47529
 ScBO₃:Tb³⁺, vacuum UV excitation spectra and quantum efficiencies 9-28811
 Se, exciton luminesc. in trigonal form 9-33802
 Se, trigonal, indirect exciton ground states, photoluminescence 9-24361
 Si, amorphous, mag. field depend. of luminesc. 9-43034
 Si, amorphous film, plasma-deposited, photoluminesc. and EPR meas. 9-4864
 Si, Auger recomb. coeff. meas. using laser excitation 9-38654
 Si, characterisation by photolum. method (*Japanese*) 9-38638

luminescence of inorganic solids continued

- Si, electron-hole droplet luminesc., laser excitation threshold meas. 9-33821
 Si, electron-hole droplets nucleation at swirl defects 9-15095
 Si, electron-hole drops, nucleation, luminesc. threshold obs. 9-33822
 Si, emission spectra, excitons bound to iso-electronic trap 9-33772
 Si, intrinsic, phonon replicas of electron-hole liq. luminesc. line 9-28831
 Si, LO and TO phonon assisted free exciton luminesc. 9-33833
 Si, nonradiative recombination and luminesc. 9-33770
 Si:B, bound multiexciton luminesc., recomb. kinetics 9-38591
 Si:B, many-body exciton-impurity complexes, stress depend. of photolum. meas. 9-28833
 Si:In, obs. of long lifetime lines in photolum. 9-47512
 Si:In, photoluminesc., In acceptor excited level 9-47506
 Si:In,P, photoinduced IR absorpt. and luminesc. 9-33828
 Si:Li, bound exciton complexes associated with Li, photolum. meas. 9-28823
 Si:Li, luminesc. of bound exciton and bound multiexciton complexes 9-28821
 Si:P, photoluminesc. associated with impurity clusters 9-38656
 Si:P, uniaxially deformed, multiparticle impurity complexes, luminesc. spectra (*Russian*) 9-4854
 Si:P(B), recombination spectra of bound multiexciton complexes, Zeeman splitting (*Russian*) 9-38526
 Si:Sb(As)(P), bound excitons and bound multiexciton complexes for shallow donors, luminesc. meas. 9-24363
 SiC (15 R), polytype, many valleyed polar semicond., electron-hole-liquid, obs. from excitation and time delayed spectra 9-28289
 SiC, luminesc., electron-hole drop 9-38606
 SiC, thermolum. excited by light outside fundamental absorpt. region 9-24375
 a-Si_{1-x}H_x, oxygenated thin film, sputtered, elec. cond. and optical props. 9-15239
 SiO₂, vitreous, luminesc. centres, decay time and polarization props. 9-33829
 SiO₂, vitreous, neutron irradi., luminescence nature and ESR signals correl. 9-43038
 SrF₂, neutron irradi., role of F-centres in thermoluminesc. 9-19941
 SrF₂:Na, γ-irrad. cryst., spontaneous and induced colour centre emission 9-7131
 SrF₂:Na, tunable room temp. laser action of M-centres, luminesc. and absorpt. spectra 9-31907
 SrF₂:Sm²⁺, interconfig. luminesc. spectra, vibronic wing 9-24358
 SrF₂:Sm²⁺, spectra, ³D states, Lauer-Fong formula and SCC model 9-15513
 SrF₂:Sm²⁺(Tm²⁺), vibronic spectra and dynamics of impurity-containing lattice 9-1787
 SrLaBO₄, crystallographic and Pb²⁺ luminesc. data 9-32971
 Sr₂Ca₂ phosphor electroluminescence characts. 9-33838
 Sr₂TiO₇:Eu, synthesis, luminesc. of materials 9-11534
 SrWO₄, single cryst. growth by Czochralski method and U incorporation, effective distrib. ratios, luminesc. characts. 9-42094
 Te₃₀As₃₀Si₁₇Ge₇P₁ amorphous film, electroluminescence from on state 9-8188
 TeO₂-Li₂O glass:Nd³⁺, highly doped, spectroscopic props. and CW laser action (*French*) 9-41385
 ThBr₄:U⁴⁺, IR luminesc., zero phonon lines 9-33769
 ThO₂, pure and Tb³⁺ doped, impurities effect in absorbluminesc. and photoluminesc. 9-38597
 ThO₂:Pr³⁺, luminesc., calcination temp. and excitation process depend. 9-33749
 n-TiO₂-electrolyte interface, electrolum. obs. 9-47520
 Ti₂Cl₂Br₂, excitation of luminesc. by AC elec. field 9-38670
 UO₂²⁺ luminesc., excited states anal. 9-33766
 UO₂(NO₃)₂, mechanoluminesc., cryst. site depend. 9-38685
 Xe, crystal, edge hot emission, free exciton luminesc. (*Russian*) 9-15520
 Xe, luminesc. from self trapped excitons (excimers) 9-1785
 YAG:Ce³⁺, excited-state absorpt. meas., tunable laser model system 9-42994
 YAG:Nd³⁺ crystal, zero-phonon linewidths, in ⁴I_{9/2}→⁴F_{3/2} luminesc. band calc. 9-28834
 YAl₃BO₄:Bi³⁺, luminesc., vibr. struct., energy transfer 9-38584
 Y₃(Al_{1-x}Ga_x)₅O₁₂:Nd, fluoresc. energy transfer and radiationless relax. 9-38625
 YBO₃:Bi³⁺, Eu³⁺, vacuum UV excitation spectra and quantum efficiencies 9-28811
 YF₃:Er³⁺, Yb³⁺, IR excitation curves for visible luminesc. 9-33795
 YF₃:Yb,Er, IR to visible radiation transform., limit yield (*Russian*) 9-28838
 Y₂O₃, autolocalised excitons (*Russian*) 9-19523
 Y₂O₃, vacuum UV luminesc., excitation by X-ray synchrotron radiation 9-8168
 Y₂O₃:Eu, fluoresc., cathodoluminesc. and thermal quenching 9-47488
 Y₂O₃:Eu sintered slice, DC electroluminesc., impact excitation 9-47522
 Y₂O₃:Eu³⁺, luminesc., excitation spectra, cooperative phonon sidebands 9-33771
 Y₂O₃:Sb, cathodoluminesc., nonlinear depend. on activator concs. 9-8190
 Y₂O₃:Yb³⁺, charge transfer type luminesc. 9-33797
 YPO₄:Yb³⁺, charge transfer type luminesc. 9-33797
 YVO₄, pure and Bi³⁺ doped, absorpt. and emission props., excitons 9-38592
 YVO₄:Er³⁺, Yb³⁺, IR excitation curves for visible luminesc. 9-33795
 YVO₄:Eu, fluoresc., cathodoluminesc. and thermal quenching 9-47488
 Y₂WO₆, new structural type, unit cell, space group, fluorescence spectra 9-1420
 Y₂WO₆:Eu, noncontinuum model for energy transfer 9-33800
 Y₂WO₆:Eu³⁺, luminesc., rel. to crystallographic data 9-33793
 Zn₂Cd_{1-x}S_x:Cu, photoluminesc., Birman effect (*Russian*) 9-28837
 ZnIn₂S₄ (I) film, one-packed polytype, resist., photocond. and luminesc. 9-1608
 ZnO, electron-hole recombination emission, temp. depend. and phonon repetitions (*Russian*) 9-15521
 ZnO epitaxial film, UV luminesc. due to one-, two-photon excitation, laser possibility 9-11468
 ZnO, luminescent, phonon detection by shallow electronic trap states 9-14902
 ZnO, pure and rare earth doped, photo- and electroluminesc. 9-28803
 ZnO, stimulated two-photon emission from excitonic molecules 9-28815
 ZnO:Cu, excited state, zero phonon lines in emission and Zeeman spectra 9-38026

luminescence of inorganic solids continued

- ZnO:Nd, electrolum. brightness waves, 93 to 363K 9-33839
 ZnO:Pr(Gd)(Er), phosphors, photoluminesc. and electroluminesc. spectra 9-11457
 ZnO-TeO₂ glass, Ho³⁺ or Er³⁺ doped, visible green emission 9-15523
 ZnP₂, monoclinic, cathodoluminesc. spectra exam. 9-15534
 ZnPz, trapping levels, TSC and thermolum. meas. 9-15115
 ZnS, electrolum. phosphors, surface phenomena occurring during ageing (Russian) 9-33842
 ZnS Schottky-barrier diodes, blue light emission 9-38671
 ZnS, self activated emission, spin depend. donor acceptor pair recombination, ODMR exam. 9-42870
 ZnS:⁹⁰Sr, continuously acting luminous solid for photoelec. meas. over 300-800 nm range 9-3757
 ZnS:Ag, Al and ZnS:Cu, Al, LV cathodoluminesc. 9-33844
 ZnS:Ag, photon counting statistics of cathodoluminesc. light emission 9-24371
 ZnS:Ag phosphors, luminesc. of glow surface centres (Russian) 9-28836
 ZnS:Au, phosphor, 'blue' and 'green' centre form. (German) 9-38665
 ZnS:B, new luminesc. centre 9-38635
 ZnS:Cl, self-activated, blue emission band 9-38633
 ZnS:Cu, Gudden-Pohl effect, flash kinetics 9-24367
 ZnS:Cu,Er,Cl film, ageing and forming, DC electroluminesc., impact excitation 9-47522
 ZnS:Cu 9-24350
 ZnS:Er diodes, electrolum. 9-33840
 ZnS:Er³⁺, luminesc. centres with cubic symmetry 9-38636
 ZnS:Mn, AC thin film electroluminesc., filamentary emission and memory effect 9-38672
 ZnS:Mn, Cu powder devices, DC electroluminesc. 9-38674
 ZnS:Mn film, AC electrolum., memory effects 9-38673
 ZnS:Mn film, electroluminescence theory 9-11470
 ZnS:Mn film in SnO₂-ZnS-Cu_xS-ZnS:Mn-Al₂O₃-Al struct., electrolum. 9-33837
 ZnS:Mn films, photoluminesc. and electroluminesc., excitation mechanism of luminesc. centres 9-11459
 ZnS:Mn(Al)(Te), luminesc., exciton struct. 9-33801
 ZnS:Pb, luminescence, polaris. emission 9-38634
 ZnS:RF₃ film, AC electrolum., memory effects 9-38673
 ZnS:Cu, polycryst., influence of alternating elec. field and UV light on struct. defects, electrolum. expts. 9-43041
 ZnS-CuGaS₂ heterodiodes, LPE, emission spectra 9-33335
 ZnS-Mn crystal, polarisation meas., luminesc. and Raman spectra 9-8138
 ZnS_{1-x}Se_x:Cu,Br ceramic, current oscills. and electrolum. under high elec. fields 9-38677
 ZnS₂Se_{1-x}Fe, photolum. meas. 9-19921
 ZnSe, blende type struct., luminesc. under high excitation 9-19928
 ZnSe, electroluminesc. exam. high voltage pulses 9-15533
 ZnSe, epitaxial, organometallic CVD, on GaAs, and photolum. 9-8249
 ZnSe, epitaxial layers, close-spaced technique, preparation and optical props. 9-47637
 ZnSe, luminesc., reson. Raman scatt. due to excitonic mols. 9-33816
 ZnSe MOS diodes, injection luminesc., edge emission 9-28842
 ZnSe surface barrier diode, hot charge carriers, elec., photoelec., and electroluminesc. props. (Russian) 9-33841
 ZnSe:Al, thermally stimulated transients, new approach 9-38086
 ZnSe:Cu,Al, LV cathodoluminesc. 9-33844
 ZnSe:In, single crystals, new vapour phase growth method, elec. cond. props. and photoluminesc. spectra 9-19982
 ZnSe:Mn thin film, AC electrolum. 9-47519
 ZnSe:Mn(Al)(I), Schottky diode, direct impact excitation of luminescent centres 9-7900
 ZnSe:Pb, luminescence photocond. 9-38634
 ZnSe_{1-x}S_x, luminescence, polaris. emission 9-38634
 ZnSiP₂ monocryst., impurity induced photoluminescence (Russian) 9-4850
 p-ZnTe 9-43028
 ZnTe, blende type struct., luminesc. under high excitation 9-19928
 ZnTe, electro- and cathodoluminesc., impurity segregation 9-43042
 ZnTe, exciton localisation at impurity pairs 9-37999
 ZnTe, photoluminesc., donor and acceptor excited states 9-38622
 ZnTe, radiative recombination involving free particle scatt. 9-38648
 ZnTe, Raman scatt. and exciton luminesc. under reson. excitation 9-38617
 ZnTe, relax. times of secondary radiations, circular polarisation correlation 9-28816
 ZnTe, SEM and luminesc. study of Li segregation 9-38657
 ZnTe, single cryst., electron-hole drop conc. (Russian) 9-11460
 ZnTe:P(Li), luminesc. transitions, quantum efficiency 9-1783
 ZnWO₄:Ni²⁺, luminescence rel. to Ni concn. 9-24352
 ZnO₂, stabilized, thermal barrier coating system, spectral emission and absorpt., 300 to 1590K 9-24672
 ZrSiO₄, zircon, thermoluminesc. glow curve and spectrum 9-33847

luminescence of liquids and solutions

- acridine, methanol soln., edge excitation red shift, excited state proton association 9-18228
 acridine orange, solvent effect on fluoresc. polaris. 9-41191
 2-amino-7-nitrofluorene, in binary solvent soln., time-resolved fluoresc. spectroscopy 9-36680
 4-amino-N-methylphthalimide-decalin-n-propanol, translational relax. kinetics, luminesc. obs. 9-8180
 4-aminomethylphthalimide-decalin-n-propanol, electronic spectra of 3-component solns., temp. depend. 9-4822
 4-aminophthalimide, soln. in n-propanol, fluoresc., orient. relax. of solvent 9-24357
 2-aminopurine, triplet state, elec. dipole moments 9-22742
 5-aminopyrimidine, triplet state, elec. dipole moments 9-22742
 8-anilino-1-naphthalenesulfonic acid, fluoresc. probe mol. in mixed solvent 9-45746
 anthracene, excimer form. in soln. and cryst., fluoresc. study 9-45759
 anthracene derivatives in soln., fluoresc. and laser parameters 9-27251
 anthracenophanes, fluoresc. and photoisomerisation 9-33781
 apomyoglobin-arylaminonaphthalenesulfonate system, fluorescent behaviour 9-39359
 aromatic compounds, subpicosecond states, fluoresc. spectroscopy in liquids 9-45758
 aromatic hydrocarbon, quenched with Ag⁺ in ethanol, triplet state form. 9-11801

luminescence of liquids and solutions continued

- aromatic hydrocarbon acceptor, energy-deficient, and tetrathiafulvalene donor systems, electrogenerated chemiluminesc. 9-20372
 aromatic hydrocarbons, ethanol-KI solns., fluoresc. affected by I⁻ 9-13749
 azulene, soln., laser-excited S₂→S₁, S₁→S₀ emission and S₂→S_n absorption 9-10131
 bilirubin, soln. luminesc. 9-31572
 chemiluminescence in soln., energy transfer 9-11479
 coronene, in ethanol soln., external heavy atom effect on triplet state, phosphorescence meas. 9-18231
 coumarin 6-diethylamine, fluoresc. induced by laser, vibr. relax. 9-26984
 coumarin laser dyes, in methanol, ethanol, and water, fluoresc. lifetimes meas. 9-27252
 dialkylanilines, p-substituted, twisted internal charge transfer excited state form. 9-22683
 diethylamine, liq., Raman scatt. following optical excitation, vibr. relax. 9-26984
 p-dimethylaminoacetophenone, ps reversible isomerisation kinetics, O₂ quenching obs. 9-5133
 dimethylsulphoxide, Eu³⁺→Pr³⁺ and Eu³⁺→Er³⁺ non-radiative energy transfer 9-47510
 dye solution, mol. fluctuation distrib. function 9-36692
 dye solutions, liq. scintillation counting, rel. to colour quenching ability 9-1790
 dye solutions, mixed, fluoresc. conc. quenching, sensibilisation 9-24347
 EBBA, nematic, ordering parameter temp. depend. 9-23517
 energy transfer, between ions in solutions under conditions of n-pair formation 9-4843
 eosin, fluoresc. polarisation, solvent effects 9-36678
 fluorene, in ethanol soln., external heavy atom effect on triplet state, phosphorescence meas. 9-18231
 fluorescent dye medium, short laser pulse superposition, numerical anal. 9-31891
 liquid, electron-hole interactions and double proton transfer, picosec. laser obs. 9-45773
 macromolecules, thermal rotations of mols. in soln. mol. wt. depend. 9-13847
 malachite green, luminesc. decay kinetics on ps time scale 9-19916
 MBBA, nematic, ordering parameter temp. depend. 9-23517
 micellar solutions, fluoresc. quenching rel. to aggregation numbers 9-34364
 multicomponent luminescent system, nonradiative transfer of electronic excitation energy 9-28804
 1,8-naphthoile-1',2'-benzimidazole-phenylimide of 4-aminonaphthalic acid luminophor mixture (Russian) 9-47514
 nematic liq. cryst. with luminesc. impurity, luminesc. and absorpt., order parameter determ. 9-4240
 photoluminescence of solutions, decay and self-depolarisation 9-24351
 phthalimides, spectrum luminesc. props., laser generating capacity and generation features (Russian) 9-31897
 poly-1-vinyl-naphthalene solution, time-resolved fluoresc. spectroscopy, excimer form. and dissoc. 9-38637
 poly-2,6-dimethylphenyleneoxide, fluoresc. correction in light scatt. meas. 9-1771
 polymethine dyes, mol. struct., lasing props. 9-3693
 polyphenyls, fluoresc. and sensitization props. 9-38599
 polystyrene solution, time-resolved fluoresc. spectroscopy, excimer form. and dissoc. 9-38637
 porphyrin (d₂,d₄,d₆,d₈,d₁₀,d₁₂,d₁₄), nonradiative transition probabilities, deuteration effects 9-3485
 ps reversible isomerisation kinetics, O₂ quenching obs. 9-5133
 radiationless energy transfer between ions in solutions 9-10140
 rhodamine 6G, blue and UV luminesc., obs. and mechanism 9-3486
 rhodamine 6G, in glycerine-water solns., anti-Stokes fluoresc., conc. quenching 9-24349
 rhodamine 6G, in organic solvent, hot luminesc. 9-4842
 rhodamine 6G, micellar soln., aq. fluoresc. decay for rot. diffusion const. 9-11826
 rhodamine 6G, soln., hot luminesc. and vibr. relax. 9-22752
 rhodamine dye, intercombination conversion rate consts. from triple quenching by 1,4-diphenylbutadiene 9-956
 rhodamine dye solns., amplified spontaneous emission 9-45941
 rhodamine dyes, phosphoresc. quantum yields determs. 9-8179
 rubrene, electrogenerated chemilum., production of excited states by direct heterogeneous electron transfer 9-20371
 trans-stilbene, fluoresc. decay, picosecond anal. 9-31569
 3,6-tetramethyldiamino-N-methylphthalimide soln., hot luminesc. and vibr. relax. 9-22752
 3,6-tetramethyldiamino-N-methylphthalimide, in organic solvent, hot luminesc. 9-4842
 triphenylene-d₁₂, in ethanol soln., external heavy atom effect on triplet state, phosphorescence meas. 9-18231
 tyrosine fluorescence at 345 nm in proteins lacking tryptophan 9-39360
 umbelliferone, excited states, in ethanol-water soln., absorption and emission spectra 9-13763
 uranine, intercombination conversion rate consts. from triplet quenching by 1,4-diphenylbutadiene 9-956
 water, solnoluminescence spectrum in visible region (French) 9-33855
 Ar jet, supersonic, electron beam-excited, continuous VUV emission spectrum origins 9-6964
 Dy³⁺+O₃(SO₃²⁻)(SO₂), in H₂SO₄ soln., electrochemiluminesc. emitters quenching by electrolysis products 9-1794
 HCl:Bi³⁺ solution, characts. of luminesc. spectra, 82 to 130K (Russian) 9-28835
 HCl:Bi³⁺ soln., luminesc., quantum yield and lifetime (Russian) 9-33834
 Rh complexes, Rh(III) halopentaammines, solns., luminesc. and excited state lifetimes, photoquation 9-8175
 Ru complex, electrogenerated chemiluminesc., production of excited states by direct heterogeneous electron transfer 9-20371
 Ru complex, Ru(II)-polypyridine, excited charge transfer states, multiple emissions 9-3468
 Tb³⁺, bound to benzene-carboxylic acid derivatives, emission intensity 9-18230
 Tb³⁺, in POCl₃:SnCl₄, ⁵D₃→⁵F₄ transition, solvent depend. 9-22644
 Tb³⁺+O₃(SO₃²⁻)(SO₂), in H₂SO₄ soln., electrochemiluminesc. emitters quenching by electrolysis products 9-1794
 Zn-porphyrin(d₄,d₆,d₁₂), nonradiative transition probabilities, deuteration effects 9-3485

luminescence of organic solids

- adamantane, plastic cryst., radio- and photothermoluminesc. (*Russian*) 9-11477
- alkyl ammonium halide:Ti phosphors, exciton absorpt. spectra 9-28782
- anthracene:9-vinylanthracene, electroluminesc. at room temp. 9-15532
- anthracene:tetracene, crystals, triplet kinetics model (*German*) 9-4518
- anthracene, excimer form. in soln. and cryst., fluoresc. study 9-45759
- anthracene, fluoresc. from (001) surface and sub-surface excitons 9-33763
- anthracene, in n-paraffin matrices, luminesc. spectra, depend. of inhomogeneous broadening (*Russian*) 9-10145
- anthracene, lifetimes of exciton-polariton luminesc. 9-33761
- anthracene, liq. chromatography, sublimation, zone refining, exciton fluoresc., mobility meas., melt grown crystal 9-38736
- anthracene, reflectivity and fluoresc. of (001) surfaces, sub-surface exciton states 9-15508
- anthracene, Shpolskii spectra, vibronic struct., fluoresc. (*German*) 9-22754
- anthracene, single cryst., X-ray radiation damage, delayed fluoresc. meas. (*Japanese*) 9-37736
- anthracene, singlet exciton annihilation kinetics 9-19926
- anthracene, structural defect, photolum., γ -irrad. and temp. depend. (*Russian*) 9-28797
- anthracene isotopic mixed crystals, exciton spectra 9-38602
- aromatic compounds, in n-paraffin cryst., luminesc. characs. 9-3480
- aromatic compounds luminesc. polarisation, quasiliines and bands in Shpolskii spectra (*Russian*) 9-31592
- aromatic molecules in clathrates, Raman and phosphoresc. spectra 9-36647
- benzene, cryst., vibronic spectra using 2-photon fluoresc. excitation 9-47493
- benzene, luminesc. yield spectra in VUV 9-36685
- benzene, solid and isolated in rare-gas matrices, spectroscopic study 9-3455
- 1,2-benzocoronene, phosphoresc. and ODMR meas. 9-18220
- benzophenone, triplet exciton absorpt. lines 9-38563
- 2-benzoylpyridine, mol. cryst. triplet state selective photoexcitation, phosphoresc. spectra and microwave-optical double reson. 9-15507
- 2-benzoylpyridine, triplet states, phosphoresc. and ODMR 9-38603
- biphenyl, luminesc. yield spectra in VUV 9-36685
- biphenyl, luminescence spectrum intensity distribution 9-3476
- charge-transfer crystals, long lived emission 9-33752
- 1-chloro-9,10-anthracene crystal, electronic structure of lowest triplet state (*Japanese*) 9-8158
- 2-chloroanthracene:acridine, electrolum. at 300K 9-15531
- chlorophyll a and analogues, triplet state, phosphoresc. polaris. 9-39358
- copper porphyrin, Zeeman expt. on phosphoresc. triplet and quartet states 9-33786
- 9-cyanoanthracene excimer emission, in glassy and cryst. matrices 9-11445
- decane: pyrene (coronene), quasilines spectra, multiplet struct., freezing conditions and solvent effects 9-1786
- diacetylene, luminesc. and ODMR spectra 9-38604
- 1,2,5,6-dibenzocoronene, phosphoresc. and ODMR meas. 9-18220
- 1,4-dibromonaphthalene:octafluoronaphthalene, absorpt. and phosphoresc. spectra, intermol. reson. 9-33764
- 4,4'-dichlorobenzophenone, triplet exciton absorpt. lines 9-38563
- dimethyl sulphoxide, UO_2^{2+} γ -irrad. frozen solns., radiothermolum. and temp. deactivation (*Russian*) 9-33854
- 9,10-dimethylnaphthalene, Shpolskii spectra, vibronic struct., fluoresc. (*German*) 9-22754
- dinaphtho-(2,3':1,2):-(2"3":6,7)-pyrene, triplet state, phosphoresc. and ODMR obs. 9-27013
- diphenyl:naphthalene, relax. times of ground electronic state vibrational levels 9-19907
- dyes in rigid matrices, solvent reorientation relax. effect on luminesc. 9-43009
- epoxy resins, strain anal. by fluoresc. meas. (*French*) 9-47846
- erbium ethylsulphate, cryst. laser-excited fluoresc. intensity 9-33751
- ethyl substituted ammonium halides, exciton absorpt. spectra 9-28782
- fluorene:dibenzofuran, mixed cryst., dipole-forbidden guest-host energy transfer 9-38585
- glasses, hole burning, fluoresc., struct. 9-31588
- guest/host mixed crystal systems, thermally activated intermolecular effect of deuteration on guest phosphoresc. 9-43010
- hexane:pyrene (coronene), quasilines spectra, multiplet struct., freezing conditions and solvent effects 9-1786
- 1-iodonaphthalene-perfluorated naphthalene solid soln., sensitised phosphoresc., site selection method, Dexter's theory 9-4836
- isoquinoline luminesc. in polymeric media at high press. 9-13756
- ketones, mol. cryst., interband transitions, triplet-triplet absorptions 9-11452
- luminophores, luminesc. under action of atomic H (*Russian*) 9-8177
- mannose, increased luminescence response on storage 9-25112
- 9-methylnaphthalene, Shpolskii spectra, vibronic struct., fluoresc. (*German*) 9-22754
- methylcyclohexane glass, γ -radiolysis, electron tunnelling from matrix trapped biphenyl ions 9-29379
- 3-methylpentane glass, γ -radiolysis, electron tunnelling from matrix trapped biphenyl ions 9-29379
- molecular crystal, exciton scatt. by lattice defects, absorpt. line shape 9-38576
- molecular organic crystals, triexcitons, theory 9-33787
- 1,2-naphthacoronene, phosphoresc. and ODMR meas. 9-18220
- naphthalene: β -naphthyl-n-biphenyl-n-biphenyl ethylene, relax. times of ground electronic state vibrational levels 9-19907
- naphthalene:anthracene, two-photon picosec. excitation, sensitised fluoresc. kinetics 9-47516
- naphthalene:quinoxaline, spin-lattice relax. of triplet states of high mag. fields 9-19933
- naphthalene, cryst., singlet exciton interactions fluoresc. decay 9-47027
- naphthalene, exciton migration, variable range cluster model 9-33762
- naphthalene, triplet exciton annihilation at high triplet densities 9-37996
- naphthalene, vibronic fluorescence spectrum, intensity distribution 9-3477
- naphthalene β -chloronaphthalene, optically induced detrapping of triplet excitons 9-28828
- naphthalene mixed crystal, NH_3/Nd_3 , phosphoresc., energy transfer model 9-38600
- naphthalene- d_8 :naphthalene, betamethylnaphthalene, $^1B_{2u}$ naphthalene exciton percolation kinetics, exciton coherency 9-33750

luminescence of organic solids continued

- naphthalene-TCPA charge transfer triplet states, electron-phonon coupling 9-38601
- naphthalenes, phonon satellite narrowing in local exciton luminesc. (*Russian*) 9-47507
- 1,8-naphtholene-1',2'-benzimidazole-phenylimide of 4-aminonaphthalic acid luminophor mixture (*Russian*) 9-47514
- octane: pyrene(coronene), quasilines spectra, multiplet struct., freezing conditions and solvent effects 9-1786
- 1,3,5,7-octatetraene, lowest excited singlet state, dipole forbidden character 9-27024
- organic molecules in Shpolskii matrices, phosphoresc. site selection spectrosc., ODMR 9-36687
- palladium porphyrin, Zeeman expt. on phosphoresc. triplet and quartet states 9-33786
- [2,2]paracyclophane, delayed luminesc. in cryst. and rigid glass solns. 9-15510
- perylene, excimer form. process, ps laser fluoresc. obs. 9-11448
- perylene, exciton fission in excimer forming cryst., fluoresc. 9-15511
- [2,2]phanes in glass matrices, transanular π -electron interaction, emission spectra 9-36682
- phenanthrene:anthracene, cryst., triplet-triplet annihilation, shallow traps effect, 77-293K 9-11446
- poly-N-vinylcarbazole:2,4,7-trinitrofluorenone, fluoresc. kinetics, stroboscopic meas. 9-11443
- polypeptide hormones, folding, ODMR and phosphoresc. 9-20518
- polyphenyls, fluoresc. and sensitization props. 9-38599
- polystyrene, X-ray irrad., thermoluminescence emission, exam. of kinetic order 9-43046
- protein interaction with nucleic acids and sugars, studied by luminesc. 9-34476
- pyrene in diphenyl cryst., luminesc. polaris. to induce radn. at O-O transition freq. (*Russian*) 9-38663
- quinoxaline, in n-pentane (isooctane) Shpolskii matrices, luminesc. props., vibr. struct. 9-22739
- quinoline in alcoholic glasses, induced fluoresc. 9-33775
- sodium uranyl acetate, fluoresc., circ. dichroism 9-38598
- spectra of diffuse reflection and photoluminesc. (*Russian*) 9-11447
- stilbene, single cryst. under pulsed electron excitation, triplet exciton luminescence and opt. absorpt. 9-7838
- sugar, mechanoluminesc., cryst. size depend. 9-38685
- tetracene:pentacene, pressure-induced phase transition, mag. field effect on guest fluoresc. 9-33083
- tetracene, photoluminescence spectra, 4,2-300K, phase transition and excitons 9-4847
- tetracene, spatial distrib. of electrolum. and recomb. process 9-19938
- tetracene, thin cryst., electrolum. detection and determ. of spatial distrib. 9-19937
- 1,2,4,5-tetrachlorobenzene, exciton migration and trapping, X-trap phosphoresc. 9-1780
- 1,2,4,5-tetrachlorobenzene, triplet state spin-lattice relax. in cryst. and matrix isolated mol. 9-11449
- 1,4,5,8-tetrahydroxyanthraquinone, selective excitation, luminescence of long-wavelength component of multiplet 9-3478
- TGS, switching induced electrolum. 9-38669
- TGS, thermoluminesc. near Curie temp., effect of DC elec. field 9-33848
- triphenylene in Shpolskii matrix, orientation, ESR and fluoresc. spectra 9-36688
- $NdAl_3[BO_3]_4$, luminescence and lasing characs., solubility 9-31910

luminescence of solids

- see also luminescence of inorganic solids; luminescence of organic solids
- activated crystals, influence of temp. on energy transfer 9-38233
- configurational co-ordinate model, predictive use 9-19918
- disordered system, phonon assisted energy transfer 9-38610
- electronic excitation energy transfer in activated crystals., math. modelling 9-38028
- energy transfer, unified model, arbitrary Franck-Condon offset and temp. 9-1781
- exciton luminescence spectra, surface polaritons and Brewster waves (*Russian*) 9-43033
- exciton-phonon interaction, exciton absorpt. lineshape, polariton and wave models 9-38564
- F-centres, relaxed excited state, spin polarisation, saturated optical pumping 9-15522
- high density excited system, population instability and optical anomalies 9-28826
- hot luminescence and relaxation processes 9-38619
- impurity atoms in solids, photon antibunching in reson. fluorescence 9-43025
- impurity radiative transitions, hydrostatic press. effects 9-38632
- ion induced optical emission for surface and depth profile analysis 9-4333
- ions in solids, time resolved fluoresc. line narrowing 9-38611
- kinetics, WKB calcs. 9-33810
- line profile, microscopic theory 9-28832
- local heating, quantum transitions in coupled electron-vibr. system 9-15514
- molecular crystal with impurities, nonequilib. phonon excitation by laser pumping (*Russian*) 9-38664
- molecular solids, Raman, fluoresc. and nonlinear props. 9-33702
- phonon-assisted radiative electronic transitions 9-24348
- photoacoustic measurement of absolute quantum efficiencies 9-19924
- predictability of luminesc. props. 9-47504
- radiative and nonradiative recomb. at metal ions, core struct. effects, review 9-4834
- recombination kinetics 9-47502
- resonant secondary emission theory 9-38615
- review, conduction band behaviour, defects and impurity centres (*Chinese*) 9-33835
- review, progress over past 25 yrs. 9-28840
- semiconductor, bound exciton recombination, phonon replicas 9-38649
- semiconductor, donor-acceptor pair in elec. field, anomalous Stark shift of ground state energy 9-19564
- semiconductor, luminescence, coherent conversion of excitons and photons to biexcitons (*Russian*) 9-47508
- semiconductor, multiphonon recombination processes 9-38643
- semiconductor, optical props. under intense laser field 9-43040
- semiconductor, photoluminescence, deep level recombination temp. depend. 9-47497

luminescence of solids continued

- semiconductor, polariton dispersion change by virtual biexciton form. under laser irradiation 9-38607
- semiconductor, recombination radiation mag. depolaris., spin level quadrupole splitting of lattice nuclei (*Russian*) 9-38666
- semiconductor film, donor-acceptor pairs, polarisation of recomb. radiation in presence of quantum size effect 9-11462
- semiconductors, Auger and radiative recombination of acceptor bound excitons 9-47023
- single crystal impurity luminesc. attenuation in Raman spectra using Cu vapour laser 9-15467
- spectral transport, time-dependent, Monte Carlo study 9-33826
- statistics 9-33756
- superlinear filling of traps in crystals due to competition during irradiation 9-33850
- transition rates in single $\hbar\omega$ models 9-33774
- vibronic systems with localised electrons, reson. Raman scatt., hot luminesc. 9-38616

luminescent devices

- see also fluorescent screens; phosphors; scintillation counters
- review, progress over past 25 yrs. 9-28840

luminophors see phosphors**luminors** see phosphors**lumped parameter networks**

- US transducer lumped wideband equaliser design optimisation 9-46159

lunar atmosphere see extraterrestrial atmospheres; Moon**lunar geology** see lunar rocks and minerals**lunar rocks and minerals**

- anorthosite 15415, isotope and age spatial distrib. from stepwise degassing data 9-34967
- basaltic liquids, Fe and Mg distrib. 9-35158
- complex magnetic susceptibility rel. to viscous remanent mag. 9-29999
- cosmic ray induced fission of heavy nuclides, influence on apparent ^{238}U fission track ages 9-40047
- detrital zone in Shorty Crater cores, age estimation 9-2494
- differential photoelectric charging of nonconducting surfaces in space 9-25439
- fires, rare gas diffusion as bubbles 9-48695
- igneous rocks, normative composition and classification 9-44382
- logical searching of the lunar data, FORTRAN program incorporating Boolean search capabilities 9-2491
- magnetic field, shock effects and remanence in hypervel. impact expt. 9-29755
- magnetic fields in early solar system, recorded in lunar rocks, meteorites and planets 9-5765
- mare basalts, comparison with terrestrial mid-ocean ridge basalts 9-16424
- Mare Crisium, radar-detected subsurface interface as buried regolith 9-16848
- meteorite flux recent temporal changes, from lunar sample data 9-2534
- olivine fractionation equations for basaltic and ultrabasic liquids 9-20818
- regolite, XPS 9-21206
- regolith, reduction of Fe, Ti, Si when heated in H atm., X-ray photoelectron spectra 9-25527
- siderophile elements indigenous abundances in lunar highlands, rel. to lunar origin 9-5767
- soil electrostatic transport, terminator configuration model 9-35157
- soil grains, surface related component of Fe metal 9-16851
- soils, mineral comp. determ. from spectral behaviour of albedo 9-21207
- solar wind effects on surface chemistry of lunar grains, reply 9-12374
- volatile trace elements determ. by RNAA 9-44276
- Ca, isotope fractionation on Earth and other solar system materials 9-20835

lunar seismology

- multiple scattering role in formation of seismogram coda 9-25205

lunar structure

- see also lunar rocks and minerals; Moon
- crust and mantle, differential evolution rel. to initial $^{143}\text{Nd}/^{144}\text{Nd}$ ratio 9-35156
- Mare Crisium, radar-detected subsurface interface stratigraphic correlation 9-16848
- ringed basin formation mechanics 9-16850
- Fe core, heating by superheavy elements, possible evidence from Fe meteorites 9-48742

lutetium see lutetium**lutetium**

- see also nuclei with
 - atom, K-shell X-ray energy, excitation mode depend. 9-26926
 - binding energies for metal and 4d, 4f atomic levels from XPS data 9-15586
 - electron irradiated, defect annealing, recovery spectra 9-23648
 - liquid, struct. factors, high temp. X-ray diffr. obs. 9-7544
 - liquid, trivalent, electrical resist. 9-42514
 - specific heat from 1.6 to 18K, electronic coeff., Debye temp. at 0K 9-7700
 - thermophysical properties at high temps., exam. (*Russian*) 9-28105
 - Lu V , spectrum anal., 500-2100 Å 9-26920
 - ^{176}Lu , hyperfine struct. and isotope shift of 605.5 nm line by laser spectroscopy 9-41137

lutetium alloys

- LuCo_2 , high-field magnetisation, Fermi liquid model 9-11303
- LuCo_2 , mag. interactions, effects on moments (*Rumanian*) 9-15296
- Lu_3Pt_4 , isotopic with Pu_3Rh_4 , X-ray cryst. struct. refinement anal. 9-4271

lutetium compounds

- see also lutetium alloys
 - LuAlO_3 , single crystals, prep. and phys. props., X-ray struct. anal. 9-4298
 - LuCl_3 , visible emission spectra, detection and characteris. 9-6963
 - LuF_3 , mol. force, compliance and Coriolis consts. 9-31726
 - LuFe_2B_2 , compounds with CeAl_2Ga_2 structure type (*Ukrainian*) 9-32970
 - $(\text{Lu}_{1-x}\text{Ho}_x)_2\text{Rh}_4\text{B}_4$, interaction between superconductivity and magnetism 9-38248
 - Lu_2O_3 , binding energy from XPS data 9-15586
 - Lu_2O_3 , XPS, charging effects on core-level binding energies 9-24409
 - $\text{Lu}_2\text{O}_3\text{:Eu}^{3+}$, luminesc., excitation spectra, cooperative phonon sidebands 9-33771
 - $\text{Lu}_2\text{O}_3\text{:Yb}^{3+}$, charge transfer type luminesc. 9-33797
 - $\text{LuPO}_4\text{:Yb}^{3+}$, charge transfer type luminesc. 9-33797
 - Lu_2S_3 , XPS, binding energies 9-15586

lutetium compounds continued

- Lu_2S_4 , XPS, binding energies 9-15586
- $(\text{Lu}_{1-x}\text{Sc}_x)_2\text{V}_2\text{O}_7$, prep., cryst. chem. and chem. anal. 9-41986
- $\text{Lu}_2\text{V}_2\text{O}_7$, prep., cryst. chem. and chem. anal. 9-41986
- LuVO_3 , phase transitions and Jahn-Teller distortions 9-28548
- $(\text{Lu}_{1-x}\text{Y}_x)_2\text{V}_2\text{O}_7$, prep., cryst. chem. and chem. anal. 9-41986

Luxemburg effect see ionospheric electromagnetic wave propagation**Lyapunov methods**

- autonomous system instability, sufficient criteria, Lyapunov instability (*Russian*) 9-17210
- axisymmetric flow stability 9-23300
- corrected gyrocompass asymptotic stability (*Russian*) 9-10457
- diffusion-reaction problem, nonlinear, dissipative structs., stability anal. 9-1938
- entropy, nonequilib., Lyapunov variables, ergodic props. of classical systems 9-2739
- flexible damped satellites, Liapunov stability anal., comparative study 9-37148
- geophysics, analytic continuation of function for Earth surface (*Russian*) 9-35008
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